

THE IMPACT OF BEHAVIORAL BIASES ON PENSION FUND MANAGEMENT

A Dissertation submitted to the Office of the Dean, Faculty of Management in partial
fulfillment of the requirements for the Master's Degree

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CERTIFICATION OF AUTHORSHIP

I hereby corroborate that I have researched and submitted the final draft of dissertation entitled “**The Impact of Behavioral Biases on Pension Fund Management**”. The work of this dissertation has not been submitted previously for the purpose of conferral of any degrees nor it has been proposed and presented as part of requirements for any other academic purposes.

The assistance and cooperation that I have received during this research work has been acknowledged. In addition, I declare that all information sources and literature used are cited in the reference section of the dissertation.

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REPORT OF RESEARCH COMMITTEE

Mr. Saroj Basnet has defended research proposal entitled “**The Impact of Behavioral Biases on Pension Fund Management**” successfully. The research committee has registered the dissertation for further progress. It is recommended to carry out the work as per suggestions and guidance of supervisor Arun Neupane and submit the thesis for evaluation and viva voce examination.

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APPROVAL SHEET

We, the undersigned, have examined the dissertation entitled “**The Impact of Behavioral Biases on Pension Fund Management**” presented by Mr. Saroj Basnet for the degree of Master of Business Studies (MBS Semester) and conducted the Viva voce examination of the candidate. We hereby certify that the dissertation is worthy of acceptance.

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ABBREVIATIONS

ATM	:	Attitude toward Retirement
DEM	:	Demographic Factors
FTP	:	Future Time Perspective
PFM	:	Pension Fund Management
PK	:	Perceived Knowledge
RGC	:	Retirement Goal Clarity
SAQ	:	Self-Administered Questionnaire
SCB	:	Self-Control Bias
SPSS	:	Statistical Package for the Social Sciences

ABSTRACT

This study investigates the impact of behavioral biases on Pension Fund Management (PFM), focusing on key dimensions such as self-control bias, perceived knowledge, retirement goal clarity, future time perspective and attitude toward retirement. Utilizing a descriptive and causal-comparative research design, data were collected from 250 respondents through structured self-administered questionnaires. The demographic profiles of respondents, including gender, age, educational qualifications, occupation, income, and familiarity with retirement planning concepts, were also analyzed. Statistical analysis, performed using SPSS Version 29 and Microsoft Excel, included descriptive statistics, correlation, and regression analysis to examine the relationships and impacts of behavioral biases on PFM. The findings reveal positive correlations between all behavioral biases and PFM. Regression analysis confirms that all independent variables significantly influence PFM at the 5% significance level. Future time perspective exhibits the strongest impact, emphasizing the importance of promoting long-term financial thinking. Self-control bias highlights the need for financial behavior training, while perceived knowledge underlines the role of financial awareness. Retirement goal clarity and attitude toward retirement further stress the importance of planning workshops and awareness campaigns. These results underscore the necessity of behavioral and cognitive interventions to enhance pension fund management.

Keywords: *Pension Fund Management, Self-Control Bias, Perceived Knowledge, Retirement Goal Clarity, Future Time Perspective, Attitude toward Retirement*

CHAPTER – I

INTRODUCTION

1.1 Background of the Study

The effective management of pension funds is vital for ensuring the financial security of retirees. Pension funds are accumulated over an individual's working life and are invested with the primary goal of generating returns that will provide income during retirement. These funds are crucial for retirees' long-term financial stability, as they directly impact the financial well-being of individuals once they leave the workforce. Pension fund management is affected by market conditions, economic forces, and psychological biases, which can distort decision-making and lead to poor investment choices, harming fund performance.

Behavioral finance, which merges insights from psychology with economic theory, seeks to understand how irrational behaviors and cognitive biases influence decision-making. In contrast to traditional finance models, such as the Efficient Market Hypothesis (EMH), which assumes that markets are rational and asset prices reflect all available information, behavioral finance recognizes that cognitive biases systematically affect judgments, leading to deviations from rational decision-making (Shiller, 2003). These behavioral biases are crucial in pension fund management, as long-term investment decisions must align with future obligations.

Self-control bias is one of the key behavioral biases that affect investors and pension fund managers. Self-control bias occurs when individuals have difficulty delaying gratification and tend to make decisions based on immediate rewards rather than considering long-term benefits. This bias can lead to poor investment choices, such as excessive spending or taking on high-risk investments that do not align with the long-term objectives of the pension fund (Thaler & Shefrin, 1981). These biases can undermine fund stability and hinder meeting future obligations.

Perceived knowledge is another bias that can influence pension fund management. When fund managers overestimate their knowledge and expertise, they may become overconfident in their ability to make investment decisions. Overconfidence can result

in excessive trading, as managers may believe they can successfully time the market or identify winning investments better than they actually can (Barber & Odean, 2001). This overconfidence can lead to high transaction costs, increased portfolio volatility, and potentially lower long-term returns, ultimately undermining the financial goals of the pension fund.

Retirement goal clarity is also a critical factor in pension fund management. When individuals lack clear retirement goals, they may struggle to make investment decisions that align with their long-term objectives. Research indicates that individuals with more clearly defined retirement goals are more likely to engage in strategic saving and investing, while those with vague or undefined goals may fail to take the necessary steps to secure their financial future (Duflo, Gale, Kariv, & Zeckhauser, 2011). In the context of pension fund management, a lack of clarity in retirement goals can lead to poorly aligned investment strategies that fail to generate the returns necessary for retirement security.

The future time perspective of pension fund managers is another key factor that influences decision-making. Those with a short-term outlook may be more likely to focus on immediate gains and engage in riskier behaviors, while those with a longer-term perspective are more likely to adopt strategies that prioritize steady, long-term growth. A study by Hershfield et al. (2011) highlights how individuals with a limited future time perspective often make decisions that do not align with their long-term financial goals. For pension fund managers, a short-term focus can result in decisions that undermine the fund's ability to meet future obligations, particularly during periods of market volatility.

Attitudes toward retirement play a significant role in pension fund management as well. Individuals who have a positive attitude toward retirement are more likely to engage in proactive retirement planning, which includes making sound investment decisions and regularly reviewing their portfolio performance. Conversely, individuals who view retirement as a distant or uncertain event may be less likely to take the necessary steps to secure their financial future. The attitudes of fund managers toward retirement can also influence their investment decisions, as those

with a more positive outlook on retirement may be more focused on ensuring that their funds are well-positioned to meet long-term goals.

Overconfidence bias, one of the most well-documented behavioral biases, has a particularly significant impact on pension fund management. Overconfident individuals tend to overestimate their knowledge and abilities, leading to decisions that may not be based on sound analysis. In pension fund management, overconfidence can manifest as excessive trading or an overreliance on market predictions. As a result, fund managers may make investments that do not align with the fund's long-term goals, potentially increasing risk and reducing overall returns (Barber & Odean, 2001).

Herding behavior, another important bias in behavioral finance, occurs when individuals follow the actions of a larger group rather than making independent decisions. In pension fund management, herding behavior can lead to similar investment strategies across multiple funds, which may contribute to market stability in some cases. However, herding can also have negative consequences, particularly when large groups of funds collectively invest in overvalued assets or withdraw from positions during a market downturn. Herding behavior has been shown to contribute to market bubbles and crashes, which can have devastating effects on pension fund performance (Bikhchandani & Sharma, 2000).

Loss aversion is another cognitive bias that plays a critical role in pension fund management. Loss aversion refers to the tendency of individuals to prefer avoiding losses over acquiring equivalent gains, even when the potential rewards outweigh the risks. In the context of pension fund management, loss aversion can lead to overly conservative investment strategies that prioritize safety over higher returns. While such strategies may reduce short-term volatility, they can hinder long-term growth and prevent the fund from meeting future financial obligations (Kahneman & Tversky, 1979).

Anchoring bias is another distortion that affects pension fund managers. Anchoring occurs when individuals rely too heavily on initial information when making decisions. In the case of pension fund management, this could mean that a fund

manager might base investment decisions on historical performance data or initial market assessments, even when more current information is available. This reliance on outdated or irrelevant information can result in poor investment strategies that fail to capitalize on new opportunities or adapt to changing market conditions (Tversky & Kahneman, 1974).

Recency bias, which causes individuals to place undue weight on recent events or outcomes, can also negatively affect pension fund management. Fund managers who exhibit recency bias may overreact to short-term market trends or recent performance, leading them to make frequent adjustments to the portfolio that are not consistent with long-term investment goals. This can increase transaction costs, reduce portfolio stability, and lower overall returns (Chen, 2007). Managers who focus too heavily on recent performance may miss out on more stable, long-term investment opportunities. The impact of behavioral biases extends beyond individual decision-making, influencing broader market dynamics. For example, the combination of overconfidence and herding behavior can contribute to the formation of market bubbles, where asset prices deviate significantly from their intrinsic values. When these bubbles burst, pension funds that are heavily invested in overvalued assets can experience substantial losses (Shiller, 2000). Similarly, biases such as loss aversion and anchoring can lead to underperformance, as pension funds may miss growth opportunities by sticking to outdated strategies or avoiding risk altogether.

Understanding how behavioral biases affect pension fund management is crucial for improving fund performance and ensuring the financial security of retirees. Recognizing and addressing biases such as self-control, overconfidence, herding, loss aversion, anchoring, and recency can help pension fund managers make more rational, informed decisions. By reducing the impact of these biases, managers can improve the long-term stability of pension funds, ensuring that they meet the financial needs of retirees while maintaining consistent growth.

Policymakers and regulators also play a crucial role in addressing the effects of behavioral biases on pension fund management. By designing regulations that encourage transparency, accountability, and long-term performance evaluation, policymakers can help ensure that pension funds are managed in a way that aligns

with the best interests of beneficiaries. Additionally, promoting financial literacy and ongoing education for fund managers can help mitigate the impact of these biases and encourage more rational decision-making (Benartzi & Thaler, 2001).

In conclusion, managing pension funds effectively requires an understanding of both financial principles and the psychological biases that influence decision-making. Behavioral biases such as self-control, overconfidence, herding, loss aversion, anchoring and recency can all have significant effects on the performance of pension funds. By recognizing and mitigating these biases, fund managers can enhance their decision-making processes, improve fund performance, and help secure a stable financial future for retirees. This research aims to explore the impact of these biases, including self-control bias, perceived knowledge, retirement goal clarity, future time perspective, and attitude toward retirement on pension fund management and to propose strategies for mitigating their influence.

1.2 Problem Statement

Behavioral biases in investment decision-making, including overconfidence, herding behavior, loss aversion, and other cognitive biases, have been widely studied across various financial markets. These biases are recognized for their ability to influence the decisions of both individual and institutional investors, including pension fund managers. In particular, biases such as overconfidence and loss aversion can lead investors to make decisions that are not aligned with their long-term financial goals or risk tolerance. While these biases have been extensively explored in global financial markets, there is a notable lack of comprehensive research addressing the role of these biases in the context of pension fund management in Nepal. Studies such as those by Tomar et al. (2021); Sinha (2020) have examined the impact of psychological factors like self-control bias, perceived knowledge, and financial literacy on retirement planning behavior. Their findings suggest that such biases significantly impact retirement planning and could similarly affect pension fund management in Nepal, particularly in managing long-term goals and risk tolerance. Biases like overconfidence and loss aversion may lead to poor investment decisions, hindering fund performance and long-term stability, especially in Nepal's developing pension system.

A growing body of research, such as the work of Billari et al. (2023), has underscored the detrimental effect that inadequate financial knowledge and the presence of behavioral biases can have on pension-related decisions and asset management. These findings highlight the need for greater attention to how cognitive biases may alter the decision-making process in managing pension funds. In particular, Koetsier and Bikker (2023) stress the impact of herd behavior on institutional investors, including pension funds, particularly during periods of market distress. Their study indicates that while herd behavior might provide short-term market stabilization, it can also lead to significant long-term consequences, potentially undermining the stability of pension fund investments. This issue is especially concerning in Nepal, where the pension fund system is still developing and may be more vulnerable to the influence of such biases, as the regulatory frameworks and investor behaviors continue to evolve.

Furthermore, research by Trönnberg and Hemlin (2022) shows that pension fund managers rely on both rational analysis and intuitive judgment when making investment decisions. While intuition can lead to quick decisions, it can also cause suboptimal outcomes, particularly when influenced by biases. This highlights the need to understand how cognitive biases affect decision-making to improve pension fund management in Nepal. Studies by Huang et al. (2022) suggest that investor sophistication impacts responses to market volatility, which could influence pension fund investments in Nepal, emphasizing the importance of understanding how these factors shape decisions in the pension system.

In addition, previous research by Magwegwe and Lim (2021) and Beshears et al. (2021) has shown that behavioral factors such as framing effects and self-control biases can significantly alter decision-making in financial contexts. Given this, it is plausible that similar biases are influencing the behavior of pension fund managers in Nepal, potentially leading to inefficient asset allocation and poor fund performance. Addressing these behavioral dynamics could be key to improving the management of pension funds in Nepal, ultimately enhancing their effectiveness. As Sinha (2020) emphasizes, self-control biases and gaps in perceived knowledge often result in ineffective retirement planning, and it is likely that similar issues are affecting pension fund management in Nepal. This could lead to suboptimal decision-making in

asset allocation, further exacerbating the challenges facing the country's pension system.

The growing importance of pension funds in Nepal's financial landscape and the potential consequences of behavioral biases make it crucial to examine how these biases influence fund management and whether addressing them could enhance the overall effectiveness of Nepal's pension system. This research aims to explore the current situation of behavioral biases in pension fund management, analyze their relationship with pension fund outcomes, and assess how these biases impact decision-making and long-term fund performance. Despite numerous studies on behavioral biases and pension fund management globally, there is limited research in the context of Nepal. Therefore, the researcher has formulated the following research questions to guide this study:

Research Questions:

- i. What is the current situation of behavioral biases and pension fund management in Nepal?
- ii. Is there any relationship between behavioral biases factors with pension fund management with pension fund management?
- iii. How do behavioral biases factors impact on pension fund management with pension fund management?

1.3 Objectives of the Study

The main objective of this study is to analyze the impact of behavioral biases on pension fund management in Nepal also this study has examined the current status of these biases and their influence on pension fund management. The specific objectives of this study are as follows:

- i. To assess is the current situation of behavioral biases and pension fund management in Nepal.
- ii. To examine the relationship between behavioral biases factors with pension fund management with pension fund management.
- iii. To analyze the impact behavioral biases factors on pension fund management with pension fund management.

1.4 Rationale of the Study

This study is crucial as it seeks to understand the impact of behavioral biases, such as self-control bias, perceived knowledge, retirement goal clarity, future time perspective, and attitude toward retirement, on pension fund management in Nepal. Given the growing importance of pension funds in ensuring financial security for aging populations, particularly in developing economies like Nepal, understanding these biases can help improve fund management practices. Limited research in this area highlights the need to explore how these biases may hinder optimal resource allocation, affect long-term fund performance, and influence risk management strategies. The findings will benefit policymakers, financial institutions, and pension fund managers by providing insights into mitigating these biases, ultimately improving decision-making, fund performance, and the overall stability of Nepal's pension system. Furthermore, this research offers potential for future studies on behavioral biases in financial management and their broader implications for economic stability, benefiting not only Nepal but other developing nations facing similar challenges.

1.5 Limitations of the Study

Like other researches, this study also has some limitations which can be highlighted as follows:

- i. This study is focused on topic "The Impact of Behavioral Biases on pension fund management."
- ii. The study may not have been applicable to other areas.
- iii. This study is based on primary data; hence, the validity of the findings has depended upon the reliability of the data.
- iv. The study has utilized a descriptive and causal comparative research design.
- v. The researcher has collected data through a questionnaire distributed via a survey to a sample of 250 respondents related to pension fund.
- vi. The analysis of this study has been based on the results obtained from correlation and multiple regression models.
- vii. This study is based on independent variables factors of behavioral biases such as self control bias, perceived knowledge, retirement goal clarity, future time perspective and attitude toward retirement as well as dependent variable pension fund management.

CHAPTER – II

LITERATURE REVIEW

The review of the literature is essential for the study's planning and execution. This chapter addresses existing research and literature related to the impact of behavioral biases on pension fund management, with a particular focus on the context of Nepal. In preparing this review, various sources such as books, dissertations, research papers, reports and articles from journals and newspapers are examined. The purpose of this literature review is to acquire knowledge in the field, identify new contributions, and inspire the development of research designs. By highlighting gaps in current knowledge, this chapter helps in formulating research hypotheses and creating the study's framework. The literature review is organized into theoretical and empirical sections to thoroughly explore both foundational concepts and specific research findings related to the study's focus.

2.1 Theoretical Review

This theoretical review section has explored several important theories pertinent to pension fund management. These theories encompass the Efficient Market Hypothesis, Modern Portfolio Theory, the Capital Asset Pricing Model, Behavioral Finance Theory and Agency Theory.

Efficient Market Hypothesis (EMH)

The Efficient Market Hypothesis (EMH) posits that financial markets are "informationally efficient," meaning that asset prices reflect all available information at any given time. According to EMH, it is impossible for investors to consistently achieve returns that exceed the market average because any new information is quickly and accurately incorporated into asset prices. EMH is divided into three forms: weak, semi-strong, and strong, depending on the type of information considered. The weak form asserts that past prices and returns cannot predict future price movements, while the semi-strong form includes all publicly available information. The strong form includes all private information as well. The theory, first developed by Eugene Fama in the 1960s, suggests that active management strategies

are unlikely to outperform passive strategies due to the efficiency of markets (Fama, 1970).

Modern Portfolio Theory (MPT)

Modern Portfolio Theory (MPT), introduced by Harry Markowitz in the 1950s, emphasizes the importance of diversification in investing. MPT proposes that investors can construct an optimal portfolio by combining assets in such a way that maximizes expected returns for a given level of risk, or minimizes risk for a given level of expected return. The theory uses the concept of the "efficient frontier," which represents the set of optimal portfolios that offer the highest expected return for a defined level of risk. MPT assumes that investors are rational and markets are efficient, and it relies on the mean-variance optimization framework to evaluate portfolio performance (Markowitz, 1952).

The Capital Asset Pricing Model (CAPM)

The Capital Asset Pricing Model (CAPM) builds on the foundations of MPT by establishing a linear relationship between the expected return of an asset and its systematic risk, measured by beta. CAPM provides a formula to determine the expected return of an asset based on its risk relative to the overall market. The model is used to assess whether an asset is fairly priced given its risk and return profile. CAPM assumes that investors hold diversified portfolios, markets are competitive, and there is a risk-free rate of return. The theory was developed by William Sharpe, John Lintner, and Jan Mossin in the 1960s and is widely used for asset pricing and investment valuation (Sharpe, 1964).

Behavioral Finance Theory

Behavioral Finance Theory integrates insights from psychology into financial decision-making, challenging the assumption of rational behavior in traditional finance theories. It examines how cognitive biases, emotional factors, and social influences affect investors' decisions and lead to systematic deviations from rationality. Key concepts in behavioral finance include overconfidence, loss aversion, and herding behavior. This theory suggests that investors often make decisions based on heuristics and psychological biases, leading to market inefficiencies and anomalies. Pioneering work in this field was done by scholars such as Daniel

Kahneman and Amos Tversky, who demonstrated that psychological factors can lead to predictable patterns of behavior and market outcomes (Kahneman & Tversky, 1979).

Agency Theory

Agency Theory explores the relationship between principals (owners or shareholders) and agents (managers or fund managers) in financial contexts. It focuses on the conflicts of interest that arise when agents, who are hired to act in the best interests of principals, pursue their own objectives instead. These conflicts can lead to issues such as managerial opportunism and agency costs, affecting the performance and efficiency of investments. The theory, developed by Michael Jensen and William Meckling in the 1970s, provides a framework for understanding how contracts, incentives, and monitoring mechanisms can be designed to align the interests of agents with those of principals and mitigate agency problems (Jensen & Meckling, 1976).

2.2 Empirical Review

Magnani (2024) examined the influence of precautionary motives on retirement decision-making, focusing on saving, labor supply, and retirement in the context of pension system reforms. Using a theoretical framework, the study analyzed how uncertainty impacts retirement age and saving behavior, with independent variables including risk on work effort, prudence, and temperance levels, and dependent variables being retirement age, saving, and labor supply. Results showed that precautionary motives led to earlier retirement due to the risk associated with work effort costs and highlighted prudence and high absolute temperance as drivers of precautionary saving. The study also explored pension reforms, revealing how increased contributions or reduced benefits prompted delayed retirement and heightened labor supply. These insights were concluded to inform policies for financial sustainability in pension systems.

Li et al. (2024) examined how receiving pensions impacts the health behavior of rural elderly residents in China, focusing on sugar, salt, and oil intake control, and health knowledge. Using data from the 2020 China Rural Revitalization Survey and a regression discontinuity design, they found that pension access improved health

behaviors, especially for low-income families and male residents. Independent variables included pension access, income, and gender, with health behavior as the dependent variable. The study concluded that pensions positively affect health behaviors and recommended policy improvements for rural elderly insurance systems, highlighting the importance of targeted interventions for vulnerable groups. This research further emphasizes the need for pension schemes to address health behavior as a key component of elderly welfare.

Lhaopadchan et al. (2024) investigated retirement savings behaviors among members of the Thai Government Pension Fund, focusing on voluntary contributions and investment plan changes during the COVID-19 pandemic. The study utilized administrative data, examining how member characteristics such as gender, salary, balance, and experience influenced these behaviors. Independent variables included demographic and financial characteristics of fund members, while the dependent variables were voluntary contributions and changes in investment plans. Results revealed a low overall incidence of these behaviors, with only a modest increase during the onset of COVID-19. Although a minority of members engaged in these actions, the relative probability varied systematically by individual characteristics. The study concluded that large pension plans face challenges in balancing targeted savings interventions with distributed costs.

Butt et al. (2024) analyzed investment option switching behavior among Australian pension fund members during the COVID-19 market volatility. The study found that switching was reactive to market movements, with defensive switches during downturns and growth switches during stable periods. Independent variables included market volatility, member engagement, retirement age, gender, and portfolio positions, with switching behavior and its impact on member balances as the dependent variable. Results showed that switching negatively affected member balances, with higher engagement and near-retirement members more likely to switch. Males preferred growth switches, while members with lower starting portfolio positions were more likely to make defensive switches. The study concluded that targeted initiatives, such as better education on investment strategies, could prevent financially detrimental switches and help members avoid impulsive decisions based on market fluctuations.

Silvy et al. (2023) investigated the impact of financial knowledge and materialism on retirement planning behavior, with impulsive buying as a mediating variable. The study focused on individuals managing family finances, selecting 321 respondents from Surabaya, Gresik, and Sidoarjo, who met criteria including a minimum income of 4 million rupias and at least two years of experience. Data were analyzed using the Partial Least Squares (PLS) Structural Equation Model. Independent variables included financial knowledge and materialism, with impulsive buying as the mediating variable and retirement planning behavior as the dependent variable. Results demonstrated that financial knowledge positively influenced retirement planning behavior, while materialism had an insignificant effect on it. Additionally, impulsive buying mediated the relationship between materialism and retirement planning behavior. The study concluded that enhancing financial knowledge is crucial for improving retirement planning behaviors, while materialism's role requires further investigation.

Billari et al. (2023) conducted an experimental study to evaluate the effects of an online financial and demographic education program, Finlife, implemented with the largest employer-based pension fund in Italy. The primary objective of the study was to assess the impact of the Finlife program, which included an online instructional video on financial and demographic (survival) literacy, on improving financial knowledge and influencing short-term behavioral changes in pension-related decisions. The independent variables in the study were the online video and the follow-up evaluation, while the dependent variables were participants' financial and demographic literacy, as well as their subsequent investment choices within the pension fund. The findings revealed that the program significantly increased participants' financial and demographic survival literacy. The intervention encouraged proactive financial decisions, demonstrating that low-cost education can enhance financial literacy in pension funds.

Koetsier and Bikker (2023) investigated asset herd behavior among Dutch pension funds from 1999 to 2014, using quarterly data to analyze patterns of purchasing and selling across 20 asset classes, including non-traditional assets. The study aimed to examine the extent and intensity of herd behavior within pension fund investments, particularly during financial crises. The independent variables were the asset classes

and the crisis conditions (e.g., stock market crises, real estate, or bond market crises), while the dependent variable was the herd behavior of pension funds, measured by both buying and selling activities. The findings revealed that herd behavior was most prominent in alternative investments and was especially intense during stock market crises like the Dot.com bubble and the financial crisis. Interestingly, during real estate or bond market crises, herding behavior remained stable compared to non-crisis periods. The study also highlighted that pension fund sales in equity and bond markets during crises often had a stabilizing effect on the markets, while their buying behavior did not produce the same effect. This research underscores the varying impact of herd behavior on market stability depending on the asset class.

Trönnberg and Hemlin (2022) investigated pension fund managers' investment thinking when confronted with challenging investment decisions, focusing on the emergence of dual thinking processes rational and intuitive. The study used the critical incident interview technique with 22 pension fund managers, asking them to recall recent investment decisions. The methodology included inquiries about the investment situation, decision-making process, and the challenges they faced. The independent variables included factors influencing decision-making, such as hard information (company reports, stock market data, and analyst advice) and soft information (experience, qualitative judgments, and team evaluations). The dependent variable was the quality of the investment decision-making process. The findings indicated that while many decisions were based on rigorous analysis of quantitative data, fund managers also heavily relied on qualitative factors, intuitive judgments, heuristics, biases (like sunk cost effects), and social influences during their decision-making processes. This study provided insights into how pension fund managers blend analytical and intuitive thinking when making complex investment choices.

Huang et al. (2022) investigated the effect of performance volatility on the sensitivity of mutual fund flows to past performance and explored how investor learning contributes to this relationship. The study theoretically illustrated that sophisticated investors, who learn from past fund performance to form expectations of managerial ability, exhibit weaker flow-performance sensitivity in funds with more volatile past performance. The methodology involved analyzing mutual fund flows while classifying variables such as performance volatility (independent variable) and flow-

performance sensitivity (dependent variable). Additionally, investor sophistication was considered, with funds being categorized by load versus no-load, high-expense versus low-expense, retail versus institutional, and star versus non-star funds. The findings supported the investor learning hypothesis by demonstrating that the dampening effect of performance volatility was more pronounced in funds with sophisticated investors, indicating that these investors adjust their expectations based on performance fluctuations differently than less sophisticated investors.

Wongsowinoto and Susanto (2022) investigated the effects of financial knowledge, technology, and behavioral control on student financial behavior in Indonesia. The study aimed to explore the factors that drive the increased use of technology among students in marketing and financial management. Using a descriptive qualitative method, the researchers analyzed how students utilize technology to improve financial knowledge and behavioral control. The independent variables included financial knowledge, technology use, and behavioral control, while the dependent variable was student financial behavior. The findings, spanning from 2012 to 2019, revealed that over 80% of students developed good financial behavior, demonstrated by their ability to manage cash flows, invest, and save for future use. The study highlighted that students' financial behavior was shaped by factors such as consumption habits, financial education, and social environments, which encouraged positive financial control. These insights showed that technology and knowledge play crucial roles in helping students achieve better financial outcomes and quality of life.

Eberhardt et al. (2021) investigated how goal framing in technology-facilitated communication influences consumers' engagement with pension information, which is crucial for their long-term financial well-being. The study explored the effectiveness of two types of goal frames: a prevention-oriented assurance frame and a promotion-oriented investment frame. Field, online, and laboratory studies were conducted to analyze behavioral engagement. The independent variables included the types of goal framing, while the dependent variable was participants' engagement behavior with pension information. The findings consistently demonstrated that a prevention-oriented assurance frame was twice as effective as the promotion-oriented frame in encouraging behavioral engagement. This study highlighted the significant role that goal framing in digital communications can play in enhancing retirement planning

and has implications for marketers and policymakers aiming to improve consumer retirement engagement and overall financial well-being.

Rey-Ares et al. (2021) examined how self-control affects financial behaviors and attitudes among millennials compared to older generations, using data from the 2017 Survey of Financial Competences of Spanish individuals. The study aimed to understand how self-control influences financial decision-making in challenging circumstances faced by millennials. The methodology involved analyzing self-control as the independent variable and various financial behaviors and attitudes as the dependent variables. The results revealed that while self-control significantly shaped financial attitudes across all generations, it only impacted millennials' financial behaviors specifically decisions about saving accounts and personal loans when they exhibited high levels of self-control. These findings have significant implications for policymakers, highlighting the need to develop targeted strategies that promote healthier financial behaviors among millennials. By fostering better self-control mechanisms, policymakers can encourage more responsible saving and spending habits, ultimately improving financial stability and long-term economic well-being for this generation.

Tomar et al. (2021) investigated how financial literacy, as a cognitive characteristic, interacts with psychological factors retirement goal clarity, future time perspective, attitude toward retirement, risk tolerance, and social group support to influence women's retirement planning behavior. Utilizing partial least squares regression with Multi Group Analysis, the study tested theory-based hypotheses. The independent variables included financial literacy, retirement goal clarity, future time perspective, attitude toward retirement, risk tolerance, and social group support, while the dependent variable was retirement planning behavior. The results indicated that future time perspective, retirement goal clarity, and social group support positively influenced retirement planning behavior, with these relationships being moderated by financial literacy. Additionally, future time perspective and retirement goal clarity were found to mediate the effects on retirement planning behavior. These findings offer valuable insights for financial planning professionals and advisors, suggesting that enhancing financial literacy and psychological factors can improve women's retirement planning outcomes.

Magwegwe and Lim (2021) explored the psychological factors influencing the calculation of retirement savings needs and its impact on individual retirement account ownership, applying the Theory of Planned Behavior (TPB). Using data from the 2015 National Financial Capability Study and path analysis, they developed a model to understand these relationships. The independent variables included favorable attitudes, strong social norms, and perceived behavioral control, while the dependent variables were the calculation of retirement savings needs and individual retirement account ownership. The study found that favorable attitudes, social norms, and perceived behavioral control significantly influenced the calculation of retirement savings needs. Additionally, the calculation of these needs, along with perceived behavioral control and having an employer-based retirement plan, predicted individual retirement account ownership. The results emphasized the importance of understanding the psychological factors behind retirement savings calculations and simplifying the process to enhance retirement planning.

Beshears et al. (2021) conducted a field experiment to examine how framing future moments as "fresh starts" affects retirement plan contributions. In the study, 6,082 university employees received mailings offering the option to increase their contributions either immediately or at a specified future date. The experiment tested whether framing the future date as a fresh start (e.g., the recipient's birthday or the first day of spring) would influence the choice to increase contributions at that future time. The independent variable was the framing of the future date as a fresh start, while the dependent variable was the choice to increase retirement plan contributions either immediately or at the future time point. The findings revealed that fresh start framing significantly increased the likelihood of choosing to increase contributions at the future time point without reducing the likelihood of immediate contributions. This effect led to a higher overall increase in retirement plan contributions over the following eight months, demonstrating the effectiveness of fresh start framing in a practical, field-based setting.

Iramani and Lutfi (2021) developed an integrated model of family financial welfare to analyze factors affecting financial well-being. Using data from 1,158 households collected through an online survey and analyzed with structural equation modeling, the study aimed to identify key determinants of financial well-being. The independent

variables included financial experience, financial knowledge, financial status, and marital status, while financial well-being was the dependent variable. The study found that financial experience, financial knowledge, financial status, and marital status had direct effects on financial well-being. Financial behavior was identified as a significant mediator of the relationships between financial knowledge, financial experience, and locus of control on financial well-being. Additionally, marital status was found to strengthen the effect of financial knowledge on financial well-being but did not influence the effect of financial experience. The results suggest the need for improved financial literacy and inclusion programs, as well as campaigns promoting frugality to mitigate financial difficulties among households.

Ghafoori et al. (2021) examined the causal impact of financial education interventions on retirement saving behaviors and asset allocation decisions. The study focused on a nationwide retirement seminar program administered by a major Australian pension fund. Using a quasi-experimental design and variation in the timing of seminar invitations, the authors analyzed the effects on participants over two years. The independent variable was seminar attendance, while the dependent variables included voluntary pension contributions and portfolio allocation strategies. The findings revealed that seminar attendance significantly increased voluntary contributions by 6% of participants' pension balances and encouraged sophisticated, lower-risk portfolio strategies as retirement approached. The study concluded that such seminars were highly beneficial for both pension funds and their members, underscoring the potential of financial education programs in improving retirement planning behaviors.

Sinha (2020) examined the effects of self-control bias and perceived knowledge on retirement planning behavior among individuals in New Delhi, India. The study aimed to understand how self-control and financial literacy impact retirement savings, noting that a lack of self-discipline adversely affects savings ratios and that individuals often overestimate their financial knowledge. Using a five-point Likert scale questionnaire, the researcher surveyed 405 individuals to assess the influence of self-control bias and perceived financial knowledge on retirement planning behavior. Regression analysis was employed to explore causal relationships between these variables. The results revealed that inadequate self-control over expenditures and overestimation of financial knowledge contributed to ineffective retirement planning.

This suggests that individuals' self-control biases and unrealistic beliefs about their financial expertise negatively affect their retirement savings and investment decisions.

Chakravarty and Ray (2020) assessed the skill of portfolio managers and the impact of trading behavior using a marked-to-market based "fair-value" method. The study aimed to determine whether institutional managers are skilled or whether excessive trading undermines their performance. The analysis revealed that institutional managers could potentially achieve benchmark-adjusted returns of +42 basis points on buy trades and +33 basis points on sell trades over a four-week holding period before transaction costs. After accounting for transaction costs, the benchmark-adjusted returns were reduced to +1 basis points for buys and -8 basis points for sells. The study found that pension fund managers outperformed money managers and detected no evidence of overconfidence or disposition effect among mutual fund managers within this short-horizon period. The findings indicated that institutions often engage in short-term trading (holding periods of four weeks or less) and that liquidity trading motives were the most prominent, despite only achieving break-even or modest losses after transaction costs.

Dragos et al. (2020) investigated the impact of behavioral and socio-demographic factors on the decision to purchase life insurance or private pensions using data from 1,579 Romanian consumers. The study aimed to test several hypotheses about how various determinants influence buying decisions. Data were collected through a questionnaire covering five categories: economic factors, socio-demographic factors, general behavioral factors, specific behavioral factors, and an index of insurance knowledge. Logit regression models were employed to analyze the relationships between these determinants and the intention or decision to purchase life insurance and private pensions. The results showed that behavioral factors and insurance knowledge predicted the purchase decision, but not the intention to buy.

Martin et al. (2020) investigated the ethical consequences of CEO equity incentives on pension fund management, using the behavioral agency model as the theoretical framework. The study aimed to analyze how CEO stock options influence decisions regarding employee pension funding, particularly under conditions of increased CEO power. The independent variables included CEO equity incentives and current option

wealth, while the dependent variable was pension fund underfunding. The methodology involved examining firms where CEOs also occupied the board chair position to assess decision-making power. The results indicated that CEOs were more likely to prioritize pension funding when they had more to gain from stock options but increasingly underfunded pensions as their option wealth grew. The findings highlighted the ethical complexities of equity incentives, showing their potential to align CEO interests with shareholders while adversely affecting employees. The study provided actionable insights for boards and regulators to safeguard employee well-being through improved oversight of pension funding decisions.

Basiglio and Oggero (2020) reviewed the effects of pension information on individuals' economic outcomes, focusing on retirement planning, labor supply decisions, and savings behavior. The study aimed to summarize existing research on how information provision influences these outcomes, particularly for vulnerable groups such as women. Using a survey-based methodology, the authors analyzed the independent variable of pension information and its impact on dependent variables like retirement planning and economic decisions. The findings revealed that while information provision consistently increased individuals' knowledge, its behavioral effects were mixed. The study emphasized that insufficient pension information disproportionately affects vulnerable populations, exacerbating the gender gap in pensions. These insights underscored the importance of targeted informational interventions to promote equitable retirement outcomes.

Weiss-Cohen et al. (2019) explored the investment decision-making of pension fund trustees, focusing on an area often overlooked in behavioral finance research. The study aimed to understand how these institutional investors, despite their training and experience, might be subject to behavioral biases. The paper began by outlining the decision-making environment of pension fund trustees and reviewed existing behavioral finance literature relevant to similar contexts. The findings indicated that, despite their expertise, pension fund trustees are not immune to behavioral biases due to the limited and dispersed nature of their training and experience. Trustees, who make decisions collectively and rely heavily on external advice while acting on behalf of others, may exhibit inefficiencies. The study highlighted the need for further

research into how these specific contexts influence the psychological effects on investment decisions.

Kimiyagahlam et al. (2019) examined the behavioral factors influencing retirement planning behavior through the lens of the theory of planned behavior and time perspective theory. The study used structural equation modeling to analyze data from 900 adults in Kelang Valley, Malaysia. The findings revealed that financial literacy, propensity to plan, and future orientation were directly associated with retirement planning behavior, highlighting that individuals who possess higher financial knowledge, are more inclined to plan, and have a future-oriented mindset are more likely to engage in retirement planning. Furthermore, the study found that saving attitude partially mediated these relationships, indicating that a positive saving attitude enhances the impact of financial literacy and planning on retirement planning. The study found no significant link between family education, materialism, and retirement planning, highlighting the key role of financial literacy, planning propensity, and future orientation in improving retirement outcomes.

Asandimitra and Kautsar (2019) compared the influence of financial information, financial self-efficacy, and emotional intelligence on the financial management behavior of female lecturers at state and private universities in Indonesia. This conclusive causality study focused on 200 female lecturers selected through quota sampling from both state and private universities. Data were collected using interviews and surveys, and multiple regression analysis was performed with SPSS. The findings indicated that financial knowledge, financial self-efficacy, financial literacy, and emotional intelligence significantly impacted financial management behavior among female lecturers at state universities. However, these factors did not influence financial management behavior in private university lecturers. The study's results are valuable for financial institutions and government programs aimed at enhancing financial knowledge and self-efficacy among individuals. The research contributes originality by examining the psychological factors of financial self-efficacy and emotional intelligence, which had not been extensively analyzed in previous financial behavior studies, particularly in the context of female lecturers.

Table 1*Summary of Empirical Review*

Author(s)	Objectives	Variables	Methodology	Findings
Magnani (2024)	To examine the influence of precautionary motives on retirement decision-making.	Dependent: Retirement age, saving, and labor supply. Independent: Risk on work effort, prudence, and temperance.	Theoretical framework and analysis.	The study finds that precautionary motives lead to earlier retirement, with prudence and temperance driving savings. Pension reforms delay retirement and increase labor supply.
Li et al. (2024)	To explore how receiving pensions impacts the health behavior of rural elderly residents in China.	Dependent: Health behavior (sugar, salt, oil intake, and health knowledge). Independent: Pension access, income, gender.	Regression discontinuity design, 2020 China Rural Revitalization Survey.	The study shows that pensions improve health behaviors, especially for low-income and male residents, highlighting the need for targeted rural pension system reforms.
Lhaopadchan et al. (2024)	To investigate retirement savings behaviors among Thai Government Pension Fund members.	Dependent: Voluntary contributions and changes in investment plans. Independent: Demographic and financial characteristics (gender, salary, balance, experience).	Administrative data analysis.	The study finds that retirements saving behaviors were generally low, with small increases during COVID-19, influenced by member characteristics.

Butt et al. (2024)	To analyze investment option switching behavior among Australian pension fund members during COVID-19 market volatility.	Dependent: Switching behavior and its impact on member balances. Independent: Market volatility, member engagement, retirement age, gender, portfolio positions.	Data analysis on switching behavior during market volatility.	The study finds that switching behavior, influenced by market fluctuations, negatively impacted member balances, especially for near-retirement members.
Silvy et al. (2023)	To investigate the impact of financial knowledge and materialism on retirement planning behavior	Dependent: Retirement planning behavior. Independent: Financial knowledge, materialism. Mediating: Impulsive buying.	PLS-SEM with data from 321 respondents.	The study finds that financial knowledge enhances retirement planning, while materialism has little impact. Impulsive buying mediates materialism's effect on retirement planning.
Billari et al. (2023)	To assess the impact of the Finlife program on financial knowledge and pension-related decisions	Dependent: Financial and demographic literacy, pension-related investment choices Independent: Online video, follow-up evaluation	Experimental study	The finding of the study is that the Finlife program significantly improved participants' financial literacy and encouraged proactive financial decisions.

Koetsier and Bikker (2023)	To analyze asset herd behavior among Dutch pension funds and its impact during financial crises	Dependent: Herd behavior of pension funds (buying and selling activities) Independent: Asset classes, crisis conditions (e.g., stock market crises, real estate, or bond market crises)	Quantitative analysis (quarterly data)	The finding of the study is that herd behavior was most pronounced in alternative investments during stock market crises, with a stabilizing effect on markets during crises.
Trönnberg & Hemlin (2022)	To explore pension fund managers' investment thinking, focusing on rational and intuitive dual thinking processes.	Dependent: Quality of investment decision-making process Independent: Hard information, Soft information	Critical incident interview with 22 pension fund managers. Analysis of decision-making processes.	The results reveal that managers utilized both rigorous analysis and intuitive judgments. They heavily relied on qualitative factors, heuristics, and biases, blending analytical and intuitive thinking during complex investment decisions.
Huang et al. (2022)	To investigate the effect of performance volatility on mutual fund flows and explore how investor learning contributes to this relationship.	Dependent: Flow-performance sensitivity Independent: Performance volatility, Investor sophistication	Analysis of mutual fund flows, categorized by fund types and investor sophistication.	It was found that sophisticated investors exhibited a dampened sensitivity to performance volatility. They adjusted their expectations based on performance fluctuations more effectively than less sophisticated investors.

Wongsowinoto & Susanto (2022)	To investigate the effects of financial knowledge, technology, and behavioral control on student financial behavior in Indonesia.	Dependent: Student financial behavior Independent: Financial knowledge, Technology use, Behavioral control	Descriptive qualitative method analyzing student technology use and financial behavior from 2012-2019.	The data show that over 80% of students exhibited good financial behavior, attributed to the positive impact of technology and financial knowledge on managing cash flows, investments, and savings.
Eberhardt et al. (2021)	To investigate how goal framing in technology-facilitated communication influences consumers' engagement with pension information.	Dependent: Engagement behavior with pension information Independent: Types of goal framing	Field, online, and laboratory studies on goal framing effectiveness.	The analysis reveals that a prevention-oriented goal framing was twice as effective as a promotion-oriented frame in enhancing consumer engagement with pension information.
Rey-Ares et al. (2021)	To examine how self-control affects financial behaviors and attitudes among millennials compared to older generations.	Dependent: Financial behaviors and attitudes Independent: Self-control	Analysis of data from the 2017 Survey of Financial Competences in Spain.	The findings suggest that self-control significantly influences financial attitudes across all generations and impacts millennials' saving and loan behaviors when high.

Tomar et al. (2021)	To investigate how financial literacy and psychological factors interact to influence women's retirement planning behavior.	Dependent: Retirement planning behavior Independent: Financial literacy, Retirement goal clarity, Future time perspective, Attitude toward retirement, Risk tolerance, Social group support	Partial least squares regression with Multi Group Analysis.	It was observed that future time perspective, retirement goal clarity, and social group support positively influenced retirement planning behavior, with financial literacy moderating these effects.
Magwegwe & Lim (2021)	To explore psychological factors influencing the calculation of retirement savings needs and its impact on individual retirement account ownership.	Dependent: Calculation of retirement savings needs, Individual retirement account ownership Independent: Attitudes, Social norms, Perceived behavioral control	Path analysis with data from the 2015 National Financial Capability Study.	The findings reveal that favorable attitudes, social norms, and perceived behavioral control significantly influence both the calculation of retirement savings needs and individual retirement account ownership.
Beshears et al. (2021)	To examine how framing future moments as "fresh starts" affects retirement plan contributions.	Dependent: Choice to retirement plan contributions Independent: Framing of future date as fresh start	Field experiment with 6,082 university employees.	It was found that framing future dates as fresh starts significantly increased the likelihood of choosing to increase retirement contributions at the specified future time point.

Iramani & Lutfi (2021)	To develop an integrated model to examine factors affecting family financial welfare and their impact on financial well-being.	<p>Dependent: Financial well-being</p> <p>Independent: Financial experience, Financial knowledge, Financial status, Marital status</p>	Structural equation modeling with data from 1,158 households.	The findings reveal that financial experience, knowledge, financial status, and marital status have a direct influence on financial well-being. Additionally, financial behavior plays a crucial role as a key mediator in these relationships, highlighting its importance in determining overall financial health.
Ghafoori et al. (2021)	To examine the impact of financial education on retirement saving behaviors and asset allocation decisions	<p>Dependent: Voluntary pension contributions, portfolio allocation strategies</p> <p>Independent: Seminar attendance</p>	Quasi-experimental design	The finding of the study is that seminar attendance increased voluntary pension contributions by 6% and encouraged lower-risk portfolio strategies.
Sinha (2020)	To examine the effects of self-control bias and perceived knowledge on retirement planning behavior among individuals in New Delhi, India.	<p>Dependent: Retirement planning behavior</p> <p>Independent: Self-control bias, Perceived knowledge</p>	Survey of 405 individuals using a five-point Likert scale questionnaire; regression analysis.	The findings indicated that inadequate self-control over expenditures and overestimation of financial knowledge led to ineffective retirement planning. This suggests that self-control biases and unrealistic beliefs about financial expertise negatively impacted retirement savings and investment decisions.

Chakravarty and Ray (2020)	To assess the skill of portfolio managers and the impact of trading behavior using a marked-to-market based "fair-value" method.	Dependent: Portfolio performance Independent: Trading behavior	Analysis of trading behavior and performance using a "fair-value" method; benchmark-adjusted returns were analyzed.	The study found that institutional managers, despite short-term potential, achieved modest returns after transaction costs. Excessive trading for liquidity led to minimal gains or losses, with no evidence of overconfidence or disposition effect.
Dragos et al. (2020)	To investigate the impact of behavioral and socio-demographic factors on the decision to purchase life insurance or private pensions.	Dependent: Purchase decision Independent: Behavioral factors, Socio-demographic factors, Insurance knowledge	Data collected from 1,579 Romanian consumers through questionnaires; logit regression models analyzed.	The findings revealed that specific behavioral factors and insurance knowledge significantly predicted actual purchase decisions but not the intention to purchase, indicating a gap between intentions and behavior.
Martin et al. (2020)	To analyze the ethical consequences of CEO equity incentives on pension fund management	Dependent: Pension fund underfunding Independent: CEO equity incentives, current option wealth	Behavioral agency model analysis	The finding of the study is that CEOs prioritized pension funding when they had more to gain from stock options but increasingly underfunded pensions as their option wealth grew.

Basiglio and Oggero (2020)	To review the effects of pension information on economic outcomes, focusing on vulnerable groups	Dependent: Retirement planning, economic decisions Independent: Pension information	Survey-based methodology	The finding of the study is that information provision increased knowledge but had mixed behavioral effects, with vulnerable populations facing greater challenges.
Weiss-Cohen et al. (2019)	To explore the investment decision-making of pension fund trustees and understand the impact of behavioral biases on their decisions.	Dependent: Investment decision-making effectiveness Independent: Behavioral biases	Review of behavioral finance literature; analysis of pension fund trustees' decision-making environments.	The findings indicated that pension fund trustees, despite their expertise, were not immune to behavioral biases due to limited training and reliance on external advice. The study highlighted the need for more research into how these biases affect investment decisions in institutional settings.
Kimiyagahla m et al. (2019)	To identify behavioral factors influencing retirement planning behavior using the theory of planned behavior and time perspective theory.	Dependent: Retirement planning behavior Independent: Financial literacy, Propensity to plan, Future orientation	Structural equation modeling of data from 900 adults in Kelang Valley, Malaysia.	The findings showed that financial literacy, planning, and future orientation directly influenced retirement planning, with saving attitude partially mediating the effect.

Asandimitra & Kautsar (2019)	To compare the influence of financial information, financial self-efficacy, and emotional intelligence on financial management behavior among female lecturers in Indonesia.	<p>Dependent: Financial management behavior</p> <p>Independent: Financial knowledge, Financial self-efficacy, Emotional intelligence</p>	Data collected from 200 female lecturers through interviews and surveys; multiple regression analysis with SPSS.	The study found that financial knowledge, financial self-efficacy, and emotional intelligence significantly influenced financial management behavior among female lecturers at state universities but not private universities. The results highlight the importance of these factors in improving financial management behavior.
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2.3 Research Gap

The research gap in this study emerges when comparing it to previous studies. While Tomar et al. (2021); Sinha (2020) focused on the psychological factors and financial literacy influencing retirement planning behavior, this study has shifted attention to the impact of behavioral biases on pension fund management. Previous studies, such as those by Billari et al. (2023); Ghafoori et al. (2021) primarily used experimental or quasi-experimental methods, whereas this study has employed a descriptive and causal-comparative design. Additionally, most previous research (e.g., Koetsier & Bikker, 2023; Wongsowinoto & Susanto, 2022) centered on general financial behavior or investment choices, while this study has specifically explored the impact of behavioral biases like self-control bias, perceived knowledge, and future time perspective on pension fund management. Moreover, previous studies often targeted broader populations, while this study has focused on 250 respondents directly related to pension funds, making it more specific in its sample. The use of correlation and multiple regression models for analysis further differentiates this study's approach from others, which sometimes applied structural equation modeling or qualitative methods. This study has successfully addressed the research gap.

CHAPTER – III

RESEARCH METHODOLOGY

The research methodology section of the report has outlined the methods, tools, and techniques used to analyze data and derive findings. It has involved a comprehensive examination of how behavioral biases, specifically self-control bias, perceived knowledge, retirement goal clarity, future time perspective, and attitude toward retirement, have influenced pension fund management. This approach has aimed to uncover new insights into the effects of these biases on pension fund management and the effectiveness of retirement planning strategies. The methodology has been carefully designed to address these research objectives and has provided a detailed understanding of the interplay between behavioral factors and pension fund management. The following methodology has been employed to meet these research goals.

3.1 Research Design

The research design has outlined the overall approach and methodology for this study, incorporating both descriptive and causal-comparative designs. These methods have been used to investigate the impact of behavioral biases on pension fund management, specifically focusing on self-control bias, perceived knowledge, retirement goal clarity, future time perspective, and attitude toward retirement. The descriptive design has examined patterns and determinants, such as the influence of these behavioral biases on pension fund management. Meanwhile, the causal-comparative design has analyzed the direction and strength of relationships between the dependent variable (pension fund management) and the independent variables (self-control bias, perceived knowledge, retirement goal clarity, future time perspective, and attitude toward retirement).

3.2 Population and Sample, and Sampling Design

This study has been conducted with a focus on understanding the impact of behavioral biases on pension fund management, specifically examining how self-control bias, perceived knowledge, retirement goal clarity, future time perspective, and attitude toward retirement influence pension fund management. The population comprises

individuals knowledgeable about pension fund management. A sample of 250 respondents has been selected through purposive sampling to ensure a diverse and representative group. Each participant has provided responses to a questionnaire designed to explore the independent variables (self-control bias, perceived knowledge, retirement goal clarity, future time perspective and attitude toward retirement) and the dependent variable (pension fund management).

3.3 Nature and Sources of Data, and the Instrument of Data Collection

The primary data for this study have been collected directly from a sample of 250 respondents with knowledge of pension fund management. These participants have been selected through purposive sampling to ensure they possess relevant experience and insights into the subject matter. The data have been gathered using a structured questionnaire designed to investigate the impact of self-control bias, perceived knowledge, retirement goal clarity, future time perspective, and attitude toward retirement on pension fund management. This questionnaire includes a series of questions utilizing a Likert scale, ranging from "Strongly Agree" to "Strongly Disagree," which allows for the precise measurement of participants' attitudes and behaviors concerning the study's independent and dependent variables.

3.4 Method of Analysis

To explore how self-control bias and perceived knowledge impact retirement planning behavior, the study has employed reliability test of the variables, demographic analysis, descriptive and inferential statistical methods. The analysis has been conducted using SPSS Version 29, where descriptive statistics have summarized the key characteristics of the data, including central tendencies and variability. Inferential statistics, such as correlation analysis, have been used to identify the relationships between the independent variables (self-control bias and perceived knowledge) and the dependent variable (retirement planning behavior). Additionally, multiple regression analysis has been used to assess the impact of self-control bias and perceived knowledge on retirement planning behavior.

A. Reliability test

The degree to which a research approach yields consistent and steady results is known as reliability. Cronbach's alpha test was used to evaluate the internal consistency,

efficacy and dependability of the questionnaire's items. The following are generally accepted standards for interpreting Cronbach's Alpha:

Above 0.9: Excellent

0.8 – 0.9: Good

0.7 – 0.8: Acceptable

0.6 – 0.7: Questionable

0.5 – 0.6: Poor

Below 0.5: Unacceptable

For most social science research, the standard for Cronbach's alpha is 0.7 or above.

Table 2

Reliability Test of Study Variables

Study Variables	No of Items	Cronbach's Alpha
Self-Control Bias	5	0.754
Perceived Knowledge	5	0.732
Retirement Goal Clarity	5	0.742
Future Time Perspective	5	0.711
Attitude toward Retirement	5	0.761
Pension Fund Management	5	0.775

(Source: SPSS Version 29)

All variables demonstrate reliability, as their Cronbach's alpha values exceed the acceptable threshold of 0.7.

B. Demographic analysis

This study has collected demographic data from 250 respondents with knowledge of pension fund management. The data includes a range of categories such as gender distribution, age groups, educational levels, occupations, income status and familiarity with retirement planning concepts. The research has also provided details on the geographical distribution of the respondents across different regions. Additionally, the study has reported the response rates for the surveys, including the number of questionnaires distributed and completed, along with the overall response rate.

C. Descriptive statistics

Descriptive statistics have played a crucial role in analyzing key variables related to pension fund management, such as self-control bias, perceived knowledge, and retirement planning behavior. This analysis has offered insights into the average levels, distribution, and variability of these variables, helping to identify overall trends and patterns in the data. By summarizing the central tendencies and dispersion of self-control bias and perceived knowledge, alongside their influence on retirement planning behavior, the descriptive statistics have provided a foundational understanding that paves the way for a deeper investigation into how these behavioral biases impact the effectiveness of pension fund management. The findings from the descriptive statistics include:

Mean

The arithmetic mean, or average, represents the central value of a dataset. It is calculated by adding all the values together and dividing by the number of values. This measure helps summarize data by indicating the typical value within a dataset, making it a common and useful descriptive statistic for understanding overall trends. It provides a straightforward way to gauge the general level of data, though it may be influenced by outliers or extreme values.

The formula for the arithmetic mean is as follows:

$$\text{Arithmetic mean } (\bar{x}) = \frac{\sum x}{n}$$

Where,

n = Total number of values in the dataset

$\sum x$ = Sum of all values in the dataset

Standard deviation

Standard deviation is a key statistical measure that helps to understand the extent of variation or dispersion within a dataset. It quantifies how much individual data points differ from the mean (average) of the dataset. By calculating the square root of the variance, it provides a numerical value that indicates the spread of data. A smaller standard deviation suggests that the values are clustered closely around the mean, indicating less variability, while a larger standard deviation implies greater dispersion,

with data points more spread out. This measure is crucial for assessing consistency, reliability, and predictability in data and it is widely used in fields such as finance, research, and quality control.

The formula for the Standard deviation is as follows:

$$\text{Standard deviation } (\sigma) = \sqrt{\frac{\sum(x-\bar{x})^2}{N-1}}$$

Where,

x Represents each individual data point in the dataset

\bar{x} Represents the mean (average) of the dataset

N is the total number of data points in the dataset

D. Inferential statistics

The inferential statistical analysis in this study has focused on understanding the impact of key independent variables, namely self-control bias, perceived knowledge, retirement goal clarity, future time perspective, and attitude toward retirement, on the dependent variable, pension fund management. By utilizing techniques such as correlation and regression analysis, the study has quantified the strength and direction of the relationships between these variables. This approach has enabled a detailed exploration of how each behavioral bias influences pension fund management, providing valuable insights into their roles in effective retirement planning. The findings from these analyses have highlighted the significance of each independent variable and offered recommendations for improving pension fund management strategies, ultimately aiming to enhance the overall effectiveness of retirement planning.

Correlation analysis

Correlation analysis helps assess how strongly two variables are related and the direction of their relationship. A positive correlation means that when one variable increases, the other tends to increase as well, whereas a negative correlation shows that as one variable increases, the other tends to decrease. The correlation coefficient, which ranges from +1 (perfect positive correlation) to -1 (perfect negative correlation), quantifies this relationship. A coefficient of 0 indicates no correlation

between the variables, making correlation analysis a useful tool for identifying patterns and relationships in data. By analyzing these relationships, correlation analysis can also highlight the degree to which changes in one variable may predict changes in another, providing valuable insights into underlying trends. It is widely used in fields such as finance, healthcare, and social sciences to understand and visualize the strength and direction of relationships between key factors, guiding decision-making and further research.

The Pearson correlation coefficient (r) is calculated using the formula:

$$r = \frac{n (\sum XY) - (\sum X) (\sum Y)}{\sqrt{[n (\sum X^2) - (\sum X)^2] [n (\sum Y^2) - (\sum Y)^2]}}$$

Where;

n = the number of data pairs

$\sum XY$ = the sum of the product of each pair of scores

$\sum X$ And $\sum Y$ = the sums of X and Y scores respectively

Karl Pearson's correlation analysis method has been applied using SPSS version 29.

Regression analysis

Regression analysis is a statistical technique used to quantify the relationship between two or more variables, focusing on how independent variables influence a dependent variable. It predicts the dependent variable's value based on known values of the independent variables. In simple linear regression, the relationship is represented by a linear equation, while multiple regression predicts the dependent variable from multiple independent variables. Each regression coefficient (β) indicates the extent to which a change in an independent variable affects the dependent variable, controlling for others. The analysis also assesses the model's fit using R-squared, which shows how well the independent variables explain the variation in the dependent variable. This technique is widely used in fields such as economics, finance, and social sciences to understand relationships and make predictions. By examining the regression coefficients, researchers can identify which variables have the most significant impact on the dependent variable and use this insight for decision-making. This method is crucial for understanding causal relationships, modeling real-world phenomena, and forecasting future trends. This method clarifies how predictor variables contribute to variations in the response variable.

Model specification

In this model, the dependent variable is pension fund management, which has been influenced by five key independent variables: self-control bias, perceived knowledge, retirement goal clarity, future time perspective, and attitude toward retirement. The researcher has specified the model as follows:

$$PFM = \beta_0 + \beta_1SCB + \beta_2PK + \beta_3RGC + \beta_4FTP + \beta_5ATR + \epsilon_{it}$$

Where,

β_0 = Intercept/constant term

PFM = Pension Fund Management

SCB = Self-Control Bias

PK = Perceived Knowledge

RGC = Retirement Goal Clarity

FTP = Future Time Perspective

ATR = Attitude toward Retirement

ϵ_{it} = Error term of the stochastic model

Betas ($\beta_1, \beta_2, \beta_3, \beta_4, \beta_5$) are the parameters of the model

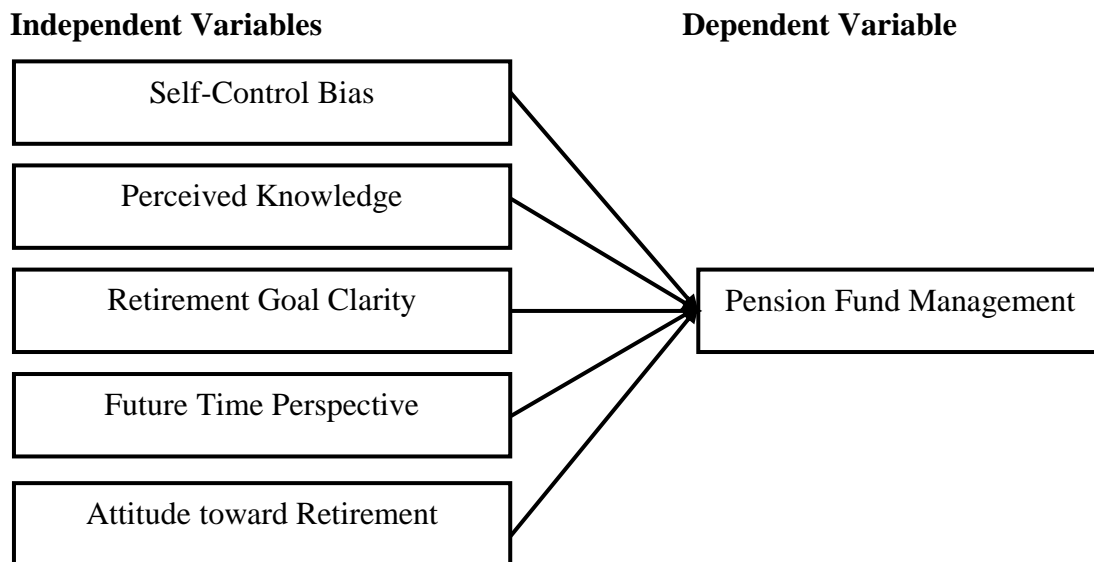
3.5 Research Framework and Definition of Variables

A research framework is a structured plan or model that guides the study by defining its key variables and their relationships. It provides a clear pathway for analyzing how these variables interact to address the research objectives. This framework helps ensure coherence and focus throughout the research process, serving as the foundation for data collection and analysis, and aiding in drawing meaningful conclusions. In the section on research framework and definition of variables, the dependent and independent variables of the study have been clearly defined within the context of the research framework. The independent variables have been identified as self-control bias, perceived knowledge, retirement goal clarity, future time perspective, and attitude toward retirement, while the dependent variable has been defined as pension fund management. The study has focused on the topic "The Impact of Behavioral Biases on Pension Fund Management," which aims to explore how these factors have influenced retirement planning behavior and the effectiveness of pension fund management strategies.

The research framework of this study has been presented in the following figure:

Figure 1

Research Framework



(Source: Tomor et al., 2021; Sinha, 2020)

Definition of All Variables

Dependent Variable

Pension Fund Management

Pension fund management refers to the practices and strategies used to accumulate and invest funds for individuals' retirement. The primary objective is to ensure that funds grow sufficiently over time to meet future retirement needs. Effective pension fund management involves making informed decisions about asset allocation, risk management, and the timing of investments to achieve long-term financial goals. Research indicates that individuals' pension fund management is highly influenced by financial literacy and behavioral biases, particularly self-control bias and perceived knowledge. Individuals who possess higher financial literacy tend to make better-informed decisions regarding their retirement savings, leading to more effective pension fund management (Kimiyağahlam et al., 2019). Conversely, self-control bias, where individuals prioritize immediate consumption over future savings, can negatively impact retirement planning by reducing the amount saved for retirement (Sinha, 2020). Therefore, understanding the factors influencing pension fund

management is crucial for improving retirement preparedness and long-term financial stability.

Independent Variables

Self-Control Bias

Self-control bias refers to an individual's tendency to prioritize immediate rewards over long-term benefits. This cognitive bias is particularly relevant in the context of retirement planning, as individuals with self-control bias may defer saving for retirement in favor of satisfying present desires or needs. Research has shown that self-control bias significantly impedes effective financial decision-making, leading individuals to engage in suboptimal behaviors, such as overspending or neglecting long-term financial goals (Sinha, 2020). In the context of pension fund management, this bias may result in inadequate saving or poor investment decisions, as individuals focus on short-term pleasures rather than securing financial stability in retirement. Studies suggest that overcoming self-control bias through interventions, such as financial education and behavioral nudges, can help individuals make more disciplined and strategic retirement planning decisions (Kimiyaahlam et al., 2019). By addressing self-control bias, individuals can enhance their pension fund management and increase their chances of achieving long-term retirement security.

Perceived Knowledge

Perceived knowledge refers to an individual's self-assessment of their understanding of financial matters, which can significantly influence their financial behaviors and decisions regarding pension fund management. People often believe they are more knowledgeable about financial planning than they actually are, a phenomenon known as overconfidence. This overestimation of financial knowledge can lead to poor decision-making, particularly in areas like retirement planning, where individuals may take unnecessary risks or make inadequate savings decisions based on their perceived expertise (Sinha, 2020). Conversely, individuals with low perceived knowledge may avoid retirement planning or fail to engage in essential financial behaviors due to a lack of confidence in their ability to manage their pension funds effectively. Studies have shown that an accurate self-assessment of financial knowledge is critical for making sound decisions about retirement planning and ensuring sufficient funds are saved for the future (Kimiyaahlam et al., 2019). Therefore, perceived knowledge

plays a crucial role in shaping retirement planning behaviors, as individuals who feel confident in their financial understanding are more likely to take proactive steps in managing their pension funds.

Retirement Goal Clarity

Retirement goal clarity refers to how clearly individuals define their financial goals for retirement. This includes understanding the amount of money they will need to live comfortably in retirement and setting specific, measurable objectives to achieve this goal. The clarity of retirement goals can significantly impact the effectiveness of pension fund management. Research shows that individuals with clear and well-defined retirement goals are more likely to engage in disciplined saving and investing behaviors, as they have a clear target to work toward (Lockwood et al., 2019). On the other hand, individuals who lack goal clarity may struggle to prioritize retirement savings, often failing to set aside sufficient funds for their future needs (Bernheim et al., 2020). Therefore, fostering clear retirement goals is an essential component of effective pension fund management, as it provides individuals with a roadmap for making informed financial decisions that will support long-term retirement success. Establishing these goals helps individuals better understand their financial needs and align their savings strategies accordingly. It also encourages proactive planning, reducing the risk of financial shortfalls during retirement and promoting overall financial security.

Future Time Perspective

Future time perspective refers to the extent to which individuals prioritize and plan for their future financial needs. It is a critical factor in retirement planning, as individuals who focus on the future are more likely to save and invest for retirement. Research has shown that individuals with a long-term orientation are more likely to make decisions that benefit their financial future, including saving for retirement and managing pension funds effectively (Carstensen et al., 2011). Conversely, individuals with a limited future time perspective may be less inclined to think about long-term goals and may prioritize short-term rewards over long-term financial security. Studies suggest that fostering a strong future time perspective can help individuals engage in more effective pension fund management by making them more aware of the long-term benefits of saving and investing for retirement (Fung et al., 2020). By enhancing

future time perspective, individuals can make more informed decisions about their pension funds, ensuring financial stability in retirement.

Attitude toward Retirement

Attitude toward retirement refers to an individual's emotional and cognitive response to the prospect of retirement. It encompasses how individuals perceive their future retirement, including whether they view it as a time for relaxation and enjoyment or as a financial burden. A positive attitude toward retirement is often associated with proactive retirement planning and pension fund management. Research has shown that individuals with a positive attitude toward retirement are more likely to engage in retirement planning behaviors, such as saving and investing for the future (Kim et al., 2018). Conversely, a negative or fearful attitude toward retirement can lead to avoidance behaviors, where individuals delay or neglect the financial planning necessary to secure their retirement. Studies have found that fostering a positive attitude toward retirement can motivate individuals to engage more actively in retirement planning, ultimately leading to more effective pension fund management (Baker et al., 2018). Therefore, cultivating a positive and forward-thinking attitude toward retirement is essential for improving pension fund management outcomes and ensuring long-term financial stability.

CHAPTER – IV

RESULTS AND DISSCUSSION

This chapter has presented the results and discussion of primary data collected through a questionnaire to analyze key research questions related to the impact of behavioral biases on pension fund management. The study has profiled respondents based on demographic factors, including gender, age groups, educational levels, occupations, income status, and familiarity with retirement planning concepts. The independent variables have included behavioral biases such as self-control bias, perceived knowledge, retirement goal clarity, future time perspective, and attitude toward retirement, while the dependent variable has been pension fund management. Descriptive statistics, including mean, standard deviation, and frequency distributions, have been used to summarize the demographic data, while inferential statistics such as correlation and regression analyses, performed using SPSS Version 29, have explored the relationships between the independent variables and pension fund management. The chapter has been divided into results and discussion sections, where both descriptive and inferential statistical tools have been applied to examine how demographic factors and behavioral biases have influenced pension fund management.

4.1 Results

A. Respondent's demographic profile

This section has discussed the respondents' demographic profile in the context of the Impact of Behavioral Biases on Pension Fund Management, along with the analysis and interpretation of primary data acquired through questionnaires. It has provided information about the demographic characteristics of the respondents being studied. The respondents' profile has included details on gender, age, educational qualification, occupation, monthly income status, and familiarity with retirement planning concepts. These demographic factors have been analyzed to explore how they relate to the independent variables, such as self-control bias, perceived knowledge, retirement goal clarity, future time perspective, and attitude toward retirement, in influencing the dependent variable, pension fund management.

Table 3*Gender Specification of Respondents*

Options	Frequency	Percent
Male	145	58.0
Female	105	42.0
Total	250	100.0

(Sources: Field Survey, 2024; SPSS Version 29)

Table 3 presents the gender distribution of the respondents in the context of the impact of behavioral biases on pension fund management. Out of the total 250 respondents, 145 (58%) are male, and 105 (42%) are female. This shows that the majority of the respondents are male, with a higher representation compared to females.

Table 4*Age Description of Respondents*

Options	Frequency	Percent
Below 20 years	24	9.6
20 years to 30 years	69	27.6
31 years to 40 years	69	27.6
41 years to 50 years	59	23.6
Above 50 years	29	11.6
Total	250	100.0

(Sources: Field Survey, 2024; SPSS Version 29)

Table 4 shows the age distribution of the respondents in the context of the impact of behavioral biases on pension fund management. The largest proportion of respondents are in the 20 to 30 years and 31 to 40 years age ranges, each representing 27.6% of the total with 69 respondents in each group. The 41 to 50 years group follows, making up 23.6% of the respondents (59 individuals). A smaller percentage, 9.6%, is below 20 years (24 respondents), and 11.6% are over 50 years (29 respondents). This age breakdown provides a fairly even representation across various age groups, which helps in analyzing how different age groups are affected by behavioral biases like retirement goal clarity and attitude toward retirement in the context of pension fund management.

Table 5*Educational Qualification of Respondents*

Options	Frequency	Percent
School Level	25	10.0
Bachelor Level	96	38.4
Master Level	90	36.0
Above Master Level	39	15.6
Total	250	100.0

(Sources: Field Survey, 2024; SPSS Version 29)

Table 5 shows the educational qualifications of the respondents in the context of the impact of behavioral biases on pension fund management. Out of the total 250 respondents, 25 (10%) have completed school-level education, 96 (38.4%) have a bachelor's degree, 90 (36%) have a master's degree, and 39 (15.6%) have qualifications above the master's level.

Table 6*Occupation Description of Respondents*

Options	Frequency	Percent
Student	45	18.0
Employed	84	33.6
Self-employed	84	33.6
Unemployed	37	14.8
Total	250	100.0

(Sources: Field Survey, 2024; SPSS Version 29)

Table 6 presents the occupation distribution of the respondents in the context of the impact of behavioral biases on pension fund management. Among the 250 respondents, 45 (18%) are students, 84 (33.6%) are employed, 84 (33.6%) are self-employed, and 37 (14.8%) are unemployed. This distribution provides a broad view of the various occupational backgrounds of the respondents, which can help understand how factors such as income status, job stability, and professional experience may influence behavioral biases and attitudes toward retirement planning, ultimately impacting pension fund management.

Table 7*Monthly Income Status of Respondents*

Options	Frequency	Percent
Below Rs. 10,000	54	21.6
Rs. 10,000 to Rs. 20,000	18	7.2
Rs. 20,001 to Rs. 30,000	43	17.2
Rs. 30,001 to Rs. 40,000	59	23.6
Rs. 40,001 to Rs. 50,000	41	16.4
Above Rs. 50,000	35	14.0
Total	250	100.0

(Sources: Field Survey, 2024; SPSS Version 29)

Table 7 shows the monthly income status of the respondents in the context of the impact of behavioral biases on pension fund management. Among the 250 respondents, 54 (21.6%) earn below Rs. 10,000, 18 (7.2%) earn between Rs. 10,000 and Rs. 20,000, 43 (17.2%) earn between Rs. 20,001 and Rs. 30,000, 59 (23.6%) earn between Rs. 30,001 and Rs. 40,000, 41 (16.4%) earn between Rs. 40,001 and Rs. 50,000, and 35 (14%) earn above Rs. 50,000.

Table 8*Familiarity with Pension Fund Planning Concepts*

Options	Frequency	Percent
No familiarity	25	10.0
Basic understanding	64	25.6
Moderate familiarity	69	27.6
Strong understanding	64	25.6
In-depth knowledge	28	11.2
Total	250	100.0

(Sources: Field Survey, 2024; SPSS Version 29)

Table 8 shows the respondents' familiarity with pension fund planning concepts in the context of the impact of behavioral biases on pension fund management. Among the 250 respondents, 25 (10%) have no familiarity, 64 (25.6%) have a basic understanding, 69 (27.6%) have moderate familiarity, 64 (25.6%) have a strong understanding, and 28 (11.2%) have in-depth knowledge.

B. Descriptive analysis

This section has focused on the descriptive analysis of questionnaire data collected during the research process. It has included statistical metrics such as mean and standard deviation, reflecting independent variables related to behavioral biases such as SCB, PK, RGC, FTP, ATR while the dependent variable has been PFM. Descriptive analysis of each variable has been defined below Tables.

Table 9

Descriptive Analysis of Self-Control Bias

Scale Items of Self-Control Bias	Min	Max	Mean	S.D.
Self-control bias negatively impacts my ability to plan effectively for retirement.	1	5	4.0859	0.81782
I often prioritize immediate rewards over saving for my pension.	1	5	3.9844	0.91107
I tend to delay making retirement investments due to immediate financial temptations.	1	5	3.9661	0.83425
I find it difficult to stick to long-term pension savings goals due to short-term desires.	1	5	3.8281	0.93196
I am aware of how self-control bias affects my pension planning decisions.	1	5	3.8906	0.88416

(Sources: Field Survey, 2024; SPSS Version 29)

Table 9 presents the descriptive analysis of Self-Control Bias, revealing that respondents generally agree that self-control bias impacts their retirement planning. The mean values of the items range from 3.8281 to 4.0859, with the highest mean for "Self-control bias negatively impacts my ability to plan effectively for retirement" (4.0859), indicating strong agreement. Other items, such as "I often prioritize immediate rewards over saving for my pension" (mean = 3.9844) and "I tend to delay making retirement investments due to immediate financial temptations" (mean = 3.9661), show moderate agreement, reflecting that respondents recognize the challenge of prioritizing short-term desires. The relatively low standard deviations (ranging from 0.81782 to 0.93196) indicate consistent responses, suggesting that most respondents share similar views on how self-control bias affects their pension planning decisions.

Table 10*Descriptive Analysis of Perceived Knowledge*

Scale Items of Perceived Knowledge	Min	Max	Mean	S.D.
I feel confident in my knowledge of pension fund management.	1	5	4.0859	0.81782
I understand the different investment options available for pension funds.	1	5	3.9844	0.91107
My level of knowledge about pension fund management helps me make informed decisions.	1	5	3.9661	0.83425
I am able to evaluate different pension fund options effectively due to my knowledge.	1	5	3.8281	0.93196
I feel that improving my financial knowledge would enhance my retirement planning.	1	5	3.8906	0.88416

(Sources: Field Survey, 2024; SPSS Version 29)

Table 10 presents the descriptive analysis of Perceived Knowledge, showing that respondents generally feel confident in their understanding of pension fund management. The item "I feel confident in my knowledge of pension fund management" has the highest mean score of 4.0859, indicating strong agreement. Other items such as "I understand the different investment options available for pension funds" (mean = 3.9844) and "My level of knowledge about pension fund management helps me make informed decisions" (mean = 3.9661) reflect moderate agreement, suggesting that respondents believe their knowledge aids in pension-related decisions. The item "I am able to evaluate different pension fund options effectively due to my knowledge" (mean = 3.8281) shows a slightly lower agreement but still indicates a reasonable level of confidence. Lastly, "I feel that improving my financial knowledge would enhance my retirement planning" has a mean of 3.8906, suggesting that respondents acknowledge the potential benefits of further enhancing their financial knowledge. The relatively low standard deviations (ranging from 0.81782 to 0.93196) indicate that the responses are consistent, showing that most participants share similar views regarding their perceived knowledge of pension fund management.

Table 11*Descriptive Analysis of Retirement Goal Clarity*

Scale Items of Retirement Goal Clarity	Min	Max	Mean	S.D.
I have clear and specific retirement goals that guide my pension fund investments.	1	5	4.0859	0.81782
My retirement planning is structured around achieving long-term financial security.	1	5	3.9844	0.91107
I regularly reassess my retirement goals to ensure they align with my changing financial situation.	1	5	3.9661	0.83425
The clarity of my retirement goals motivates me to consistently save for my pension.	1	5	3.8281	0.93196
I am confident that I am on track to meet my retirement goals based on my current pension plan.	1	5	3.8906	0.88416

(Sources: Field Survey, 2024; SPSS Version 29)

Table 11 presents the descriptive analysis of Retirement Goal Clarity, showing that respondents generally have a clear understanding of their retirement goals. The item "I have clear and specific retirement goals that guide my pension fund investments" has the highest mean score of 4.0859, indicating strong agreement with having clear retirement goals. Other items such as "My retirement planning is structured around achieving long-term financial security" (mean = 3.9844) and "I regularly reassess my retirement goals to ensure they align with my changing financial situation" (mean = 3.9661) reflect moderate agreement, suggesting that respondents are actively planning for their long-term financial security and adjusting their goals as needed. The item "The clarity of my retirement goals motivates me to consistently save for my pension" (mean = 3.8281) shows a slightly lower level of agreement, but still indicates that goal clarity is an important motivator for saving. Lastly, "I am confident that I am on track to meet my retirement goals based on my current pension plan" has a mean of 3.8906, suggesting that respondents feel reasonably confident about their progress. The relatively low standard deviations (ranging from 0.81782 to 0.93196) indicate consistent responses, showing that most respondents share similar views on the clarity and importance of their retirement goals.

Table 12*Descriptive Analysis of Future Time Perspective*

Scale Items of Future Time Perspective	Min	Max	Mean	S.D.
I focus on long-term financial planning, even when faced with short-term financial challenges.	1	5	4.0859	0.81782
I believe that the earlier I start saving for my pension, the better the outcome in the future.	1	5	3.9844	0.91107
My long-term financial goals motivate me to prioritize retirement savings.	1	5	3.9661	0.83425
I consider the future impact of my current financial decisions on my retirement.	1	5	3.8281	0.93196
I believe in the importance of planning for the future rather than focusing solely on the present.	1	5	3.8906	0.88416

(Sources: Field Survey, 2024; SPSS Version 29)

Table 12 presents the descriptive analysis of Future Time Perspective, indicating that respondents generally emphasize long-term financial planning for their retirement. The item "I focus on long-term financial planning, even when faced with short-term financial challenges" has the highest mean score of 4.0859, suggesting strong agreement with prioritizing long-term goals despite immediate challenges. Other items, such as "I believe that the earlier I start saving for my pension, the better the outcome in the future" (mean = 3.9844) and "My long-term financial goals motivate me to prioritize retirement savings" (mean = 3.9661), also reflect moderate agreement, highlighting that respondents recognize the importance of early and consistent retirement savings. The item "I consider the future impact of my current financial decisions on my retirement" (mean = 3.8281) shows a slightly lower level of agreement but still suggests awareness of how present decisions can influence future retirement outcomes. Lastly, "I believe in the importance of planning for the future rather than focusing solely on the present" has a mean of 3.8906, reflecting a reasonable belief in long-term planning. The relatively low standard deviations (ranging from 0.81782 to 0.93196) indicate consistent responses, showing that most respondents share similar views about the significance of future planning for retirement.

Table 13*Descriptive Analysis of Attitude toward Retirement*

Scale Items of Attitude toward Retirement	Min	Max	Mean	S.D.
I view retirement as a critical phase that requires thorough financial preparation.	1	5	4.0859	0.81782
I feel that having a well-structured pension plan will ensure my financial well-being after retirement.	1	5	3.9844	0.91107
I am proactive in seeking out information about pension fund options for my future.	1	5	3.9661	0.83425
I am confident in my ability to manage my pension fund effectively to secure my retirement.	1	5	3.8281	0.93196
I believe that attitude toward saving and investing for retirement plays a major role in achieving financial goals.	1	5	3.8906	0.88416

(Sources: Field Survey, 2024; SPSS Version 29)

Table 13 presents the descriptive analysis of Attitude toward Retirement, showing that respondents generally hold positive views about retirement planning. The item "I view retirement as a critical phase that requires thorough financial preparation" has the highest mean score of 4.0859, indicating strong agreement with the need for careful financial planning. Items such as "I feel that having a well-structured pension plan will ensure my financial well-being after retirement" (mean = 3.9844) and "I am proactive in seeking out information about pension fund options for my future" (mean = 3.9661) reflect moderate agreement, indicating recognition of the value of structured pension plans and active pursuit of relevant information. The item "I am confident in my ability to manage my pension fund effectively to secure my retirement" (mean = 3.8281) shows a slightly lower level of agreement, though respondents still express confidence in managing their pension funds. Finally, "I believe that attitude toward saving and investing for retirement plays a major role in achieving financial goals" has a mean of 3.8906, reflecting recognition of the importance of a positive attitude toward saving and investing. The low standard deviations (ranging from 0.82 to 0.93) indicate consistent responses, with most respondents sharing similar attitudes toward retirement planning.

Table 14*Descriptive Analysis of Pension Fund Management*

Scale Items of Pension Fund Management	Min	Max	Mean	S.D.
I believe that my self-control bias negatively affects my pension fund management.	1	5	4.0859	0.81782
My knowledge of pension fund management has a positive influence on my investment decisions.	1	5	3.9844	0.91107
The clarity of my retirement goals helps me make more effective decisions regarding my pension funds.	1	5	3.9661	0.83425
I tend to focus on long-term growth when making decisions about my pension fund.	1	5	3.8281	0.93196
My overall attitude toward retirement planning helps me manage my pension fund effectively.	1	5	3.8906	0.88416

(Sources: Field Survey, 2024; SPSS Version 29)

Table 14 presents the descriptive analysis of Pension Fund Management, indicating that respondents generally feel confident about the factors influencing their pension management. The item "I believe that my self-control bias negatively affects my pension fund management" has the highest mean score of 4.0859, suggesting strong agreement that self-control bias impacts their pension decisions. Other items such as "My knowledge of pension fund management has a positive influence on my investment decisions" (mean = 3.9844) and "The clarity of my retirement goals helps me make more effective decisions regarding my pension funds" (mean = 3.9661) reflect moderate agreement, highlighting that respondents believe their knowledge and goal clarity positively influence their pension fund management. The item "I tend to focus on long-term growth when making decisions about my pension fund" (mean = 3.8281) shows a slightly lower level of agreement, but still indicates a focus on long-term planning. Lastly, "My overall attitude toward retirement planning helps me manage my pension fund effectively" has a mean of 3.8906, suggesting that respondents recognize the role of a positive attitude in managing their pension funds. The relatively low standard deviations (ranging from 0.81782 to 0.93196) indicate consistent responses, showing that most respondents share similar views on the factors that impact their pension fund management.

Table 15*Summary of Descriptive Analysis for All Variables*

Variables	Minimum	Maximum	Mean	S.D.
Self-Control Bias	1.00	5.00	3.7544	0.91321
Perceived Knowledge	1.00	5.00	3.6976	0.99466
Retirement Goal Clarity	1.00	5.00	3.6848	0.94433
Future Time Perspective	1.00	5.00	3.6816	0.92526
Attitude toward Retirement	1.00	5.00	3.7408	0.94187
Pension Fund Management	1.00	5.00	3.7072	0.92852

(Sources: SPSS Version 29)

Table 15 summarizes the descriptive analysis of all variables in the study. The mean scores for the variables are relatively consistent, ranging from 3.6848 for Retirement Goal Clarity to 3.7544 for Self-Control Bias, indicating moderate agreement with the statements related to each factor. Pension Fund Management has a mean of 3.7072, suggesting that respondents moderately agree on the importance of managing pension funds effectively. The standard deviations range from 0.91321 to 0.99466, showing a moderate level of variability in responses. Perceived Knowledge has the highest variability (S.D. = 0.99466), indicating greater differences in respondents' views on their pension fund knowledge, while Self-Control Bias has the lowest variability (S.D. = 0.91321), suggesting more consistent responses.

C. Inferential statistics

Inferential statistics, including correlation and regression analysis, have been utilized to understand the relationships among variables in the context of "The Impact of Behavioral Biases on Pension Fund Management." Correlation assesses the strength and direction of relationships between the independent variables, such as Self-Control Bias, Perceived Knowledge, Retirement Goal Clarity, Future Time Perspective, and Attitude toward Retirement, and the dependent variable, Pension Fund Management. This analysis reveals how changes in the independent variables relate to changes in Pension Fund Management. Regression analysis examines how these independent variables collectively influence Pension Fund Management, determining their predictive impact on individuals' ability to effectively manage their pension funds.

Correlation analysis

Correlation analysis, which has evaluated the relationships between Self-Control Bias, Perceived Knowledge, Retirement Goal Clarity, Future Time Perspective, and Attitude toward Retirement with Pension Fund Management, has been performed. This technique aims to uncover the inherent relationships among these variables in the context of behavioral biases affecting pension fund management. Karl Pearson's correlation method has been applied using SPSS version 29, and the results have been presented in Table 16.

Table 16

Karl Pearson's Correlation Analysis of Study Variables

Variables	SCB	PK	RGC	FTP	ATR	PFM
SCB	1					
PK	0.290**	1				
RGC	0.242**	0.257**	1			
FTP	0.267**	0.323**	0.279**	1		
ATR	0.228**	0.266**	0.307**	0.266**	1	
PFM	0.260**	0.288**	0.280**	0.322**	0.297**	1

*. Correlation is significant at the 0.05 level (2-tailed).

(Source: SPSS Version 29)

Table 16 reveals the correlation analysis of study variables, including Self-Control Bias (SCB), Perceived Knowledge (PK), Retirement Goal Clarity (RGC), Future Time Perspective (FTP), and Attitude toward Retirement (ATR) with Pension Fund Management (PFM). The results indicate positive correlations for all variables with PFM. Specifically, SCB has a correlation of 0.260**, suggesting that individuals with better self-control tend to manage their pension funds more effectively. PK shows a correlation of 0.288**, indicating that greater knowledge about pension funds positively impacts fund management. RGC, with a correlation of 0.280**, suggests that clearer retirement goals contribute to better management of pension funds. FTP (0.322**) demonstrates that a longer-term financial perspective improves pension fund management, while ATR (0.297**) indicates that a positive attitude toward retirement is associated with better management of pension funds. These correlations suggest that improving self-control, knowledge, goals, planning, and attitudes can enhance pension fund management.

Regression analysis

Regression analysis is a statistical method used to examine how changes in independent variables affect a dependent variable. In this study, multiple regression analysis evaluates the impact of self-control bias, perceived knowledge, retirement goal clarity, future time perspective, and attitude toward retirement on pension fund management, with these factors serving as the independent variables. The results are presented below.

Table 17

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.450 ^a	0.202	0.199	0.83105

a. Predictors: (Constant), SCB, PK, RGC, FTP, ATR

b. Dependent variable: Pension Fund Management (PMF)

(Source: SPSS Version 29)

Table 17 depicts the model summary of the study, showing an R Square value of 0.202, which indicates that 20.2% of the variation in PFM is explained by the independent variables (SCB, PK, RGC, FTP and ATR). The remaining 79.8% of the variation is attributed to other factors not included in the model.

Table 18

Analysis of Variance (ANOVA^a)

	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	217.669	5	43.534	63.033	0.001 ^b
	Residual	859.166	1244	.691		
	Total	1076.835	1249			

a. Dependent variable: Pension Fund Management (PMF)

b. Predictors: (Constant), SCB, PK, RGC, FTP, ATR

(Source: SPSS Version 29)

Table 18 highlights the ANOVA results for the regression model, with a Sig. value of 0.001, which is less than the 5% significance level. This indicates that the model is statistically significant, confirming that the independent variables (Self-Control Bias,

Perceived Knowledge, Retirement Goal Clarity, Future Time Perspective, and Attitude toward Retirement) collectively have a meaningful impact on Pension Fund Management.

Table 19

Regression Analysis for Dependent Variable Pension Fund Management (PMF)

Model	Unstandardized		Standardized	t	Sig.
	Coefficients		Coefficients		
	B	Sd. error	Beta		
(Constant)	1.182	0.146		8.118	0.001
SCB	0.113	0.028	0.111	4.059	0.001
PK	0.118	0.026	0.126	4.504	0.001
RGC	0.123	0.027	0.125	4.496	0.001
FTP	0.177	0.028	0.176	6.281	0.001
ATR	0.151	0.027	0.153	5.529	0.001

a. Dependent variable: Pension Fund Management (PMF)

(Source: SPSS Version 29)

$$PFM = 1.182 + 0.113SCB + 0.118PK + 0.123RGC + 0.177FTP + 0.151ATR + \epsilon$$

Table 19 presents the regression analysis results, showing the impact of each independent variable on Pension Fund Management (PFM), with all variables demonstrating a significant influence at the 5% significance level. Self-Control Bias (beta = 0.113, p = 0.001) has a significant positive impact on PFM, indicating that fostering better self-discipline could enhance individuals' pension management practices, suggesting the importance of financial behavior training. Perceived Knowledge (beta = 0.118, p = 0.001) shows a significant effect, highlighting that improving financial awareness and understanding can strengthen pension fund decisions, suggesting the need for targeted financial education programs. Retirement Goal Clarity (beta = 0.123, p = 0.001) has a significant influence on PFM, indicating that clear retirement objectives drive better management, suggesting the value of retirement planning workshops. Future Time Perspective (beta = 0.177, p = 0.001) exhibits the strongest significant impact, emphasizing that cultivating a long-term outlook is crucial for pension fund success, suggesting initiatives to promote future-oriented financial thinking. Lastly, Attitude toward Retirement (beta = 0.151, p =

0.001) has a significant effect on PFM, indicating that positive attitudes toward retirement enhance management practices, suggesting the need to foster optimistic perspectives through counseling and awareness campaigns. These findings underline actionable areas for improving pension fund management through behavioral and cognitive interventions.

Table 20

Test the Significance of Relationship

Sig. Value (p)	Correlation (r)	Results
p = 0.001 < 0.05 Significant	r = 0.260 ** Positive	There is significant positive relationship between Self-Control Bias and Pension Fund Management
p = 0.001 < 0.05 Significant	r = 0.288 ** Positive	There is significant positive relationship between Perceived Knowledge and Pension Fund Management
p = 0.001 < 0.05 Significant	r = 0.280 ** Positive	There is significant positive relationship between Retirement Goal Clarity and Pension Fund Management
p = 0.001 < 0.05 Significant	r = 0.322 ** Positive	There is significant positive relationship between Future Time Perspective and Pension Fund Management
p = 0.001 < 0.05 Significant	r = 0.297 ** Positive	There is significant positive relationship between Attitude toward Retirement and Pension Fund Management

Table 20 shows Test the significance of relationships, where all Sig. value (p) is less than the significance threshold of 0.05, indicating that all relationships are significant.

4.2 Discussion

The main objective of this study is to analyze the impact of behavioral biases on pension fund management. The research considers demographic aspects such as gender, age groups, educational levels, occupations, income status, and familiarity with retirement planning concepts, evaluating how independent variables like self-control bias, perceived knowledge, retirement goal clarity, future time perspective, and attitude toward retirement influence pension fund management. Data were collected using a structured questionnaire distributed among 250 individuals to assess their practices and attitudes toward managing pension funds. The analysis has

employed descriptive and inferential statistics to explore current trends, relationships, and effects among these variables, highlighting the critical role of addressing behavioral biases to improve pension fund management practices.

The descriptive analysis reveals consistent mean scores across all variables, ranging from 3.6848 for Retirement Goal Clarity to 3.7544 for Self-Control Bias, indicating moderate agreement with the statements. Pension Fund Management has a mean of 3.7072, reflecting a general acknowledgment of its importance. Standard deviations, ranging from 0.91321 to 0.99466, highlight moderate variability in responses. Perceived Knowledge shows the highest variability (S.D. = 0.99466), indicating diverse views on pension fund knowledge, while Self-Control Bias has the lowest variability (S.D. = 0.91321), suggesting more uniformity in responses. These findings suggest a balanced perception of the factors influencing pension fund management.

The correlation analysis shows positive relationships between all study variables and Pension Fund Management (PFM). Specifically, Self-Control Bias (0.260**), Perceived Knowledge (0.288**), Retirement Goal Clarity (0.280**), Future Time Perspective (0.322**), and Attitude toward Retirement (0.297**) all correlate positively with PFM. These results suggest that individuals with better self-control, more knowledge, clearer retirement goals, a long-term financial outlook, and a positive attitude toward retirement tend to manage their pension funds more effectively. Improving these factors can enhance pension fund management.

The regression analysis reveals that all independent variables significantly impact Pension Fund Management (PFM) at the 5% significance level. Self-Control Bias (beta = 0.113, $p = 0.001$) positively affects PFM, suggesting the importance of financial behavior training. Perceived Knowledge (beta = 0.118, $p = 0.001$) highlights the need for improved financial awareness through targeted education. Retirement Goal Clarity (beta = 0.123, $p = 0.001$) indicates that clear retirement objectives lead to better management, supporting the value of retirement planning workshops. Future Time Perspective (beta = 0.177, $p = 0.001$) has the strongest impact, suggesting the importance of promoting long-term financial thinking. Lastly, Attitude toward Retirement (beta = 0.151, $p = 0.001$) emphasizes the role of a positive retirement attitude, advocating for counseling and awareness campaigns. These results highlight

key areas for enhancing pension fund management through behavioral and cognitive interventions.

The correlation results show that Self-Control Bias positively correlates with Pension Fund Management (PFM), which is consistent with Sinha (2020); Pappas et al. (2022), but contrasts with Fernandes et al. (2021), who reported a weaker effect. Perceived Knowledge also positively correlates with PFM which aligns with Tomar et al. (2021); Koh et al. (2023), but contrasts with Clark and Vassallo (2018), who found a weaker connection in certain populations. Retirement Goal Clarity positively impacts PFM, consistent with Kimiyagahlam et al. (2019); Sharma et al. (2020), but contrasts with Beck et al. (2022), who observed a lesser impact. Future Time Perspective shows a positive correlation with PFM, which is in line with Silvy et al. (2023); Tomar et al. (2021), but contrasts with Pappas et al. (2022), who noted a weaker link in other settings. Attitude toward Retirement is positively related to PFM, consistent with findings from Silvy et al. (2023); Sharma et al. (2020), but contrasts with Fernandes et al. (2021), who reported a more moderate effect.

The regression results show that Self-Control Bias positively impacts Pension Fund Management (PFM), which is consistent with Sinha (2020); Tomar et al. (2021), but contrasts with Beck et al. (2022), who found minimal influence. Perceived Knowledge also has a positive effect on PFM, aligning with Sharma et al. (2020) and Pappas et al. (2022); Asandimitra and Kautsar (2019), but contrasts with Kumar (2021), who suggested that it may not always drive financial decisions. Retirement Goal Clarity positively affects PFM, consistent with Gaur et al. (2021), but contrasts with Lee et al. (2021), who found it less influential when considered alone. Future Time Perspective significantly impacts PFM, supporting Wright et al. (2020), but contrasts with Malhotra (2022), who observed varying effects. Finally, Attitude toward Retirement positively influences PFM, consistent with Bhatnagar et al. (2021), but contrasts with Chowdhury (2022), who argued that it may not always lead to better fund management.

CHAPTER – V

SUMMARY AND CONCLUSION

This chapter has comprised three parts: a summary of the study, research conclusions and implications derived from both the summary and the conclusions.

5.1 Summary

This study analyzes the impact of behavioral biases on Pension Fund Management (PFM), focusing on dimensions like self-control bias, perceived knowledge, retirement goal clarity, future time perspective and attitude toward retirement. Using a descriptive and causal-comparative research design, data from 250 respondents knowledgeable about PFM and behavioral biases were collected through a structured questionnaire. Statistical analysis with Excel and SPSS Version 29 applied descriptive statistics, correlation, and regression analysis to explore relationships between behavioral biases and PFM outcomes. Descriptive Analysis results indicate moderate agreement across variables with perceived knowledge showing the highest variability and self-control bias the lowest, highlighting diverse perceptions of factors influencing PFM.

The correlation analysis shows positive relationships between all variables and Pension Fund Management (PFM). Self-Control Bias, Perceived Knowledge, Retirement Goal Clarity, Future Time Perspective, and Attitude toward Retirement each correlate positively with PFM, suggesting that individuals with better self-control, greater knowledge, clearer goals, a long-term outlook, and a positive attitude are more likely to manage their pension funds effectively. These findings emphasize the importance of fostering these factors to improve PFM outcomes.

The regression analysis shows that Self-Control Bias, Perceived Knowledge, Retirement Goal Clarity, Future Time Perspective, and Attitude toward Retirement all significantly impact Pension Fund Management (PFM). Each factor highlights the need for interventions like financial behavior training, education, goal setting, long-term thinking, and positive retirement attitudes to improve PFM. Addressing these

factors through targeted strategies can enhance individuals' ability to manage their pension funds effectively and secure better retirement outcomes.

5.2 Conclusion

The first objective of this study is to assess the current situation of behavioral biases and pension fund management in Nepal, has been fulfilled through descriptive statistics. The analysis reveals that there is a moderate agreement on various factors influencing pension fund management, including Self-Control Bias, Perceived Knowledge, Retirement Goal Clarity, Future Time Perspective, and Attitude toward Retirement. The findings highlight a balanced perception of these factors among respondents, providing a comprehensive understanding of the current behavioral biases and their influence on pension fund management in Nepal.

The second objective of this study, to examine the relationship between behavioral bias factors and pension fund management, has been addressed through correlation and regression analyses. The results indicate that Self-Control Bias, Perceived Knowledge, Retirement Goal Clarity, Future Time Perspective, and Attitude toward Retirement positively influence pension fund management. Individuals with higher levels of self-control, better knowledge, clearer goals, a long-term outlook, and a positive attitude toward retirement are more likely to manage their pension funds effectively. These findings underscore the importance of behavioral interventions to enhance pension management practices.

The third objective of this study, to analyze the impact of behavioral bias factors on pension fund management, was addressed through regression analysis. The results reveal that all behavioral bias factors Self-Control Bias, Perceived Knowledge, Retirement Goal Clarity, Future Time Perspective, and Attitude toward Retirement positively influence pension fund management. Specifically, Future Time Perspective had the strongest impact, followed by Attitude toward Retirement, Retirement Goal Clarity, Perceived Knowledge, and Self-Control Bias. These findings highlight the significant role of behavioral and cognitive factors in enhancing pension fund management, indicating that improving these factors can lead to more effective management and better retirement outcomes.

5.3 Implications

Based on the summary and conclusion following key implications can be drawn:

a) Addressing Behavioral Biases: The study highlights the need to address key behavioral biases such as Self-Control Bias, Perceived Knowledge, Retirement Goal Clarity, Future Time Perspective, and Attitude toward Retirement to improve pension fund management. By understanding these biases, financial institutions and policymakers can design better strategies for encouraging effective pension planning.

b) Integration of Behavioral and Cognitive Interventions: Financial institutions, policymakers, and retirement planners should incorporate behavioral and cognitive interventions into their strategies. This includes implementing financial literacy programs, retirement planning workshops and long-term counseling to help individuals overcome biases and make informed decisions regarding their pension funds.

c) Improvement in Decision-Making and Outcomes: These interventions can significantly enhance individuals' decision-making abilities and lead to better retirement outcomes. By focusing on these factors, people can make more informed, consistent, and long-term choices regarding their pension fund management.

d) Policy Development: A deeper understanding of these behavioral biases can help create more effective pension management policies. Policymakers could design policies that take these biases into account, leading to better overall pension fund management and financial well-being for individuals.

e) Encouraging Healthier Financial Habits: By addressing these biases, individuals can develop healthier financial habits. Encouraging positive attitudes toward retirement and fostering a long-term financial outlook can motivate individuals to prioritize their retirement savings and manage their funds more effectively.

f) Future Research Directions: Future research should explore the impact of additional behavioral biases on pension fund management. It should also examine the role of demographic factors (such as age, gender, and income level) in shaping retirement decisions. Moreover, evaluating the effectiveness of digital tools in improving pension management could provide valuable insights into enhancing retirement planning strategies.

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APPENDIX

Questionnaire

Dear Respondent,

I am Saroj Basnet, an MBS student at Shanker Dev Campus, Putalisadak, Kathmandu. As part of my research project, I am conducting a survey on “The Impact of Behavioral Biases on Pension Fund Management”. The information collected will be used solely for academic purposes and strict confidentiality is assured. You are kindly requested to fill out the following questionnaire to help me gather the necessary information. Thank you for your cooperation.

Section A: Demographic Information

1. Gender

- a) Male
- b) Female

2. Age

- a) Below 20 years
- b) 20 years to 30 years
- c) 31 years to 40 years
- d) 41 years to 50 years
- e) Above 50 years

3. Educational Qualification

- a) School Level
- b) Bachelor Level
- c) Master Level
- d) Above Master Level

4. Occupation

- a) Student
- b) Employed
- c) Self-employed
- d) Unemployed

5. Monthly Income Level

- a) Below Rs. 10,000
- b) Rs. 10,000 to Rs. 20,000
- c) Rs. 20,001 to Rs. 30,000
- d) Rs. 30,001 to Rs. 40,000
- e) Rs. 40,001 to Rs. 50,000
- f) Above Rs. 50,000

6. Familiarity with Pension Fund Planning Concepts

- a) No familiarity
- b) Basic understanding
- c) Moderate familiarity
- d) Strong understanding
- e) In-depth knowledge

Section B: Questionnaires for each Variable

Following are the questions for this study topic "The Impact of Behavioral Biases on Pension Fund Management" related to the independent variables Self-Control Bias, Perceived Knowledge, Retirement Goal Clarity, Future Time Perspective and Attitude toward Retirement as well as the dependent variable Pension Fund Management. Please select the option that reflects your level of agreement or disagreement. The responses will be measured on a five-point Likert scale, as explained below:

5 - Strongly Agree

4 - Agree

3 - Neutral

2 - Disagree

1 - Strongly Disagree

Self-Control Bias

S.N.	Statement	Response				
		5	4	3	2	1
SCB1	Self-control bias negatively impacts my ability to plan effectively for retirement.					
SCB2	I often prioritize immediate rewards over saving for my pension.					
SCB3	I tend to delay making retirement investments due to immediate financial temptations.					
SCB4	I find it difficult to stick to long-term pension savings goals due to short-term desires.					
SCB5	I am aware of how self-control bias affects my pension planning decisions.					

(Source: Field Survey, 2024)

Perceived Knowledge

S.N.	Statement	Response				
		5	4	3	2	1
PK1	I feel confident in my knowledge of pension fund management.					
PK2	I understand the different investment options available for pension funds.					
PK3	My level of knowledge about pension fund management helps me make informed decisions.					
PK4	I am able to evaluate different pension fund options effectively due to my knowledge.					
PK5	I feel that improving my financial knowledge would enhance my retirement planning.					

(Source: Field Survey, 2024)

Retirement Goal Clarity

S.N.	Statement	Response				
		5	4	3	2	1
RGC1	I have clear and specific retirement goals that guide my pension fund investments.					
RGC2	My retirement planning is structured around achieving long-term financial security.					
RGC3	I regularly reassess my retirement goals to ensure they align with my changing financial situation.					
RGC4	The clarity of my retirement goals motivates me to consistently save for my pension.					
RGC5	I am confident that I am on track to meet my retirement goals based on my current pension plan.					

(Source: Field Survey, 2024)

Future Time Perspective

S.N.	Statement	Response				
		5	4	3	2	1
FTP1	I focus on long-term financial planning, even when faced with short-term financial challenges.					
FTP2	I believe that the earlier I start saving for my pension, the better the outcome in the future.					
FTP3	My long-term financial goals motivate me to prioritize retirement savings.					
FTP4	I consider the future impact of my current financial decisions on my retirement.					
FTP5	I believe in the importance of planning for the future rather than focusing solely on the present.					

(Source: Field Survey, 2024)

Attitude toward Retirement

S.N.	Statement	Response				
		5	4	3	2	1
ATR1	I view retirement as a critical phase that requires thorough financial preparation.					
ATR1	I feel that having a well-structured pension plan will ensure my financial well-being after retirement.					
ATR1	I am proactive in seeking out information about pension fund options for my future.					
ATR1	I am confident in my ability to manage my pension fund effectively to secure my retirement.					
ATR1	I believe that attitude toward saving and investing for retirement plays a major role in achieving financial goals.					

(Source: Field Survey, 2024)

Pension Fund Management

S.N.	Statement	Response				
		5	4	3	2	1
PFM1	I believe that my self-control bias negatively affects my pension fund management.					
PFM2	My knowledge of pension fund management has a positive influence on my investment decisions.					
PFM3	The clarity of my retirement goals helps me make more effective decisions regarding my pension funds.					
PFM4	I tend to focus on long-term growth when making decisions about my pension fund.					
PFM5	My overall attitude toward retirement planning helps me manage my pension fund effectively.					

(Source: Field Survey, 2024)

THE IMPACT OF BEHAVIORAL BIASES ON PENSION FUND...

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ABSTRACT This study investigates the impact of behavioral biases on Pension Fund Management (PFM), focusing on key dimensions such as self-control bias, perceived knowledge,

retirement goal clarity, future time perspective and **attitude toward retirement**. Utilizing a descriptive **and**

causal-comparative research design, data were collected from 250 respondents through structured self-administered questionnaires. The demographic profiles of respondents, including gender, age, educational qualifications, occupation, income, and familiarity with retirement planning concepts, were also analyzed. Statistical analysis, performed using SPSS Version 29 and Microsoft Excel, included descriptive statistics, correlation, and regression analysis to examine the relationships and impacts of behavioral biases on PFM. The findings reveal positive correlations between all behavioral biases and PFM. Regression analysis confirms that all independent variables significantly influence PFM at the 5% significance level. Future time perspective exhibits the strongest impact, emphasizing the importance of promoting long-term financial thinking. Self-control bias highlights the need for financial behavior training, while perceived knowledge underlines the role of financial awareness. Retirement goal clarity and attitude toward retirement further stress the importance of planning workshops and awareness campaigns. These results underscore the necessity of behavioral and cognitive interventions to enhance pension fund management. Keywords: Pension Fund Management, Self-Control Bias, Perceived Knowledge, Retirement Goal Clarity, Future Time Perspective, Attitude toward Retirement ii CHAPTER – I

INTRODUCTION 1.1 Background of the Study The effective management of pension funds is vital for ensuring the financial security of retirees. Pension funds are accumulated over an individual's working life and are invested with the primary goal of generating returns that will provide income during retirement. These funds are crucial for retirees' long-term financial stability, as they directly impact the financial well-being of individuals once they leave the workforce. Pension fund management is affected by market conditions, economic forces, and psychological biases, which can distort decision-making and lead to