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POST COVID-19 INVESTOR PSYCHOLOGICAL AND INVESTMENT DECISION:A MEDIATING ROLE OF RISK PERCEPTION

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Abstract

Understanding the psychology of investors, and individuals in general, poses a significant challenge. This study aims to explore the impact of psychological factors on investors' decision-making processes, specifically investigating how these factors contribute to irrational financial decisions. This study emphasizes the substantial effect of psychological factors on investment decisions and employs a sample of 200 investors for primary data collection. To facilitate analysis and interpretation, a structured questionnaire encompassing dependent and independent variables was administered. The collected data underwent regression analysis using statistical software, such as the "Statistical Package for the Social Sciences". Emphasizing the context of the COVID-19 epidemic, risk perception is employed as a mediating factor to assess how psychological biases influenced the investment choices of separate investors in Pakistan. The study adopts a cross-sectional and quantitative approach to examine the predicted relationships between variables. The study employed snowball sampling to gather data from Pakistani individual investors, and Smart-PLS for data analysis. It enhances our understanding of investor psychology, risk perception, and decision-making, exploring sub-variables like Overconfidence, Representativeness, and Mental Accounting. Findings highlight how investors' psychology, with risk perception as a mediating variable, influences investment choices. The study concludes with recommendations for investors, decision-makers, and researchers.

Keywords: Risk Perception, Investment Decisions, Psychological Variables.

Introduction

All around the world, there is a growing emphasis on the behavioral aspects of finance. Behavioral finance significantly influences a substantial portion of investors' decisions, as traditional financial approaches often neglect the psychological behaviors of

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investors. According to mainstream financial theory, investors are traditionally considered rational decision-makers capable of maximizing wealth. However, the idea of perfectly rational investors, exercising complete control over decisions and seeking to maximize utility, is losing favor. Investors are typically portrayed as logical, objective, and consistent in efficient markets, where they are presumed to make optimal investment decisions unaffected by psychology and emotions. Nevertheless, investors do not always make logical choices when making investment decisions, and various anomalies can be observed. The Efficient Market Hypothesis that posits markets efficient does not always hold true. Instances of atypical market behavior, such as the January effect or Monday impact, suggest that stock prices and markets can be influenced by human behavior (2006)

Different psychological factors influence the irrational investment behavior of Pakistani investors. The main topics discussed in this paper include the five independent psychological factors, along with the dependent psychological variable—investment decision. Investors in Pakistan have been observed to exhibit irrational behavior when making investment decisions. Markets were found to be unstable, with frequent occurrences of market crashes; consequently, investors promptly withdrew from these markets due to the irrational decision-making influencing market behavior (Molla, M. E. 2018).

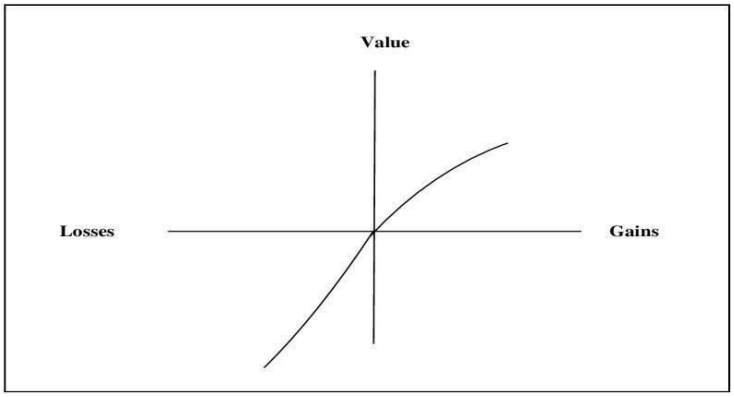


Figure 1: Prospect Theory, Kahneman, D., & Tversky, A. (1979)

Prospect theory, as outlined by Kahneman, D., & Tversky, A. (1979) and further developed by Kahneman, David, and Amos Tversky (1992), contains two components: reference dependency and loss aversion. In this theory, individuals aim to maximize a weighted sum over the range of value functions (utilities) across various scenarios.

Scope of the Study

This paper would greatly advance our understanding of how investors' psychological factors influence their investment decisions. This study will undoubtedly reveal the recent scenario to focus and practise additional behavioural finance as a main course for the investors, investigators, and related investment parties because it has been

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observed that Pakistan has not focused enough on and practiced behavioral aspects.

Research Gap

Identifying distinct gaps in the literature is the most common approach to addressing pragmatic concerns (Sandberg, J., & Alvesson, M., 2011). Researchers place a strong emphasis on traditional finance, particularly in Pakistan. Financial decisions often involve psychological considerations, and all national stakeholders should bear this in mind. Notably, there has been insufficient research in this field in Pakistan due to neglect by researchers and policymakers over an extended period. Consequently, the researcher exerted every effort put to add values in the field of behavioral finance. Although the Pakistani economy remained relatively stable as compare to others same caliber countries during the COVID-19 pandemic, the PSX exhibited significant fluctuations. The fluctuations in the PSX index were attributed to changes in investors' investment trends.

Problem Statement

This study investigate the psychological factors of investors and their impact on the decisions of investment, in the context of Pakistan. Data collection revealed that investors seemed to lack awareness of the subject matter at hand. In fact, they were uncertain about how to respond to the factors outlined in the research question. Some investors were found to be unwilling to provide the researcher with their information, and a few responded poorly, refusing to engage throughout the study. Assessing and understanding all variables during the research effort proved challenging due to their nature as psychological variables. Given the importance of investigating the psychological features of Pakistani investors in this context, the researcher needed to collect a substantial amount of secondary data. By examining the accessible secondary data sources concerning Pakistani investors in discuss domain, it became clear that the available data were inadequate.

Research Questions

1. How does post covid 19 investors psychology impacted the risk perception?
2. How does risk perception effects investors investment decisions?
3. Does post covid 19 investors psychology effects investors investment decision?
4. Does risk perception mediates the relation between post covid 19 psychologyand individual investment decisions?

Research Objectives

This study's major goal was to investigate how psychological factors truly affected investors' investing choices in Pakistan. The paper's more specifically stated goals were;

- Must be aware of the key psychological factors

- To learn how psychological factors are important while making investment decisions.

Significance of the Study

This study demonstrates how behavioural financial characteristics might influence an investor's choice of investments. Investors in many nations, including Pakistan, have frequently experienced devastating market collapses. For investors' investment decisions, researchers frequently employed standard finance methods. investigate and relate the causes and effects of market behaviour. In contrast, investigators, other agencies and investors in Pakistani context, practitioners, and allied agencies often overlooked the psychological characteristics of investors - Molla, M. E. (2018). This research will add value to behavioural finance literature.

Literature Review

In any academic or research effort, it is imperative to review preceding literature to establish a strong foundation for knowledge expansion. Several studies have been conducted on behavioral finance, indicating that investors' psychological profiles influence their financial decisions (Ahmed et al., 2020). Conversely, research conducted over the past few decades has demonstrated that traditional financial theories often fail to accurately capture investors' irrational behavior when making investment decisions (Huang et al., 2018). Therefore, it is essential for researchers to evaluate a sufficient number of studies in the research field to fully comprehend the relationship between psychological factors and investment decisions, which can help highlight the research gap. Furthermore, understanding investor psychology can aid investors in overcoming cognitive biases, potentially leading to profitable returns that motivate them to make additional investments (Boda & Sunitha, 2018). However, overconfident investors tend to exaggerate data, overestimate their prognostication skills, and neglect actual facts (Haseeb et al., 2018; Ali & Haseeb, 2019).

Investors' poor investment decisions due to extreme overconfidence were highlighted in a 2007 study by J. A. Doukas and D. Petmezas (Chen et al., 2007). Higher-order acquisition deals' poorer wealth benefits were predicted by overconfidence more than other factors. Additionally, overconfident bidders performed poorly over the long term and achieved lower announcement returns than sensible bidders. Erceg et al. (2014) investigated the incidence of conjunction fallacy and overconfidence bias in betting behavior among frequent and infrequent gamblers, finding that the task format impacted the biases. Moreover, excessive reliance on one's cognitive, intuitive, and moral judgments can lead to overconfidence (Pompian, 2006). Overconfidence bias is most likely to occur when investors assess the likelihood that identical intervals would include the quantity (Scott et al., 2003). This bias is particularly evident in investors' assessments of their talents (Winman et al., 2004). A strong correlation was found between investor overconfidence and irrational investing decisions (Tauni & Zaidi, 2012).

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Representativeness, a key psychological bias underlying several behavioral-finance theories, was investigated by Chan (2004). Investors' decisions were found to be highly influenced by representativeness bias, leading to bad investment selections and subpar returns (Chen et al., 2007). Successful mornings were followed by magnified afternoon risk due to the representativeness heuristic, as asserted by Coval & Shumway (2005) and Hirshleifer (2015). A combination of effects led to a pattern of overcorrection in response to trends in the public (Molla et al., 2018). Certain investors base their selections on stereotypes (Pompian, 2006), and those susceptible to sample-size neglect tend to interpret attributes identified in small sample sizes as representative of broader datasets (Thaler, 1990).

Double-entry mental accounting theory was presented by Prelec & Loewenstein (1998) to explain the nature of connections between consuming pleasure and payment pain, impacting investors' behavior. Different financial decisions may be assessed individually or jointly (Pompian, 2006). Mental accounting can result in the disposition effect if pertinent accounts are earnings in specific equities (Grinblatt et al., 2005). Soman (2004) argued that investors are irrational since they consider several accounts rather than investing in a successful portfolio. Investors behave differently when given money from various sources due to marginal propensities to consume wealth differently (Cherry, 2001).

There often exists a notable disparity between the minimum amount of money individuals are willing to accept for a good they already possess and the maximum amount they would be willing to pay for it (Zeelenberg et al., 1996). Seiler (2008) argued that the level of regret aversion required in high-payoff conditions to explain conduct in low-payoff settings would be nonsensical. Investors who exhibit regret aversion refrain from making decisions due to the fear that whichever path they choose would turn out to be less than ideal in the long run (Pompian, 2006). Regret aversion behavior leads to a lack of desire to invest due to multiple negative consequences suffered in stock market investments (Molla, 2018). Investors attempt to avoid investing because they are afraid of regret, believing that a loss on their investment might not be bearable (Pieters & Zeelenberg, 2004).

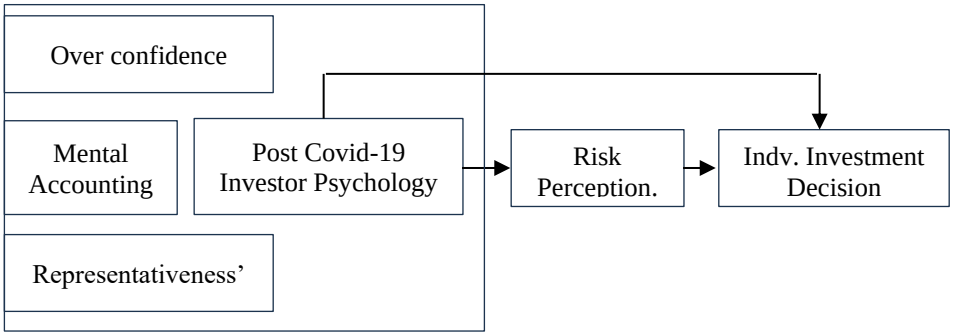
Research by Kahneman et al. (1991) concluded that risky choices were modified relative to a neutral reference point rather than states of wealth or welfare. Tversky & Kahneman (1991) provided evidence that choices were more influenced by losses and disadvantages than by gains and advantages. Individuals with a tendency toward loss aversion may require at least a two-dollar gain for every dollar put at risk, as the fear of loss carries twice the motivational weight as the prospect of an equivalent gain (Pompian, 2006). Loss aversion is significant in understanding sellers' actions in the property market (Genesove & Mayer, 2001). Furthermore, evolutionary drivers influence loss aversion, suggesting it may represent a bias specific to certain domains (Li & Kenrick, 2012).

Development of Conceptual Framework

This study investigate the psychological characteristics such as over confidence, risk perception, investment decision, mental accounting and representativeness. The

model indicate that risk perception is an intervenient construct in between independents construct and individual investment decision. The thirty (30) specific items related to each variable were used to investigatethese variables. The study partially concentrated on the reasons why and mechanisms by which the variables representativeness, overconfidence, mental accounting, regret aversion, and loss aversion influence investors' investing decisions. The researcher created the model below expressly for this study, opening the potential of behavioural finance.

Figure 2: Conceptual Model of the study.



The researcher attempted to illustrate many psychological factors on investment decision in figure 2 above. Overconfidence is a sign of cognitive behaviour, accordingto the variable the researcher used to explain how investors overrate their capacity for making decisions yet underestimate risk. Additionally, representativeness denotes cognitive activity. Investors think that past and present success will continuously continue in the future, as it was mentioned. Cognitive conduct that is prescribed is mental accounting. The term "variable" referred to the fact that investors keep various accounts with varying balances of money. Regret aversion, on the other hand, qualifiesas emotional action. As a result, investors put off making important decisions about their investments out of concern that they will choose poorly. Loss aversion then explains this emotional behaviour. Investors' drive to prevent losses is larger than theirimpulse to achieve gains, it was revealed.

Methodology of the Study

Both primary and secondary data were meticulously gathered to facilitate the comprehensive exploration conducted in this study. The research placed a robust emphasis on the examination of both quantitative and qualitative data, ensuring a thorough understanding of the phenomenon under investigation. In acquiring primary data, a standardized questionnaire comprising 30 items was distributed directly to investors in Pakistan. The questionnaire encompassed the examination of three independent variables (overconfidence, representativeness, mental accounting) and one dependent variable (investment decision), along with the inclusion of a mediator for fluctuating risk perception. The questionnaire design employed a five-point Likert scale, with respondents

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indicating their level of agreement or disagreement ranging from "Strongly Disagree" to "Strongly Agree" on a scale from 1 to 5, respectively. This meticulous approach aimed to gather nuanced insights into the intricate dynamics influencing investment behavior in the Pakistani context.

The primary objective of this study is to examine the impact of psychological biases on the investment choices made by individual Chinese investors amidst the backdrop of the COVID-19 pandemic, with particular emphasis on the moderating influence of information availability. Employing a quantitative methodology, the utilization of a survey questionnaire has been deemed appropriate for the attainment of this research goal (Kaur and Kaushik, 2016; Sabir et al., 2021) The survey instrument was tailored for distribution among individual participants active in the stock market. Data collection employed a snowball sampling technique targeting Chinese stock market investors. Out of the intended 400 survey questionnaires, a total of 281 responses were collected and deemed suitable for analysis, yielding a response rate of 70.25%.

The questionnaire comprised two sections: the first section focused on gathering demographic information about the respondents, while the second section delved into their investment decisions and perception of information availability. Information availability, psychological biases, and investment decisions were evaluated using a five-point Likert scale, ranging from 1 for "strongly disagree" to 5 for "strongly agree."

Data analysis and hypothesis testing were conducted using the statistical software Smart-PLS, which employs a second-generation modeling approach known as simultaneous estimation of all interactions between variables (Hair et al., 2012, 2013). Bootstrap resampling with 300 iterations was utilized for estimating hypotheses and path coefficients, following the recommendations of Hair et al. (2013). Additionally, the validity of the model was assessed using the Confirmatory Factor Analysis (CFA) methodology.

Hypotheses

It is important to note that the hypotheses of the study are developed during and post Covid-19 scenario of Chines individual investors decisions.

H_1: There is a significant impact of overconfidence and investment decision on investors.

H_2: There is a significant association between representative bias and investment decisions.

H_3: There is a significant association between anchoring bias and investment decisions.

H_4: There is a significant association between availability bias and investment decisions.

H_5: The presence of information significantly moderates the relationship between overconfidence and investment decisions.

H_6: The availability of information significantly moderates the relationship between

representative bias and investment decisions.

H_7: Information availability moderates the relationship between anchoring bias and investment decisions.

H_8: The availability of information moderates the association between availability bias and investment decisions.

Measurement Model

Table 01: Convergent Validity and Factor loading

Construct	Indicators	Loadings	Cronbach's alpha	Composite reliability	AVE
Anchoring (AC)	AC-1	0.812	0.8890	0.925	0.75
	AC-2	0.893			
	AC-3	0.903			
	AC-4	0.857			
Availability (AV)	AV-1	0.698	0.8430	0.884	0.60
	AV-2	0.734			
	AV-3	0.822			
	AV-4	0.87			
	AV-5	0.753			
Information availability (IA)	IA-1	.860	0.7920	0.854	0.56
	IA-2	0.858			
	IA-3	0.76			
	IA-4	0.683			
Investment decision (ID)	ID-1	0.796	0.8080	0.872	0.63
	ID-2	0.801			
	ID-3	0.793			
	ID-4	0.758			
	ID-5	0.768			
Overconfidence (OC)	OC-1	0.872	0.9470	0.960	0.82
	OC-2	0.94			
	OC-3	0.924			
	OC-4	0.908			
	OC-5	0.902			
Representative (RP)	RP-1	0.824	0.8130	0.876	0.64
	RP-2	0.812			
	RP-3	0.839			
	RP-4	0.725			

Using a measuring model, the convergent validity (CV) and discriminant validity were examined. In order to determine the extent to which various items assess the same idea, convergent validity is used. Hair et al. (2010, 2013) recommended that "factor loadings, composite reliability (CR), and average variance extracted (AVE)" be used to evaluate CV. The recommended values for loading, AVE, and CR are 0.5, 0.5, and 0.7 respectively. The discriminant validity is also investigated using a measuring model. The model's variable deviations are said to as having discriminant validity. The Fornell and

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Larcker criterion and HTMT ratios are used to assess the discriminant validity. Fornell and Larcker (1981) stipulated that the square root of the AVE should be bigger than the correlations of that variable with other variables.

According to Hair et al. (2013)'s advice, convergent validity criteria are assessed in Table 1 if they meet the limit. The loading values, CR values, and AVE values were all found to be greater than 0.6.

The findings of the study reveal the direct impacts of psychological biases factors on the decisions of investment of Chinese individuals are illustrated in **Table 2**. Such as, findings showed that representativeness bias and overconfidence both significantly and positively influenced the investment decisions (= 0.352, t = 5.51) and overconfidence considerably andpositively influenced both. Additionally, anchoring bias significantly affects investment choices (= 0.214, t = 2.972). Additionally, availability bias significantly butunfavorably affects investment choices (= - 0.135, t = 2.842). Table 02, indicate that the H1, to H4 are accepted as their "t" value meet the threshold value.

Table 02: Structural model assessment.

Hypotheses	Relationship	Beta	STD	T value	*P*-values
H_1	OC --> ID	0.2950	0.077	3.78	0.01
H_2	RP --> ID	0.3520	0.064	5.51	0.01
H_3	AC --> ID	0.2140	0.073	2.97	0.01
H_4	AV --> ID	–0.1450	0.052	2.84	0.01

The results of the mediation analysis are shown that information accessibility considerably modifies the relationship between overconfidence, representational bias, anchoring bias, and accessibility bias with individual investors' investing decisions. As result shown that that IA play the mediation role in between OC and ID (t value 4.129), in the same way in between RP and ID with 2.836 "t" value, and AC and ID with 3.055 "t" value, while IA also play a mediation role in between AV and ID with 2.524 "t" value. Structural Model Evaluation

To examine the hypothesis, this study used the bootstrap method to measure the relationship among independent, mediating, dependent, and moderating variables (Hair et al., 2013-17). The hypothesis test via using the bootstrapping method of 5,000 resamples. The evaluation of the measurement model is depicted in Figure 2 below. Additionally, Figures 2 and Tables 4 and 5 present the results of the structural framework analysis. The effect on investment decision ($\beta = 0.342$, $p = 0.016$) was observed, indicating a significant influence. Moreover, anchoring bias was found to significantly impact investment decisions.

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Data Analysis and Discussion on Findings

The most crucial section of the article is the results. It is necessary to convey them intelligibly by avoiding convoluted and protracted language. The more concise the tables and figures used to present the analyses data, the better - Alexandrov, A. V. (2004). This section studied the data and discussed the conclusions. A series of tests were used to determine the effects of psychological factors on Pakistani investors' investment decisions. It should be noted that "Statistical Package for the Social Sciences" (SPSS) software was used to create all model results.

Data Reliability Test

As the role of scales is expanded to include the field of prediction, the issue of dependability arises. Cronbach's alpha - Santos, J. R. A. - is one of the statistics with the highest dependability currently in use. (1999). The practical test for determining theinternal consistency or reliability of a composite score is Cronbach's alpha. Theoutcomes range from 0 to 1, but occasionally they can be negative. A negative result means the data were unsuitable for the test. Contrarily, according to a typical rule of thumb, a Cronbach's alpha of.70 or higher is a good result,.80 or higher is a better result,and.90 or higher is the best result. As a result, the thirty items in Table 1 had a Cronbach's alpha of.90, indicating that the independent variables Table 3: Cronbach's Alpha Test of Reliability

Table 3: Test of Reliability through Cronbach's Alpha

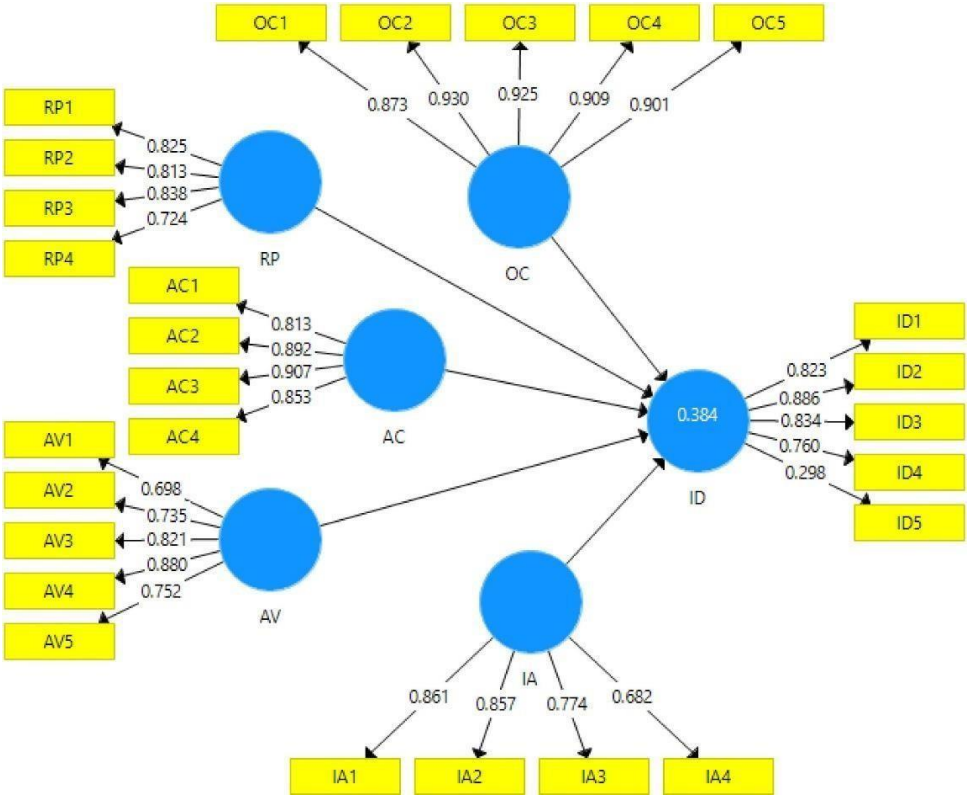
Cronbach's Alpha	Number of Items
0.898	30

Regression Analysis: Independent Variables on Dependent Variable

P-values are frequently computed by statistical data analysis algorithms when a hypothesis test is run. On the other hand, adjusted R-squared reveals the proportion of variation explained solely by the independent factors that actually have an impact on the dependent variable.

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Discussion

The primary aim of this study was to delve into the intricacies of decision-making among Chinese investors following the COVID-19 outbreak. Through meticulous analysis, the study uncovered a significant and positive influence of Chinese individual investors on their investment decisions ($\beta = 0.342$, $p = 0.016$). Furthermore, the phenomenon of anchoring bias emerged as a substantial factor shaping investment decisions ($\beta = 0.214$, $p = 0.017$). Interestingly, the availability bias, while also significant, exerted a negative impact on investment decisions ($\beta = –0.145$, $p = 0.018$). These findings align closely with prior research conducted by Sabir et al. (2019, 2021), indicating consistency in the observed effects.

Moreover, the study identified information availability as a pivotal moderating factor in the relationship between overconfidence, representative bias, anchoring bias, and individual investors. This observation resonates with the findings of Khan (2020), underscoring the crucial role of information accessibility in shaping investors' cognitive biases and subsequent decision-making processes. These insights shed light on the multifaceted nature of investment behavior, particularly in the context of significant

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