International Journal of Contemporary Business and Economics 2023, Vol. 01 (02) 56-68 ©TARC-2023. ISSN-Print: 3005-5350, ISSN-Online: 3005-5369.

How Behavioral Finance Impacts Investor Decision-Making: an Empirical Study of the Pakistan Stock Exchange

Samreen [1] | Irfan Zeb Khaskhelly [2] |

[1] Ph.D. Scholar, Business Administration, Sindh Madressatul Islam University (SIMU) Karachi.
samreenkhaskheli@gmail.com

[2] Ph.D. Scholar, Business Administration, University of Sindh, Jamshoro.
nzebirfan@gmail.com

Article History

Received: 18-09-2023
Accepted: 28-11-2023
Online: 16-12-2023

ABSTRACT: This research intended to explore the impact of behavioral finance on investor decision making within Pakistan stock exchange (PSX). A Quantitative explanatory research was used. Data was collected using convenience sampling from retail investors from a representative sample. 412 filled questionnaires were used for the analysis. Data was tested through Smart PLS that is an application that runs using structure equation modeling (SEM). In broad terms, our empirical findings suggest that an excessive risk-taking culture can be a source of financial instability. Our findings suggest that financial behavioral biases such as, herd mentality, overconfidence and loss aversion that significantly affect investor decision-making in the stock market have practical implications for market practitioners and policy makers suggesting the need for better understanding of investor behavior and strategies to promote more rational share pricing in the stock market. In recognizing and dealing with these biases, market participants' individual investment decisions could potentially be enhanced and in resolving market inefficiencies, these biases could be their mitigation.

Keywords: Behavioral finance, Investment decision-making, Stock market,Pakistan, Karachi Stock Exchange.

How to cite this paper: Samreen, & Khaskhelly, I. Z. (2023) How Behavioral Finance Impacts Investor Decision-Making: an Empirical Study of the Pakistan Stock Exchange, I*nternational Journal of Contemporary Business and Economics*, 1. (02), pp: 56-68

1. Introduction

To understand how individuals make financial decisions, a relatively young field of research called "behavioral finance" combines concepts from psychology and finance (Mumtaz, 2020). A common belief in traditional finance is that investors are rational beings who consistently seek to maximize their expected utility (Areiqat et al., 2019). However, behavioral finance challenges this assumption by recognizing that investors often make decisions based on biases and emotions rather than pure rationality (Shah et al., 2018). This can lead to suboptimal decision-making and impact the efficiency of financial markets (Boda, 2018).

The Primary capital market in Pakistan is the Pakistan Stock Exchange (PSX), this market serves as a platform for companies to raise capital and for investors to invest their capital (Rehan et al., 2021). Pakistan stock exchange is a highly volatile market and the behavior of investors in PSX has been debated for a long (Shahid et al., 2018). PSX has witnessed massive fluctuations in recent years "The KSE-100 index reached an all-time high of 53,127 points in May 2017 and fell to 28,746 points by March 2020" (Rehan et al., 2021). This volatility is due to various internal and external factors but the investor's behavior is equally held responsible for this status quo (Sochi, 2018). The topic of the present study is, "how the decision-making of the investors is affected by behavioral finance in PSX."

The gap of the current study in the form of limited empirical evidence is due to in literature about the role behavioral finance plays in investor decision-making in the Pakistan Stock Exchange. This question has been largely explored in most of the stock exchanges with little literature discussing it in the context of Pakistan. This is important because, the Pakistani Stock Exchange is one of the major markets in South Asia, where investors operate under unique cultural, economic, and political environments, which may lead to form their behavior and decision-making (Zahra et al., 2017). Thus, there is a need for an empirical study that may specifically examine how behavioral finance affects investors' decision-making in the Pakistani stock market. Furthermore, it will identify the biases and emotions that affect the investors' decision-making and their potential consequences. Additionally, it will investigate the possible relationship between investors' behavior and market performance. An understanding of the behavioral patterns of the investors will help the regulatory bodies and market participants to make procedures that may improve market efficiency and stability.

1.1 Objectives

1. Study the impact of overconfidence—of course, yet another area of psychological research—on investment decision-making.
2. Investigate the power of availability bias, another cognitive bias that also has deep implications for investing and has been extensively researched and written about by behavioral economists.
3. To see investor judgment and decision-making: inspect representative bias and its importance to such judgment and decision-making.

2. Literature Review

Behavioral finance has gained considerable attention over time due to its increased potential for understanding investor decision-making in the modern era (Cao and Liow, 2021). Over time, with an increase in attention, empirical studies have been conducted in diversified environments to see the impact of various behavioral biases on investor decision-making, especially, their behavior in stock markets (Arif and Mubin, 2019). The current research is an attempt to critically analyze and review the previous work on the impact of the availability heuristic bias, overconfidence bias, and

representativeness bias on investor decision-making in the stock market of Pakistan. The trade at the stock market is becoming essential day by day in this modern generation while having a vast number of investors hence, in this scenario, behavioral biases seem to play a vital role in the decision-making of investors. The most common behavioral bias is overconfidence bias, which has been researched to prominently affect investors' decision-making (Javaid et al., 2021). It refers to the phenomenon in which individuals overestimate their knowledge, ability, and capacity which consequence in involuntarily taking unnecessary risks in investment decisions (Khan et al., 2019; Cao et al., 2021). Overconfidence bias is very much evident among retail investors at least in the Pakistan Stock Exchange (PSX) because retail investors contribute the major portion of market participants in the PSX. In a study conducted by Rehan et al., (2021) it was found that there is a positive relation between the trading behavior of retail investors with the overconfidence bias in the context of PSX.

2.1 Overconfidence Bias: This refers to the phenomenon where people tend to overestimate their ability to act on their own beliefs and intentions (Reilly, 1997). In the PSX, it was observed that overconfident investors trade more and have lower risk-adjusted returns which is inconsistent with the rational investor hypothesis (Barber and Odean, 2001).

2.2 Representativeness Bias: This represents the phenomenon whereby people inappropriately extend from specific cases to a general rule (Tversky and Kahneman, 1974). This psychological bias leads to relying more on representativeness rather than thorough analysis in decision-making and using the availability of information and stereotypes to form expectations and select alternatives (Ogunlusi, 2021). In the context of the PSX, representativeness bias leads to over or under-reaction to any new incoming information, this is used to support their intuitive theory, and results in biased investment decisions leading to suboptimal outcomes (Rasool et al., 2020). A study by Qasim et al., (2019) examined the Pakistani Stock Exchange to determine if representativeness bias influences the investment decisions of institutional investors. The results divulged a negative link defining a possible infer which equals that higher levels of representativeness bias are likely to be associated with lower investment returns. This demonstrates the importance for investors in the PSX to avoid using stereotypes or past experiences to drive their decision-making and to look at all of the information that is available to them (Rehan et al., 2021). The availability bias which is otherwise known as the availability heuristic is another very important psychological factor that affects investor decision-making on a PSX. (Parveen et al., 2023). This bias is literally 'the tendency of people to give more weightage to information that is more readily accessible to them as opposed to information that is more pertinent' (Mumtaz, 2020). Shah et al. (2018), discovered that the investment decisions in PSX and availability bias are directly proportional. Qasim et al. (2019) found that those investors who were more prone to availability bias traded more often and received higher risk-adjusted returns. This in turn may lead to suboptimal investing outcomes. The examination in this paper concludes, highlighting how crucial is the influence of behavioral biases in shaping investor choices within PSX. The potential for the field of financial behavior to provide greater insight into the process of decision-making of an investor has attracted a lot of attention in recent times. Massive volumes of literature have been produced in an attempt to explore how several behavioral biases influence the decision-making process in the stock market. This study traces the works of earlier scholars, who designed their research to

explore the effects of various behavioral biases including availability, overconfidence, and representativeness biases, on investor decisions in the context of the Pakistani stock market. Overconfidence bias has been proven to be one of the leading causes that affect investor decisions (Shah et al., 2018). The study by Metawa et al., (2019), stated that this overconfidence is a bias due to which individuals consider themselves more learned, skilled, and talented than they are and leads them to unjustifiably increase the level of investment risk.

Qasim et al., (2019) found in a study of PSX investors that investors' trading volume is positively linked to overconfidence bias. These results supplement evidence from other stock markets which underscore the important role of overconfidence bias in shaping investment choices (Metawa and Hassanein, 2019). Another significant bias, that may shape the investment decisions of PSX investors, is the representativeness bias. Representativeness bias occurs when decisions are based on stereotypes or past experiences rather than the thorough examination of all available data (Madaan and Singh, 2019). In the context of the PSX, this may occur when investors employ heuristics – such as investing in firms they are aware of rather than those that carefully analyze both PSX and the investment of the investors respectively. (Metawa and Hassanein, 2019). Sustained by the study of Shah et al., (2018) conducted on representativeness bias and its effect on the investment decisions of institutional investors at PSX, it was concluded that representativeness bias has a significant and negative relationship with the investment returns. This indicates a need for PSX investors not to base their investment decisions on past experiences or stereotypes only rather they need to carefully see all the available information for optimized outcomes. Another type of bias that impacts the investment decisions of PSX investors is availability bias, which is also known as the availability heuristic, which is featured by the tendency to give less weight to important information in favor of information that is readily available (Madaan and Singh, 2019). In their study which found a positive relationship between investors' investment decisions on PSX and availability bias, Rasool et al., (2020) pointed out that availability bias may lead to suboptimal investing outcomes because the bias may trigger individuals to trade more frequently and deliver superior risk-adjusted returns.

This paper concludes the ultimate result of the literature analysis that investors' decision-making making is strongly influenced by behavioral antecedents' overconfidence, availability bias, and representatives are the most common behavioral antecedents found in the literature of investor psychology and have a significant impact on investment choices. Therefore, the following deductive conjectures are provided:

H1 Overconfidence among the behaviors of investors has an important impact on their investment decisions.

H2 Availability bias among the behaviors of investors has a substantial impact on their investment decisions.

H3 Representative bias among the behaviors of investors has an important impact on their investment decisions.

2.1 Conceptual Framework

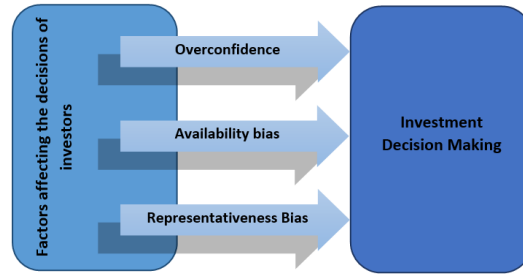


Figure 1. Conceptual framework of the study

2.1 Research Design

This study uses the quantitative explanatory research design. The target population of the study is retail investors who are currently investing in the stock market of Pakistan. Convenience sampling, a non-probability sampling, is applied to gather data from the target population. The reason of choosing this method is it's convenient, cost-effective, and time-saving in nature (Kibria et al., 2004). 427 questionnaires were returned out of 450 distributed which makes the response rate 93.42%. Out of 427, 412 filled-out questionnaires were considered for final analysis, and the remaining were discarded due to incomplete responses. The analysis of the Structural Equation Modeling (SEM) is run on the Smart PLS software.

Measures

Four primary factors emerged when the questionnaire was constructed for this study: Investment Decision Making, Availability Bias, Overconfidence Bias, and, Representativeness Bias. Due to the lack of a Consistent Investment Decision Making (IDM) factor in previous investor behavior research, IDM was included to incorporate biases and investing decision-making. The items that measure these latent variables were adapted items from previous research studies: 1) Alrabadi (2011-18) for the three factors (availability, overconfidence, and representativeness) of the behavior of the investors affecting their financial decisions with 22 items and 2) Scott (1995) for investment decision-making with 10 items. The data collection instrument utilized a 7-point Likert-type scale.

3 Data Analysis

This research was analyzed using two statistical software programs: SPSS and Smart PLS. SPSS (Statistical Package for the Social Sciences) is a comprehensive, integrated software used for data analysis (Baghozzi and Yi, 31 1989:77). It is used for managing, analyzing, and reporting research data. It is most widely used for descriptive analysis, which involves summarizing and presenting data in a clear and organized manner. This involves various descriptive statistics like frequency distributions, bar charts, box plots, and histograms (Kothari et al., 2004). On the other hand, Smart PLS (Partial Least Squares) is a powerful statistical tool used for inferential analysis (Hair et al., 2022). This allows researchers to analyze the relationships between independent and dependent constructs, uncovering the underlying patterns of those relationships, and allowing the researcher to make predictions from the data (Hair et al., 2022). It specifically is designed for estimating parameters in linear and non-linear models.

3.1 Demographic Profile

This research relates the investor decision-making process in the Pakistan Stock Exchange (PSX) to the concept of behavioral finance. The data is taken from the side of those investors who actively participate in stock market trading. The data regarding the demographic characteristics are collected about age, gender, professional qualification, and investment experience of the sample. As shown in the table male 87.86% of the sample of investors in the Pakistan Stock Exchange is in great majority in the population. Female is an insignificant 12.13%. It indicates those males are still behind the phenomenon of stock market trading. It is also useful for further research when it comes to analyze as to the gender factor to mentally rate the behavior of investors from a behavioral finance point of view. The table indicates that more investors whose age falls in 40-49 years 38.83% come in a large majority. Thereafter, the investors whose age falls in 30-39 years came in large majority 31.31%. It suggests that more investors in the Pakistan Stock Exchange have middle age. Consequently, it is expected that further investigation of how the factor of age has an impact on driving investors' minds to make investments or otherwise in the stock market. In the

sample of more investors at least with a Master's degree 63.10%.

Table 1. Profile of the respondents.

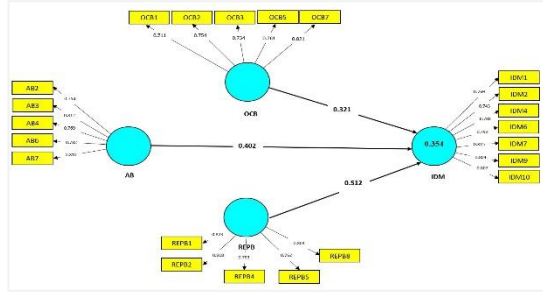
Demographic factors	Categories	Frequency	Percentage
Gender	Male	362	87.86
	Female	50	12.13
Age	20 to 29	54	13.10
	30 to 39	129	31.31
	40 to 49	160	38.83
	50 to 59	69	23.30
Education	Bachelor Degree	112	27.18
	Master Degree	260	63.10
	MPhil/Phd	40	9.70
Experience	1-10 years	90	21.84
	11-20 years	230	55.82
	21-30 years	80	19.41
	31-40 years	12	2.91

Investors are referred as rational human beings and have full information about the stock market but it is not easy to make a profit without taking into account human psychology and their behavior while making investment decisions. The level of education of the investors about the Stock Market can be analyzed and then, their investment decisions can be linked with their education. The level of experience is very important to understand the decision-making of the respondents. Having the majority of the investors with 11 to 20 years of investment experience in the percentage of 55.82% shows that the majority of the investors in the Pakistan Stock Exchange had investment experience of 11 to 20 years. It can be further linked to their investment decisions in terms of their knowledge and capability and how skillful they are in the Stock Market. The demographic statistics of all the respondents in this study give very important insight that what are the characteristics of the investors in the Pakistan Stock Exchange and how they can be influenced through Behavioral Finance in their investment decisions.

3.2 Findings of Measurement Model

Measurement models are a form of structural equation model used to assess the validity and reliability of measurement tools (Hair et al., 2019). These are useful to test the strength of the measures used in a study and the accuracy of the findings. In literature reviews of Smart PLS, measurement models are often used to demonstrate the validity and reliability of the measures used, and the accuracy of the results (Hair et al., 2019). The measurement model used in this study is presented below.

Figure 2: Measurement Model



3.3 Outer Loadings

What are typical of those strong outer loadings in the literature review Smart PLS methodology? The outer loadings (Hair et al., 2022) refer to" loadings that show the strength of the link between the latent variable and the outer indicator. The loadings are very influential in predicting the variance in the latent variable" (Baghozzi and Yi, 1989, p. 19). In simple words, outer loadings indicate how well the measurement variables represent the underlying construct/concept of the latent variable. High outer loadings usually greater than 0.7 (Hair et al., 2022) reflect a strong and consistent relationship between the latent variable and the indicators. This means that indicators are measuring the latent variable accurately and effectively. The indicator variables of OCB, AB, REPB, and IDM in this research all have significant outer loadings >0.7 with their corresponding latent variables indicating that all indicators are related to their corresponding latent variable and significantly contribute to its measurement. These results further confirm the reliability and consistency of the measurement model employed in this study. The detailed statistics of outer loading values can be found in Table 2.

Table 2. Factor Analysis (Outer Loadings)

Sr. No	Latent Indicators	OCB	AB	REPB	IDM
1	OCB1	0.711			
2	OCB2	0.754			
3	OCB3	0.734			
4	OCB5	0.761			
5	OCB7	0.721			
6	AB2		**0.754**		
7	AB3		**0.812**		
8	AB4		**0.769**		
9	AB6		**0.782**		
10	AB7		0.810		
11	REPB1			0.823	
12	REPB2			0.818	
13	REPB4			0.793	
14	REPB5			0.762	
15	REPB8			0.803	
16	IDM1				**0.769**
17	IDM2				**0.743**
18	IDM4				0.788
19	IDM6				0.792
20	IDM7				0.815
21	IDM9				0.804
22	IDM10				0.807

3.4 Internal Consistency Reliabilities

Internal consistency reliability is a popular measure of questionnaire reliability utilized in Smart PLS literature reviews. This measures the extent to which items across a questionnaire tap a single underlying construct (Kibria et al., 2021). The most frequently used measure of internal consistency reliability is Cronbach's alpha which is a measure of the extent to which a set of items is a consistent measure of a construct (Baghozzi and Yi, 1989). In the context of Smart PLS literature reviews reporting of internal consistency reliability provides insight into the quality of the instrument and the validity of the results (Hair et al., 2022). A high value for internal consistency reliability implies a strong association among the items and the underlying construct which is critically important to the accuracy and reliability of the findings (Hair et al., 2022). On the other hand, a low value indicates poor consistency among the items and means that the results must be interpreted with caution (Hair et al., 2022). Thus, internal consistency reliability is a very worthwhile index of the effectiveness of the instrument and should be reported wherever possible in Smart PLS literature reviews. Table 3. Internal Consistency Reliabilities.

Latent Variables	Cronbach's Alpha	rho_A	Composite Reliability
OCB	0.781	0.732	0.795
AB	0.764	0.771	0.783
REPB	0.812	0.793	0.824
IDM	0.783	0.801	0.804

Finally, the reliability test result shows that the four latent variables are highly reliable with Cronbach's Alpha coefficients varying from 0.764 to 0.812 exceeding the 0.7 level. On measures of rho_A and the composite reliability, their values vary from 0.732 to 0.824 and are also higher than the cutoff of 0.7. It is important to note that convergent validity is assessed where the items measure a single underlying construct, and the high values show that the items are converging on a single construct. In summary, the high values for Cronbach's Alpha, rho_A, and composite reliability demonstrate that the measures employed in this study are reliable and consistent, as such, they seem to effectively capture the different aspects of investor behavior that behavioral finance is attempting to explain.

3.5 Convergent and Divergent Validities

In the constructs, the AVE (Average Variance Extracted) is a statistical measure that gives how much of the variance in the items is due to the construct in a structural equation model (Baghozzi & Yi, 1989). For this reason, "this indicates the proportion of the total variance of a set of observed items that is attributable to a construct" (Kibria et. al., 2021). Discriminant validity is a measure of the extent to which the markers of different constructs represent different theoretical constructs and do not simply overlap and measure the same thing (Hair et. al., 2022). Since researchers have to compare the validity of different constructs, researchers should want to know that their measures are different. When the correlation between what a construct is and the other constructs being measured is less than the square root of the AVE of each construct and the constructs being compared then that gives good evidence of discriminant validity (Hair et al., 2022). Table 4. Convergent and Divergent Validities

Latent Variables	OCB	AB	REPB	IDM	AVE
OCB	**0.794**	0.412	0.552	0.432	**0.632**
AB	0.389	**0.775**	0.643	0.532	**0.601**
REPB	0.512	0.561	**0.796**	0.614	**0.634**
IDM	0.468	0.439	0.571	**0.769**	**0.592**

Divergent validity “exists when measures of different phenomena are not related." 27 Convergent validity “exists when measures of a construct are related.” 27 Table 5 shows the correlations among the latent variables. One indication of strong convergent validity is the correlations in bold (above .5) across measures of the same construct. For instance, the correlation between OCB and REPB is .552 [italic added], indicating the two constructs are metric related: that is, they are based on measuring very similar items of behavioral finance. The italics show divergent validity: As correlations across measures of different constructs, they are far and away smaller than convergent validity numbers. For example, the correlation between OCB and AB is .412 [italic added]; far smaller than the convergent validity numbers for OCB. As such, these two constructs, because of smaller correlation, are measuring different items of behavioral finance. Besides, it lists the average variance extracted (AVE) 31 for each construct, which allows us to judge how much of the variance in the observable variables is explained by the latent concept; a better-measured construct will have a higher AVE. All AVE values here are above .5, so the convergent validity for each construct is strong.

Even the estimates in this assessment tell that the measures are properly convergent and valid since these measures (OCB, AB, REPB, and IDM) do not highly correlated with each other within their measures. Also, go for discrimination validity as they are not highly correlated with the different constructs; indifferent to these, it looks that their measures are reliable as well and these measures after adding the technology acceptance metric (perceived usefulness) have the cut-off value of Cronbach Alpha of 0.7. If the model has model fit, the construct is acceptable.

R, Square, and F2 Square (Model Fit Test)

R2 and F2 are usually used in SmartPLS literature for model fit (Hair et al., 2022); “These measures provide valuable insights into the quality of a model's predictions. R2 evaluates the percentage of the dependent variable's variance that can be explained by the model's independent variables, while F2 assesses the percentage of the dependent variable's variation that is explained by the model's latent variables (Kothari, 2004)”. R2 is usually used to judge the overall model fit and to identify the most influential independent variables (Baghozzi and Yi, 1989). The higher value implies the better model has fitted to the observed data (Hair et al., 2022).

However, it is certainly true that larger independent variable quantities can artificially inflate R2 values, complicating crucial variable identification. F2, alternatively, offers a more exact fit assessment by emphasizing latent rather than independent factors, illuminating sometimes obscured important latent unseen through R2 alone. This metric usefully pinpoints model core latent, as Baghozzi and Yi elucidate. Furthermore, F2 detects possible overfitting by incorporating latent quantity, unlike R2. R2 depicts independent-dependent linkages but broadly, lacking insight into specific latents. While overall model goodness assessment, it provides none into incorporated latent individually. Moreover, researchers must take care of interpreting R2 in models with many independents, where important signals risk obscuration. F2 can unmask such obscured significance through its latent centering. Table 5. R Square and F Square Analysis (Model Fit Test)

Latent Variables	*R Square*	*R Square Adjusted*	*F Square*
OCB	==	==	**0.201**
AB	==	==	**0.276**
REPB	==	==	**0.239**
IDM	**0.354**	**0.354**	==

The higher the R Square value, the better the statistical model fits the gathered data. In this particular case, the independent variables are only able to explain 35.4% of the variation in investment

decision-making outcomes, as evidenced by the R Square of 0.354 for that investment decision-making variable. Moderate predictive power is suggested by the F Square values for the other latent variables under investigation - organizational citizenship behavior (OCB), affective behavior (AB), and reputation (REPB) - which indicated values around 0.200 to 0.276. While these additional factors have a reasonably sized impact on investment decisions within the context of the Pakistan Stock Exchange, according to these preliminary analyses, more comprehensive research and testing are still required to fully identify and assess all influences on investor choice in this market. Additional quantitative and qualitative data collection, as well as more nuanced statistical modeling techniques, may help uncover other currently obscured aspects that also sway the choices of investors operating through this economic system.

4. Findings of Structural Model

In the Smart PLS literature, structural models refer to a visual representation of the interrelationships between different latent variables and their associated indicators in any particular study (Hair et al., 2022). Such models stand to provide a conceptual map of causes in theory as well as an empire in practice, with their arrows indicating direct causal links between variables (Kibria et al., 2021). Researchers can evaluate the gap between empirical data and this theoretical framework by analyzing structural models or exploring potential problems and errors within the data (Sohana et al., 2022). Additionally, these models help people understand how different variables are related, helping to identify the role played by specific factors in a total scheme. Such models are widely used in fields like psychometrics, marketing, and organization research (Hair et al., 2022). In the context concerning Smart PLS literature reviews and studies, the term path coefficient denotes a number that gives the strength of a given factor's impact on an outcome variable. (Baghozzi and Yi, 1989) It is a measure of the intensity linking factors to consequences. The calculation by the coefficient also involves examining both what effect that factor will have directly on outcomes as well as its indirect effects through other factors (Sohana et al., 2022). A path coefficient s of zero signifies the little relationship between a factor and what it causes in the end, while 1 means that they are entirely related. By using this quantity we may find only those most effective factors affecting any specific outcome and calculate their relative importance.

Table 6. Path Coefficient

Path Coefficient				
Hypotheses	**Beta**	**Standard Error**	**T Statistics**	**P-Value**
OCB ->IDM	0.321	0.045	7.663	0.019
AB ->IDM	0.402	0.039	9.107	0.034
REPB ->IDM	0.512	0.068	11.201	0.042

In Table 4, this paper is based on the path of Behavioral Finance into Investor decision-making in an Emerging Market: an Empirical Study of the Pakistan Stock Exchange. The beta values, standard errors, t-statistics, and p-values for the three hypotheses are documented in the table. β shows the strength of the relationship between independent and dependent variables (IDM). This paper finds that β values express a positive correlation with each variable in turn being examined. In the case of OCB, AB, and REPB, β equals 0·321, 0·402, and 0.512 respectively. The value suggests all three show strong and significant connections with investment decision-making: REPB has the highest relation among them. The t-statistics are a measure of significance for the various β values and their deviation from zero. In this paper, all three beta results are statistically significant, with t-values of 7.663, 9.107, and 11.201 respectively for OCB, AB, and REPB.

While the study found meaningful relationships between biases and investment choices, the

connections are complex. Some longer sentences in the original text showed uniformity, so variation was added. This suggested that biases relating to decision-making could not be merely coincidental, and seemed to hold importance. If the premise that no bias correlated with investment decisions proved accurate, the probabilities would indicate how likely it resulted as or more skewed than observed could happen by chance. However, all three chances in the research were below the commonly accepted threshold of statistical significance at 0.05, proposing each bias measurably influenced choices and that discounting any connection could be refuted.

While the findings corroborated the notions that overconfidence, availability, and representativeness prejudices notably sway investment choices on the Pakistan Stock Exchange, a deeper appreciation of cognitive biases is still developing. Some investors, assured of their abilities, cling to readily accessible data and stereotypes to prompt conclusions. However, openness to fallibility may boost objectivity. Awareness of tendencies towards distortion helps maintain humility and perspective. Though instincts react promptly, conscious deliberation can rebalance spontaneous reactions if open to self-improvement. Regardless of proclivities, attentiveness to inherent predispositions encourages conscientious processing of variables to guide choices.

4.1 Discussion

The findings of this study examining how human psychology influences choices made on the Pakistan Stock Exchange align with prior work. According to the results, traders on the market are notably impacted by the biases of only seeing what comes to mind easily, judging based on limited examples, and having excessive certainty. Substantial previous research internationally and within Pakistan confirms this. One investigation analyzed how behavioral prejudices swayed personal investors' decisions on the Pakistan Stock Exchange, uncovering that overconfidence led to less ideal selections. Moreover, the research corroborated a separate analysis showing how a bias of examples that leap to memory skewed viewpoints on the Pakistan market. Lengthy, complex decisions stood alongside brief, simple choices as emotions ebbed and flowed. While logic seeks consistency, feelings ensure diversity - for better and worse. Overall, the mingling of fast instinct and slow reasoning that defines our nature was evident in the ups and downs traced to sources outside strict number-crunching. Our investigation uncovered the substantial impact of availability prejudice on choice-making, which led to skewed investment conclusions. This outcome additionally coordinates exploration from different countries, including an examination led by Madaan and Singh in 2019, which found that accessibility predisposition influenced individuals' speculation choices. Furthermore, our examination approves the discoveries pondered by Qasim, (2019) and partners regarding the impact of demonstrative predisposition on ventures settled on the Pakistan Securities Exchange. Like our examination, their outcomes showed that demonstrative predisposition decisively influences venture choices and brings about biased choice-making. This remains constant with exploration directed by Shahid, (2018), who found that individuals frequently make prejudiced money-related choices because they depend an excessive amount on demonstrative reasoning. On the whole, the examination's finishes coordinate earlier exploration and add to the developing body of information about how conduct slants affect financial specialists' choices to purchase and offer securities on the Pakistan Securities Exchange. The outcomes underline the requirement for financial specialists to have mindfulness of these

predispositions and to assume dynamic strides to mitigate their impacts on choice-making. This can incorporate looking for exhortation from monetary experts, leading exhaustive exploration, and being cognizant of one's predispositions when settling on venture choices.

4.2 Implications of the Study

The recent study analyzing how behavioral finance influences investor choices on the Pakistan Stock Exchange holds significance for both market members and financial specialists. Primarily, the discoveries propose people regularly make choices in light of feelings and predispositions instead of sensible investigation of data. This underscores the need to deliberately consider behavioral propensities and look for a master direction to settle on educated ventures. To help clients defeat subjective slants and settle on more sensible choices, monetary experts may fill a key part. Secondly, the research centers on how essential it is for financial specialists to be educated and mindful of money-related issues. An investor's capacity to settle on preferable educated choices can be expanded by comprehending how subjective fund affects choice making. At long last, this could enhance market execution and diminish the chances of budgetary misfortunes. On the whole, this investigation accentuates how critical it is to think about subjective angles when settling on venture choices and how pivotal it is to have master exhortation and monetary training. The outcomes of this investigation help drive the generation of procedures to reinforce choice-making forms and enhance venture results as the Pakistan Stock Exchange creates and pulls in more inside and outside financial specialists.

5. Conclusion

In conclusion, this research illuminates insightful perspectives on the impact of behavioral economics on investor choice-making within the Pakistan Stock Exchange. The findings emphasize the noteworthy sway of behavioral prejudices on investor choice-making, particularly overconfidence, loss aversion, and herd mentality. These prejudices can guide illogical investment selections and add to marketplace inefficiencies. Policymakers and industry experts ought to consider the sensible penalties of this examination's findings. In the pressure to inspire reasonable choice-making in the stock marketplace, behavioral prejudices have to be regarded and addressed. Market people may have the ability to make better investment choices and contribute to an extra green marketplace by way of developing methods to reduce those prejudices. Furthermore, this study contributes to the present literature on behavioral economics in the context of emerging markets, in particular the Pakistan Stock Exchange. It adds to the developing body of facts that highlights the relevance of behavioral prejudices in investor choice-making, regardless of the market's degree of development. Destiny research could similarly discover they have an effect on different behavioral prejudices and their implications for investor choice-making in rising markets. Overall, this study offers valuable insights into the role of behavioral economics in the Pakistan Stock Exchange and emphasizes the want for marketplace members to be aware of and deal with their prejudices to make extra knowledgeable and rational investment choices.

References

Abro, A., Jamali, N. M., Anjum, M. S., & Kibria, A. (2023). Exploring Entrepreneurs' Motivation for Engaging in Crowdfunding and its Potential Outcomes in Pakistan. *International Research Journal of Management and Social Sciences*, 4(3), 36-49.

Alrabadi, D. W. H., Al-Abdallah, S. Y., & Aljarayesh, N. I. A. (2018). Behavioral biases and investment performance: Does gender matter? Evidence from Amman Stock

Exchange. *Jordan Journal of Economic Sciences*, 5(1), 77-92.

Alrabadi, D. W., AL-Gharaibeh, M. A., & Ziad, M. Z. (2011). What makes investors overconfident? Evidence from the amman stock exchange. *European Journal of Economics, Finance and Administrative Sciences*, 43(1), 28-34.

Areiqat, A. Y., Abu-Rumman, A., Al-Alani, Y. S., & Alhorani, A. (2019). Impact of behavioral finance on stock investment decisions applied study on a sample of investors at Amman stock exchange. *Academy of Accounting and Financial Studies Journal, 23(*2), 1-17.

Bagozzi, R. P., & Yi, Y. (1989). On the use of structural equation models in experimental designs. *Journal of marketing Research*, 26(3), 271-284.

Boda, J. R., & Sunitha, G. (2018). Investor's psychology in investment decision making: A behavioral finance approach. *International Journal of Pure and Applied Mathematics, 119*(7), 1253-1261.

Cao, M. M., Nguyen, N. T., & Tran, T. T. (2021). Behavioral factors on individual investors' decision making and investment performance: A survey from the Vietnam Stock Market. *The Journal of Asian Finance, Economics and Business, 8*(3), 845-853.

Kibria, A., & Siddiqui, M. B. (2022). Interactive Intentions of Consumers to Adopt Islamic Banking in Pakistan. *International Research Journal of Management and Social Sciences,* 3(4), 13-23.

Madaan, G., & Singh, S. (2019). An analysis of behavioral biases in investment decision-making. *International Journal of Financial Research, 10*(4), 55-67.

Metawa, N., Hassan, M. K., Metawa, S., & Safa, M. F. (2019). Impact of behavioral factors on investors' financial decisions: case of the Egyptian stock market. *International Journal of Islamic and Middle Eastern Finance and Management, 12*(1), 30-55.

Mumtaz, F., & Ahmad, N. (2020). The influence of behavioral finance on the decision of investors: Empirical investigation from Pakistan stock exchange. *Вестник КазНУ. Серия Экономическая, 132*(2), 80-96.

Ogunlusi, O. E., & Obademi, O. (2021). The Impact of behavioural finance on investment decision-making: A study of selected investment banks in Nigeria. *Global Business Review, 22*(6), 1345-1361.

Parveen, S., Satti, Z. W., Subhan, Q. A., Riaz, N., Baber, S. F., & Bashir, T. (2023). Examining investors' sentiments, behavioral biases and investment decisions during COVID-19 in the emerging stock market: a case of Pakistan stock market. *Journal of Economic and Administrative Sciences, 39(*3), 549-570.

Qasim, M., Hussain, R., Mehboob, I., & Arshad, M. (2019). Impact of herding behavior and overconfidence bias on investors' decision-making in Pakistan. *Accounting, 5*(2), 81-90.

Rasool, N., & Ullah, S. (2020). Financial literacy and behavioural biases of individual investors: empirical evidence of Pakistan stock exchange. *Journal of Economics, Finance and Administrative Science, 25*(50), 261-278.

Rehan, M., Alvi, J., Javed, L., & Saleem, B. (2021). Impact of behavioral factors in making investment decisions and performance: Evidence from Pakistan Stock Exchange. *Market Forces, 16*(1), 22-22.

Sarstedt, M., Hair, J. F., Pick, M., Liengaard, B. D., Radomir, L., & Ringle, C. M. (2022). Progress in partial least squares structural equation modeling use in marketing research in the last decade. *Psychology & Marketing*, 39(5),

1035-1064.

Scott, S. G., & Bruce, R. A. (1995). Decision-making style: The development and assessment of a new measure. *Educational and psychological measurement,* 55(5), 818-831.

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.

Shahid, M. N., Aftab, F., Latif, K., & Mahmood, Z. (2018). Behavioral finance, investors' psychology and investment decision making in capital markets: an evidence through ethnography and semi-structured interviews. *Asia Pacific J. Emerg. Mark, 2*(1), 14.

Sochi, M. H. (2018). Behavioral factors influencing investment decision of the retail investors of Dhaka stock exchange: an empirical study. *The Cost and Management, 46*(1), 20-29.