

**MODERATING EFFECT OF SELF-CONTROL ON THE RELATIONSHIP
BETWEEN FINANCIAL LITERACY AND RETIREMENT PLANNING
AMONG COMMERCIAL BANK EMPLOYEES IN ELDORET CITY, KENYA**

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**A THESIS SUBMITTED TO THE SCHOOL OF BUSINESS, ECONOMICS
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DECLARATION

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DEDICATION

This thesis is dedicated to my mother Betra Cheboi, whose guidance and support has been a blessing. Thank you mum. My son, Myles, my brothers and sisters Brian, Sarah, Marion and Emmanuel, thank you for your support and understanding. To all those who believed in me; my family, friends, lecturers, and colleagues, thank you. Your inspiration, guidance, and encouragement have made this dream a reality.

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ABSTRACT

Retirement planning, defined as a goal-oriented behavior where individuals devote effort to prepare for their retirement life, can effectively reduce retirement worry, keep stress under wraps, and enhance retirement preparedness and confidence. However, there is little literature about retirement planning among employees working in Kenyan Commercial banks. To fill this gap, this study aimed to establish the moderating effect of self-control on the relationship between financial literacy and retirement planning among commercial bank employees in Kenya. The study was guided by the following specific objectives: to assess the effect of financial knowledge, financial behavior, financial attitude, and self-control on retirement planning among commercial bank employees in Eldoret City, Kenya. In addition, the study examined the moderating effect of self-control on the relationship between financial knowledge, financial behavior, financial attitude, and retirement planning. This study was guided by goal-setting theory, social cognitive theory, and behavioral life cycle theory. The study adopted an explanatory research design, with data being collected from a target population of 1058 employees of 32 commercial banks in Eldoret town. A sample size of 290 respondents was obtained using Yamane's formula. The study used systematic sampling techniques to select employees as respondents. Data was collected using a structured, closed-ended questionnaire. The researcher ensured the reliability of the research instrument through a pilot study and further confirmed it with Cronbach's alpha, which was above the score of 0.7. Construct validity was assessed using factor analysis, while content validity was assessed by having supervisors and experts in the field review the test items to make sure they were relevant and representative of the content that was being measured. Descriptive and inferential statistical analyses were conducted using SPSS (Statistical Package for the Social Sciences) version 25, with study hypotheses tested through a hierarchical regression model. It was found that Financial Knowledge had a significant positive impact on retirement planning ($\beta = 0.402, p < 0.05$), confirming that employees with better financial knowledge are more likely to plan effectively for retirement. Financial Behavior also showed a positive and significant influence on retirement planning ($\beta = 0.182, p < 0.05$), indicating that prudent financial actions enhance retirement preparedness. Financial Attitude similarly exhibited a significant positive effect on retirement planning ($\beta = 0.267, p < 0.05$). Self-control not only directly impacted retirement planning ($\beta = 0.174, p < 0.05$) but also moderated the relationship between financial knowledge ($\beta = 0.120, p < 0.05$), financial behavior ($\beta = 0.099, p < 0.05$), financial attitude ($\beta = -0.047, p < 0.05$), and retirement planning. The study concludes that self-control moderates the relationship between financial knowledge, financial behavior, financial attitude, and retirement planning among commercial bank employees in Eldoret City, Kenya. The results of this study can be used by practitioners and policymakers in developing strategies and formulating policies for retirement systems in the workplace. The findings contribute knowledge to the literature and theory related to financial literacy, self-control, and retirement planning.

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LIST OF ABBREVIATIONS AND ACRONYMS

BLCT	Behavioral Life-Cycle Theory
CBA	Commercial Bank of Africa Limited
CBK	Central Bank of Kenya
DIB	Dubai Islamic Bank
FinTech	Financial Technology
FSD	Financial Sector Deepening
HMRA	Hierarchical Multiple Regression Analysis
IOPS	International Organisation of Pension Supervisors
KNBS	Kenya National Bureau of Statistics
MFB	Micro Finance Banks
NACOSTI	National Commission for Science, Technology & Innovation
NFCS	National Financial Capability Study
NIC	National Industrial Credit
OECD	Organisation for Economic Co-operation and Development.
PPF	Public Provident Fund
SMART	Specific, Measurable, Achievable, Relevant, and Time-bound
VIF	Variance Inflation Factor

OPERATIONAL DEFINITION OF TERMS

Retirement Plan: is a financial strategy in which individuals or employers set aside funds to provide income during retirement, helping to ensure long-term financial stability and independence (OECD, 2022).

Financial knowledge refers to the objective understanding and mastery of financial principles, concepts, and terminology such as interest rates, inflation, credit, savings, investment, budgeting, and risk diversification. It forms the foundation for individuals to interpret financial information and evaluate financial options (Lusardi & Mitchell, 2021).

Financial behavior refers to the actions, decisions, and attitudes of individuals or groups regarding the management of money and financial resources. It encompasses a wide range of activities, including budgeting, saving, investing, borrowing, spending, and planning for the future (Königstorfer & Thalmann, 2020).

Financial Attitudes: encompass a person's values and opinions about various personal financial topics, such as whether they think saving money is important (Mustafa et al., 2023).

Self-control: is the ability to control one's urges, thoughts, desires, and behavior to preserve a valued target (having a financially stable retirement) or avoid a temptation (spending money on non-essential items) (Van Baal, 2022).

Financial Literacy: it is defined as knowledge and understanding of financial concepts and risks, and the skills, motivation, and confidence to apply such knowledge and understanding to make effective decisions across a range of financial contexts (Lusardi & Mitchell, 2020).

CHAPTER ONE

INTRODUCTION

1.0 Overview

This chapter presents the background of the study, statement of the problem, study objectives, hypothesis, significance of the study, and the scope of the study.

1.1 Background of the Study

The rapid aging of the labor force in countries at the late and advanced stages of demographic transition is already shifting the composition of the workforce from relatively young to relatively old workers (Bloom et al., 2020). An aging workforce can affect national savings, as saving rates typically differ by age: individuals borrow when they are young, save during their working years, and deplete their savings once they reach retirement. Aging can also affect labor force participation, as the elderly tend to participate in the labor force at much lower rates. The resulting decline in aggregate labor force participation would weigh on the sustainability of social planning systems by lowering the ratio of contributors (workers) to beneficiaries (pensioners), a trend that is exacerbated where the working-age population is expected to shrink (Kindermann & Püschel, 2021).

Globally, retirement planning systems exhibit significant variation between developed and developing countries. Retirement planning frameworks, such as social security systems in developed countries like the USA and nations across Europe, tend to be more comprehensive and institutionally robust compared to those in developing countries (Gentilini, 2022). Developed countries typically have a combination of social assistance to relieve poverty, social insurance for risks like sickness or disability, and measures to redistribute resources over a lifetime or within families. The structural characteristics

of developing economies, such as a lack of adequate financial and labor markets, a high probability of tax evasion, and exposure to political pressure, make it challenging to implement comprehensive social security systems like those in developed nations (Kharazishvili et al., 2020). However, even limited social security expenditures in developing countries have been shown to have important positive effects, contributing to poverty reduction and creating conditions for economic growth

In India, retirement planning has become increasingly essential due to the lack of a comprehensive and formal social security system, especially when compared to developed nations. As noted by Kumar et al. (2020), the absence of state-sponsored, universal pension schemes means that individuals must take personal responsibility for ensuring financial security in old age. This situation is further complicated by the rapid increase in life expectancy, driven by improvements in medical facilities and healthcare access in recent years. Many recent changes in the field of finance, economy, capital market restructuring and inflation rate, and increased cost of medical services have increased the immediate need for retirement planning for everyone. An important paradigm being experienced in the acceptance of retirement planning worldwide is the selection of the most suitable method to collect sufficient funds for retirement. Retirement planning is a one-time strategic investment decision and determines the quality of life (Kumar et al., 2020).

In Africa, many countries, including Nigeria, Ghana, and South Africa, the importance of retirement planning is growing due to increasing life expectancy, urbanization, and a gradual shift from extended family dependency to individual financial independence (Boadi et al., 2021). Despite these shifts, retirement preparedness remains low, particularly among formal sector employees, such as those working in commercial

banks. While financial literacy has been positively associated with retirement planning, emerging studies emphasize that financial literacy alone is not sufficient; individual behavior, particularly self-control, plays a significant moderating role in translating knowledge into action (Boadi et al., 2021).

In the Democratic Republic of Congo, due to low retirement benefits, workers have turned to personal retirement plans (Safari & Njoka 2021). In the pre-retirement period, workers constitute savings in microfinance institutions and banks, others buy properties in the real estate market, farms, and others set up their own businesses or buy shares in existing enterprises. Given the inexistence of a stock market in the country, shares are bought directly from companies based on announcements made in the media (Nzenga, 2018). Also, Safari and Njoka (2021) reported on the average level of financial knowledge among public sector employees, where the study indicated low computational capability and skills among these employees in Bukavu city. This financial knowledge and computational results affected the retirement planning of the public sector employees, as nearly half of these employees lacked a financial plan for their retirement. The worrying trend thereby implies that upon retirement, even those employed in the public sector in Africa would experience financial strain upon retirement.

The biggest financial challenge facing the world today is to provide retirement income. Although an individual can easily borrow money when they are young and working, it is unfortunately not easy to access such borrowings in one's old age, especially when one is retired. This limitation can result in the individual suffering humiliation and becoming a burden on the children and family. Furthermore, the quality of life compounds the problem because recent scientific and medical improvements have

triggered people to survive for a long time, causing long-term reliance by individuals without pension plans (Visser-Amundson, 2022).

Financial Sector Deepening (FSD) has been conducting Financial Access (FinAccess) surveys to track Kenya's financial inclusion, access, and usage landscape. The FinAccess surveys from 2006 to 2019 have indicated improvements in financial access over time. Several programs have been initiated to improve financial literacy in Kenya. Despite these initiatives, the findings of the recent FinAccess survey done by CBK, KNBS, and FSD in 2019 show a worrying trend that most Kenyans seek financial advice from family and friends compared to seeking it from financial experts and institutions. The level of knowledge of the cost of borrowing was also alarming, as only 42.7% were able to respond to a question on the cost of borrowing correctly. In comparison, 58.1% of the respondents could correctly read a typical message showing the transaction costs on a mobile phone. While focusing on loan default, respondents' reasons for the cause of defaults were that they lacked proper planning, the interest rates kept on increasing, and a lack of understanding of the terms of the loans. Therefore, financial literacy advocacy is essential in addressing consumer protection concerns (Igbinenikaro & Adewusi, 2024).

Alshebami and Aldhyani (2022) stated that those with better financial skills can plan their career path and retirement savings more effectively, whereas those with poor financial skills and knowledge may have to borrow more. Rey-Ares et al. (2021) have findings confirming that individuals' level of self-control is related to a positive financial attitude. Thus, a high level of self-control increases the probability of setting long-term financial goals and expenditure planning, along with the individual's financial satisfaction. Regarding financial behaviors or decisions, those individuals with

a high level of self-control are more likely to save and invest in stock markets, while they are less likely to hold personal loans. On the other hand, the mentioned studies have not been extensive, and financial decisions involving long time horizons (i.e., retirement saving and mortgages) seem not to be influenced by the individual's self-control. In other words, self-control does not matter for financial decisions whose consequences are significantly deferred. These results confirm that "the relationship between self-control and financial behavior is still inconclusive", as Sekścińska et al. (2021) remarked. Individuals who struggle with self-control accumulate fewer resources due to a lack of planning, supervision, or dedication (Biljanovska & Palligkinis, 2018).

Integrating psychological concepts with financial planning and saving behavior has become more critical with the advent of behavioral finance and the discovery that consumers deviate from rational financial decision-making (Antony, 2020). Examination of consumers' actual retirement planning behavior three months after initial exposure to the financial information message confirmed a direct positive relationship between stated intentions and actual behavior, with a stronger relationship for consumers with more self-control (Hoffmann & Plotkina, 2020).

Self-control was chosen in this study as a moderator since financial literacy alone does not guarantee good financial decisions. Employees might know what to do but struggle to resist temptations or stick to long-term plans. Self-control bridged this gap by influencing how financial knowledge translates into action. The articles supporting the use of self-control as a moderator are Mawad et al. (2022), who explore how both financial literacy and self-control influence financial behavior. Alshebami and Aldhyani (2022) highlighted how self-control strengthens the link between financial

literacy and saving behavior, a key component of retirement planning. Mpaata et al (2023) argue that for individuals with lower self-control, financial literacy has a weaker impact on saving behavior. This emphasizes the moderating role of self-control.

In addition, the study by Waga et al (2021) found that self-control was a significant factor in influencing retirement planning decisions in Kenya. This is further supported by Méndez Prado et al. (2022), Sekścińska et al. (2021), and Yu et al (2024), whose studies explored the moderating effect of self-control on the link between financial literacy, saving habits, and financial risk tolerance.

1.2 Statement of the Problem

The ideal situation regarding retirement planning among commercial bank employees in Kenya would be high pension coverage and adequacy. At least 75% of bank employees are enrolled in pension schemes, with income replacement ratios of 75% or more in retirement, as employees preserve their pension benefits rather than withdrawing them as lump sums upon leaving employment (Cytonn, 2024). Bank employees have comprehensive knowledge of retirement planning best practices, including calculating retirement income needs, selecting appropriate pension plans and investment options, and planning for healthcare and leisure expenses in retirement. In addition, they have high levels of financial literacy, with an in-depth understanding of personal finance concepts like budgeting, saving, investing, and risk management. They also exhibit strong self-control, prioritizing long-term financial goals over short-term gratification

However, many commercial bank employees in Kenya, including those in Eldoret town, have poor retirement planning practices. Literature reveals that only 20% of employed Kenyans are under pension schemes, and the income replacement ratio is just 34%

compared to the ideal 75%; 95% of individuals who leave employment opt to withdraw their full pension benefits in cash rather than preserving them (IOPS, 2018). If this problem is not addressed, many bank employees will retire into poverty without adequate income or savings to maintain their standard of living.

In addition, there is limited research specifically examining the relationship between financial literacy and retirement planning among commercial bank employees in Kenya. Previous studies have focused on retirement practices in the banking sector in general, financial literacy's impact on personal finance management, and pension coverage and adequacy in Kenya, but have not deeply explored the interplay between financial literacy and retirement planning in this specific context. For example, Andreou and Anyfantaki (2021) focused on financial literacy and its influence on internet banking behavior. Khawar and Sarwar (2021) studied financial literacy and financial behavior with the mediating effect of family financial socialization in the financial institutions of Lahore, Pakistan. Kimathi and Kathula (2022) found that most bank employees have efficient knowledge of retirement preparation practices but lack education on leisure activities and health insurance in retirement. Oppong et al. (2023) indicated that financial literacy acquired through training or work experience strongly affects personal financial management among bank employees. Mekonnen (2023) found that factors like gender, age, education level, and savings/investment plans influence employees' personal financial management.

Introducing self-control as a moderating variable provides insights into how bank employees' ability to delay gratification and make prudent financial decisions impacts their retirement planning, beyond the direct effects of financial literacy. Self-control has been shown to predict positive financial behaviors like saving, but its role in the

relationship between financial literacy and retirement planning remains underexplored. To bridge this gap, the main objective of this study was to examine the moderating effect of self-control on the relationship between financial literacy and retirement planning among commercial bank employees in Eldoret City, Kenya.

1.3 Research Objectives

The following are the study objectives:

1.3.1 General Objective

The purpose of this study was to determine the moderating effect of self-control on the relationship between financial literacy and retirement planning among commercial bank employees in Eldoret City, Kenya.

1.3.2 Specific objectives

- i. To establish the effect of financial knowledge on retirement planning among commercial bank employees in Eldoret City, Kenya.
- ii. To analyze the effect of financial behavior on retirement planning among commercial bank employees in Eldoret City, Kenya.
- iii. To determine the effect of financial attitude on retirement planning among commercial bank employees in Eldoret City, Kenya.
- iv. To assess the effect of self-control on retirement planning among commercial bank employees in Eldoret City, Kenya.
- v. To determine the moderating effect of self-control on the relationship between:
 - a) Financial knowledge and retirement planning among commercial bank employees in Eldoret City, Kenya.

- b) Financial behavior and retirement planning among commercial bank employees in Eldoret City, Kenya.
- c) Financial attitude and retirement planning among commercial bank employees in Eldoret City, Kenya.

1.4 Research Hypotheses

H0₁: Financial knowledge has no significant effect on retirement planning among commercial bank employees in Eldoret City, Kenya.

H0₂: Financial behavior has no significant effect on retirement planning among commercial bank employees in Eldoret City, Kenya.

H0₃: Financial attitude has no significant effect on retirement planning among commercial bank employees in Eldoret City, Kenya.

H0₄: Self-control has no significant effect on retirement planning among commercial bank employees in Eldoret City, Kenya.

H0₅: Self-control has no moderating effect on the relationship between:

- a) Financial knowledge and retirement planning among commercial bank employees in Eldoret City, Kenya.
- b) Financial behavior and retirement planning among commercial bank employees in Eldoret City, Kenya.
- c) Financial attitude and retirement planning among commercial bank employees in Eldoret City, Kenya.

1.5 Significance of the Study

This study provides the government of Kenya with avenues to develop policies to improve the retirement systems in Kenya. The study offers more insight into the role played by the relevant authorities in enhancing financial literacy on future financial

planning and the associated Retirement Benefits Authority by helping them discover the training requirements of Kenyans. This study benefits employees by knowing the importance of financial literacy concerning retirement planning. This insight comprises financial management practices like savings, asset accumulation, better budgeting, credit, and cash flow management. These practices potentially diminish individual stress caused by poor financial behaviors.

On the other hand, the study benefits commercial bank employers by enabling them to discover the importance of introducing workplace financial education to promote financial literacy among employees, to influence workers' efforts in planning and saving for retirement. Financial illiteracy leads to poor financial management.

By understanding the importance of financial literacy, commercial bank employees can make more informed decisions regarding retirement planning and possibly learn to stay committed to their retirement savings goals. This research provides insights and practical recommendations that, when incorporated by individuals, can lead to better retirement preparedness and reduce reliance on lump-sum withdrawals, thereby ensuring optimal sustainability.

Future studies are expected to utilize the findings, theories, and models presented in this study to inform further research. The study contributed to the existing body of knowledge, providing a foundation upon which scholars could build by using its models, results, and theoretical frameworks to develop new research.

1.6 Scope of the Study

The study aimed to determine the moderating effect of self-control on the relationship between financial literacy and retirement planning of commercial bank employees in Eldoret City, Uasin Gishu County, Kenya. Eldoret City is among the fastest-growing

urban and economic hubs in Kenya. It hosts a significant number of commercial banks, including local and international branches, making it a strategic location for studying employee financial behavior and retirement planning practices. The town's economic vibrancy, increasing financial literacy campaigns, and diverse workforce provide a relevant and accessible population for examining the relationship between financial literacy, self-control, and retirement planning.

The study focused on three components of financial literacy which include financial knowledge, financial behavior, and financial attitude as independent variables, retirement planning as the dependent variable, and self-control as a moderator. It was guided by goal-setting theory, social cognitive theory, and behavioral life cycle theory. An explanatory research design was adopted in this study targeting Commercial Bank employees based in Eldoret City, Kenya. The researcher employed a systematic sampling technique to administer 290 questionnaires to commercial bank employees in Eldoret City, Kenya, the study area. The study was carried out between July and September 2024.

CHAPTER TWO

LITERATURE REVIEW

2.0 Overview

This chapter explores the theoretical review, the concept of retirement planning, financial literacy, and self-control. It also describes the empirical review, summary of the reviewed literature, knowledge gaps, and conceptual framework.

2.1 Theoretical Review

This study was guided by goal-setting theory, social cognitive theory, and behavioral life cycle theory.

2.1.1 Goal Setting Theory

The study was guided by the goal-setting theory developed by Edwin Locke in 1990 (Ab Rahman, 2025). The goal-setting theory states that goals are strongly associated with human performance. It identifies the attributes of effective goals as well as the specific mechanisms through which goals help enhance performance. The theory identifies the attributes of effective goals, emphasizing that clear, specific, and challenging goals are more motivating than vague or easy goals (Pritchard-Wiart et al., 2020). It also highlights the mechanisms through which goals enhance performance, such as focusing attention, regulating effort, and providing feedback. This theory has served as a foundational framework for understanding how goal-setting financial literacy influences retirement planning in the study.

The theory assumes that specific and clear goals lead to greater output and better performance (Bugdol & Sułkowski, 2024). Ambiguous, measurable, and clear goals, accompanied by a deadline for completion, help avoid misunderstandings. It is assumed that goals should be realistic and challenging. Setting challenging goals gives

individuals a sense of pride and triumph when achieved, motivating them for future goals. The theory suggests that the more challenging the goal, the greater the reward and passion for achieving it (Kaydos, 2020).

The theory emphasizes the significance of better and appropriate feedback in directing employee behavior and contributing to higher performance (Menguc et al., 2024). Feedback is crucial for gaining recognition, clarifying expectations, and adjusting goal difficulties. It enhances employee involvement and leads to greater job satisfaction. Goal-setting theory assumes that an individual's self-confidence and belief in their ability to perform a task, known as self-efficacy, significantly influence their efforts when facing challenging tasks (Sides & Cuevas, 2020). Higher self-efficacy levels lead to greater efforts in overcoming challenges.

The theory posits that individuals must be committed to their goals and not abandon them. Goal commitment is influenced by factors such as making goals known, setting self-directed goals, and ensuring alignment with organizational goals and vision (Ogbeiwi, 2022). The theory aligns with the concept of SMART goals, which are Specific, Measurable, Achievable, Relevant, and Time-bound. These attributes are essential for effective goal-setting and performance improvement.

The theory posits that specific and challenging goals, combined with appropriate feedback, enhance performance and motivation (Strickland, 2021). In the context of financial literacy and retirement planning, this theory suggests that individuals who set clear and specific financial goals are more likely to achieve financial literacy and make informed decisions about their retirement planning. The theory also emphasizes the importance of self-efficacy, which is the confidence in one's ability to perform a task. In financial literacy, self-efficacy can influence an individual's ability to manage their

finances effectively, make informed decisions about retirement planning, and achieve their financial goals.

The application of the Goal Setting Theory in financial literacy and retirement planning can be moderated by self-control, which is the ability to regulate one's behavior and make choices that align with long-term goals (Alshebami & Aldhyani, 2022). Self-control is crucial in financial literacy because it helps individuals avoid impulsive financial decisions and make informed choices about their financial resources (Bai, 2023). In the context of retirement planning, self-control is essential in managing one's finances effectively to achieve long-term financial goals. Individuals with high self-control are more likely to set clear financial goals, make informed decisions about retirement planning, and avoid financial pitfalls that could jeopardize their retirement security.

2.1.2 The Social Cognitive Theory

Social Cognitive Theory was developed in the 1960s by Albert Bandura as an extension of his earlier Social Learning Theory (Mehmood et al., 2022). Social Cognitive Theory posits that learning occurs in a social context through a dynamic and reciprocal interaction between the person, environment, and behavior (Schunk & DiBenedetto, 2020). It suggests that people learn by observing others, with the environment, behavior, and cognition acting as primary factors that influence development. Bandura's Social Cognitive Theory is one of the most influential and generally recognized theories of social science, and it has influenced a broad range of areas, including behavioral finance (Manjarres-Posada et al., 2020). In understanding the process of social cognitive learning (Bandura, 1989), this theory emphasizes the ongoing reciprocal relationship between individual behavioral factors (cognitive) and environmental influence (Eun,

2019). In this theory, learning is more focused on observer learning. Observational learning (modeling) consists of four interrelated components: processes of attention, procedures for retention, procedures for reproduction, and motivation.

Bandura's (1997) social cognitive theory proposes that learning is a process that occurs within a collective text (Lee & Tseng, 2024). The principle argues that learning is a vicarious process in which individuals directly learn alongside each other. Individuals can learn by observing others, for example, and not simply by providing guided directions. Almogren and Aljammaz (2022) believed the same thing: that people primarily learn from observing others. Although implicit and explicit learning can affect financial behavior, implicit learning is more prevalent (Xiao, Barber, & Lyons, 2009). The original social cognitive theory states that the modeling process stems from human actions (Middleton et al., 2020). The theory also suggests that the current social context in which one lives influences the attitudes and acts of the individual, as it models the individual in a specific way to suit the social environment. This emphasizes that people learn within the social system by watching other individuals (models) that they feel are trustworthy and competent. In this case, despite the desire to be attached to others, a person attached to a specific group is compelled to imitate and mimic the actions of others within that group (Chou, 2024). The social environment of a person consists of families, peers, community, and mass media that impose the societal strain and social expectations that a person may derive from (Halpern-Meekin, 2019).

The theory suggests individuals are motivated by external stimuli rather than by inner influences (Schneider et al., 2022). This model indicates that the triad of interpersonal interactions, psychological and environmental forces, may describe human nature. Alternatively, this is known as reciprocal determinism. Environmental influences

represent conditions and an environment where behavior is preformed, while human variables include instincts, desires, characteristics, and other particular motivating forces. Self-efficacy, outcome goals, self-control, motivation, emotional processing, and reflective learning are some of the variables that could be involved in the process of behavioral improvement (Kadosh & Staunton, 2019).

Mitchell (2020) also introduces the inborn ability of people to often influence human behavior. Compared to himself, the blame for modifying human actions rests with cognitive results, for example, awareness and abilities. This theory is more applicable in financial behavior, particularly for micro and small business owners, as most participants learn their financial conduct from their family, friends, community, society, and institutions. The theory suggests that social learning is based on interpersonal, peer-reciprocal, socio-economic, and environmental backgrounds (Mpaata et al., 2023).

The theory of social cognition is focused on four key principles that include: the ability to symbolize, which is one's ability to recognize and use symbols to help store, interpret, and turn perceived events into cognitive models to guide them in subsequent behavior and choices (Charmaz & Thornberg, 2021). Self-regulation Capacity, which includes the ability of a person to motivate himself or herself to achieve certain objectives by deciding his or her actions and reacting accordingly (Jordalen et al., 2020). Therefore, behavior is achieved by self-regulation and self-direction. The self-reflective ability includes a cycle of testing of perception, in which individuals may conduct a self-check to ensure that their reasoning is right (Özen & Karaca, 2021). The principle also advocates for vicarious capacity, where people can adjust expertise and experience to shape information that is transmitted through a multitude of media. By studying the acts

and effects of others as vicariates, people can obtain insights into their activities (Abante et al., 2021).

This research's Social Cognitive Theory focuses on all the study variables of financial literacy, self-control, and retirement planning (Satoto & Budiwati, 2020). According to social cognitive theory, one's behavior is affected by encounters with others, the setting, one's behavior, and one's cognitive capacity (Mpaata et al., 2023). The social environment involves friends, family, neighbors, and the media.

Social Cognitive Theory has been applied in various contexts: The theory has been used to understand how students learn through observation and modeling of teachers and peers (Schunk & DiBenedetto, 2020). It has informed instructional strategies that leverage observational learning. Social Cognitive Theory has been used to design interventions promoting healthy behaviors like exercise, nutrition, and disease prevention. The theory's emphasis on self-efficacy has been particularly influential in this domain (Luszczynska & Schwarzer, 2020).

The theory has been applied to understand and improve workplace behaviors, such as employee motivation, leadership, and safety practices (Islam et al., 2023). Social Cognitive Theory has been criticized for largely overlooking the influence of biological factors, such as hormones and genetics, on behavior (Schunk & DiBenedetto, 2020). As a broad theory, it can be challenging to apply all its concepts comprehensively. Implementations often focus on specific aspects like self-efficacy. While the theory emphasizes observational learning, some behaviors may have stronger biological or evolutionary origins that are not fully accounted for. The theory has been criticized for lacking a single, cohesive organizing principle, making it difficult to test and apply as a whole.

The Social Cognitive Theory provides a comprehensive framework for understanding how social learning experiences, observational learning, self-regulation, and cognitive processes influence financial knowledge, behavior, attitude, retirement planning, and self-control in individuals.

2.1.3 Behavioral Life Cycle Theory

The behavioral life cycle theory was developed in the early 1980s by Richard Thaler and Hersh Shefrin (Shefrin, 2020). The behavioral life cycle theory was developed as an extension of the traditional life cycle theory proposed by Franco Modigliani and Richard Brumberg in the 1950s. The behavioral life cycle theory incorporates concepts from behavioral finance, such as self-control bias, framing bias, and mental accounting bias, which were not included in the original life cycle theory (Crosby, 2023). The behavioral life cycle theory argues that people do not always behave as perfectly rational, optimizing consumers as assumed in traditional economic theory. Instead, it recognizes that people have bounded rationality and self-control issues that impact their savings and spending decisions.

Shefrin and Thaler (1988) stated that the Behavioral Life-Cycle Theory assumes that people see money as fully fungible, even in the absence of credit rationing, and that a foresighted person rationally plans his or her lifetime consumption (Gasiorowska & Zaleskiewicz, 2023). The theory is based on four ideas that include: First, it points out that people have difficulty managing the desire to spend even though it is in their best interests to save money. Second, it implies that people create their opportunities or constraints to help them save money. Third, the person classifies economic resources into different “mental accounts,” and it is assumed that the desire to expend resources will vary accordingly. Specifically, wealth is assumed to be divided into three mental

accounts: current income, current assets, and future income. The temptation to spend is assumed to be greatest for current income and least for future income.

Goschke and Job (2023) suggest that, due to a lack of self-control, individuals are unable to save; thus, the need for foresight is vital to long-term planning (Kim & Hanna, 2017). The Behavioral Life-Cycle Theory (BLCT), published in 1988, emphasizes self-control, mental accounting, and framing as ways to improve saving. Self-control in this research is a way of regulating impulsivity and time discrepancies, where people may regulate their immediate consumptive behavior. Three elements of internal conflict, temptation, and willpower need to be considered to attain self-control.

Studies have utilized the behavioral life cycle theory in various contexts to explore its implications. However, the theory has some limitations. Research has applied the behavioral life cycle theory to investigate consumer behavior, savings decisions, and wealth accumulation (Francis & Sarangi, 2022). Studies have explored how self-control, mental accounting, and framing biases influence individuals' financial choices and consumption patterns (Mahapatra & Mishra, 2020).

Behavioral Life Cycle Theory assumes that individuals treat components of their wealth as nonfungible, which may oversimplify the complexity of financial decision-making (Ebrahimi & Koh, 2021). Critics argue that the theory's emphasis on bounded rationality and impatience may not fully capture the intricacies of human behavior and decision-making processes.

In the context of the study variables - financial knowledge, financial behavior, financial attitude (independent variables), retirement planning (dependent variable), and self-control (moderator) - the behavioral life cycle theory provides a valuable framework. Financial knowledge, behavior, and attitude are influenced by individuals' life cycle

stages, impacting their retirement planning decisions. Self-control, as a moderator, interacts with the behavioral biases identified in the theory, affecting how individuals manage their finances over their life cycle.

2.2 Concept of Retirement Planning

Retirement is the period when the labor force exits the working life due to old age, given the reason that older individuals are characterized by a reduced ability to perform the work assigned to them. After working for years, workers shift to the retirement period, which is a critical stage of life that most workers will go through (Zhan et al., 2019). Savings are an essential means of moderating consumption during periods of inconsistent earnings, such as retirement, as they help individuals maintain the same standard of living before retirement (Etgeton et al., 2023). The responsibility of securing future financial well-being has shifted more to the individuals, as new policies are increasingly turning the responsibility of saving for retirement over to individuals. Lusardi (2019) affirms that due to the rising life expectancy and strain on pension and social welfare schemes, there has been a shift by most governments and employers from the defined benefit pension scheme to the defined contribution pension scheme.

Sani (2019) developed a conceptual model for understanding the determinants of effective retirement planning behavior. Through this model, the authors contend that three dimensions, namely, capacity, willingness, and opportunity, determine the efficiency of planning and savings for retirement. Capacity refers to the cognitive factors, aptitude, comprehension, and knowledge that distinguish two individuals from each other. The second dimension - willingness - is defined through the psychological and emotional characteristics that provide the impetus to start retirement planning and continue with it over time. It includes factors like attitude, clarity of financial and

retirement goals, personality traits, ethics, virtues, and rectitude, which define an individual's self-image. The third dimension, opportunity, includes those factors that are external to an individual, like the availability of employee pension plans, diversified investing options, long-term economic and financial market trends, fiscal policies, and tax regulations.

Liu et al. (2022) suggest that being more engaged in retirement planning could influence post-retirement health and well-being directly, and/or indirectly through retirement confidence. Moreover, among the four planning subdomains, health, social life, and psychological planning were found to be correlated with improved post-retirement health and well-being through boosting retirement confidence levels. Retirement planning in the financial domain was not found to be correlated with retirement confidence but directly benefited life satisfaction in retirement.

2.3 Concept of Financial Literacy

The Organization for Economic Co-operation and Development (2017) has defined financial literacy as “knowledge and understanding of financial concepts and risks, and the skills, motivation, and confidence to apply such knowledge and understanding to make effective decisions across a range of financial contexts, to improve the financial well-being of individuals and society, and to enable participation in economic life”.

Liu et al. (2022) say that financial literacy refers to the capacity to handle, read, analyze, and interact with personal financial situations in a way that has a positive impact on well-being. Financial literacy allows individuals to manage their money efficiently and, make appropriate investment decisions, direct behavior towards saving, and take advantage of new available financial products and services. Financially literate

individuals can reduce risk and diversify their investments (Alshebami & Aldhyani, 2022).

Burchi et al. (2021) refer to financial literacy as an individual's capability to comprehend how money works and how to earn, manage, invest, and donate it to the needy. At the same time, Mishra et al. (2024) define financial literacy as an individual's ability to make decisions that effectively and efficiently manage their use of money.

Recently, the dynamism in the financial sector of developed countries reinforced the need to promote financial literacy. Besides, rapid financial innovation that led to the emergence of complex financial products, such as mortgage-backed securities, requires an adequate degree of financial literacy to make rational financing or investment decisions, whereas developing countries emphasize encouraging the participation of households in financial markets to increase product uptake. In each case, the ultimate goal of financial literacy is to enable individuals to understand key financial concepts and develop the skills to manage their finances to lead a financially healthy life (Fanta & Mutsonziwa, 2021).

The higher the education level, the higher the number of people with a high level of financial literacy. Furthermore, the percentage of retirement planners increases with the education level. This is consistent with the findings in Chile, a fellow developing nation, where the more educated tended to plan for retirement more than those who were not educated (Edwards et al., 2020).

While studying Financial Literacy and Preparation for Retirement in Ireland, Nolan & Doorley, (2019) found clear associations between higher financial literacy and higher total household wealth and lower financial stress. In terms of retirement preparedness, no association was found between financial literacy and supplementary pension cover,

but higher financial literacy correlated with greater expectations of income in retirement (Nolan & Doorley, 2019)

Financial literacy aids consumers in making sound financial decisions (Goyal & Kumar, 2021). Klapper and Lusardi (2020) measured financial literacy using questions assessing basic knowledge of four fundamental concepts in financial decision-making: knowledge of interest rates, interest compounding, inflation, and risk diversification. Darriet et al. (2021) measured financial literacy by asking basic questions related to knowledge about numeracy (interest), compound interest, inflation, and risk diversification.

2.4 Concept of Self-Control

Self-control is the ability to control one's urges, thoughts, desires, and behavior to preserve a valued target (having a financially stable retirement) or avoid temptation (spending money on non-essential items) (Van Baal, 2022). Personal financial management requires a prioritized lifestyle and self-awareness discipline to obey the rules and the ability to adjust to changes that have explicitly touched self-control (Mpaata et al., 2023). Self-control, according to Mpaata et al. (2023) is the degree to which a person's self-confidence is in control of events and ongoing situations and represents their sense of their ability to handle them.

Poor self-control might limit an individual's ability to reduce cravings and restrain addiction (Cobb-Clark et al., 2023). Cognitive capacity, socialization, self-control, and other nonstandard variables are thought to play a role in saving behavior (Mori, 2019). Self-control is the degree to which a person perceives himself to have power over circumstances and current situations. I'm good at avoiding temptation, I do things that feel good at the moment but I regret later, I have more self-discipline, and I have a hard

time breaking bad habit, to mention a few, are measurement items adopted and modified from Strömbäck et al. (2017).

2.5 Empirical Literature Review

This section will review literature related to financial knowledge, financial behavior, financial attitude, and self-control.

2.5.1 Financial Knowledge and Retirement Planning

In the United States of America (US), a study by Clark et al. (2021) found that financially literate employees of the Federal Reserve in the US were more likely to contribute to a supplementary defined contribution pension plan, contribute a higher percentage of their salaries, and have higher equity in their plans than less financially literate employees. Data from the NFCS suggest that subjective financial knowledge, confidence, and owning a savings account are significant predictors of having an emergency fund (Despard et al., 2020). The pre-retirement savings rate decisions, if considered, are often too low and result in a savings shortfall or a delay in retirement (Scott et al., 2020). Saivasan and Lokhande (2022) recommended that an increased level of financial knowledge can make a difference in risk perceptions for investment avenues.

Bongini et al. (2020) studied university students' involvement in retirement planning. The aim of the study was to explore the factors predicting university students' intentions to invest in a pension fund. The theory of planned behavior and ordinary least square stepwise multiple regression analysis were used. The results reveal that the theory of planned behavior predictors, pension knowledge, and money management influence positively the intention to invest in a pension fund.

Gupta (2021) have studied that women's financial knowledge about instruments such as debit cards, credit cards, PPFs, mutual funds, shares and other investment avenues is very low. Gaar (2021) shows that financial literacy is positively associated with retirement planning, suggesting a causal relationship where better financial knowledge leads to more planning for retirement needs. This is further supported by research demonstrating that individuals with higher financial literacy are more likely to invest in the stock market, avoid borrowing against retirement accounts, and engage in other behaviors that can improve retirement resources.

The connection between financial literacy and retirement planning appears to be two-way. Not only does greater financial knowledge facilitate better planning, but the process of planning itself can also enhance financial literacy. Siame (2020) found that those who have done more retirement planning display higher levels of financial literacy, indicating a feedback loop between the two. This suggests that initiatives to improve financial education may have downstream benefits for retirement preparedness.

However, the link between financial literacy and actual retirement savings behavior is more complex. While financial knowledge seems to translate into greater retirement planning, the relationship with realized savings outcomes is weaker (Dick, 2020). Behavioral factors like procrastination and inertia can prevent people from following through on their intentions, even when they possess the requisite financial skills.

Financial literacy, including knowledge about financial concepts, budgeting, and investment, plays an important role in facilitating retirement planning (Gaar, 2021). However, translating this knowledge into actual savings behavior remains a challenge that requires addressing both cognitive and behavioral factors. To truly improve

retirement security, it may not be enough to simply focus on enhancing financial literacy. Policymakers and industry participants should also consider ways to simplify pension choices, provide better default options, and leverage behavioral nudges that make it easier for individuals to convert their financial knowledge into effective savings decisions. A multifaceted approach addressing both financial education and choice architecture is likely needed to help people achieve their retirement goals.

2.5.2 Financial Behavior and Retirement Planning

Financial behavior can be defined as any human behavior that is relevant to money management. Common financial behaviors include cash, credit, and saving behavior (IGI Global, 2018a). How a person behaves will have a significant impact on their financial literacy. Students who live in an environment in which their relatives talk about pension issues and consider retirement savings important are more willing to save for their future (Bongini et al., 2023). A study done by Baker et al. (2021) in India revealed that financial behaviors such as retirement planning and savings, are influenced by personal traits like retirement goal clarity and future time perspective, which are further influenced by social forces such as group support and cognitive abilities such as financial literacy. Therefore, the programs should be designed to look beyond financial knowledge to fully exploit and effectively transmute knowledge into responsible behavior.

Ren et al., (2022) have surveyed financial planning behavior, investment behavior, bills payment behaviour, savings behaviour, credit cards behaviour and budget behaviour to find out financial literacy level of women. Human behaviour that is pertinent to financial decision-making and money management such as constructing appropriate budget programmes and controlling it, quick payment of bills, and regular saving nature is

called financial behaviour. Morgan and Long (2020) highlighted concern about financial literacy improvement among women, particularly in developing nations. The study found that the initiative of improving financial literacy can make a long-term behavioral change of women. Rai and Gupta (2021) concluded that to enhance the financial literacy level of the individual, the government should focus on building positive financial behaviour and attitude along with financial education.

Financial behavior and retirement planning are crucial aspects of financial literacy that significantly impact individuals' financial well-being and long-term security. Tomar, Tomar et al., (2021) emphasize the importance of financial literacy in promoting sustainable growth, and economic development, and reducing income inequality and poverty¹. Financial inclusion, which encompasses knowledge of banking services and online banking, plays a vital role in economic development and in fostering financial literacy. Moreover, gender differences in financial decision-making and retirement planning have been highlighted, with women facing unique challenges due to longer life expectancies and the need for enhanced financial security in retirement (Nave et al., 2023).

The role of financial advisors in financial success and retirement planning is a key area of interest, with research indicating that individuals working with financial advisors tend to have better perceived financial success (Mustafa et al., 2023). Access to financial services and financial education is crucial, especially for low-income individuals nearing retirement, as it significantly influences their engagement in financial planning behaviors like saving for emergencies and retirement. Additionally, the lack of adequate financial education can lead to a reliance on employer-based

retirement plans, underscoring the importance of accessible financial knowledge and services for all income groups (Harlow et al., 2020).

Goyal et al., (2021) also delve into the psychological antecedents of retirement planning, highlighting the significance of psychological factors in shaping individuals' retirement decisions and financial behaviors. Understanding the psychological aspects that drive retirement planning can provide valuable insights into improving financial literacy programs and enhancing retirement preparedness among different demographic groups (Goyal et al., 2021). Furthermore, the systematic review of women's financial planning for retirement underscores the need for tailored financial literacy programs that address the specific challenges and needs faced by women in retirement planning and financial decision-making.

2.5.3 Financial Attitude and Retirement Planning

Mustafa et al. (2023) state that financial attitudes encompass a person's values and opinions about various personal financial topics, such as whether they think saving money is important. Both positive and negative attitudes affect a person's financial literacy. People will not be interested in learning about financial literacy, for example, if they have bad attitudes regarding saving money for the future (Mustafa et al., 2023). Individual characteristics that take the form of tendencies towards a financial practice or action is known as financial attitudes. It shows the inclination or likelihood of a person to undertake a behavior (IGI Global, 2018b). Attitudes and preferences are considered to be an important element of financial literacy.

Financial attitude can be defined as personal inclination towards financial matters. It is an ability to plan ahead and maintain a savings account that matters (Rai et al., 2019). Financial attitudes along with financial behaviour can also affect financial well-being.

Dewi et al. (2020) concluded that there is a link between financial attitudes and financial literacy among youth and that attitude towards money may frame financial literacy among youth. The aforementioned literature review supports that financial attitude is a necessary determinant to identify financial literacy of individuals, and it also influences the level of financial literacy.

Financial attitude plays a crucial role in retirement planning as it influences how individuals approach saving, investing, and preparing for their future financial security (Kerdvimaluang & Banjongprasert, 2022). A positive financial attitude involves a proactive mindset towards managing finances, setting realistic goals, and making informed decisions. Those with a positive attitude are more likely to engage in retirement planning early, seek professional advice, and adapt to changing financial circumstances effectively. Cultivating a mindset that values long-term financial well-being can significantly impact one's ability to build a secure retirement nest egg.

Several factors can influence an individual's financial attitude, including upbringing, education, personal experiences, and cultural beliefs (Johan et al., 2021). A person's attitude towards money, risk, and saving habits are often shaped by their early exposure to financial concepts and role models. Education and financial literacy also play a significant role in shaping attitudes towards retirement planning. Those with a strong foundation in financial knowledge are more likely to approach retirement planning with confidence and make informed decisions about saving, investing, and managing their assets.

Having a positive financial attitude is essential for successful retirement planning as it fosters discipline, resilience, and a long-term perspective (Effendi et al., 2024). Individuals with a positive attitude are more likely to save consistently, resist impulsive

spending, and stay committed to their retirement goals. This mindset enables them to weather financial challenges, adapt to market fluctuations, and make strategic adjustments to their retirement plan as needed. A positive financial attitude can also lead to a sense of financial security and peace of mind during retirement years.

To cultivate a positive financial attitude for retirement planning, individuals can start by setting clear financial goals, creating a budget, and developing a savings plan (Waga, 2023). Seeking financial education, consulting with a financial advisor, and staying informed about investment options can also help shape a positive attitude towards retirement planning. Embracing a mindset of financial empowerment, resilience, and adaptability can empower individuals to take control of their financial future and build a solid foundation for a secure and fulfilling retirement.

2.5.4 Self-Control and Retirement Planning

Self-control, a fundamental aspect of individual behavior and decision-making, plays a crucial role in retirement planning, as explored by various researchers across disciplines. Adamo and Malizia (2021) highlight the significance of self-control in shaping retirement preparedness and financial well-being. The study by Mpaata et al. (2023) underscored the positive correlation between self-control and retirement savings behavior, noting that individuals with higher levels of self-control are more likely to engage in proactive retirement planning activities, such as consistent saving and adherence to long-term financial goals. Sekścińska et al. (2021) found that individuals with lower self-control tend to exhibit impulsive spending behaviors and inadequate retirement savings, leading to greater financial insecurity in later life.

Building upon psychological theories of self-control, researchers have elucidated the mechanisms through which self-control influences retirement planning decisions. For

instance, Cheserek et al., (2024) applied the dual-process model of self-control to examine how automatic and reflective processes shape retirement savings behavior. Their findings suggest that individuals rely on both impulsive urges and deliberate planning when making financial decisions, highlighting the complex interplay between self-control and cognitive processes in retirement planning (Zenko et al., 2021).

From a behavioral economics perspective, scholars have explored the role of time inconsistency in retirement savings behavior. Aknin and Whillans (2021) conducted experiments demonstrating how individuals' preferences for immediate gratification can undermine long-term savings goals. They argue that time-inconsistent preferences, coupled with limited self-control, contribute to procrastination and suboptimal retirement planning strategies. In response, behavioral economists have proposed interventions, such as commitment devices and default enrollment in retirement savings plans, to help individuals overcome self-control challenges and improve their retirement outcomes.

Sociological research further illuminates the social context in which self-control operates within retirement planning. Caballero and Della Valle (2021) investigated how social norms and peer influence shape retirement saving behavior, finding that individuals' decisions are often influenced by familial expectations and social comparisons. Moreover, cultural attitudes toward aging and retirement can impact individuals' perceptions of self-control and financial planning (Park, 2020). In collectivist societies, such as Japan and South Korea, where intergenerational support networks are prevalent, the role of self-control in retirement planning may be influenced by familial obligations and cultural expectations.

Alshebami and Aldhyani (2022) identified individual differences in self-control as significant predictors of retirement savings behavior. Researchers have found that individuals with higher levels of self-control tend to exhibit greater financial discipline, consistently contributing to retirement accounts and adhering to long-term savings goals. Conversely, those with lower levels of self-control may struggle to resist impulsive spending and prioritize immediate gratification over long-term financial security.

From an economic perspective, time inconsistency and present bias have been identified as barriers to effective retirement planning (Żemojtel-Piotrowska et al., 2020). Individuals may prioritize short-term consumption over long-term savings due to the immediate rewards associated with spending. This temporal inconsistency in preferences, coupled with limited self-control, can lead to suboptimal retirement outcomes and financial insecurity in later life (Meyer et al., 2022).

In response to these challenges, policymakers and practitioners have developed behavioral interventions and policy initiatives aimed at promoting self-control and enhancing retirement planning outcomes (Bai, 2023). Automatic enrollment in retirement savings plans, employer-sponsored financial education programs, and nudges to encourage long-term savings behavior have shown promise in helping individuals overcome self-control challenges and make informed financial decisions for retirement (Francke & Carrete, 2023).

Looking ahead, future research could explore the longitudinal trajectories of self-control and retirement planning behavior over the lifespan. Guo et al. (2023) provide valuable insights into how individual differences in self-control evolve over time and their implications for retirement outcomes. Additionally, cross-cultural comparisons could

elucidate the cultural universality versus specificity of self-control processes in retirement planning across diverse societies, informing the development of culturally sensitive interventions and policies (Kokkoris & Stavrova, 2021).

2.5.5 Self-Control as a Moderator

Self-control moderates the two-way association between personality traits and retirement planning behaviours (Li et al., 2020). Someone high in conscientiousness, which is a trait associated with self-discipline and goal-directed behaviour. Such traits in combination with high self-control, will produce stronger retirement planning behaviours. However, the effects of dispositional traits like impulsiveness and procrastination on retirement preparations could potentially be dampened among those who have a high level of self-control (Piechurska-Kuciel, 2023).

Self-control is a key determinant of retirement planning behaviors, interacting with various psychological factors to shape individuals' financial decision-making processes (Waga et al., 2021). The study by Tambun and Cahyati (2023) has shown that self-control moderates the relationship between personality traits and retirement planning behaviors. For example, individuals high in conscientiousness, characterized by traits such as self-discipline and organization, may exhibit stronger retirement planning behaviors when combined with high levels of self-control.

Moreover, self-control moderates the effects of cognitive biases on retirement planning decisions (Shi & Li, 2023). For instance, individuals prone to present bias, a tendency to prioritize immediate rewards over long-term benefits, may struggle to engage in effective retirement planning without sufficient self-control. However, individuals with higher levels of self-control may be better able to overcome present bias by exerting self-discipline and focusing on long-term financial goals. Thus, self-control acts as a

buffer against cognitive biases that can impede rational decision-making in retirement planning (Abdul Jamal, 2022).

Self-control also moderates the impact of financial incentives and constraints on retirement planning behaviors (Hoffmann & Plotkina, 2020). De Walque (2020) suggests that individuals with higher self-control may be more responsive to financial incentives, such as employer matching contributions or tax benefits for retirement savings. These individuals are more likely to capitalize on such incentives by increasing their contributions to retirement accounts and engaging in proactive retirement planning behaviors (Schmacker & Smed, 2023). Self-control can buffer the adverse effects of financial constraints, such as income volatility or debt burden, on retirement planning. Individuals with higher self-control may demonstrate greater resilience in managing financial challenges and maintaining consistent saving behaviors, even in the face of economic adversity.

Self-control moderates the effectiveness of financial literacy and education programs in promoting retirement planning behaviors (Mallick & Debasish, 2021). While financial education initiatives aim to provide individuals with knowledge and skills to make informed financial decisions, the effectiveness of these programs may vary depending on individuals' levels of self-control (Shefrin, 2021). Individuals with higher self-control may be more receptive to financial education and more likely to apply the knowledge gained to their retirement planning decisions.

Cultural norms and social influences interact with self-control to shape retirement planning decisions (Aditya, 2020). In societies where saving for retirement is culturally valued and socially rewarded, individuals with higher levels of self-control may be more likely to conform to societal expectations and engage in proactive retirement planning

behaviors (Widiyanti et al., 2022). Conversely, in cultures where immediate consumption is prioritized over long-term saving, the moderating effect of self-control on retirement planning may be weaker.

The moderating effect of self-control has important implications for the design of interventions and policies aimed at promoting retirement security (Bukchin & Kerret, 2020). Behavioral interventions that target individuals with low self-control may be more effective in overcoming barriers to retirement planning, such as procrastination and impulsive spending. Moreover, policy initiatives that provide support and incentives for individuals with varying levels of self-control can help mitigate disparities in retirement preparedness and financial well-being (Rottweiler & Gill, 2022).

2.6 Summary of Literature Review and Knowledge Gaps

Table 2.1 Summary of Literature Review and Knowledge Gaps

Author	Topic	Methodology	Findings	Knowledge Gaps
(Muda et al., 2024)	Relationship Among Financial Literacy, Attitude, and Retirement Planning Awareness: A PLS-SEM Approach	Questionnaires were distributed to a total of 171 students from three campuses, namely Kuala Pilah, Seremban, and Rembau, who responded to the questionnaires. Data was further analyzed using PLS-SEM analysis through measurement	financial literacy and attitude have significant and positive effects on retirement planning awareness.	The respondents of the study only comprised a small sample size, thus limiting the generalizability of the findings. The usage of a questionnaire in gathering data limits the information obtained for the analysis. Additionally, the number of contributing factors

		and structural analysis.		influencing retirement planning among university students was limited, and thus might not reflect the overall factors of retirement planning
Hoffmann and Plotkina (2020)	Why and when does financial information affect retirement planning intentions, and which consumers are more likely to act on them?	736 participants were recruited through Qualtrics, which maintains an online panel of Americans, using an experimental research design. Each participant was randomly assigned to one of the experimental conditions, receiving a different type of information message or to the control group.	Consumers' personalities should be considered to understand when and why financial education may or may not be successful	The study lacks information on the demographic characteristics of participants and the potential implications of personality traits on retirement planning intentions beyond the experimental context.
Mpaata et al. (2023)	Does Self-Control Moderate the Relationship between Social Influence and Savings Behavior among Small Business Owners?	The study used cross-sectional data from 395 micro and small business owners in Kampala, Uganda, and a quantitative, positivist research approach. Process macro was used as a	Financial literacy is particularly important for people with weak self-control because it can have a big effect on their saving habits.	There is a gap in understanding how cultural and contextual factors in Uganda may influence the relationship between self-control, social influence, and savings behavior

		statistical tool for analyzing the data gathered using a questionnaire		among small business owners.
Liu et al., 2022)	Multidimensional Retirement Planning Behaviors, Retirement Confidence, and Post-Retirement Health and Well-Being Among Chinese Older Adults in Hong Kong.	A face-to-face questionnaire survey was conducted to collect data from 630 retirees aged 50 years and over.	Retirement planning, both directly and indirectly, influenced physical health, depressive symptoms, and life satisfaction through retirement confidence.	While the study examines the relationship between retirement planning behaviors and post-retirement health and well-being, it does not address potential confounding variables or alternative explanations for the observed associations.
Alshebami and Aldhyani (2022)	The Interplay of Social Influence, Financial Literacy, and Saving Behaviour among Saudi Youth and the Moderating Effect of Self-Control.	The study employed partial least squares structural equation modelling for data analysis and interpretation and had 270 respondents from one applied college affiliated with King Faisal University in Saudi Arabia.	Both parents and peers can positively predict financial literacy, and Self-control was found to dampen the ties between Saudi young people's financial literacy and saving behavior.	The study provides insights into the interplay of social influence, financial literacy, and self-control on saving behavior among Saudi youth, but it lacks generalizability due to the narrow sampling frame of one college.

Tomar et al. (2021)	Psychological determinants of retirement financial planning behavior	Data collection was through self-administered questionnaires along with posted/mailed or emailed surveys. Data analysis was done through partial least squares regression through PLS-3 with Multi Group Analysis to test a set of theory-based hypotheses.	Future time perspective, retirement goal clarity, and social group support positively affect retirement planning behavior.	The study focuses on psychological determinants of retirement financial planning behavior but does not explore potential interactions between these determinants or their relative importance in different demographic groups.
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Source: (Researcher, 2025)

2.7 Conceptual Framework

Based on the summary of literature reviewed and theories this study has adopted the following conceptual framework as shown in Figure 2.1. Conceptual framework provides a link between independent and dependent variables (Brown-Jeffy & Cooper, 2015).

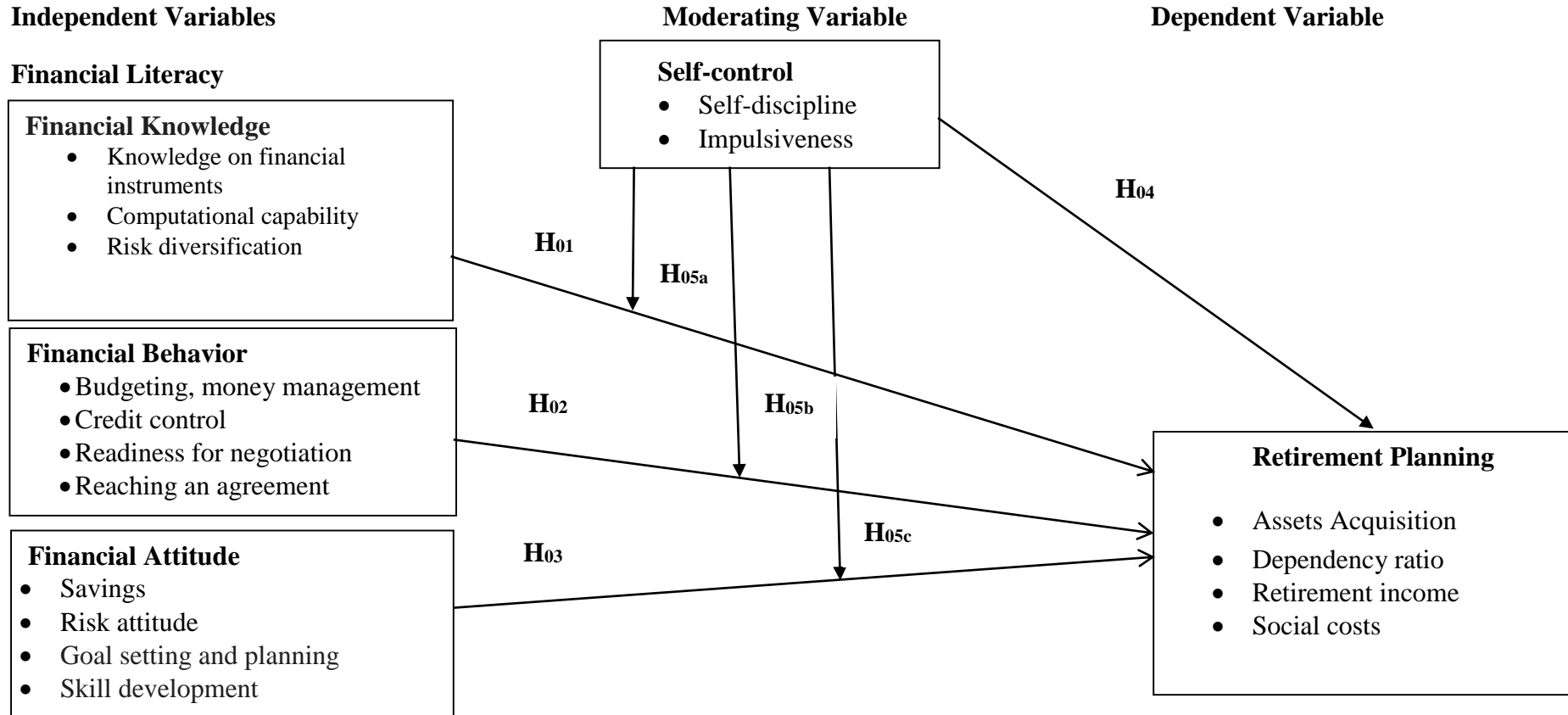


Figure 2.1: Conceptual Framework

Source: Researcher (2025)

CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Overview

This chapter describes the methodology that was used in conducting the study. It includes research design, study area, target population, sample size, sampling techniques, data collection instruments, measurements of variables, validity and reliability of the instruments, data collection procedures, data analysis and presentation, assumptions of the regression model, and ethical considerations.

3.1 Research Design

Research design refers to the overall strategy and approach used to conduct a research study. It encompasses the methods and procedures employed to collect, analyze, and interpret data to answer research questions or test hypotheses (Creswell & Creswell, 2023). There are different types of research designs, such as descriptive research design, experimental research design, correlational research design, diagnostic research design, and explanatory research design. This study utilized an explanatory research design, which is aimed at establishing causal relationships between variables and explaining why certain phenomena occur. An explanatory research design suited this study on the moderating effect of self-control on the relationship between financial literacy and retirement planning among commercial bank employees in Eldoret Town, Kenya, because there was a need to delve deeper into understanding the underlying reasons, causes, and relationships behind retirement planning among commercial bank employees in Eldoret Town. This design is ideal for investigating why and how something occurs in a certain way, especially when there is limited information available, as it helps in establishing cause-and-effect relationships between different

study variables and predicting future occurrences. Explanatory research is a form of investigation employed to understand the causal factors and mechanisms behind a phenomenon (Stutchbury, 2022). Explanatory research serves to enhance comprehension of a specific subject, determine the mechanisms or reasons behind a particular phenomenon, and make predictions about future events (Swedberg, 2020). Explanatory research questions typically begin with the words "why" or "how" and aim to investigate the underlying causes and mechanisms of a previously examined phenomenon. Explanatory research is primarily employed to address problems by identifying and examining previously unexplored data. Explanatory research enhances the precision of the research design and effectively reduces any inadvertent bias (Paparini et al., 2020).

3.2 Study Area

The study was conducted within the commercial banks located in Eldoret City, Uasin Gishu County, Kenya. According to the banking framework as of December 31, 2023, the Kenyan banking sector comprised the Central Bank of Kenya (CBK), as the regulatory authority, and 38 Commercial Banks. Dubai Bank, Chase Bank, and Imperial Bank were placed under statutory management in 2016. Fidelity Commercial Bank was acquired by the SBM Group, while Mayfair, DIB Bank were given a new license to operate as commercial banks in Kenya in 2017. NIC and CBA merged to form NCBA at the end of 2018. NBK was acquired by KCB in 2019, while Co-operative Bank acquired the struggling Jamii Bora Bank in 2020 and renamed it Kingdom Bank. In January 2023, Equity Bank Group acquired the Spire Bank. The commercial banks are grouped into tiers as per the weighting by the Central Bank of Kenya. The tiering is based on a weighted composite index comprising assets, deposits, capital, number of

deposit accounts, and loan accounts. According to the annual banking report 2023 by the Central Bank of Kenya, this is how commercial banks are grouped:

Table 3.1 Commercial Banks in Kenya

Tier I >Ksh 150B	Tier II Ksh 50B>Ksh 150B	Tier III Ksh 15B>Ksh 50B	Tier IV <Ksh 15B
Kenya Commercial Bank	National Bank of Kenya	Guaranty Trust Bank of Kenya	Mayfair Bank
Co-operative Bank of Kenya	Citibank	ABC Bank	Kingdom Bank
Equity Bank	SBM Bank	Gulf African Bank	Paramount Bank
ABSA Bank	Bank of Baroda	Victoria Commercial Bank	Access Bank
Standard Chartered Bank	Family Bank	Development Bank of Kenya	Consolidated Bank
NCBA Bank	Housing Finance	Sidian Bank	M Oriental Bank Limited
Stanbic Bank	Prime Bank	Premier Bank	Middle East Bank
Diamond Trust Bank	Ecobank	Guardian Bank	UBA Kenya Ltd
I&M Bank	Bank of India	Habib A.G. Zurich	Dubai Islamic Bank Kenya
Post Bank		Bank of Africa Credit Bank	

Source: Central Bank of Kenya (2023)

Of these commercial banks, 32 have branches located in Eldoret City, making it a strategic location for studying employee financial behavior and retirement planning practices. The town's economic vibrancy, increasing financial literacy campaigns, and diverse workforce provide a relevant and accessible population for examining the relationship between financial literacy, self-control, and retirement planning.

Table 3.2 Commercial banks located in Eldoret town

Tier I >Ksh 150B	Tier II Ksh 50B>Ksh 150B	Tier III Ksh 15B>Ksh 50B	Tier IV <Ksh 15B
Kenya Commercial Bank	National Bank of Kenya	Guaranty Trust Bank of Kenya	Mayfair Bank
Co-operative Bank of Kenya	SBM Bank	ABC Bank	Kingdom Bank
Equity Bank	Bank of Baroda	Gulf African Bank	Paramount Bank
ABSA Bank	Family Bank	Sidian Bank	Access Bank
Standard Chartered Bank	Housing Finance	Guardian Bank	Consolidated Bank
NCBA Bank	Prime Bank	Bank of Africa	M Oriental Bank Limited
Stanbic Bank	Ecobank	Credit Bank	Middle East Bank
Diamond Trust Bank	Bank of India		
I&M Bank			
Post Bank			

Source: Survey Data (2025)

3.3 Target Population

The target population is the entire set of units for which the survey data is to be used to make inferences (Lohr, 2021). It can also be defined as the eligible population that is included in research work. Commercial Banks have two major divisions in their branches that include: Operations and Retail. Under these are where departments are found. Operations have: Back office (Administration, Accounts and Finance, Cash) and currency centres. Retail division has the following departments: MSMEs, personal banking, loans, relationship management, bancassurance, agency banking, internet banking, mobile banking, and debt recovery. The majority of a branch's duties are in the Retail division, meaning that most of its workforce dwells there. The target

population was: 10 banks in tier I, 8 in tier II, 7 in tier III, and 7 in tier IV. The target population is presented in Table 3.3.

Table 3.3 Target Population

Tier I	N	Tier II	N	Tier III	N	Tier IV	N
Kenya Commercial Bank	165	National Bank of Kenya	27	Guaranty Trust Bank of Kenya	10	Mayfair Bank	11
Co-operative Bank of Kenya	160	SBM Bank	15	ABC Bank	12	Kingdom Bank	13
Equity Bank	125	Bank of Baroda	22	Gulf African Bank	9	Paramount Bank	10
ABSA Bank	70	Family Bank	24	Sidian Bank	9	Access Bank	14
Standard Chartered Bank	64	Housing Finance	15	Guardian Bank	10	Consolidated Bank	11
NCBA Bank	55	Prime Bank	15	Bank of Africa	8	M Oriental Bank Limited	11
Stanbic Bank	43	Ecobank	13	Credit Bank	7	Middle East Bank	10
Diamond Trust Bank	35	Bank of India	15				
I&M Bank	30						
Post Bank	20						
Total	767		146		65		80

Source: Survey Data (2025), **Note:** N= Number of Employees

3.4 Sample Size

A sample is any number of cases less than the total number of cases in the population from which a sample is drawn (Zhao et al., 2020). The sample size of commercial bank employees was calculated based on Yamane's (1967) formula:

$$n = N / (1 + Ne^2) \dots\dots\dots \text{Equation 3.1}$$

Where:

n=the sample size

N= the size of the population

e= the error of 5 percentage points.

Thus, for the study.

$$n=1058 / (1 + (1058 \times 0.05^2)) = 290 \dots\dots\dots \text{Equation 3.2}$$

Therefore, the sample size was distributed using proportionate sampling in Table 3.4:

Table 3.4 Sample Size

Tier I	n	Tier II	n	Tier III	n	Tier IV	n
Kenya Commercial Bank	45	National Bank of Kenya	7	Guaranty Trust Bank of Kenya	3	Mayfair Bank	3
Co-operative Bank of Kenya	44	SBM Bank	4	ABC Bank	3	Kingdom Bank	3
Equity Bank	34	Bank of Baroda	6	Gulf African Bank	2	Paramount Bank	3
ABSA Bank	19	Family Bank	7	Sidian Bank	2	Access Bank	4
Standard Chartered Bank	18	Housing Finance	4	Guardian Bank	3	Consolidated Bank	3
NCBA Bank	15	Prime Bank	4	Bank of Africa	2	M Oriental Bank Ltd	3
Stanbic Bank	12	Ecobank	4	Credit Bank	2	Middle East Bank	2
Diamond Trust Bank	10	Bank of India	4				
I&M Bank	8						
Post Bank	5						
Total	210		40		18		22

Source: Survey Data (2025), Note: **n** = sample size

For every Commercial Bank that has more than one branch in Eldoret town, proportionate sampling was used to allocate respondents to the respective branches.

3.5 Sampling Technique

Sampling is the process of systematically selecting population-representative elements.

It refers to a procedure of selecting a part of the population on which research can be

conducted, which ensures that conclusions from the study can be generalized to the entire population (Pandey & Pandey, 2021).

For the researcher to sample the respondents, systematic sampling was used. This technique refers to a method where one selects every n^{th} (i.e., 10^{th}) subject in the population to be in the sample (Wang & Cheng, 2020). The researcher requested for a list of employees or the payroll data to ascertain the n^{th} employee in the sample by dividing the sample size and the study population. For this case, the $n^{\text{th}} = 290/1058 = 3.6$, approximated to 4, implying that the first respondent can be picked between 1 and 4, then the questionnaire given to the next respondent at an interval of every 4th respondent on the list. Systematic sampling differs from Stratified Sampling not only because it is easier to carry out (Sharma, 2017), but also due to the even spread of the members chosen, as the interval gap is used in selecting the participants after a random start, where a sample list is not a mandatory requirement (Taherdoost, 2016).

3.6 Data Collection Instruments

The study collected data using questionnaires. Mugenda and Mugenda (2003) define a questionnaire as a form containing a set of questions, especially one addressed to a statistically significant number of subjects, as a way of gathering information for a survey.

The structured (closed-ended) questionnaires were used to get uniform responses from all commercial bank employees from both the operations and retail departments. The closed questionnaire is formulated in the form of a 5-point Likert scale, where strongly agree (SA) was assigned a value of 5, being the highest on the scale, while strongly disagree (SD) was the smallest at 1. The advantage of using this type of instrument is the ease with which it affords the researcher during the analysis. Moreover,

questionnaires are easy to administer and economical to use in terms of time and money. The closed-ended questions also provided a greater uniformity and were easily processed (Aityan, 2022).

3.7 Measurement of Variables

Research instruments were developed using measures from previous studies. In the financial knowledge category, the questionnaire used questions to check financial knowledge about division, time value of money, interest, interest + principle, compound interest, inflation, and diversification. In the category of financial behavior, the questionnaire included questions to get an idea about financial behavior, such as considering purchases, timely bill payment, financial affairs, and long-term financial goals. Attitudes are considered another important part of financial literacy. If a person has rather negative attitudes towards savings and if people have only short-term financial goals, they haven't positive financial attitudes. Then construct the index for whole financial literacy by using the weighted average method. Weight for each component is defined according to the component score coefficient matrix, a result of confirmatory factor analysis.

Respondents were asked about the extent to which they agreed/disagreed with a series of statements concerning their perceptions regarding the variables on a 5-point Likert scale ranging from (5) strongly agree to (1) strongly disagree, with each variable consisting of five items as shown in Table 3.5.

Table 3.5 Measurement of Variables

Type	Variables	No. Items	Source
Dependent variable	Retirement Planning	8	Liu et al. (2022)
Independent variable	Financial Knowledge	8	Agunga <i>et al.</i> (2017).
Independent variable	Financial Behaviour	8	Namate, A. H. (2020)
Independent variable	Financial Attitude	8	Namate, A. H. (2020)
Moderator	Self-Control	8	Mpaata et al. (2023), Alshebami & Aldhyani (2022)

Source: Researcher (2025)

3.7.1: Covariates

Three variables were controlled in this study: gender, age, and education. Therefore, variables that influence retirement planning were controlled during the data analysis to get the net effect of financial literacy and self-control on the retirement planning of commercial bank employees. These variables were used in the previous studies, and it was found that gender, age, and education had a significant influence on retirement planning (García Mata, 2021).

3.8 Pilot Study

A pilot study was conducted in Iten town, Elgeyo Marakwet County. A pilot study is a small-scale study that is conducted to test the feasibility of a larger study (Fraser *et al.*, 2018). It was used to determine the best way to collect data, the most effective methods of data analysis, and the potential challenges that may be encountered in the larger study. A pilot study was used to detect weakness in the design of the research instruments and to provide small-scale data for the selection of a probability sample. A

pilot study was carried out with 29 respondents representing 10 percent of the sample size (Aithal & Aithal, 2020). The pilot study was carried out in Iten town, Elgeyo Marakwet County, because they have similar characteristics to Uasin Gishu County, since both counties are located in the Rift Valley region of Kenya.

3.8.1 Reliability of the Research Instruments

Reliability is the ability of research instruments to generate the same/consistent results when used (Damayanti, 2023). Reliability test was ensured through piloting of research instruments before the final study. Piloted data were used to test for internal consistency reliability using Cronbach's alpha. It was used in this study because of the five-point Likert scale questions in the questionnaire to determine if the scale is reliable. This enabled the researcher to predict an appropriate sample size, budget, and improve the study design based on pilot study results. The pilot study outcome revealed that the instrument used was reliable and valid, since all the variables met the coefficient that varies from 0 to 1, as shown in Table 3.6. Cronbach's alpha method was used to test the consistency of the questionnaires based on feedback to ensure that the questionnaires were relevant in collecting desired information. The study further revealed that the overall Cronbach's alpha of 0.840 for the 40 items was within an acceptable range.

Table 3.6 Reliability Test Results

Name of variable	Number of Items	Score
Retirement planning	8	0.822
Financial knowledge	8	0.935
Financial behavior	8	0.893
Financial attitude	8	0.762
Self-control	8	0.790
Composite Reliability score	40	0.840

Source: Research Data (2025)

3.8.2 Validity of the Research Instruments

Validity is the degree to which a test measures what it is supposed to measure. All assessment of validity was subjected to opinions based on the judgment of researchers and experts according to Almanasreh et al., 2020). The study tested content validity, construct validity, face validity, and criterion validity. Content validity refers to the extent to which a test measures the intended content (Sürücü & Maslakci, 2020). It was assessed by having supervisors and experts in the field review the test items to make sure they are relevant and representative of the content that is being measured. The researcher revised and improved according to the supervisors' and faculty members' advice and questions.

Construct validity refers to the extent to which a test measures a theoretical construct (Revelle & Garner, 2022). Construct validity was assessed by using factor analysis. Factor analysis can help researchers identify the underlying dimensions or constructs in an instrument (Shrestha, 2021). This is important because it allows researchers to determine whether the instrument is measuring what it is intended to measure. Factor analysis can help researchers confirm the relationships between survey items (Shrestha, 2021). This is important because it allows researchers to determine whether the items are related to each other in the way that they are supposed to be.

Face validity refers to how well a test appears to measure what it is intended to measure on the surface. Face validity is a subjective measure that evaluates whether a test seems relevant and appropriate for what it is assessing at first glance. To evaluate face validity, individuals are asked to review the test and judge its relevance, appropriateness, and suitability for measuring the variable of interest.

Criterion validity assesses how well a test can predict a concrete outcome or how closely its results align with those of another established test. Criterion validity is typically evaluated by calculating the correlation between the results of the test and those of the criterion variable. If there is a high correlation, it indicates that the test is measuring what it intends to measure or can predict outcomes effectively.

3.9 Data Collection Procedure

The researcher collected an introductory letter from the University and a research license from the National Commission for Science, Technology & Innovation (NACOSTI). The researcher then booked an appointment with the administration department among Commercial Bank Employees in Eldoret Town. On the set date, questionnaires were administered directly to the respondent using the drop-and-pick method, and a follow-up was conducted by the researcher to ensure the questionnaires were filled out as per the research. The respondents were given enough time to complete the copies of the questionnaire before picking them for analysis. The researcher explained the purpose of the research to the respondents. This assured the respondents of the confidentiality of any information given. A research assistant was employed to assist in data collection.

3.10 Data Processing, Analysis, and Presentation

3.10.1 Data Processing

After all data had been collected, the researcher conducted data cleaning, which involved the identification of incomplete or inaccurate responses and correcting them to improve the quality of the responses. The data were coded and entered into the computer for analysis using the Statistical Package for Social Sciences (SPSS Version 25). The research yielded quantitative data (Taguchi, 2018).

3.10.2 Data Analysis and Presentation

Data was collected using the questionnaires for all the objectives was analyzed using descriptive statistics that is frequency, percentages, mean, and standard deviation. Descriptive analysis was used to analyse demographic data and descriptive variables. Descriptive analysis allows the researcher to summarize data in a way that is easy to understand and interpret (Hennink & Kaiser, 2022). This can help identify patterns and trends in the data, as well as identify any potential outliers or errors.

Inferential analysis was carried out through correlation and regression analysis to test the direct and moderating effects of the study variables. The study conducted a correlation analysis to establish the strength of the relationship between the independent and the dependent variables for all the study objectives (Senthilnathan, 2019). This was carried out to know if there exists a correlation between the independent variables and the dependent variable, as well as the moderating variable. The main purpose of conducting a correlation analysis is to measure the strength of the association between two variables (Seeram, 2019).

3.10.3 Model Specification

To test for moderating effects, the researcher utilized hierarchical regression. A hierarchical model is a statistical technique that is used to test for the moderating effect of a variable on the relationship between two other variables (Wang et al., 2019). Under a Hierarchical model, the conditions for moderation are that the independent variable (X) should be continuous, meaning it can take any value within a certain range. The moderator variable (M) should be categorical, meaning it can only take on a specific set of discrete values. The interaction term between the independent variable (X) and the moderator (M) should be included in the model. This interaction term represents the

moderating effect of the moderator on the relationship between the independent variable and the dependent variable (Hayes, 2012). In hierarchical regression, the moderating variable is entered into the model after the independent (financial knowledge, financial behaviour, and financial attitude) and dependent variables (retirement planning). This allows the researcher to test whether the moderating variable (self-control) has a significant effect on the relationship between (financial knowledge, financial behaviour, and financial attitude) and dependent variables (retirement planning), after controlling for the effects of the covariates.

The models are as follows;

Hierarchical Multiple Regression Analysis (HMRA) Equation

Model 1: $Y = \beta_0 + \beta_1 \text{Gender} + \beta_2 \text{Age} + \beta_3 \text{Education} + \varepsilon \dots R^2$

Model 1 was used to evaluate how much variance is explained by covariates in retirement planning.

Model 2: $Y = \beta_0 + C + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon \dots R^2$

In Model 2, the independent variables will be added to the first model to examine how much variance is explained by the independent variable while holding covariates constant, on retirement planning.

Model 3: $Y = \beta_0 + C + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 Z + \varepsilon \dots \Delta R^2$

In Model 3, the model tests the variance accounted for by the moderator in the dependent variable while holding predictor variables and covariates constant, on retirement planning.

Model 4: $Y = \beta_0 + C + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 Z + \beta_5 Z * X_1 + \varepsilon \dots \Delta R^2$

This model tests the effect of the independent variable (financial knowledge) on the moderator (self-control) while controlling for covariates, direct effects of the moderator,

and other predictor variables (financial behavior and financial attitude) on retirement planning.

$$\text{Model 5: } Y = \beta_0 + C + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 Z + \beta_5 Z * X_1 + \beta_6 Z * X_2 + \varepsilon \dots \Delta R^2$$

Model 5 tests the effect of the independent variable (financial behavior) on the moderator (self-control) while controlling for covariates, direct effects of the moderator, as well as other predictor variables (financial knowledge and financial attitude) on retirement planning.

$$\text{Model 6: } Y = \beta_0 + C + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 Z + \beta_5 Z * X_1 + \beta_6 Z * X_2 + \beta_7 Z * X_3 + \varepsilon \dots \Delta R^2$$

Model 6 tests the effect of the independent variable (financial attitude) on the moderator (self-control) while controlling for covariates, direct effects of the moderator as well as other predictor variables (financial knowledge, financial behavior) on retirement planning.

Where:

Y = Retirement planning among Commercial banks employees;

β_0 = intercept or constant term;

C = Covariates (β_1 Gender, β_2 Age, β_3 Education)

From β_1 to β_7 , represents the regression model's coefficients.

x_1 = Financial Knowledge

x_2 = Financial Behaviour

x_3 = Financial Attitude

ε = error term in the model.

Z = Moderator (Self-control)

3.11 Diagnostic Tests

The multiple regressions are parametric statistics used since the data adhere to the following assumptions or parameters (Hu & Plonsky, 2021). The assumptions of multiple regressions that are identified as primary concerns in the research include:

3.11.1 Normality test

A normality test is a statistical test that assesses whether a data sample has a normal distribution (Knief & Forstmeier, 2021). A normal distribution is a bell-shaped curve that is symmetrical around the mean, with the majority of the data points falling within one standard deviation of the mean (Mahbobi & Tiemann, 2020). The Shapiro-Wilk test was used to test normality. The threshold is that the p-value should be above 0.05.

3.11.2 Linearity Assumption

The linearity assumption in linear regression states that the relationship between the independent and dependent variables is linear (Osborne & Waters, 2019). This means that the dependent variable can be predicted perfectly by the independent variable, and the residuals (the difference between the observed and predicted values) should be randomly distributed around zero. Correlation was used to test linearity assumptions. The threshold is that the correlation value should be non-zero.

3.11.3 Homoscedasticity Assumption

The assumption of homoscedasticity refers to equal variance of errors across all levels of the independent variables (Osborne & Waters, 2019). The homoscedasticity assumption in linear regression states that the residuals (the difference between the observed and predicted values) have constant variance. To test the homoscedasticity assumption Levene was used (Astivia & Zumbo, 2019). The null hypothesis of Levene's test is that the variances of the residuals are equal. A p-value less than 0.05 indicates

that the null hypothesis should be rejected, which means that there is evidence of heteroscedasticity.

3.11.4 Multicollinearity Assumption

Another assumption is multicollinearity which refers to the assumption that the independent variables are uncorrelated (Gwelo, 2019). Multicollinearity is a condition in which two or more independent variables in a regression model are highly correlated with each other. This can cause problems with the model. There are a few ways to test for multicollinearity. One way is to look at the correlation matrix of the independent variables. If any of the correlation coefficients are close to 1, then there is a problem with multicollinearity. Another way to test for multicollinearity is to use a statistical test, such as the variance inflation factor (VIF). The VIF for a variable is a measure of how much the variance of the regression coefficient for that variable is inflated due to multicollinearity. The rule of thumb is that a value less than 10 shows that there is no multicollinearity and the vice versa is also true.

3.12 Ethical Considerations

Research ethics was adhered to throughout the entire period of the study. Data collection is a sensitive issue as it borders on invading people's private lives. Ethical consideration is therefore of paramount importance in research (Abrar & Sidik, 2019). The researcher sought permission letter from the University, the National Commission for Science, Technology and Innovation (NACOSTI) license, and the Commercial Bank authority. It is important to protect the privacy and confidentiality of all participants in the study. This means that all data collected was kept confidential and shared with anyone outside of the research team without the participant's consent. All participants in the study should be given informed consent before they participate. This means that they should

be told about the purpose of the study, the procedures involved, and the risks and benefits of participating. They should also be allowed to ask questions and to refuse to participate without any penalty.

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION AND INTERPRETATION

4.0 Overview

This chapter presents the data analysis, presentation, and interpretation of findings on the moderating effect of self-control on the relationship between financial literacy and retirement planning among commercial bank employees in Eldoret Town, Kenya. The chapter describes the data analysis methods applied to achieve the study objectives. Both descriptive and inferential statistics were used to analyze the data. This chapter also presents the findings as follows: demographic characteristics of the respondents, descriptive statistics analysis of independent and dependent variables, and inferential statistics analysis.

4.1 Response Rate

The study recorded a strong response rate based on the number of questionnaires administered and returned. Table 4.1 below shows that the total rate of response was 86.9%. According to Holtom et al. (2022), a questionnaire return rate of above 75% is appropriate and is therefore suitable to enable generalization of the results to the target population.

Table 4.1: Response Rate

	Number	Percentages
Responded	252	86.9
Not responded	38	13.1
Administered questionnaires	290	100.0

Source: Research Data (2024)

4.2 Data Screening and Cleaning

Data screening and cleaning are critical procedures for detecting and rectifying errors that may have arisen during data entry (Wang et al., 2020). These measures guarantee that the data utilized in subsequent statistical analyses are devoid of errors and capable of yielding precise inferences. Data screening and cleaning specifically entail the assessment of missing values. After all data had been collected, the researcher conducted data cleaning, which involved the identification of incomplete or inaccurate responses and correcting them to improve the quality of the responses. The data were coded and entered into the computer for analysis using the Statistical Package for Social Sciences (SPSS Version 25).

4.3 Demographic Characteristics

The study sought to determine the demographic characteristics of the respondents who participated in the study, which included gender, age bracket, highest academic qualification, and the period the respondents have been working in the bank. This was important in explaining the variations in respondents' views towards the measurements of the study variables as summarized in Table 4.2.

Table 4.2 Demographic Characteristics of Respondents

Characteristics of the respondents	Category	Frequency	Percent
Gender	Male	129	51.2
	Female	123	48.8
	Total	252	100.0
Age group	Below 20	0	0
	20-29	99	39.3
	30-39	111	44.0
	40-49	39	15.5
	Above 50	3	1.2
	Total	252	100.0
Education	Diploma	63	25.0
	Undergraduate	174	69.0
	Masters	15	6.0
	Total	252	100.0
Years worked in the bank	Below 5 years	132	52.4
	6-10 years	66	26.2
	11-25 years	39	15.5
	Above 16 years	15	6.0
	Total	252	100.0

Source: Research Data (2025)

The study findings in Table 4.2 showed that 129(51.2%) of the respondents were male, with female being 123(48.8%) of the sample. The results show that both men and women were almost the same number. This means that the study was gender balanced as opinions were collected from an almost equal number of respondents from the two groups of genders.

Concerning the age of the employees, 99(39.3%) of the respondents were in the age bracket of 20 and 29 years, with 111(44%) between 30 and 39 years, while 39(15.5%)

were aged between 40 and 49 years age bracket, and 3(1.2%) were aged over 55 years. The majority of employees (83.3%) are aged 30 and above, suggesting a workforce that is relatively experienced and likely to possess a higher level of professional skills and knowledge. This enhances productivity and decision-making within the bank. With a significant portion of employees in their 30s, there may be opportunities for targeted training programs that cater to career advancement and leadership development. This age group is often looking for growth opportunities, which can be beneficial for employee retention. The smaller percentage of older employees (15.5% aged 40-49 and only 1.2% over 55) suggests potential challenges in succession planning. As the workforce ages, banks may face a gap in experience if younger employees do not fill leadership roles effectively. A younger workforce may contribute to a more dynamic and innovative workplace culture, while also presenting challenges in terms of generational differences in work styles and expectations.

Regarding the highest level of education of the employees, the findings showed that 63(25%) of the respondents were diploma holders, 174(69%) were degree holders, and the least 15(6%) were master's holders. This implies that with 69% of employees holding degrees, it suggests a workforce that is generally well-educated and potentially equipped with the necessary skills and knowledge for their roles. This could enhance the bank's ability to deliver quality services and adapt to changes in the financial sector. With only 6% of employees holding master's degrees, there may be an opportunity for the bank to invest in further education and professional development. This could help prepare employees for leadership roles and advanced positions within the organization.

Also, the findings showed that 132(52.4%) of the respondents had worked in the bank for less than 5 years, 66(26.2%) had worked between 6-10 years, 39(15.5%) had worked

between 11-25 years, and 15(6%) had worked for 16 years and above. The study findings imply that 52.4% of respondents have worked for less than 5 years, suggesting a relatively young workforce in terms of tenure. This demographic may be more open to change and innovation, but they might also require more support and development opportunities to enhance their engagement and performance.

The presence of employees with longer tenures (15% with 11-25 years and 6% over 16 years) highlights the need for retention strategies that cater to different stages of an employee's career. Organizations may need to implement flexible work arrangements and employee assistance programs, as suggested by studies on work-life balance, to keep long-term employees satisfied and engaged.

The varying lengths of employment suggest different training needs across the workforce. Employees with less experience may benefit from foundational training, while those with more tenure might require advanced skills training or leadership development programs to prepare them for higher responsibilities.

4.4 Descriptive Statistics

Descriptive statistics were used to give a meaningful description of the quantitative data collected from the questionnaires. Responses were elicited on a 5-point Likert scale of 1-5, where: 1–strongly disagree; 2–disagree; 3-neutral; 4-agree; 5-strongly agree.

4.4.1 Descriptive Statistics for Retirement Planning

The study sought to determine the opinion on items measuring retirement planning among commercial bank employees in Eldoret Town, Kenya. A total of 8 statements were used to establish the respondents' views on retirement planning, and their responses were elicited on a 5-point Likert scale, shown in Table 4.3. On the statement that the employees have a clear understanding of expected retirement income, the

majority of the respondents, 108(42.9%), strongly agreed, and 77(30.6%) agreed, with 38(15.1%) undecided and 21(8.3%) disagreed, with 8(3.2%) strongly disagreed.

Furthermore, the mean score of 4.02 indicates that, on average, respondents agreed with the statement, suggesting that most commercial bank employees felt confident in their understanding of their expected retirement income. The standard deviation of 1.097 implies a moderate spread in the responses. This finding aligns with the study by Amka (2020), which found that having a clear understanding of expected retirement income is critical for effective retirement planning and achieving financial security in later life.

Also, the majority of the respondents, 108(42.9%), strongly agreed, and 75(29.8%) agreed, 45(17.9%) were undecided, and 18(7.1%) disagreed, with 6(2.4%) strongly disagreed on the statement that they actively contribute to retirement savings plans. Furthermore, the mean score of 4.04 suggests that, on average, respondents agreed with the statement, indicating that most commercial bank employees actively participate in saving for retirement. The standard deviation of 1.054 reflects a moderate level of variability in responses.

On the statement that bank employees have a separate investment plan for retirement beyond the employer plan, the majority, 87(34.5%), agreed, and 66(26.2%) strongly agreed, with 45(17.9%) undecided, 30(11.9%) disagreed, and 24(9.5%) strongly disagreed. Furthermore, the mean score of 3.56 indicates that, on average, respondents leaned toward agreement, suggesting a general tendency among employees. However, the relatively high standard deviation of 1.259 points to considerable variation in responses. This finding is consistent with the research by Rappaport (2019), which found that having a separate investment plan for retirement, in addition to employer-sponsored plans, enhances individuals' financial security in retirement.

The majority of the respondents, 87(34.5%), agreed and 75(29.8%) strongly agreed, that they feel confident that their current financial situation will allow for a comfortable retirement, 57(22.6%) were undecided, with 21(8.3%) disagreed, with 12(4.8%) strongly disagreed. Notably, the mean score of 3.76 indicates a general positive sentiment among the respondents, suggesting that most employees are moderately confident in their financial preparedness for retirement. The standard deviation of 1.111 shows a moderate level of dispersion, implying that although many respondents expressed confidence, there were still varying opinions across the sample.

On the statement that bank employees regularly consult with a financial advisor about retirement planning, most of the respondents 84(33.3%) agreed, and 70(27.8%) strongly agreed, with 50(19.8%) undecided and 29(11.5%) disagreed, with 19(7.5%) strongly disagreed. This suggests a general tendency toward agreement, as reflected by the mean score of 3.62; however, the standard deviation of 1.216 implies a fair level of variability in responses, highlighting that while a significant number of employees engage financial advisors, others either do not or are unsure about doing so.

Further on the statement that bank employees believe their employer provides adequate resources and education on retirement planning, the majority, 102(40.5%), strongly agreed and 72(28.6%) agreed, with 54(21.4%) being undecided, 12(4.8%) disagreed, as well as strongly disagreed. The mean score of 3.95 indicates a generally positive perception among the respondents regarding the support provided by employers in retirement planning. The standard deviation of 1.114 suggests a moderate spread in responses, showing that while a significant number feel well-supported, some level of uncertainty or disagreement still exists.

Additionally, a majority of the respondents, 99 (39.3%), strongly agreed and 90 (35.7%) agreed that they are comfortable discussing their retirement plans with family. Meanwhile, 42 (16.7%) were undecided, 9 (3.6%) disagreed, and 12 (4.8%) strongly disagreed. The mean score of 4.01 suggests that, on average, respondents are comfortable engaging in retirement planning conversations with family members. The standard deviation of 1.066 reflects a moderate level of variation in responses, indicating that while most feel at ease, a few respondents may still experience discomfort or uncertainty in such discussions.

On the statement that they anticipate needing to delay their retirement due to financial reasons, most of the respondents, 86(34.1%), strongly agreed, and 60(23.8%) agreed, with 43(17.1%) undecided, and 38(15.1%) disagreed, with 25(9.9%) strongly disagreed. The mean score of 3.57 suggests a moderate inclination toward financial-related retirement delays among respondents. The relatively high standard deviation of 1.353 indicates a wide variation in opinions.

From the findings of the study, the 8 statements used to explain retirement planning had an overall mean of 3.82, indicating that respondents generally agreed with the statements related to retirement planning, showing a positive attitude and engagement toward preparing for retirement. The standard deviation of 1.159 reflects moderate to high variability, suggesting that while most agreed, there was a wider range of opinions among the respondents.

Table 4.3 Descriptive Statistics for Retirement Planning

Retirement Planning		SA	A	N	D	SD	Mean	Sd
1. I have a clear understanding of my expected retirement income.	F	108	77	38	21	8	4.02	1.097
	%	42.9	30.6	15.1	8.3	3.2		
2. I actively contribute to my retirement savings plan.	F	108	75	45	18	6	4.04	1.054
	%	42.9	29.8	17.9	7.1	2.4		
3. I have a separate investment plan for retirement beyond my employer plan.	F	66	87	45	30	24	3.56	1.259
	%	26.2	34.5	17.9	11.9	9.5		
4. I feel confident that my current financial situation will allow for a comfortable retirement.	F	75	87	57	21	12	3.76	1.111
	%	29.8	34.5	22.6	8.3	4.8		
5. I regularly consult with a financial advisor about my retirement planning.	F	70	84	50	29	19	3.62	1.216
	%	27.8	33.3	19.8	11.5	7.5		
6. I believe my employer provides adequate resources and education on retirement planning.	F	102	72	54	12	12	3.95	1.114
	%	40.5	28.6	21.4	4.8	4.8		
7. I am comfortable discussing my retirement plans with my family.	F	99	90	42	9	12	4.01	1.066
	%	39.3	35.7	16.7	3.6	4.8		
8. I anticipate needing to delay my retirement due to financial reasons.	F	86	60	43	38	25	3.57	1.353
	%	34.1	23.8	17.1	15.1	9.9		
Mean							3.82	1.159

Source: Research Data (2025)

4.4.2 Descriptive Statistics on Financial Knowledge

The study sought to establish opinion on items measuring financial knowledge on retirement planning among commercial bank employees in Eldoret Town, Kenya. A total of 8 statements were used to establish the respondent's views on financial knowledge and their responses elicited on a 5-point Likert scale, as shown in Table 4.4. On the statement that the employees are confident in their ability to identify different types of retirement accounts, majority of the respondents 109(43.3%) strongly agreed and 81(32.1%) agreed with 27(10.7%) undecided and 21(8.3%) disagreed as well as 14(5.6%) strongly disagreed. The mean score of 3.99 demonstrates that, on average, respondents leaned toward agreement, suggesting a generally positive perception of their knowledge in this area. The standard deviation of 1.174 reflects a moderate spread in responses, showing some variability in individual levels of confidence.

However, they also noted that some individuals still lacked confidence, emphasizing the importance of continued financial education. Majority of the respondents 92(36.5%) strongly agreed and 92(36.5%) agreed, 42(16.7%) undecided and 21(8.3%) disagreed with 5(2.0%) strongly disagreed that they understand the basic concepts of risk and return when it comes to retirement investments. The mean score of 3.97 suggests that, on average, participants tended to agree with the statement. The standard deviation of 1.023 indicates that most responses were clustered closely around the mean, implying relatively consistent levels of understanding among respondents.

On the statement that bank employees feel comfortable calculating how much money they will need to save for a comfortable retirement, majority 107(42.5%) agreed and 74(29.4%) strongly agreed, with 39(15.5%) were undecided, 18(7.1%) disagreed and 14(5.6%) strongly disagreed. The mean score of 3.83 suggests that most respondents

generally agreed with the statement, indicating a moderate to high level of confidence in their ability to estimate retirement savings needs. The standard deviation of 1.100 reflects a moderate variability in responses. This finding is consistent with the study conducted by Yeh and Ling (2022), who argued that financial literacy, including retirement planning skills, plays a significant role in the confidence of individuals when planning for their future.

Also, majority of the respondents 89((35.3%) agreed and 66(26.2%) strongly agreed, that they are knowledgeable about the tax implications of different retirement savings options, 51(20.2%) were undecided with 34(13.5%) disagreed and 12(4.8%) strongly disagreed. Furthermore, the mean score of $M = 3.65$ suggests a generally favorable level of knowledge, while the standard deviation of $SD = 1.146$ indicates a moderate spread of opinions among respondents.

On the statement that bank employees are familiar with the fees associated with various retirement investment products., majority of the respondents 80(31.7%) strongly agreed and 64(25.4%) agreed, with 60(23.8%) undecided and 34(13.5%) disagreed and 14(5.6%) strongly disagreed. The mean score of 3.64 indicates that, on average, respondents leaned towards agreement with the statement. The standard deviation of 01.214 suggests moderate variability in responses, meaning that while many agreed, there were differing opinions among the respondents.

Further on the statement that bank employees actively seek out information and resources to learn more about retirement planning, majority 96(38.1%) agreed and 56(34.1%) strongly agreed, with 57(22.6%) were undecided, 7(2.8%) disagreed and 6(2.4%) strongly disagreed. The mean score of 3.99 suggests that respondents generally

agreed with the statement and the standard deviation of 0.947 indicates relatively low variability, showing that most responses were close to the average and in agreement.

Majority of the respondents 110(43.7%) strongly agreed and 73(29%) agreed, that their financial knowledge makes them feel confident about making informed decisions regarding their retirement savings, 28(11.1%) were undecided with 30(11.9%) disagreed and 11(4.4%) strongly disagreed. The mean score of 3.96 indicates that respondents generally agreed that their financial knowledge gives them confidence in making informed retirement savings decisions. However, the standard deviation of 1.192 reflects moderate variability, suggesting that while most agreed, some respondents had differing views.

On the statement that due to their financial knowledge, they have a clear retirement savings plan in place., majority of the respondents 102(40.5%) strongly agreed and 71(28.2%) agreed, with 39(15.5%) undecided and 27(10.7%) disagreed with 13(5.2%) strongly disagreed as indicated by the mean score of 3.88 shows that respondents generally agreed with the statement and the standard deviation of 1.202 indicates moderate variation in responses, meaning that while many agreed, there were some differing opinions among the participants.

From the findings of the study, the 8 statements used to explain financial knowledge had an overall mean of 3.86 suggesting that respondents generally agreed with the statements assessing financial knowledge, indicating a relatively good level of financial understanding. The standard deviation of 1.125 shows moderate variability, meaning there were some differences in the respondents' levels of financial knowledge.

Table 4.4 Descriptive Statistics on Financial Knowledge

Financial Knowledge		SA	A	N	D	SD	Mean	Sd
9. I am confident in my ability to identify different types of retirement accounts.	F %	109 43.3	81 32.1	27 10.7	21 8.3	14 5.6	3.99	1.174
10. I understand the basic concepts of risk and return when it comes to retirement investments.	F %	92 36.5	92 36.5	42 16.7	21 8.3	5 2.0	3.97	1.023
11. I feel comfortable calculating how much money I will need to save for a comfortable retirement.	F %	74 29.4	107 42.5	39 15.5	18 7.1	14 5.6	3.83	1.100
12. I am knowledgeable about the tax implications of different retirement savings options.	F %	66 26.2	89 35.3	51 20.2	34 13.5	12 4.8	3.65	1.146
13. I am familiar with the fees correlated with various retirement investment products.	F %	80 31.7	64 25.4	60 23.8	34 13.5	14 5.6	3.64	1.214
14. I actively seek out information and resources to learn more about retirement planning.	F %	86 34.1	96 38.1	57 22.6	7 2.8	6 2.4	3.99	0.947
15. My financial knowledge makes me feel confident about making informed decisions regarding my retirement savings	F %	110 43.7	73 29.0	28 11.1	30 11.9	11 4.4	3.96	1.192
16. Due to my financial knowledge, I have a clear retirement savings plan in place.	F %	102 40.5	71 28.2	39 15.5	27 10.7	13 5.2	3.88	1.202
Total Mean							3.86	1.125

Source: Research Data (2024)

4.4.3 Descriptive Statistics on Financial Behavior

The study sought the opinion on items measuring financial behavior on retirement planning among commercial bank employees in Eldoret Town, Kenya. A total of 8

statements were used establish the respondent's views on financial behavior and their responses elicited on a 5-point Likert scale, shown in Table 4.5. On the statement that the employees regularly set aside money for retirement savings, majority of the respondents 91(36.1%) agreed and 87(34.5%) strongly agreed with 44(17.5%) undecided and 19(7.5%) disagreed as well as 11(4.4%) strongly disagreed. The mean score of 3.89 suggests that most respondents agreed that they regularly set aside money for retirement savings. The standard deviation of 1.099 indicates relatively moderate consistency in responses, showing that while agreement was common, some respondents held differing views.

Majority of the respondents 99(39.3%) agreed and 81(32.1%) strongly agreed, 52(20.6%) were undecided, 11(4.4%) disagreed with 9(3.6%) strongly disagreed as well as undecided that they avoid unnecessary debt and prioritize paying it off quickly.as indicated by a mean score of 3.92 implying that respondents generally agreed that they avoid unnecessary debt and prioritize paying it off quickly. The standard deviation of 1.011 suggests low to moderate variability, meaning most responses were clustered around agreement with few deviations.

On the statement that bank employees create and stick to a budget to manage their income and expenses, majority 107(42.5%) agreed and 51(20.2%) agreed, with 64(25.4%) were undecided, 20(7.9%) disagreed and 10(4%) strongly disagreed as indicated by a mean of score of 3.67 implying that respondents generally agreed with the statement. However, the standard deviation of 1.013 indicates low to moderate variability, suggesting most responses were close to agreement, with some differing views.

Majority of the respondents 119(47.2%) strongly agreed and 84(33.3%) agreed, that they feel confident understanding financial concepts like interest rates and investment options, 37(14.7%) were undecided with 11(4.4%) disagreed with 1(0.4%) strongly disagreed as indicated by a mean score of 4.23 indicating a strong overall agreement that respondents feel confident in understanding financial concepts like interest rates and investment options. However, the standard deviation of 0.884 suggests low variability, meaning most respondents shared similar, positive views.

On the statement that bank employees are comfortable taking some calculated risks with their retirement savings for potentially higher returns, most of the respondents 109(43.3%) y agreed and 60(23.8%) agreed, with 59(23.4%) undecided and 20(7.9%) disagreed with 4(1.6%) strongly disagreed as indicated by a mean score of 3.80 suggesting that respondents generally agreed with the statement. The standard deviation of 0.946 however, indicates relatively low variability, showing that most responses were fairly consistent around agreement.

Further on the statement that bank employees have a clear idea of their desired lifestyle and financial needs during retirement, majority 95(37.7%) agreed and 90(35.7%) agreed, with 61(24.2%) were undecided, 5(2%) disagreed and 1(0.4%) strongly disagreed. Moreover, the mean score of 4.06 indicates that most respondents agreed with the statement. The standard deviation of 0.844 shows low variability, suggesting that responses were largely consistent and leaned toward agreement.

Majority of the respondents 95(37.7%) agreed and 88(34.9%) disagreed agreed, that they actively research and participate in their bank's retirement savings plan options, 43(17.1%) were undecided with 17(6.7%) disagreed and 9(3.6%) strongly disagreed as indicated by a mean score of 3.94 suggesting that respondents generally agreed and the

standard deviation of 1.054 indicates moderate variability, meaning while many agreed, some respondents had differing views.

On the statement that considers seeking professional advice from a financial advisor for retirement planning, the majority of the respondents, 119(47.2%), strongly agreed, and 76(30.2%) agreed, with 31(12.3%) undecided and 23(9.1%) disagreed, with 3(1.2%) strongly disagreed. Moreover, the mean score of 4.13 indicates that respondents generally agreed, with a strong leaning toward strongly agreeing with the statement. However, the standard deviation of 1.027 shows moderate variability, suggesting that while most supported the statement, a few held differing opinions.

From the findings of the study, the 8 statements used to explain financial behavior had an overall mean of 3.95, indicating that, on average, respondents agreed with the statements used to measure financial behavior, reflecting generally positive financial practices. The standard deviation of 0.985 suggests moderate consistency in responses, showing that while most participants shared similar views, some variation existed across individual responses.

Table 4.5 Descriptive Statistics on Financial Behavior

Financial Behavior		SA	A	N	D	SD	Mean	Sd
17. I regularly set aside money for retirement savings.	F	87	91	44	19	11	3.89	1.099
	%	34.5	36.1	17.5	7.5	4.4		
18. I avoid unnecessary debt and prioritize paying it off quickly.	F	81	99	52	11	9	3.92	1.011
	%	32.1	39.3	20.6	4.4	3.6		
19. I create and stick to a budget to manage my income and expenses.	F	51	107	64	20	10	3.67	1.013
	%	20.2	42.5	25.4	7.9	4.0		
20. I feel confident understanding financial concepts like interest rates and investment options.	F	119	84	37	11	1	4.23	0.884
	%	47.2	33.3	14.7	4.4	.4		
21. I am comfortable taking some calculated risks with my retirement savings for potentially higher returns.	F	60	109	59	20	4	3.80	0.946
	%	23.8	43.3	23.4	7.9	1.6		
22. I have a clear idea of my desired lifestyle and financial needs during retirement.	F	90	95	61	5	1	4.06	0.844
	%	35.7	37.7	24.2	2.0	.4		
23. I actively research and participate in my bank's retirement savings plan options.	F	88	95	43	17	9	3.94	1.054
	%	34.9	37.7	17.1	6.7	3.6		
24. I would consider seeking professional advice from a financial advisor for retirement planning.	F	119	76	31	23	3	4.13	1.027
	%	47.2	30.2	12.3	9.1	1.2		
Mean							3.95	0.985

Source: Research Data (2024)

4.4.4 Descriptive Statistics on Financial Attitude

The study sought to determine opinions on items measuring financial attitude on retirement planning among commercial bank employees in Eldoret Town, Kenya. A total of 8 statements were used to establish the respondents' views on financial attitude, and their responses were elicited on a 5-point Likert scale, shown in Table 4.6. On the statement that the employees believe saving money regularly is essential for a secure retirement, the majority of the respondents, 186(73.8%), strongly agreed, and 35(13.9%) agreed with 6(2.4%) were undecided, and 14(5.6%) disagreed, as well as 11(4.4%) strongly disagreed. Moreover, the mean score of 4.47 indicates strong overall agreement with the statement. However, the standard deviation of 1.076 suggests moderate variability, showing that while most respondents strongly agreed, a few held differing views.

The majority of the respondents, 103(40.9%), agreed, and 93(36.9%) strongly agreed, 37(14.7%) undecided, and 17(6.7) disagreed, with 2(0.8%) strongly disagreed that they are comfortable taking on some financial risk to achieve higher potential returns for retirement savings. However, the mean score of 4.06 indicates that respondents generally agreed with the statement. The standard deviation of 0.925 reflects relatively low variability, suggesting most respondents held similar views leaning toward agreement.

On the statement that bank employees feel confident in their ability to manage my finances effectively for retirement, the majority 111(44%) agreed and 74(29.4%) strongly agreed, with 49(19.4%) were undecided, 16(6.3%) disagreed, and 2(0.8%) strongly disagreed. Notably, the mean score of 3.95 suggests that respondents generally

agreed they feel confident in their ability to manage finances effectively for retirement. However, the standard deviation of 0.902 indicates low to moderate variability.

The majority of the respondents, 83(32.9%), agreed and 76(30.2%) strongly agreed, that they prioritize saving for retirement over spending on current wants, 51(20.2%) were undecided, with 34(13.5%) disagreed, with 8(3.2%) strongly disagreed. The mean score of 3.73 indicates that respondents generally agreed with the statement. However, the standard deviation of 1.124 suggests moderate variability, showing that while many supported the statement, a notable portion held different views.

On the statement that bank employees are worried about running out of money in retirement, the majority of the respondents, 109(43.3%), strongly agreed, and 63(25%) agreed, with 51(20.2%) undecided and 11(4.4%) disagreed, with 18(7.1%) strongly disagreed. Moreover, the mean score of 3.93 indicates that respondents generally agreed with the statement. However, the standard deviation of 1.204 reflects moderate to high variability, suggesting that while many expressed concerns, others had differing levels of worry.

Further on the statement that bank employees believe the financial situation will improve significantly before retirement, the majority, 135(53.6%) strongly agreed and 84(33.3%) agreed, with 20(7.9%) undecided, 11(4.4%) disagreed, and 2(0.8%) strongly disagreed. The mean score of 4.35 indicates strong agreement among respondents that their financial situation will improve significantly before retirement. The standard deviation of 0.863 shows low variability, meaning most responses were closely aligned.

The majority of the respondents, 117(46.4%), strongly agreed and 65(25.8%) agreed, that they find it overwhelming to think about and plan for retirement, 14(5.6%) were undecided with 24(9.5%) disagreed, and 32(12.7%) strongly disagreed. Notably, the

mean score of 3.63 suggests that respondents somewhat agreed that they find it overwhelming to think about and plan for retirement. However, the standard deviation of 1.307 indicates high variability, showing a wide range of opinions on this issue.

On the statement that they actively seek out information and resources to learn about retirement planning options, most of the respondents 103(40.9%) strongly agreed and 87(34.5%) agreed, with 32(12.7%) undecided and 19(7.5%) disagreed with 11(4.4%) strongly disagreed as indicated by a mean of ($M=4.00$; $SD=1.111$). The mean score of 4.00 indicates that respondents generally agreed, with many strongly agreeing with the statement; however, the standard deviation of 1.111 suggests moderate variability, indicating some differences in the level of engagement among respondents.

From the findings of the study, the 8 statements used to explain financial attitude had an overall mean of 4.02, indicating that respondents generally held a positive financial attitude, often agreeing with statements reflecting responsible financial behavior. The standard deviation of 1.064 suggests moderate variability, showing some differences in the strength of respondents' attitudes.

Table 4.6 Descriptive Statistics on Financial Attitude

Financial Attitude		SA	A	N	D	SD	Mean	Sd
25. I believe saving money regularly is essential for a secure retirement.	F	186	35	6	14	11	4.47	1.076
	%	73.8	13.9	2.4	5.6	4.4		
26. I am comfortable taking on some financial risk to achieve higher potential returns for retirement savings.	F	93	103	37	17	2	4.06	0.925
	%	36.9	40.9	14.7	6.7	.8		
27. I feel confident in my ability to manage my finances effectively for retirement.	F	74	111	49	16	2	3.95	0.902
	%	29.4	44.0	19.4	6.3	.8		
28. I prioritize saving for retirement over spending on current wants.	F	76	83	51	34	8	3.73	1.124
	%	30.2	32.9	20.2	13.5	3.2		
29. I am worried about running out of money in retirement	F	109	63	51	11	18	3.93	1.205
	%	43.3	25.0	20.2	4.4	7.1		
30. I believe my financial situation will improve significantly before retirement.	F	135	84	20	11	2	4.35	0.863
	%	53.6	33.3	7.9	4.4	.8		
31. I find it overwhelming to think about and plan for retirement.	F	65	117	14	24	32	3.63	1.307
	%	25.8	46.4	5.6	9.5	12.7		
32. I actively seek out information and resources to learn about retirement planning options.	F	103	87	32	19	11	4.00	1.111
	%	40.9	34.5	12.7	7.5	4.4		
Mean							4.02	1.064

Source: Research Data (2024)

4.4.5 Descriptive Statistics on Self-Control

The study sought to assess opinions on items measuring retirement planning among commercial bank employees in Eldoret Town, Kenya. A total of 8 statements were used to establish the respondents' views on self-control, and their responses were elicited on a 5-point Likert scale, shown in Table 4.7. On the statement that the employees regularly review and update my retirement plan, the majority of the respondents, 87(34.5%), agreed, and 72(28.6%) disagreed agreed with 60(23.8%) undecided, and 15(6%) disagreed, as well as 18(7.1%) strongly disagreed. The mean score of 3.71 indicates that respondents generally agreed they regularly review and update their retirement plans. However, the standard deviation of 1.153 shows moderate variability, suggesting a range of views.

The majority of the respondents, 114(45.2%), strongly agreed, and 72(28.6%) agreed, 48(19%) were undecided, 15(6%) disagreed, with 3(1.2%) strongly disagreed as well as undecided that they can consistently contribute to a retirement savings plan each month. Also, the mean score of 4.11 indicates that respondents generally agreed, with many strongly agreeing with the statement. However, the standard deviation of 0.990 suggests low to moderate variability, showing that most responses were aligned toward agreement.

On the statement that bank employees can resist spending money today that they know they will need for retirement, the majority, 93(36.9%) agreed, and 48(19%) disagreed, with 63(25%) were undecided, 33(13.1%) disagreed, and 15(6%) strongly disagreed. The mean score of 3.50 indicates a neutral to slightly positive tendency among respondents. However, the standard deviation of 1.120 suggests moderate variability, indicating a mix of opinions on this financial discipline.

The majority of the respondents, 78(31%), strongly agreed and 48(19%) agreed that they prioritize saving for retirement over other short-term financial goals, 87(22.6%) were undecided, with 36(14.3%) disagreed, and 3(1.2%) strongly disagreed. The mean score of 3.64 indicates that respondents generally agreed they prioritize saving for retirement over short-term financial goals. However, the standard deviation of 1.100 reflects moderate variability. On the statement that bank employees actively seek out information about different retirement planning options, most of the respondents, 96(38.1%), strongly agreed, and 72(28.6%) agreed, with 57(22.6%) undecided and 21(8.3%) disagreed, with 6(2.4%) strongly disagreed. The mean score of 3.92 indicates that respondents generally agreed, leaning toward strong agreement with the statement. Also, the standard deviation of 1.073 suggests moderate variability, meaning most responses clustered around agreement, with some variation.

Further on the statement that bank employees are disciplined about sticking to retirement savings budget, the majority, 96(38.1%) agreed and 75(29.8%) strongly agreed, with 48(19%) were undecided, 30(11.9%) disagreed, and 3(1.2%) strongly disagreed. The mean score of 3.83 indicates that respondents generally agreed they are disciplined in sticking to a retirement savings budget. However, the standard deviation of 1.024 reflects that while most were in agreement, some held different views. The majority of the respondents, 110(43.7%), strongly agreed and 65(25.8%) agreed, that they can resist the temptation to withdraw money from retirement savings for non-essential purposes, 48(19%) were undecided, with 27(10.7%) disagreed, with 2(0.8%) strongly disagreed. Notably, the mean score of 4.01 indicates that respondents generally agreed, leaning toward strong agreement with the statement. However, the standard deviation of 1.064 suggests that while many were disciplined, some respondents had differing levels of self-control.

On the statement that they are more focused on achieving long-term retirement goals than on immediate gratification, most of the respondents 108(42.9%) strongly agreed, and 69(27.4%) agreed, with 63(25%) undecided and 9(3.6%) disagreed, with 3(1.2%) strongly disagreed. Furthermore, the mean score of 4.07 indicates that respondents generally agreed, with a strong tendency toward strong agreement. However, the standard deviation of 0.963 suggests low to moderate variability, meaning most responses were closely aligned.

From the findings of the study, the 8 statements used to explain self-control had an overall mean of 3.85 and a standard deviation of 1.061. The overall mean of 3.85 indicates that respondents generally agreed with the statements reflecting self-control in financial behavior, suggesting a positive tendency toward disciplined financial decision-making. The standard deviation of 1.061 shows moderate variability, indicating some differences in levels of self-control among respondents.

Table 4.7 Descriptive Statistics on Self-Control

Self-Control		SA	A	N	D	SD	Mean	Sd
33. I regularly review and update my retirement plan.	F	72	87	60	15	18	3.71	1.153
	%	28.6	34.5	23.8	6.0	7.1		
34. I am able to consistently contribute to my retirement savings plan each month.	F	114	72	48	15	3	4.11	0.990
	%	45.2	28.6	19.0	6.0	1.2		
35. I am able to resist spending money today that I know I will need for retirement.	F	48	93	63	33	15	3.50	1.120
	%	19.0	36.9	25.0	13.1	6.0		
36. I prioritize saving for retirement over other short-term financial goals.	F	78	48	87	36	3	3.64	1.100
	%	31.0	19.0	34.5	14.3	1.2		
37. I actively seek out information about different retirement planning options.	F	96	72	57	21	6	3.92	1.073
	%	38.1	28.6	22.6	8.3	2.4		
38. I am disciplined about sticking to my retirement savings budget.	F	75	96	48	30	3	3.83	1.024
	%	29.8	38.1	19.0	11.9	1.2		
39. I am able to resist the temptation to withdraw money from my retirement savings for non-essential purposes.	F	110	65	48	27	2	4.01	1.064
	%	43.7	25.8	19.0	10.7	.8		
40. I am more focused on achieving my long-term retirement goals than on immediate gratification	F	108	69	63	9	3	4.07	0.963
	%	42.9	27.4	25.0	3.6	1.2		
Mean							3.85	1.061

Source: Research Data (2024)

4.5 Reliability Test Results

Reliability is the ability of research instruments to generate the same/consistent results when used (Damayanti, 2023). The study utilized measures from already tested constructs. However, it was necessary to examine the research instrument to check if all items measured the behaviors or the quality it intended to measure. A Cronbach's Alpha value above 0.7 was considered acceptable for research purposes, while values above 0.8 were deemed good.

The study findings in Table 4.8 revealed that retirement planning had a Cronbach's Alpha of 0.822. This variable shows good reliability, indicating that the items measuring retirement planning are consistently reflecting the same underlying construct. Financial Knowledge had a Cronbach's Alpha of 0.915, demonstrating excellent reliability. The items effectively measure financial knowledge and are highly correlated.

Financial Behavior had Cronbach's Alpha = 0.774, exhibiting a good reliability, suggesting that the items related to financial behavior are consistent in assessing this construct. Financial Attitude had a Cronbach's Alpha of 0.747, indicating that the items used to measure this variable are reasonably consistent.

Self-Control had Cronbach's Alpha=0.847, showing good reliability, suggesting that the items measuring self-control are well-aligned and consistently reflect the concept being assessed. These findings suggest that the instruments used to measure these constructs are reliable and can be used confidently in further analysis or research related to financial behaviors and attitudes.

Table 4.8 Reliability Test Results

Name of variable	Number of Items	Cronbach's Alpha
Retirement planning	7	0.822
Financial knowledge	8	0.915
Financial behavior	7	0.774
Financial attitude	8	0.747
Self-control	7	0.847
Composite Reliability score	37	0.932

Source: Research Data (2024)

4.6 Factor Analysis

Factor analysis was used to establish construct validity, which refers to the degree to which a test measures what it claims to measure. The study adopted Exploratory Factor Analysis (EFA). EFA was employed to identify the underlying relationships between variables without pre-existing hypotheses about the structure. It helped in discovering the number of latent constructs that explain the correlations among observed variables.

4.6.1 Factor Analysis for Retirement Planning

The results of the factor analysis for retirement planning provide valuable insights into the underlying constructs that influence individuals' retirement readiness. The study findings in Table 4.9 revealed a KMO value of 0.874, which implies that the sample is adequate for factor analysis, as values above 0.5 which is considered acceptable. This suggests that the variables are sufficiently correlated to proceed with the analysis. Bartlett's Test of Sphericity had a significant Chi-Square value of 1173.486 at $p=0.000$, indicating that there are relationships among the variables suitable for factor analysis.

Eight (8) items measuring retirement planning were factor analyzed, but only 7 of them loaded as one item; "I anticipate needing to delay my retirement due to financial

reasons” did not load and was therefore excluded from the analysis. The seven items that loaded on the one component had an eigenvalue of 3.458, which cumulatively explains 43.229 % of the variance in retirement planning. This suggests that this factor is dominant and captures a significant portion of the information in the data.

Table 4.9 Factor Analysis for Retirement Planning

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.874
Bartlett's Test of Sphericity Approx. Chi-Square	1773.486
df	91
Sig.	.000
Initial Eigenvalues	3.458
Total Variance Explained	43.229
Name of items measuring Retirement Planning	
I have a clear understanding of my expected retirement income.	.753
I actively contribute to my retirement savings plan	.819
I have a separate investment plan for retirement beyond my employer plan	.828
I feel confident that my current financial situation will allow for a comfortable retirement.	.755
I regularly consult with a financial advisor about my retirement planning.	.782
I believe my employer provides adequate resources and education on retirement planning.	.812
I am comfortable discussing my retirement plans with my family.	.830
I anticipate needing to delay my retirement due to financial reasons.	Didn't load

Source: Research Data (2024)

4.6.2 Factor Analysis for Financial Knowledge

The study results in Table 4.10 revealed that the KMO value is 0.896, indicating that the data is excellent for factor analysis. This value suggests a high degree of common variance among the variables, which is ideal for extracting meaningful factors. The result also shows a chi-square value of 1372.628 with 28 degrees of freedom. The p-value is 0.000, which is highly significant. A significant Bartlett's test indicates that the variables are correlated enough to warrant further analysis through factor analysis.

All eight questions measuring financial knowledge that were factor analyzed loaded on only one component with an initial eigenvalue of 5.113. These items collectively explain approximately 64% of the variance in financial knowledge. This indicates that a single factor accounts for a substantial portion of the variance in the data. Loadings above 0.7 indicate strong relationships between the variables and the underlying factor, suggesting that these items are good indicators of the latent construct being measured.

Table 4.10 Factor Analysis for Financial Knowledge

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.896
Bartlett's Test of Sphericity Approx. Chi-Square	1372.628
	df
	28
	Sig
	.000
Initial Eigenvalues	5.113
Total Variance Explained	63.908
Name of items measuring Financial Knowledge	
I am confident in my ability to identify different types of retirement accounts.	.865
I understand the basic concepts of risk and return when it comes to retirement investments.	.815
I feel comfortable calculating how much money I will need to save for a comfortable retirement.	.858
I am knowledgeable about the tax implications of different retirement savings options.	.786
I am familiar with the fees associated with various retirement investment products.	.578
I actively seek out information and resources to learn more about retirement planning.	.763
My financial knowledge makes me feel confident about making informed decisions regarding my retirement savings.	.849
Due to my financial knowledge, I have a clear retirement savings plan in place.	.841

Source: Research Data (2024)

4.6.3 Factor Analysis for Financial Behavior

Component factor analysis was used to further analyze eight questions measuring financial knowledge. Results of the process revealed a Kaiser-Meyer-Olkin (KMO) of 0.718, indicating the sample adequacy for factor analysis. Bartlett's Test of Sphericity shows an Approximate Chi-Square of 585.305, which was significant at $p=0.000$. This result indicates that the correlation matrix is not an identity matrix, which implies that there are significant relationships among the variables, justifying the use of factor analysis.

The findings reveal that one (1) item, “I would consider seeking professional advice from a financial advisor for retirement planning “, did not load, hence was excluded from the analysis. Results show that the remaining seven (7) account for over 55% of the total variance in financial knowledge.

Table 4.11 Factor Analysis for Financial Behavior

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.718
Bartlett's Test of Sphericity Approx. Chi-Square	585.305
df	28
Sig	.000
Initial Eigenvalues	3.192
Total Variance Explained	39.903
Name of items measuring Financial Behaviors	
I regularly set aside money for retirement savings.	.566
I avoid unnecessary debt and prioritize paying it off quickly.	.640
I create and stick to a budget to manage my income and expenses.	.680
I feel confident understanding financial concepts like interest rates and investment options.	.549
I am comfortable taking some calculated risks with my retirement savings for potentially higher returns.	.755
I have a clear idea of my desired lifestyle and financial needs during retirement.	.582
I actively research and participate in my bank's retirement savings plan options.	.792
I would consider seeking professional advice from a financial advisor for retirement planning.	Didn't load

Source: Research Data (2024)

4.6.4 Factor Analysis for Financial Attitude.

Component factor analysis was used to further analyze eight questions measuring financial attitude. Results of the process revealed a Kaiser-Meyer-Olkin (KMO) of 0.815, indicating the sample adequacy for factor analysis. Bartlett's Test of Sphericity shows an Approximate Chi-Square of 770.143, which was significant at $p=0.000$. This result indicates that the correlation matrix is not an identity matrix, which implies that

there are significant relationships among the variables, justifying the use of factor analysis.

The findings reveal that four (4) items “I believe saving money regularly is essential for a secure retirement”, “I am comfortable taking on some financial risk to achieve higher potential returns for retirement savings”, “ I feel confident in my ability to manage my finances effectively for retirement” And “ I prioritize saving for retirement over spending on current wants” loaded on the second component, having an initial eigenvalue of 3.903 and explaining 48.790% variance while the rest loaded on the first component, having an initial eigenvalue of 1.074 and 13.430% thereby cumulatively they all account for over 62% of the total variance in financial attitude.

Table 4.12 Factor Analysis for Financial Attitude

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.815
Bartlett's Test of Sphericity Approx. Chi-Square		770.143
	df	28
	Sig	.000
Initial Eigenvalues	Component 1	3.903
	Component 2	1.074
Total Variance Explained		62.220
Name of items measuring Financial attitude	Component 1	Component 2
I believe saving money regularly is essential for a secure retirement.		0.763
I am comfortable taking on some financial risk to achieve higher potential returns for retirement savings.		0.803
I feel confident in my ability to manage my finances effectively for retirement.		0.769
I prioritize saving for retirement over spending on current wants.		0.631
I am worried about running out of money in retirement.	0.773	
I believe my financial situation will improve significantly before retirement.	0.799	
I find it overwhelming to think about and plan for retirement.	0.640	
I actively seek out information and resources to learn about retirement planning options.	0.676	

Source: Research Data (2024)

4.6.5 Factor Analysis for Self-Control

Finally, the study results in Table 4.13 revealed that the KMO value is 0.832, indicating that the data were sufficient for factor analysis as indicated by a significant chi-square value of 556.603, p-value is 0.000, which is highly significant. All 7 questions measuring self-control that were factor analyzed loaded on only one component with an initial eigenvalue of 3.458. These items collectively explain approximately 43% of the variance in self-control. This indicates that a single factor accounts for a substantial portion of the variance in the data. Loadings above 0.7 indicate strong relationships

between the variables and the underlying factor, suggesting that these items are good indicators of the latent construct being measured

Table 4.13 Factor Analysis for Self-Control

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.832
Bartlett's Test of Sphericity Approx. Chi-Square	556.603
df	28
Sig	.000
Initial Eigenvalues	3.458
Total Variance Explained	43.229
Name of items measuring Self-Control	
I regularly review and update my retirement plan.	.759
I am able to consistently contribute to my retirement savings plan each month.	.734
I am able to resist spending money today that I know I will need for retirement.	.591
I prioritize saving for retirement over other short-term financial goals.	.772
I actively seek out information about different retirement planning options.	.695
I am disciplined about sticking to my retirement savings budget.	.697
I am able to resist the temptation to withdraw money from my retirement savings for non-essential purposes.	.640

Source: Research Data (2024)

4.7 Correlation Analysis

The degree and direction of the relationship between the dependent and independent variables were analyzed using Pearson's correlation. According to Table 4.14, the research found that self-control has a strong positive correlation with retirement planning among commercial bank employees ($r=0.679^{**}$; $p<0.01$). Financial knowledge was strong and positively correlated with retirement planning among commercial bank employees ($r=0.659^{**}$; $p<0.01$). The results show a strong, statistically significant correlation between financial behavior and retirement planning among commercial bank employees ($r= 0.598^{**}$; $p<0.01$). Financial attitude was found

to have a strong positive statistically significant correlation with retirement planning among commercial bank employees ($r=0.578^{**}$; $p<0.01$). According to Scheiner (2020), the presence of two or more variables with a high correlation indicates that these variables are connected in a significant manner, whereas the presence of two or more variables with a low correlation indicates that these variables are not connected at all. When interpreting the results of an experiment, a value of 0.00 indicates that there is no correlation between the variables.

Table 4.14 Correlation Analysis Results

	Retirement planning	Financial knowledge	Financial behavior	Financial attitude	Self-control
Retirement planning	1				
Financial knowledge	.659**	1			
Financial behavior	.598**	.563**	1		
Financial attitude	.578**	.502**	.576**	1	
Self-control	.679**	.575**	.608**	.658**	1
N	252	252	252	252	252

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

Source: Research Data (2024)

4.8 Multiple Regression Assumption Tests

4.8.1 Test of Linearity

The linearity of the data was examined through a correlation analysis. A linear relationship between the variables is inferred if there is a significant correlation between the independent variables and the dependent variable. There is no linear relationship between the independent variables and the dependent variable if the correlation

coefficient is not significantly different from zero. Results presented in Table 4.15 revealed that financial knowledge had a correlation coefficient of 0.659. Financial behavior had a correlation coefficient of 0.598. Financial attitude had a correlation coefficient of 0.578, and self-control had a correlation coefficient of 0.679. These indicated that the linearity assumption was made due to the non-zero values of the correlation coefficients for the four research variables. Inferring linearity in the data used.

Table 4.15 Test of Linearity

Variables	Pearson Correlation	Sig.
Financial knowledge	.659**	.000
Financial behavior	.598**	.000
Financial attitude	.578**	.000
Self-control	.679**	.000

Source: Research Data (2024). Correlation is significant at the 0.01 level (2-tailed).

4.8.2 Normality Assumption Test

The study employed the Shapiro-Wilk test to determine whether or not the data significantly deviated from the assumed normal distribution. If the significance value is greater than 0.05, the data were considered to be normally distributed (Kim & Park, 2019). Research results showed that all significance values (Sig.) are greater than 0.05. Since all significance values exceed the threshold of 0.05, it implies that the data for financial knowledge, behavior, attitude, and self-control assumed a normal distribution.

Table 4.16 Normality Assumption Test

	Statistic	Sig.
Financial knowledge	.756	.144
Financial behavior	.883	.133
Financial attitude	.630	.124
Self-control	.926	.148

Source: Research Data (2024)

4.8.3 Homoscedasticity Assumption

The homoscedasticity assumption was tested using the Levenes test of equality of error variances. If the p-value from Levene's test is greater than 0.05, the study fails to reject the null hypothesis, indicating that there is no significant difference in variances among the groups. This suggests that the assumption of homoscedasticity holds true. From table 4.17 below, Financial Knowledge had a p-value (.152) which is greater than the conventional alpha level of 0.05, indicating that variances across groups for financial knowledge are equal. Financial Behavior similarly had a p-value (.127) that exceeded 0.05, implying that there is no significant difference in variances among groups for financial behavior. Financial Attitude had a p-value (.125) which is also greater than 0.05, indicating that there is no significant difference in variances among groups for financial attitude. Self-Control had a p-value (.167) which is well above the threshold of 0.05, reinforcing that variances across groups for self-control are equal.

All significance values are above the threshold of 0.05, indicating that there is no significant violation of the homoscedasticity assumption for financial knowledge, financial behavior, financial attitude, and self-control. This suggests that the variances among these groups are equal, supporting the validity of further analyses that assume homoscedasticity.

Table 4.17 Homoscedasticity Assumption

Variable	Levene Statistic	df1	df2	Sig.
Financial knowledge	2.973	23	227	.152
Financial behavior	3.464	23	227	.127
Financial attitude	6.008	23	227	.125
Self-control	3.777	23	227	.167

Source: Research Data (2024)

4.8.4 Multicollinearity Assumption Test

Using Variance Inflation Factors (VIF) and tolerance, the research examined the validity of the multicollinearity assumption. The study findings in Table 4.18 revealed that financial knowledge had Tolerance =0.589 and VIF=1.697. The tolerance value suggests that financial knowledge has a moderate correlation with other variables, and the VIF indicates that it does not significantly inflate the variance of its coefficient.

Financial Behavior had tolerance=0.528 and VIF=1.893. Financial behavior shows a moderate level of correlation, with a VIF indicating that it is not likely to cause significant multicollinearity issues. Financial Attitude had tolerance=0.512 and VIF=1.955. Financial attitude also presents a moderate correlation, and its VIF suggests it does not pose a significant risk for multicollinearity.

Self-Control had a tolerance=0.453 and VIF=2.207. Self-control's tolerance VIF falls well below the threshold that would indicate no multicollinearity concerns. All variables in this table exhibit tolerances above the critical threshold of 0.1 and VIF below the common cutoff of 10, suggesting that multicollinearity is not a significant issue in this dataset. This indicates that each variable contributes uniquely to the model without excessive overlap in what they explain regarding the dependent variable.

Table 4.18 Multicollinearity Assumption Test

Variables	Tolerance	VIF
Financial knowledge	.589	1.697
Financial behavior	.528	1.893
Financial attitude	.512	1.955
Self-control	.453	2.207

Source: Research Data (2024)

4.8.5 Autocorrelation Assumption Test

Durbin-Watson Test was used in detecting autocorrelation in residuals from regression analysis. The Durbin-Watson statistic ranges from 0 to 4, a value around 2 indicates no autocorrelation, values closer to 0 suggest strong positive autocorrelation, and values closer to 4 indicate strong negative autocorrelation. The results are presented in Table 4.19. From the study findings Durbin-Watson value is 1.534, which is significantly less than 2 but within the threshold.

Table 4.19 Autocorrelation Test Results

R	R Square	Adjusted Square	R Std. Error of the Estimate	Durbin-Watson
.770 ^a	.593	.586	.46272	1.534

Source: Research Data (2024)

4.9 Hierarchical Moderated Regression Analysis

In order to establish the interaction effect between independent variables and the dependent variable, Self-control was used as a moderating variable. The hierarchical linear regression analysis was used to test the moderating effect (Wang et al., 2019). The regression analysis was done for each independent variable and dependent variable

to determine the individual moderating effect of each element on retirement planning among commercial bank employees.

From Table 4.20, Model 1 shows the results of the control variables. The findings indicate that the model has R^2 of .105 and adjusted R^2 of .105, which implies that control variables in this study explain 10.5% variation in overall Retirement planning. Results for control variables reveal that gender was found to have an effect on Retirement planning.

The R^2 change from model 1 to model 2 was 0.434, which changed from 0.105 to 0.540. This indicated that when Gender was held constant, the three independent variables (Financial knowledge, financial behavior, and Financial Attitude) explained 43.4% of the variation in retirement planning among commercial bank employees.

The R^2 change from model 2 to model 3 was 0.024, which changed from 0.540 to 0.564. This indicated that self-control moderates the relationship between (financial knowledge, financial behavior, financial attitude) and retirement planning among commercial bank employees, increasing by 2.4%.

The R^2 change from model 3 to model 4 was 0.066, which changed from 0.564 to 0.630. This indicated that self-control moderates the relationship between financial knowledge and retirement planning among commercial bank employees by increasing the R^2 by 6.6%.

The R^2 change from model 4 to model 5 was 0.018, which changed from 0.630 to 0.649. This implied that self-control moderates the relationship between (financial knowledge, financial behavior) and retirement planning among commercial bank employees by increasing the R^2 by 1.8%.

The R^2 change from model 5 to model 6 was 0.006, which changed from 0.649 to 0.655. This implied that self-control moderates the relationship between (financial knowledge, financial behavior, financial attitude) and retirement planning among commercial bank employees by increasing the R^2 by 0.6%.

Table 4.20 provides the F test revealing the significance of the fitted regression model. An F statistic in model 1 was 9.733, indicating that Gender, a control variable, was a predictor of the dependent variable ($F=9.733$; $p<0.05$). This implies a good fit and, therefore, considering the regression fitted, gender had an effect on retirement planning among commercial bank employees.

An F statistic in model 2 was 77.024, indicating that financial literacy (financial knowledge, financial behavior, financial attitude), the independent variables were predictors of the dependent variable ($F=77.024$; $p<0.05$). This implies a good fit and, therefore, considering the regression fitted, gender, financial literacy (financial knowledge, financial behavior, financial attitude) had an effect on retirement planning among commercial bank employees.

The F-value of model 3 was 13.626, implying a good fit and therefore considering the regression fitted after adding the moderating variable (gender, financial knowledge, financial behavior, financial attitude, self-control) had an effect on retirement planning among commercial bank employees ($F=13.626$, $p<0.05$).

The F-test for model 4 had an F-value of 43.649, implying a good fit and therefore considering the regression fitted after the interaction (gender, financial knowledge, financial behavior, financial attitude, self-control, and financial knowledge) had an effect on retirement planning among commercial bank employees ($F=43.649$; $p< 0.05$).

The F-test for model 5 had an F-value of 12.538, implying a good fit and therefore considering the regression fitted after the interaction (gender, financial knowledge, financial behavior, financial attitude, self-control, and financial knowledge, self-control, and financial behavior) had an effect on retirement planning among commercial bank employees ($F=12.538$; $p< 0.05$).

The F-test for model 6 had an F-value of 4.410, implying a good fit and therefore considering the regression fitted after the interaction (gender, financial knowledge, financial behavior, financial attitude, self-control, self-control and financial knowledge, self-control and financial behavior, self-control and financial attitude) had an effect on retirement planning among commercial bank ($F=4.410$; $p< 0.05$).

The regression coefficients result of model 1 in Table 4.20 showed that gender had a negative and significant effect on retirement planning among commercial bank employees ($\beta_1=-0.590$, $p<0.05$).

Regression coefficients result of model 2 in Table 4.20 showed that financial knowledge had a positive and significant effect on retirement planning among commercial bank employees ($\beta_1=0.402$, $p<0.05$). Financial behavior had a positive and significant effect on retirement planning among commercial bank employees ($\beta_2=0.182$, $p<0.05$). Financial attitude had a positive and significant effect on retirement planning among commercial bank employees ($\beta_3=0.267$, $p<0.05$).

In model 3, study findings revealed that self-control had a moderating effect on the relationship between (financial knowledge, financial behavior, and financial attitude) and retirement planning among commercial bank employees ($\beta=0.174$, $p<0.05$).

In model 4, a regression analysis was done to determine the moderation effect of self-control on the relationship between financial knowledge and retirement planning among commercial bank employees. The study findings revealed that self-control had a moderating effect on the relationship between financial knowledge and retirement planning among commercial bank employees ($\beta=0.120$, $p<0.05$)

In model 5, a regression analysis was done to determine the moderation effect of self-control on the relationship between financial behavior and retirement planning among commercial bank employees. Self-control had a moderating effect on the relationship between financial behavior and retirement planning among commercial bank employees ($\beta=0.099$, $p<0.05$)

In model 6, a regression analysis was done to determine the moderation effect of self-control on the relationship between financial attitude and retirement planning among commercial bank employees. Self-control had a moderating effect on the relationship between financial attitude and retirement planning among commercial bank employees ($\beta=-0.047$, $p<0.05$).

Table 4.20 Hierarchical Moderated Regression Analysis Summary

Variables	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6	
	β	P-v	β	P-v	β	P-v	β	P-v	β	P-v	β	P-v
(Constant)	.835	.034	.437	.126	.512	.067	-1.453	.000	-1.245	.389	-1.376	.391
Gender	-.590	.000	-.362	.000	-.323	.000	-.235	.006	-.194	.022	-.208	.013
Age	.128	.121	.028	.647	.038	.524	.011	.847	-.027	.627	-.043	.437
Education	.066	.569	.018	.830	-.035	.671	-.014	.855	-.003	.972	.008	.914
Financial knowledge			.402	.000	.404	.000	-.060	.492	.297	.025	.135	.373
Financial behavior			.182	.000	.133	.008	.124	.007	-.049	.459	-.069	.300
Financial attitude			.267	.000	.229	.000	.139	.004	.106	.028	.175	.003
Self-control					.174	.000	.038	.432	.078	.107	.084	.080
Self-control X Financial knowledge							.120	.000	.004	.919	.053	.226
Self-control X Financial behavior									.099	.000	.109	.000
Self-control X Financial attitude											-.047	.037
R ²	.105		.540		.564		.630		.649		.655	
R ² change	.105		.434		.024		.066		.018		.006	
F	9.733***		77.024***		13.626***		43.649***		12.538***		4.410*	

Note: significant * p \leq .05; ** p \leq .01; *** p \leq .001 **Source:** Research Data (2024)

Where: R²= Coefficient of Determination; F= F-statistic

4.10 Hypotheses Testing

For each hypothesis, the regression equation was first obtained using the Beta coefficients on the line of best fit. The decision rule was that if the p –p-value is less than the conventional 0.05, the null hypothesis was rejected, and when it is above 0.05, we fail to reject the null hypothesis. The hypothesis was tested at 5% alpha level of significance.

4.10.1 Results for Direct Effects on Control Variables

A hierarchical regression model was utilized to test control variables and the effect of independent variables on the dependent variable. Results in Table 4.20, Model 1 indicate that gender ($\beta=-.590$, $p=.000$) significantly affects retirement planning. However, age ($\beta=.128$, $p=.0.121$) and education ($\beta=.066$, $p=.0.569$) were found to be insignificant ($p\leq 0.05$). The results further showed that control variables had an R^2 OF 0.105 and ΔR^2 of 0.105 and the model was significant at $p\leq 0.001$, $F=9.733$. This implies that control variables explain 10.5% variation in retirement planning. Therefore, if covariates are not controlled, it may result in making wrong inferences.

4.10.2 Hypothesis Testing of the Effect of Financial Knowledge on Retirement Planning Among Commercial Bank Employees

Hypothesis H_{01} stated that there is no significant effect of financial knowledge on retirement planning among commercial bank employees in Eldoret Town, Kenya. Results showed that Financial Knowledge has a positive and significant effect on retirement planning among commercial bank employees ($\beta_1= 0.402$, $p<0.05$). Based on the results, the null hypothesis is rejected, suggesting that financial behavior had a significant positive effect on retirement planning among commercial bank employees.

4.10.3 Hypothesis Testing of the Effect of Financial Behavior on Retirement Planning Among Commercial Bank Employees

Hypothesis H₀₂, which stated that there is no significant effect of retirement planning among commercial bank employees in Eldoret Town, Kenya, was formulated for testing. Results showed that Financial Behavior has a positive and significant effect on retirement planning among commercial bank employees ($\beta_2=0.182$, $p<.05$). Based on the results, the null hypothesis is rejected, suggesting that financial behavior had a significant effect on retirement planning among commercial bank employees.

4.10.4 Hypothesis Testing of the Effect of Financial Attitude on Retirement Planning Among Commercial Bank Employees

Hypothesis H₀₃ stated that there is no significant effect of Financial Attitude on retirement planning among commercial bank employees in Eldoret Town, Kenya, was formulated for testing. Results showed that financial attitude has a positive and significant effect on retirement planning among commercial bank employees ($\beta_3=.267$, $p<0.05$). Based on the results, the null hypothesis is rejected, suggesting that financial attitude had a significant effect on retirement planning among commercial bank employees.

4.10.5 Hypothesis Testing of the Effect of Self-Control on Retirement Planning Among Commercial Bank Employees

Hypothesis H₀₄, which stated that there is no significant effect of Self-Control on retirement planning among commercial bank employees in Eldoret Town, Kenya, was formulated for testing. Results showed that self-control has a positive and significant effect on retirement planning among commercial bank employees ($\beta_4=.174$, $p<0.05$).

Based on the results, the null hypothesis is rejected, suggesting that Self-Control had a significant effect on retirement planning among commercial bank employees.

4.10.6 Hypothesis Testing: The moderating effect of Self-control on the Relationship Between Financial knowledge and Retirement Planning Among Commercial Bank Employees

Hypothesis H_{05a} stated that self-control does moderate the relationship between financial knowledge and retirement planning among commercial bank employees in Eldoret Town, Kenya. Results showed that self-control has a significantly positive moderating effect on the relationship between financial knowledge and retirement planning among commercial bank employees ($\beta_{5a}=0.120, p<0.05$). Based on the results, the null hypothesis was rejected, suggesting that Self-control has a significantly positive moderating effect on the relationship between financial knowledge and retirement planning among commercial bank employees.

Figure 4.1 shows that where there was low self-control, there were higher levels of retirement planning despite low financial knowledge, but when the levels of self-control increased, so did the retirement planning levels at high financial knowledge. In addition, at low self-control levels, retirement planning declined despite having high financial knowledge.

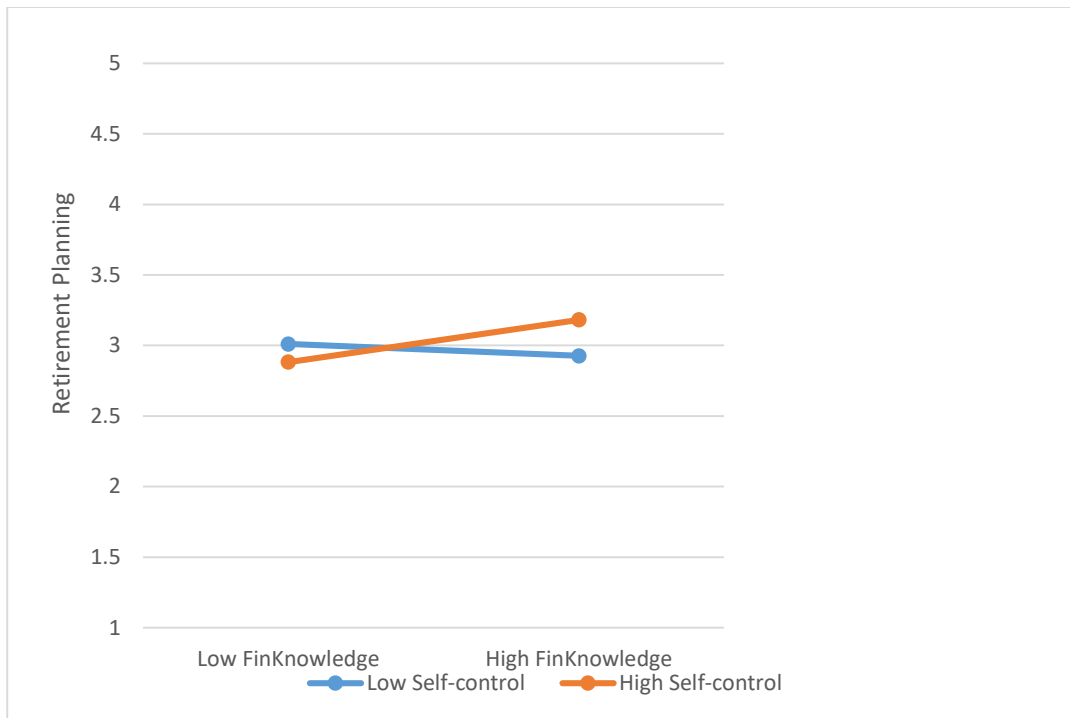


Figure 4.1: Moderating Role of Self-Control on Financial Knowledge & Retirement Planning

4.10.7 Hypothesis Testing: The moderating effect of Self-control on the Relationship Between Financial behavior and Retirement Planning Among Commercial Bank Employees

Hypothesis H_{05b} states that Self-control does not moderate the relationship between financial behavior and retirement planning among commercial bank employees in Eldoret Town, Kenya, was formulated for testing. Results showed that Self-control has a positive and significant moderating effect on the relationship between financial behavior and retirement planning among commercial bank employees ($\beta_{5b}=.099$, $p<0.05$). Based on the results, the null hypothesis was rejected, suggesting that Self-control has no significant moderating effect on the relationship between financial behavior and retirement planning among commercial bank employees.

In figure 4.2, at both low and high self-control, retirement planning is seen to be at a similar level, while at low financial behavior, but with the increase in self-control levels, retirement levels increase at high financial behavior, though low self-control reflects low retirement planning even at high financial behavior.

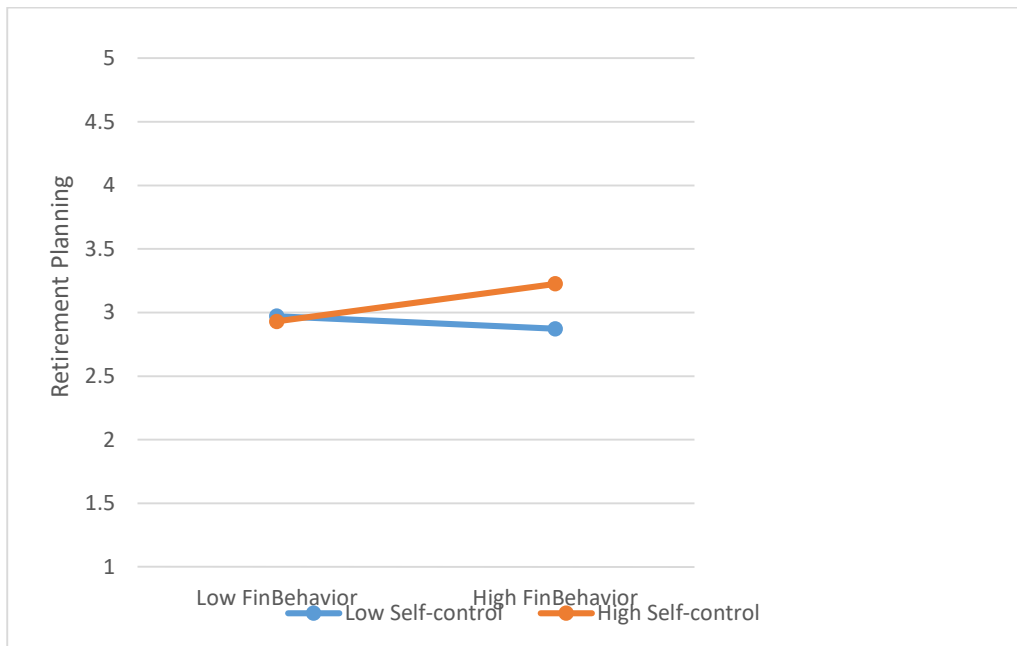


Figure 4.2: Moderating Role of Self-Control on Financial Behavior & Retirement Planning

4.10.8 Hypothesis Testing: The moderating effect of Self-control on the Relationship Between Financial attitude and Retirement Planning Among Commercial Bank Employees

Hypothesis H_{05c} , which stated that Self-control does not moderate the relationship between financial attitude and retirement planning among commercial bank employees in Eldoret Town, Kenya, was formulated for testing. Results showed that Self-control has a negative and significant moderating effect on the relationship between financial attitude control and retirement planning among commercial bank employees ($\beta_{5c} = -.047$, $p < 0.05$). Based on the results, the null hypothesis is rejected, suggesting that self-control

had a negative moderating effect on the relationship between financial attitude and retirement planning among commercial bank employees.

Figure 4.3 illustrates that for those with low self-control, a high financial attitude leads to better retirement planning than a low financial attitude, suggesting that even with low self-control, a positive financial attitude still benefits retirement planning. With high self-control, the benefit of a high financial attitude increases slightly, and those with a low financial attitude perform better, showing that self-control helps even in cases of poor financial attitudes. While financial attitude positively affects retirement planning regardless of self-control, having high self-control generally improves outcomes for individuals with both high and low financial attitudes.

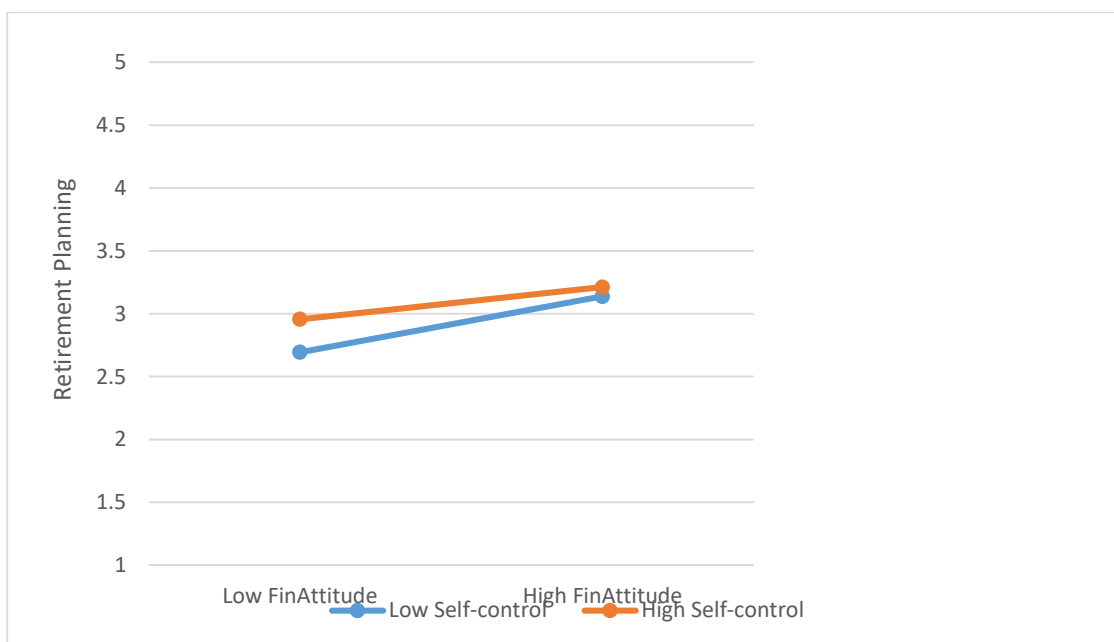


Figure 4.3: Moderating Role of Self-Control on Financial Attitude & Retirement Planning

Table 4.21 Summary of Hypotheses Test Results

Hypotheses	β and P values	Decision rule(accept/reject)
H ₀₁ : There is no significant effect of financial knowledge on retirement planning among commercial bank employees in Eldoret Town, Kenya.	$\beta_1=0.402, p=0.000<0.05$	Rejected the null hypothesis
H ₀₂ : There is no significant effect of financial behavior on retirement planning among commercial bank employees in Eldoret Town, Kenya.	$\beta_2=0.182, p=0.000<0.05$	Rejected the null hypothesis
H ₀₃ : There is no significant effect financial attitude on retirement planning among commercial bank employees in Eldoret Town, Kenya.	$\beta_3=0.267, p=0.000<0.05$	Rejected the null hypothesis
H ₀₄ : Self-control has no significant effect on retirement planning among commercial bank employees in Eldoret Town, Kenya	$\beta_4=0.174, p=0.000<0.05$	Rejected the null hypothesis
H _{05a} : Self-control does not moderate the relationship between financial knowledge and retirement planning among commercial bank employees in Eldoret Town, Kenya.	$\beta_{5a}=0.120, p=0.000<0.05$	Rejected the null hypothesis
H _{05b} : Self-control does not moderate the relationship between financial behavior and retirement planning among commercial bank employees in	$\beta_{5b}=0.099, p=0.000<0.05$	Rejected the null hypothesis
H _{05c} : Self-control does not moderate the relationship between financial attitude and retirement planning among commercial bank employees in Eldoret Town, Kenya.	$\beta_{5c}=-0.047, p=0.037<0.05$	Rejected the null hypothesis

CHAPTER FIVE

SUMMARY, DISCUSSION, CONCLUSION, AND RECOMMENDATIONS

5.0 Overview

This chapter gives a summary of the findings, discussions, and conclusions of the study. It also presents the recommendations, limitations, and areas of further research.

5.1 Summary of the Findings

The study's primary aim was to assess the moderating influence of self-control on the relationship between financial literacy and retirement planning among commercial bank employees in Eldoret Town, Kenya. Financial literacy comprises three constructs (financial knowledge, financial behavior, and financial attitude) that are associated with the dependent variable (retirement planning), while a moderator (self-control) was incorporated into the study to ascertain the relationship between predictor variables and outcome variables. The researcher examined the impact of the variables on the dependent variable before hypothesis testing.

The study established that financial knowledge significantly influenced retirement planning ($\beta = 0.402, p < 0.05$). This suggests that employees who are more knowledgeable about financial instruments, risk diversification, and savings options are better prepared for retirement. Financial behavior also had a significant positive effect ($\beta = 0.182, p < 0.05$). Employees who budget, manage credit wisely, and set long-term financial goals are more likely to plan for retirement. The study found that financial attitude positively affected retirement planning ($\beta = 0.267, p < 0.05$). Employees with a positive outlook on savings and investments are more committed to retirement planning.

Self-control exhibited both a direct effect ($\beta = 0.174$, $p < 0.05$) and a moderating effect on the relationship between financial literacy and retirement planning. Specifically, self-control strengthened the effect of financial knowledge ($\beta = 0.120$) and financial behavior ($\beta = 0.099$) on retirement planning but had a weakening moderating effect on financial attitude ($\beta = -0.047$). This suggests that employees with higher self-control can transform financial knowledge and disciplined behaviors into better retirement preparedness. However, strong self-control may temper reliance on attitude alone, emphasizing the need for actual financial behaviors. The R^2 value of 0.546 indicates that more than half of the variance in retirement planning is explained by financial knowledge, behavior, attitude, and self-control.

5.2 Discussion of the Findings

This section provides discussions of the findings

5.2.1 Financial Knowledge and Retirement Planning

On the financial knowledge, the results indicated that the majority of respondents expressed confidence in their ability to identify different types of retirement accounts and understood the basic concepts of risk and return in retirement investments. A significant number felt comfortable calculating how much they would need to save for a comfortable retirement and were knowledgeable about the tax implications of different retirement savings options. Additionally, respondents reported familiarity with the fees correlated with various retirement investment products and actively sought information and resources to learn more about retirement planning.

Most participants indicated that their financial knowledge gave them confidence in making informed decisions about their retirement savings and helped them establish a clear retirement savings plan. This outcome supports the Goal-Setting Theory, which

emphasizes the role of clear knowledge in achieving financial goals. The finding is consistent with Rai and Gupta (2021), who concluded that individuals with higher financial literacy are more proactive in retirement planning.

5.2.2 Financial Behaviour and Retirement Planning

The study findings on the financial behaviour showed that most employees regularly set aside money for retirement savings and avoid unnecessary debt, prioritizing its repayment. Many participants reported creating and sticking to a budget to manage their income and expenses. A significant number of respondents expressed confidence in understanding financial concepts such as interest rates and investment options, while some were comfortable taking calculated risks with their retirement savings for potentially higher returns.

Additionally, most employees had a clear idea of their desired lifestyle and financial needs during retirement and actively researched their bank's retirement savings plan options. Finally, a majority considered seeking professional advice from a financial advisor for retirement planning. This finding aligns with Waga, Memba, and Muriithi (2021), who observed that prudent financial practices are critical to building retirement security in Kenya. It further confirms the Social Cognitive Theory's emphasis on self-regulated behavior in shaping financial outcomes.

5.2.3 Financial Attitude and Retirement Planning

The study findings on financial attitude revealed that most employees believe saving regularly is essential for a secure retirement, with many also comfortable taking on some financial risk to achieve higher potential returns for retirement savings. A significant number of respondents expressed confidence in their ability to manage their finances

effectively for retirement, and many prioritized saving for retirement over spending on current wants, although some remained undecided or disagreed.

The study also showed that many employees are concerned about running out of money in retirement, while a large majority believe their financial situation will improve significantly before retirement. Some respondents found retirement planning overwhelming, though a significant number actively seek out information and resources to learn about retirement planning options. This resonates with findings by Rai, Dua, and Yadav (2019), who reported that favorable attitudes toward saving and long-term planning enhance retirement preparedness.

5.2.4 Self-Control and Retirement Planning

The results on self-control showed that most employees regularly review and update their retirement plans, while a significant number consistently contribute to their retirement savings plans each month. Many respondents indicated they can resist spending money today that they know they will need for retirement, although some expressed uncertainty or difficulty in doing so. The study emphasizes the need for greater financial discipline to achieve long-term financial goals. The majority of employees prioritized saving for retirement over other short-term financial goals, and many actively sought out information about different retirement planning options.

Most respondents were disciplined about sticking to a retirement savings budget and resisted the temptation to withdraw money from their savings for non-essential purposes. Additionally, many employees were focused on achieving long-term retirement goals, with less emphasis on immediate gratification. These findings echo Van Baal (2022), who highlighted the role of self-control in financial decision-making,

and Tambun and Cahyati (2023), who confirmed self-control as a moderator in financial planning.

5.2.5 Retirement Planning

The study findings on retirement planning indicated that most employees have a clear understanding of their expected retirement income and actively contribute to a retirement savings plan. While many respondents also have separate investment plans beyond their employer's retirement plan, a significant portion was undecided or did not have such plans. A considerable number of employees felt confident that their current financial situation would allow for a comfortable retirement, although some expressed uncertainty. The majority of respondents regularly consult financial advisors for retirement planning, but there was still a portion that did not. Additionally, most employees believed that their employer provides adequate resources and education on retirement planning.

Most respondents felt comfortable discussing their retirement plans with family. However, a notable number anticipated needing to delay their retirement due to financial reasons, reflecting potential concerns about their long-term financial preparedness. This reinforces the Behavioral Life Cycle Theory, which argues that psychological and behavioral factors significantly shape financial decision-making over time. Overall, the findings corroborate prior studies that emphasize the importance of financial literacy and psychological traits in retirement planning (Tomar et al., 2021; Rey-Ares et al., 2021; Waga, 2023). The unique contribution of this study lies in demonstrating that self-control not only directly predicts retirement planning but also moderates how literacy constructs influence preparedness.

5.3 Conclusions

The main objective of this study was to determine the moderating effect of Self-Control on the relationship between financial literacy and retirement planning. The study concluded that financial knowledge plays a crucial role in enhancing retirement planning among commercial bank employees. The significant positive effect suggests that employees with a better understanding of financial concepts are more likely to engage in effective retirement planning. This underscores the importance of financial education and training programs aimed at improving employees' financial literacy as a means to foster better retirement preparedness.

Financial behavior significantly influences retirement planning. Employees who exhibit prudent financial behaviors, such as budgeting, saving, and investing wisely, are more likely to plan effectively for retirement. This highlights the need for organizations to promote positive financial behaviors through workshops or incentives that encourage employees to adopt sound financial practices.

Financial attitude has a significant impact on retirement planning. Employees with a positive outlook towards financial management are more inclined to take proactive steps in planning for their retirement. This suggests that fostering a positive financial attitude through motivational programs or counseling could enhance employees' commitment to their retirement planning efforts.

Self-control emerges as a significant factor affecting retirement planning. Employees with higher self-control are better positioned to manage their finances and adhere to their retirement plans. This finding emphasizes the importance of developing self-regulation strategies among employees, which could be facilitated through training programs focused on self-discipline and goal-setting.

Self-control moderates the relationships between financial knowledge, financial behavior, and financial attitude with retirement planning. This means that the positive effects of these financial factors on retirement planning are enhanced when employees possess higher levels of self-control. However, individuals with lower self-control had weaker retirement planning despite positive financial attitudes, showing a negative moderating effect. Therefore, interventions aimed at improving self-control could amplify the benefits of financial knowledge, behavior, and attitude, leading to more effective retirement planning outcomes.

5.4 Theoretical Implications of the Study

The findings of this study contribute significantly to the theoretical understanding of retirement planning by highlighting the roles of financial knowledge, behavior, attitude, and self-control. The study supports the theories and contributes to existing literature. The current research confirms what has already been established by other scholars; for instance, financial knowledge, financial behavior, and financial attitude have a significant effect on retirement planning, and self-control moderates the relationship between financial knowledge, financial behavior, and financial attitude with retirement planning.

On the other hand, the study also provides new findings or knowledge to the literature that self-control moderates the relationship between financial literacy and retirement planning. The study findings agreed with goal-setting theory, which states that individuals who set clear and specific financial goals are more likely to achieve financial literacy and make informed decisions about their retirement planning. The study findings agreed with the social cognitive theory, which emphasizes the ongoing reciprocal relationship between individual behavioral factors (cognitive) and

environmental influence. This was observed by the current social context in which one lives, which influences the attitudes and acts of the individual, as it models the individual in a specific way to suit the social environment.

The positive effects of financial knowledge, behavior, and attitude on retirement planning reinforce existing theories that advocate for comprehensive financial literacy. This integration emphasizes the need for a holistic approach in financial education programs aimed at improving retirement planning.

5.5 Policy Implications

Given the significant effect of financial knowledge on retirement planning, policies should focus on enhancing financial literacy programs, particularly targeting commercial bank employees. This could involve mandatory training sessions that cover essential financial concepts. Policymakers should consider integrating behavioral finance principles into retirement planning strategies. Programs that promote self-control mechanisms could be beneficial in helping employees make better financial decisions regarding their retirement. Specific interventions aimed at improving self-control among employees may be necessary to enhance their retirement planning capabilities. This could include workshops or counseling sessions focusing on behavioral strategies.

5.6 Managerial Implications

The findings suggest several actionable strategies for managers in commercial banks and similar organizations. Implementing training programs focused on improving financial knowledge and behaviors can lead to better retirement planning among employees. Findings also indicate that commercial banks should invest in regular financial education programs for their employees. These should focus on the basics of

retirement accounts, risk and return, tax implications, and strategies for calculating retirement savings. By improving financial literacy, employees can make more informed decisions and feel more confident in their ability to plan for retirement.

Managers should recognize the importance of self-control in financial decision-making. By offering support systems or tools that help employees manage their finances more effectively, they can improve overall retirement readiness within their organization.

The study implies that banks should promote a culture of disciplined financial planning by offering tools and resources that help employees regularly review and adjust their retirement plans. Implementing automated retirement contributions and goal-setting workshops can help employees focus on long-term savings and resist short-term spending temptations. This will foster the self-control needed to achieve retirement goals.

The study further implies that banks should encourage positive financial behavior by promoting regular savings practices, debt management, and budgeting among their employees. Offering incentives such as matching retirement contributions or providing access to financial advisors can reinforce these behaviors, enabling employees to optimize their retirement strategies

5.7 Limitations and Suggestions for Future Studies

The main objective of this study was to determine the moderating effect of self-control on the relationship between financial literacy and retirement planning among commercial bank employees in Eldoret Town, Kenya.

This study was carried out among commercial bank employees in Eldoret town, Kenya. Future studies should include a more diverse sample beyond commercial bank employees to assess whether the findings hold across different sectors and

demographics. This could help generalize the results and provide a more comprehensive understanding of retirement planning behaviors.

This study used a quantitative method of data collection. Incorporating qualitative methods, such as interviews or focus groups, could uncover deeper insights into the knowledge, attitudes, and behaviors surrounding financial literacy and retirement planning. This could help identify underlying factors that quantitative measures may not capture.

This study used self-control as a moderator. Future research should consider exploring additional variables that may influence retirement planning, such as socioeconomic status, cultural factors, or psychological traits beyond self-control. This would provide a more holistic view of the factors affecting retirement decisions.

Investigating the effectiveness of specific financial education programs on improving retirement planning behaviors could yield valuable insights. This may involve pre- and post-program assessments to measure changes in financial knowledge and behaviors.

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APPENDICES

APPENDIX I: INTRODUCTION LETTER

Dear Participant,

RE: PARTICIPATION IN THIS STUDY

I am a post graduate student pursuing a Master's degree in Business Management (Finance Option), University of Eldoret. I am currently conducting research on **“Moderating Effect of Self-Control on the Relationship Between Financial Literacy and Retirement Planning Among Commercial Bank Employees in Eldoret City, Kenya”**. I kindly request you to be a part of this study. Your response to the questionnaire items was treated with utmost confidentiality and will not be used for any other purposes other than this study. You can also request that the researcher notify you of this study's results.

Thank you so much for agreeing to be part of this study.

Yours Faithfully,

Gladys Cheserek

APPENDIX II: QUESTIONNAIRES

Please put a tick (✓) or (x) in the box to the right response.

Section A: Background Information**1. Indicate your gender**

Male

Female

2. Indicate your age bracket

Below 20

20- 29

30- 39

40- 49

Above 50

3. Indicate your highest academic qualification

Certificate

Diploma

Undergraduate Degree

Masters Degree

PhD

4. How long have you been working in the bank?

Below 5 years

6-10 years

11-15 years

Above 16 years

**SECTION B: FINANCIAL KNOWLEDGE ON RETIREMENT PLANNING
AMONG COMMERCIAL BANK EMPLOYEES**

Please indicate the extent to which you agree or disagree with each statement by placing a tick where appropriate using the following 5-Point Likert scale: Strongly Disagree =1, Disagree=2, Neutral=3, Agree=4, Strongly Agree=5

STATEMENTS	1	2	3	4	5
1. I am confident in my ability to identify different types of retirement accounts.					
2. I understand the basic concepts of risk and return when it comes to retirement investments.					
3. I feel comfortable calculating how much money I will need to save for a comfortable retirement.					
4. I am knowledgeable about the tax implications of different retirement savings options.					
5. I am familiar with the fees associated with various retirement investment products.					
6. I actively seek out information and resources to learn more about retirement planning.					
7. My financial knowledge makes me feel confident about making informed decisions regarding my retirement savings.					
8. Due to my financial knowledge, I have a clear retirement savings plan in place.					

**SECTION C: FINANCIAL BEHAVIOR ON RETIREMENT PLANNING
AMONG COMMERCIAL BANK EMPLOYEES**

Please indicate the extent to which you agree or disagree with each statement by placing a tick where appropriate using the following 5-Point Likert scale: Strongly Disagree =1, Disagree=2, Neutral=3, Agree=4, Strongly Agree=5

STATEMENTS	1	2	3	4	5
1. I regularly set aside money for retirement savings.					
2. I avoid unnecessary debt and prioritize paying it off quickly.					
3. I create and stick to a budget to manage my income and expenses.					
4. I feel confident understanding financial concepts like interest rates and investment options.					
5. I am comfortable taking some calculated risks with my retirement savings for potentially higher returns.					
6. I have a clear idea of my desired lifestyle and financial needs during retirement.					
7. I actively research and participate in my bank's retirement savings plan options.					
8. I would consider seeking professional advice from a financial advisor for retirement planning.					

**SECTION D: FINANCIAL ATTITUDE ON RETIREMENT PLANNING
AMONG COMMERCIAL BANK EMPLOYEES**

Please indicate the extent to which you agree or disagree with each statement by placing a tick where appropriate using the following 5-Point Likert scale: Strongly Disagree =1, Disagree=2, Neutral=3, Agree=4, Strongly Agree=5.

STATEMENTS	1	2	3	4	5
1. I believe saving money regularly is essential for a secure retirement.					
2. I am comfortable taking on some financial risk to achieve higher potential returns for retirement savings.					
3. I feel confident in my ability to manage my finances effectively for retirement.					
4. I prioritize saving for retirement over spending on current wants.					
5. I am worried about running out of money in retirement.					
6. I believe my financial situation will improve significantly before retirement.					
7. I find it overwhelming to think about and plan for retirement.					
8. I actively seek out information and resources to learn about retirement planning options.					

**SECTION E: SELF-CONTROL ON RETIREMENT PLANNING AMONG
COMMERCIAL BANK EMPLOYEES**

Please indicate the extent to which you agree or disagree with each statement by placing a tick where appropriate using the following 5-Point Likert scale: Strongly Disagree =1, Disagree=2, Neutral=3, Agree=4, Strongly Agree=5

STATEMENTS	1	2	3	4	5
1. I regularly review and update my retirement plan.					
2. I am able to consistently contribute to my retirement savings plan each month.					
3. I am able to resist spending money today that I know I will need for retirement.					
4. I prioritize saving for retirement over other short-term financial goals.					
5. I actively seek out information about different retirement planning options.					
6. I am disciplined about sticking to my retirement savings budget.					
7. I am able to resist the temptation to withdraw money from my retirement savings for non-essential purposes.					
8. I am more focused on achieving my long-term retirement goals than on immediate gratification.					

SECTION F: RETIREMENT PLANNING AMONG COMMERCIAL BANK EMPLOYEES

Please indicate the extent to which you agree or disagree with each statement by placing a tick where appropriate using the following 5-Point Likert scale: Strongly Disagree =1, Disagree=2, Neutral=3, Agree=4, Strongly Agree=5

STATEMENTS	1	2	3	4	5
1. I have a clear understanding of my expected retirement income.					
2. I actively contribute to my retirement savings plan					
3. I have a separate investment plan for retirement beyond my employer plan					
4. I feel confident that my current financial situation will allow for a comfortable retirement.					
5. I regularly consult with a financial advisor about my retirement planning.					
6. I believe my employer provides adequate resources and education on retirement planning.					
7. I am comfortable discussing my retirement plans with my family.					
8. I anticipate needing to delay my retirement due to financial reasons.					

APPENDIX III: RESEARCH AUTHORIZATION LETTER



REPUBLIC OF KENYA

Ref No: 529414



NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION

Date of Issue: 13/September/2024

RESEARCH LICENSE



This is to Certify that Ms. Gladys Cheserek of University of Eldoret, has been licensed to conduct research as per the provision of the Science, Technology and Innovation Act, 2013 (Rev.2014) in Elgeyo-Marakwet, Uasin-Gishu on the topic: moderating role of self control on the relationship between financial literacy and retirement planning among commercial bank employees in Eldoret town kenya for the period ending : 13/September/2025.

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Applicant Identification Number

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THE SCIENCE, TECHNOLOGY AND INNOVATION ACT, 2013 (Rev. 2014)
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The National Commission for Science, Technology and Innovation, hereafter referred to as the Commission, was established under the Science, Technology and Innovation Act 2013 (Revised 2014) herein after referred to as the Act. The objective of the Commission shall be to regulate and assure quality in the science, technology and innovation sector and advise the Government in matters related thereto.

CONDITIONS OF THE RESEARCH LICENSE


1. The License is granted subject to provisions of the Constitution of Kenya, the Science, Technology and Innovation Act, and other relevant laws, policies and regulations. Accordingly, the licensee shall adhere to such procedures, standards, code of ethics and guidelines as may be prescribed by regulations made under the Act, or prescribed by provisions of International treaties of which Kenya is a signatory to
2. The research and its related activities as well as outcomes shall be beneficial to the country and shall not in any way;
 - i. Endanger national security
 - ii. Adversely affect the lives of Kenyans
 - iii. Be in contravention of Kenya's international obligations including Biological Weapons Convention (BWC), Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO), Chemical, Biological, Radiological and Nuclear (CBRN).
 - iv. Result in exploitation of intellectual property rights of communities in Kenya
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3. The License is valid for the proposed research, location and specified period.
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14. The Commission shall have powers to acquire from any person the right in, or to, any scientific innovation, invention or patent of strategic importance to the country.
15. Relevant Institutional Scientific and Ethical Review Committee shall monitor and evaluate the research periodically, and make a report of its findings to the Commission for necessary action.

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APPENDIX IV: SIMILARITY REPORT

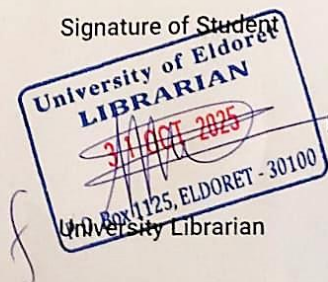


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