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EVALUATING FINANCIAL LITERACY ON RETIREMENT PLANNING BEHAVIOR OF PUBLIC HEALTH SECTOR EMPLOYEES IN NGORORERO DISTRICT, RWANDA

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Abstract

This study evaluates the effects of financial literacy on retirement planning behavior of public health sector employees in Ngororero District. Specifically the study meant to examine how financial knowledge affects retirement planning gbehavior of public health sector employees in Ngororero District; to ascertain the extent to which financial behavior affects retirement planning behavior of public health sector employees in Ngororero District. The study used descriptive survey as the research design. The target population consisted of 487 employees working in Public Health Sector in Ngororero District. The sample size is composed of 108 respondents for questionnaire items and interview schedule. The sampling techniques consisted of stratified sampling, simple random sampling and purposive sampling. The data have been collected using questionnaires and interview schedules and analysed using Statistical Package

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for Social Sciences (SPSS) Version 22. This study found that financial literacy has a strong positive correlation with retirement planning behavior of public health sector employees in Ngororero District (Correlation Coefficient is above 0.99). In terms of test of significant effect of independent variable on dependent variable ($p \leq 0.05$), this study revealed that financial literacy has a significant effect on retirement planning of public health sector employees in Ngororero District. The study concluded that financial literacy has great effects on retirement planning behavior of employees as it impacts of their financial decisions. The research recommended the necessity of special programs and awareness campaigns meant to increase the level of financial knowledge, skills, and behavior with respect of the practice of money management.

Key words*: Financial Literacy, Financial Pension Plan, Retirement Planning Behavior, Public Health Sector, Employees*

1. Introduction

Nowadays the world we are living in has become a global village and the process of globalization has brought complexity in financial and economic matters than it was used to be in past years. Every day, financial and banking institutions avail new financial products and services in the global markets, associated with increased and unpredictable risks. New financial strategies for development ensuring the welfare of individuals and societies need to be devised. For this reason, the awareness about these new developments, financial knowledge and skills which are very important to individuals and societies in their business and social life, need to be created and well developed (Lang'at & Abdullah, 2019). The awareness and acquisition of knowledge and skills in relation to financial management are obtained through the process of financial education. However, it is well documented in some sources that most Americans (especially African Americans) lack this important decision-making tool.

An increasing number of changes in financial atmosphere, which gives more responsibility to the consumer regarding financial decision-making tasks, call for increased financial understanding and planning in every aspect of life (Amoah, 2016). Achari, Oduro and Kwame (2020) explain about retirement planning as the planning done by an individual to be prepared for life after his/her employment. Normally, across the world, a number of employees are enrolled in statutory mandatory pension plans, in which they pay regular contributions so as to create a provident fund towards retirement. However, given that inflation and lifestyle changes have kept on increasing, the retirement benefits have been found to be inadequate for an individuals' retirement at his /her old age (Njeri & Duncan, 2017).

In the context of African Continent in developing countries like Ghana, Kenya and Nigeria, individuals especially employees, are expected to have a considerable level of financial literacy

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in order to have a successful retirement plan during active working periods. These countries have more emphasized on continuously increasing the level of financial literacy among employees so as to help them in attaining a number of financial objectives including promoting employees' understanding and knowledge of the financial systems and also having a successful retirement plan. As it is asserted by Aluodi, Njuguna and Omboi (2017), financial literacy is the most important element enabling individuals to achieve a successful life at old age. It plays a crucial role in individual's intention to plan for retirement. It therefore enables an individual to make accurate choices on pension products, manage pension schemes (Kafari, 2019).

Nevertheless, African countries are registering low levels of retirement planning among their citizens. In South Africa, retirement age is reached by consumers who have not adequately planned for it. The survey conducted among individuals working in a single financial organization in Johannesburg found that only a few people believed to have saved adequate retirement income. This study is in line with the results that the majority of South Africans will reach retirement age with inadequate retirement income (Antoni, Saayman & Vosloo, 2020). Moreover, on the side of Nigerian workers, early retirement planning is not given the important priority it merited due to factors including poor financial behavior towards retirement planning, low level of the retirement information and influence of family, friends, and co-workers (Dauda, Tolos & Ibrahim, 2017). In Kenya, as it is documented by Devoie (2018) retirement preparation among individuals is enabled by retirement finance literacy, through the means of making appropriate choices relating to pension products.

In Rwanda there are still challenges regarding the level of financial literacy. Zia, Randball and Hakizimfura (2018) asserted that limited financial knowledge, skills and confidence among Rwandans are associated with poor financial behavior. In addition, data from the Financial Capabilities survey suggest that Rwandans register drawbacks concerning having a complete set financial knowledge, skills, and self-efficacy to be fully financially capable (FSDP II, 2013). In the concerns of retirement planning, Rwanda, has issues relating to financial literacy and retirement planning of which better solutions need to be found to avoid post-retirement problems.

Rwanda Social Security Board (RSSB) as the administrator of the public pension system (one of social security schemes present) provides pension benefits to salaried workers, also with the option for enrollment of the individual as a voluntary member in mandatory pension scheme (Ogoi, 2019). Initially, saving for retirement for 92% of the Active Rwandan population working

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in the informal sector seemed not to be possible, resulting in increased weight for the working population and financial hardships of the population at their old age (Mwai, 2018). Ntirenganya (2019) asserted that due to non-fixed wages, millions of informal sector workers were not registered in Rwanda mainstream pension scheme. For this reason, the Government of Rwanda through Ministry of Finance and Rwanda Social Security Board (RSSB) introduced a new long-term voluntary saving scheme (Ejo Heza LTSS) catering for both salaried and unsalaried workers. (RSSB, 2020).

Statement of the Problem

The concepts of financial literacy and retirement planning have captured attention of many scholars in academia. While retirement planning behavior of workers was attempted by many scholars across the world, these put their focus on the developed economies rather than emerging economies of developing countries. (Adeabah, 2020). Many researchers have linked financial literacy to retirement planning, whereby they associated retirement knowledge and financial literacy with retirement savings/intention (Antoni, Saayman & Vosloo, 2020). Nonetheless, none of these studies have assessed the financial literacy and retirement planning of employees in Public Health Sector in Rwanda especially in rural areas. This study intends to assess the effects of financial literacy on retirement planning of Public Health Sector Employees in Ngororero District, Rwanda. Therefore, these employees need to have some level of financial knowledge, skills and attitudes to make an informed retirement financial decision.

Specific Objectives of the study

1. To examine how financial knowledge affects retirement planning of public health sector employees in Ngororero District.

2. To ascertain the extent to which financial behavior affects retirement planning of public health sector employees in Ngororero District.

Research questions

The study sought to answer the following questions:

1. How does financial knowledge affects retirement planning of public health sector employees in Ngororero District?

2. To what extent does financial behavior affects retirement planning of public health sector employees in Ngororero District?

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Research Hypotheses

In this study two types of hypotheses including Null Hypothesis (H_0) and Alternative Hypothesis (H_1) have been tested at a significance level of 5% (0.05). This study sought to test the following hypotheses:

Hypothesis 1:

H_0: Financial knowledge does not have a significant effect on retirement planning of public health sector employees in Ngororero District.

H_1: Financial knowledge has a significant effect on retirement planning of public health sector employees in Ngororero District.

Hypothesis 2:

H_0: Financial behavior does not have a significant effect on retirement planning of public health sector employees in Ngororero District.

H_1: Financial behavior has a significant effect on retirement planning of public health sector employees in Ngororero District.

2. Literature Review

Different theories guided this study. Firstly, the lifecycle hypothesis of Ando and Modigliani (1963) cited in Mosongo, Onduko and Nyawira (2015) deals with economic decisions on retirement saving behavior of individuals and how they maximize the utility of their income over their lifetime. It suggests that the wealth of a nation is distributed in such a way that the younger households have little wealth, the middle-aged households have relatively more wealth and the most wealth is secured by households immediately before their retirement (Rasiah, 2020). The life cycle model of savings stipulates that people save when young to finance consumption during retirement. However, the presence of children increases the consumption patterns of young families, in such a way that high rates of youth dependency can impede savings and lower the impact of economic growth on savings rates (Agravat & Kaplelach, 2017).

The life cycle hypothesis is relevant to this study as it recognizes the importance of age in retirement planning. It begins with the observation that income and consumption needs are often not equal at various points in the life cycle of individuals. Younger people tend to have consumption needs (mainly for housing and education) that exceed their revenues and therefore they have little savings. In middle age of individuals, earnings generally rise, enabling savings to be accumulated and the payment of debts accumulated earlier in life. Finally, in retirement

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period, incomes decline and individuals consume out of previously accumulated retirement savings.

Secondly, the permanent income theory by Friedman (1957) cited in Wamuyu (2015) states that people will spend money at a level consistent with their expected long-term average income. This implies that the higher the reserve funds, the higher the current salary rather than perpetual pay. An employee will only save if his or her current income or revenue is higher than the anticipated level of permanent income in order to ensure safety against future declines in income. This theory is relevant to this study because it considers a person's income as a determinant for his/her retirement planning. it also considers the magnitude of remuneration given to public health sector employees including medical doctors by their employers (Kirui, Simiyu & Ngaba, 2021). In this theory, the key determinant of consumption is the real wealth of an individual, not his current real disposable income.

Last but not least, expected utility theory of Lewin (1943) cited in Kafari (2019) was introduced with the aim of giving a definition to rational behavior when individuals are taking decisions on the uncertainty. This theory shows that when faced with decision-making under uncertainty, individuals should act in a particular manner (Kulondwa & Njoka, 2021). The theory relates to the study as it explains the motivational influences underlying financial literacy and retirement planning. In fact, an employee expecting positive outcomes from retirement planning may be attracted to undergo financial education. Therefore, having proper retirement plans is one of the most significant outcomes that an employee intends to attain from being financially literate, so for him/her to meet the retirement needs.

The impact of financial literacy programs depends on what individuals are waiting from the program and the expected reward of the outcome. This means that if individuals perceive financial literacy as a key for them to make better financial decisions, they would be motivated to undergo financial education program as they expect to improve on their long-term perceived financial outcome including enough pension savings (Ade, 2013). This theory applies to this study because when individuals decide for their retirement, they are faced with uncertainties on the exact period and the income of retirement. They, therefore, have to take into consideration expected future losses and profits. This involves financial knowledge, computation capability, and financial behavior and risk attitudes toward financial products (Kulondwa & Njoka, 2021).

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Empirical Review

Many researchers have attempted to explain the concept of financial literacy. It is clearly mentioned in the work of Godwyll (2018) that financial literacy is defined as the manner by which people utilize their money in terms of insurances, investments, savings and budgeting. Therefore, financially literate people are equipped with basic knowledge, skills and understanding of the financial concepts such as interest rate, inflation rate, compound interest, and financial risk. These financial skills and capabilities would assist individuals and households in achieving their current and future financial goals (Amoah, 2016). Demirguc-Kunt, Klapper, Singer and Van Oudheusden, (2015) established that individuals need to make responsible choices to ensure the safety of their future well-being including retirement, by means of access to financial services such as credit, savings as well as investment options and retirement planning schemes.

Nonetheless, many people especially employees display a certain behavior of not being prepared for retirement. (Kimiyagahlan, Safari & Mansori, 2019). It is crucial to note that many people do not realize the importance of saving for retirement. In fact, a number of people, especially women and single heads of households, do not know that 70% of their net income needs to be saved for their retirement use. Similarly, most people do not plan the amount of money required to save for their retirement life (Fazli & Tze Juen, 2014). Many retired individuals rely on their accumulated retirement savings made in their working years. Those who did not save enough for retirement will depend on social security benefits from their contributions made during their golden years or are generally expected to be enrolled in post-retirement jobs.

Selvadurai (2018) indicates that the retirement planning behavior ensures that individuals can have sufficient savings for living a preferred lifestyle during the period of retirement. Retirement planning process involves an ability of an individual to make a financial decision relating to when to save, the amount to save, when to offer the resignation from the job and also when to retire and start using resources that have been saved initially for the retirement purposes. This results into increased retirement income from a number of sources such as pension benefits, retirement savings and investments (Coile, 2015). The additional social costs incurred by retirees include costs of medical care, food, shelter and personal expenses that are financed by the retiree's family or the state through transfer payments to the retiree (Nyamweya, 2017).

Financial literacy has been considered as the most important element in achieving a successful old age life. In their research, Aluodi, Njuguna and Omboi (2017) found that financial literacy

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plays an important role in developing not only financial attitude of individuals, but also attitude about general life. People who are financially literate tend to have more retirement confidence due to their understanding about wealth accumulation as a way of retirement planning. Financial knowledge is strongly correlated with increased retirement planning (Clark, Lusardi & Mitchell, 2017). The individuals who have financial knowledge are most likely to plan for retirement and to succeed in their retirement planning (Ade, 2013).

The link between financial literacy and retirement planning can be developed through this relationship. Practically, since retirement planning is a complex process, there is a need of financial knowledge and numeracy skills so that informed financial decisions can be made. Patrisia and Fauziah (2019) affirm that individuals with high levels of financial knowledge and computation skills will find it easy to understand the relevance of retirement planning and will accumulate wealth as preparation for retirement. Individuals with high level of financial literacy tend to save and make investments in their working years for the purpose of preparation for retirement. However, the individuals' intention to save for retirement depends on their ability to earn an income (Schützeichel, 2019).

Conceptual Framework

In this study, the conceptual framework illustrates the main variables of this study including the independent variable (financial literacy) and dependent variable (retirement planning behavior). This conceptual framework design is discussed with the focus of the main concepts within this framework, while also illustrating the relationship between financial literacy and retirement planning. The conceptual framework is constructed as it is shown in the figure 2.1 as follows:

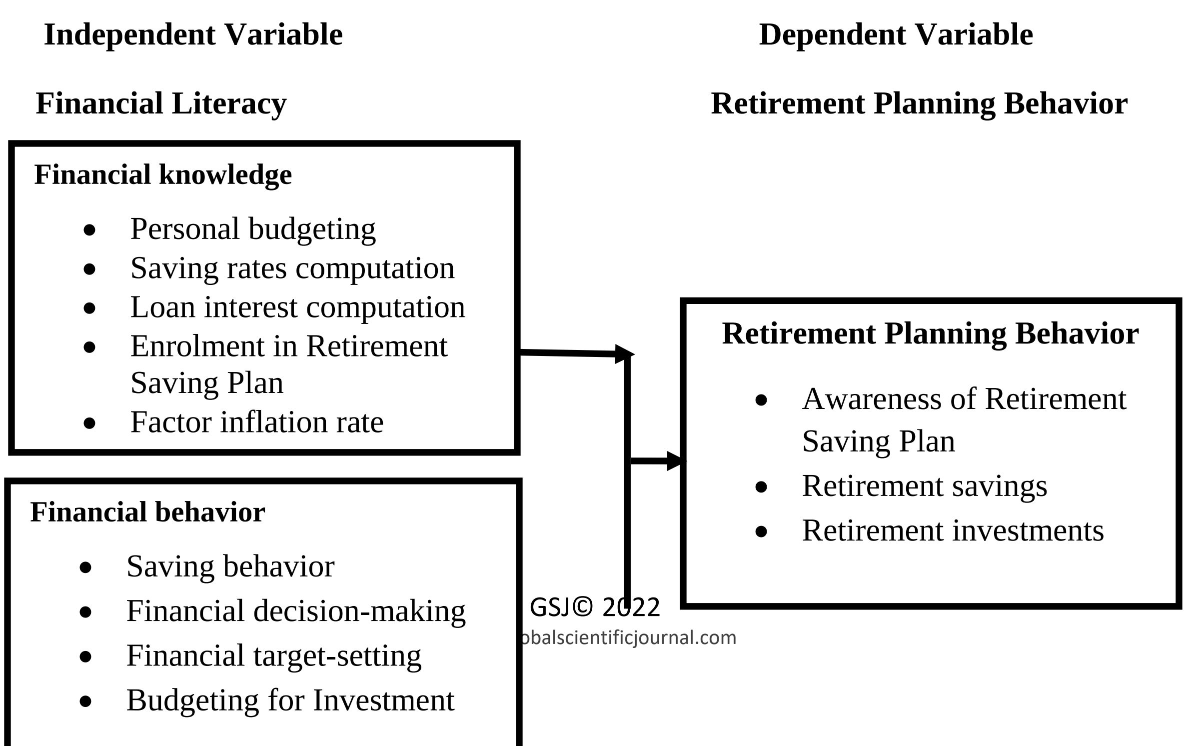

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Figure 1: A Conceptual Framework for Financial Literacy and Retirement Planning Behavior

Source: Researcher’s conceptualization (2022)

This study assesses the effects of financial literacy on retirement planning of selected public health sector employees in Ngororero District, Rwanda. According to this conceptual framework design, the independent variable is financial literacy. It is constructed on the components such as financial knowledge, and financial behavior. The dependent variable is retirement planning. It is also constructed around the components such as retirement information, retirement savings and retirement investment.

3. Methodology

This study has been conducted through both quantitative and qualitative approaches employing descriptive survey design. The unit of analysis consists of the selected public health sector employees working in Ngororero District. Descriptive survey design is suitable for this research since it provides numerical data about financial literacy on retirement planning of public health sector employees in Ngororero District, through responding to the questions asked. In this case, questionnaires, interview schedules (for primary data) and document analysis (for secondary data) were used as the main tools for collecting data. The target population consisted of all the 487 public health sector employees working in Ngororero District, at both District head office, health facilities and related health insurance institution. The sample size of the target population consists of 108 respondents for the questionnaire items and interview schedules, selected from 487 employees working in public health sector in Ngororero District. The sample size was determined by using Slovin’s formula stated in Ndayisenga, Tobia and Shukla (2017), whereby sampling error is 8.5% thus 0.085.

$$n=\frac{N}{1+N.e^2}$$

Whereby: N: total population   n: sample size   e: sampling error

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According to this formula the sample size for the respondents of questionnaire items was obtained:

$$n = \frac{487}{1 + 487(0.085)^2} = \frac{487}{1 + 3.519} = \frac{487}{4.519} = 107.77 \approx 108$$

It is, therefore, 108 respondents for the questionnaires and interview schedules. The sample size of the subgroups was computed according to the proportions of these subgroups in the population of the study, as shown in the table 3.1 as follows:

Table 3. 1: Study Population and Sample Size

Sub-groups	Target population	Sample size	Sampling technique
District Head Office	2	2	Stratified sampling
Health facilities	450	98	Simple Random Sampling (SRS)
Health insurance Institution	35	8	Purposive and convenient sampling
Total	**487**	**108**	

Source: Researcher (2022)

As it is shown in the table 3.1 the sample size comprises 108 participants whereby 2 were from District Office, 98 personnel from Health facilities, 8 employees from Health Insurance Institutions. The sample was chosen in accordance with the fulfillment of the requirements of efficiency, representativeness, reliability and flexibility. To select the sample, this study employed Cluster sampling, purposive sampling and simple random sampling, techniques. While designing data collection techniques and instruments, the quality control was given due consideration. This was realized by establishing the validity whereby the relevance of the instrument was evaluated and the Content Validity Index (CVI) was computed showing the index of 0.92 (92%) which was highly accepted as valid in the research. Furthermore, the piloting test was done, after which the instrument was appropriately amended and revised. The reliability of the data was tested and after computing the Cronbach alpha, the index (alpha) was found to be at 0.80 (80%).

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Data analysis procedure consisted of the organization, presentation and interpretation of collected data using different data collection instruments. Data presentation used statistical techniques including tabulation, frequency distribution, charts, diagrams, percentages, mean and standard deviation where Likert Scale was used. Therefore, the range and interpretation of Likert scale were stated such that the mean ranges as follows: 4.0-4.99: Strongly Agree; 3.0-3.99: Agree; 2.0-2.99: Neutral; 1.0-1.99: Disagree; 0.0-0.99: Strongly Disagree. The study proceeded with the analysis of the collected data which involved simple descriptive analysis and inferential statistics. Statistical Package for Social Sciences (SPSS) Version 22 was used. Again, the Spearman's Rank Correlation was used as inferential statistical tool, to ensure whether or not there was a relationship between the independent and dependent variables of the study. The hypothesis testing was done by means of descriptive analysis using Analysis of Variance (ANOVA). The critical values reflecting the analysis of data were computed such that they were compared to the critical values in ANOVA distribution table at a significance level of 0.05 (5%). In far as the ethical issues are concerned, the major ethical problem in this study was the guarantee of privacy and confidentiality of the respondents. As a solution to this problem, the researcher had to request for authorization for collecting data in the field from the competent authority of all parties concerned; obtain informed consent from the respondents, and ensure they participate voluntarily. The respondents responded to questionnaires anonymously and were free to ignore items that they did not wish to respond to. Again, the researcher tried his best to design the data collection instrument in an objective way, while avoiding questions that impact on moral and physiological aspects, or private life of the respondents.

4. Results and Findings

This study found it relevant to recognize the demographic variables of the respondents. These variables include age, gender, and marital status, level of education (academic qualification), working experience and income level.

The findings revealed that most of respondents (42.72%) fell in the age group of 31-40, 37.86% were aged between 21-30; also 10.68% were aged between 41-50; 4.85% were aged between 51-60; 2.91% were aged below 21 years and finally 0.97% were aged above 61 years. This implies that most of respondents were in the working group with saving returns enabling them for retirement planning for the future. For the concerns of gender of respondents, 53.40% were

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males and 46.60% were females. In relation to marital status, most of respondents (72.82%) were married, followed by 26.21% who were single; 0.97% was separated/divorced and no respondent was widowed.

The level of education was indicated by the respondents whereby most of them (44.66%) hold Bachelor’s Degree (A0), followed by 38.84% holding Diplomas (A1). Also, 15.53% hold Secondary Level Certificates (A2) and 0.97% holds a postgraduate degree. This implies the considerable level of academic knowledge enabling the respondents to embrace new skills including those required in financial management. This information would mean that the big number of respondents were having a certain level academic record.

In relation to working experience of respondents, 47.57% have the working experience below 5 years, followed by 23.30% that have the working experience from 5 to 10 years. Also, 19.42% have the working experience from 10 to 15 years and finally 9.71% have the working experience above 15 years. Concerning income levels of respondents, the majority of respondents (61.16%) have monthly gross income level ranging from 100,000 to 200,000 RWF, followed by 17.48% with the monthly gross income level from 200,000 to 300,000 RWF. Also, 14.56% of respondents have monthly gross income level ranging from 50,000 to 100,000RWF, 4.85% have monthly gross income level that is above 300,000 RWF and finally, 1.94% respondents earn below 50,000 RWF as their monthly gross income.

The researcher aimed to investigate the level of financial literacy of public health sector employees. Financial knowledge is built around the constructs such as personal budgeting, saving rate computation, loan interest rate computation, reason for enrolment in a retirement saving plan and factor inflation rate. The respondents were given a financial literacy quiz which had some constructs entailed in the concept of financial knowledge. The respondents who answered correctly are considered to have a certain level of financial literacy compared to those who provided the wrong answers. The table 4. 1 presents the information about financial knowledge of respondents as follows:

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Table 4. 1: Financial Knowledge of respondents

Variables	Frequency	Percentage
Personal Budgeting		
Correct answer	61	59.22
Incorrect answer	42	40.78
Saving Rate Computation		
Correct answer	77	74.76
Incorrect answer	26	25.24
Loan Interest Rate Computation		
Correct answer	56	54.37
Incorrect answer	47	45.63
Reason for Enrolment in Retirement Saving Plan		
Correct answer	75	72.82
Incorrect answer	28	27.18
Factor Inflation Rate		
Correct answer	67	65.05
Incorrect answer	36	34.95
TOTAL	**103**	**100**

Source: Primary data (2022)

The findings illustrated in the Table 4.1 above, revealed that most of respondents (65.24%) have a certain level if financial knowledge about personal budgeting, saving rate computation, loan interest rate computation, reason for enrolment in a retirement saving plan and factor inflation rate, compared to the rest of respondents (34.76%). Furthermore, the researcher sought to investigate on the financial behavior of the respondents. Financial behavior is built around the constructs such as saving behavior, financial decision-making, financial target setting, budgeting for investment. the computation of the mean and standard deviation was made in as far as descriptive statistics is concerned. The table 4. 2 presents the information about financial behavior of respondents as follows:

Table 4. 2: Financial behavior of respondents

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Variables	N	Minimum	Maximum	Mean	Standard Deviation
Saving Behavior	103	1	5	3.98	1.111
Financial Decision-Making	103	1	5	3.48	1.191
Financial Target setting	103	1	5	3.28	1.107
Budgeting for Investment	103	1	5	3.75	1.102

Source: Primary data (2022)

From what is shown in the Table 4. 2 above, the respondents were of the opinion with certain financial behavior such as saving behavior, financial decision-making, financial target setting, budgeting for investment whereby the mean of Likert scale ranges between 3.28 and 3.98. The researcher sought to further investigate the retirement planning behavior of Public Health Sector Employees building on the key constructs such as awareness of retirement saving plan, retirement savings and retirement investment. The data about awareness of retirement saving plan of public health sector employees are presented in the Table 4.3 as follows:

Table 4. 3: Awareness of Retirement Saving Plan

Variables	Frequency	Percentage
Old age Retirement Saving Plan	22	21.36
Ejo Heza Long Term Saving Scheme	20	19.42
Both Old Age Pension and Ejo Heza LTSS	59	57.28
None of the above	2	1.94
TOTAL	**103**	**100**

Source: Primary data (2022)

The findings displayed in the Table 4. 3 above, showed that most of respondents (57.28%) are aware of both age and Ejo Heza Long Term Saving Scheme (LTSS), followed by those who are aware of only one of the retirement saving schemes either old age or Ejo Heza LTSS thus 21.36% for old age and 19.42% for Ejo Heza LTSS; 1.94% of respondents are not aware of any of the retirement saving schemes. In as far retirement saving is concerned, the data about the portion of the income the respondents would put into long term saving in retirement plan other than that of the mandatory retirement saving scheme, concerning public health sector employees were presented in the Table 4. 4 below:

Table 4. 4: Long-Term Retirement Saving

Variables	Frequency	Percentage
Below 5%	11	10.68
5-10%	48	46.60

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10-20%	22	21.36
20-30%	9	8.74
Above 30%	9	8.74
No, I would prefer not saving more	4	3.88
TOTAL	**103**	**100**

Source: Primary data (2022)

According to what is indicated in the table 4. 4 above, the respondents who would put a portion of 5-10% of their income made up 46.6% of total respondents, followed by those of 10-20% making up 21.36%, those of 20-30% made up 8.74% those of above 30% also made up 8.74% of the respondents, 10.68% would save a portion below 5% of their income in long-term retirement saving scheme. Otherwise, 3.88% of respondents do prefer not to save more than that of mandatory pension scheme. This implies that the long-term retirement saving rate is still low.

In relation to retirement investments, the information about the types of retirement investment on the part of the respondents is presented in Table 4. 5 as follows:

Table 4. 1: Types of Retirement Investment of respondents

Variables	**Frequency**	**Percentage**
Saving cash in Bank Saving Account	44	42.72
Investing in Bonds, Shares and Mutual Funds	9	8.74
Investing in Real Estates (Lands and Buildings)	35	33.98
Investing in Agribusiness Activities	1	0.97
All of the above	12	11.65
Others	2	1.94
TOTAL	**103**	**100**

Source: Primary data (2022)

Table 4. 5 presents the analysis of the answers of respondents in relation to the types of retirement investments. The majority of respondents (42.72%) prefer to save cash in the Bank Saving Account, followed by those investing in real estates (lands and buildings) (33.98%); 8.74% of the respondents invest in bonds, shares and mutual funds, 0.97% invest in agribusiness activities, whereas 11.65% of the total respondents invest in all the above alternatives. This implies that few respondents apply diversification strategy in as much as investment is concerned.

5. Discussion of Findings

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As per objectives of this study, this study sought to find out the relationship between financial literacy and retirement planning behavior of public health sector employees in Ngororero District. This was done by using the Spearman's Rank Correlation, whereby the Correlation Coefficient (Spearman's rho) was computed (significance level of 5%). The test of research hypotheses was carried out using a statistical technique named Analysis of Variance (ANOVA) which provided the test significance for Regression and Residual/Error by means of F-statistic. Then the F-statistic was compared with F-critical value found in a statistical table according to the degrees of freedom. If F-statistic was greater than F-critical, then the Null Hypothesis (H0) is rejected and Alternative Hypothesis (H1) accepted. If F-statistic is less than F-critical value, then the Null Hypothesis (H0) is accepted and Alternative Hypothesis (H1) rejected.

The relationship between financial knowledge and retirement planning was established by means of computing the Spearman's Rank Correlation Coefficient as it is presented in the Table 4.6 below:

Table 4. 2: **Relationship between Financial Knowledge and Retirement Planning Behavior**

Variables			**Financial Knowledge**	**Retirement Planning**
Spearman's Rank Correlation Coefficient (Rho)	Financial Knowledge	R (Rho)	1.0000	0.9961
		Significance Level		0.05
		N	103	103
	Retirement Planning	R (Rho)	0.9961	1.0000
		Significance Level	0.05	
		N	103	103

Source: Primary Data (2022)

On financial knowledge and retirement planning behavior**,** according to what is in the Table 4. 6, the Spearman's Rank Correlation Coefficient value is 0.9961. When this calculated value is compared to the critical value which is 0.1941, the coefficient confirms that there is a strong positive correlation between financial knowledge and retirement planning. Thus, the increase in the level of knowledge implies the increase in retirement planning behavior of public health sector employees. However, the significance test to ensure the extent to which financial knowledge affects retirement planning was performed using ANOVA technique. The Table 4. 7

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presented the ANOVA results which provided the test significance for regression (SSR) and residual (SSE) using F-statistic as follows:

Table 4. 3: **ANOVA for Financial Knowledge and Retirement Planning Behavior**

Source	Sum of Squares	DF	Mean Square	F-statistic	Significance (p-value
Regression (SSR)	468	1	468	5.855	p-value ≤ 0.05
Residual (SSE)	3, 996.52	50	79.9304		
Total (SST)	4,464.52	51			

Source: Primary Data (2022)

In this analysis of the data as shown in the Table 4. 7, at the significance level of 5% (p-value ≤ 0.05) obtained F-statistic was 5.855. It is the greater value when it compared with the F-critical value which is 4.034. This implies that financial knowledge has a significant effect on retirement planning of public health sector employees in Ngororero District. Thus, the researcher failed to accept the Null Hypothesis. It is therefore rejected and the Alternative Hypothesis accepted. This is in line with the past empirical study as it was conducted by Appiah (2019) whereby it revealed that there is a significant relationship between knowledge in personal finance, financial management and saving behavior as people find it easy in the concerns of planning and implementing regular savings including saving for retirement.

Concerning financial behavior and Retirement Planning behavior of public health sector employees, the analysis of variance so as to assess how financial behavior affects retirement planning of public health sector employees in Ngororero District is displayed in the Table 4. 8 as follows:

Table 4. 4: **Relationship between Financial Behavior and Retirement Planning Behavior**

Variables			Financial Behavior	Retirement Planning
Spearman's	Financial	R (Rho)	1.0000	0.9995

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Rank Correlation Coefficient (Rho)	Behavior	Significance Level		0.05
		N	103	103
	Retirement Planning	R (Rho)	0.9995	1.0000
		Significance Level	0.05	
		N	103	103

Source: Primary Data (2022)

The analysis of the data found in the Table 4. 8 revealed that Computed Spearman's Rank Correlation Coefficient value is 0.9995. When this calculated value is compared to the critical value which is 0.1941, the coefficient confirms that there is a strong positive correlation between financial behavior and retirement planning. Therefore, the increase in the level of financial behavior of public sector employees implies in the increase in the level retirement planning among public health sector employees. The significance test to ensure the extent to which financial behavior affects retirement planning behavior was performed using ANOVA technique, as it is displayed in the Table 4. 9 below:

Table 4. 5: **ANOVA for Financial Behavior and Retirement Planning Behavior**

Source	**Sum of Squares**	**DF**	**Mean Square**	**F-statistic**	**Significance (p-value**
Regression (SSR)	11.975.6	4	2,993.9	11.691	p-value ≤ 0.05
Residual (SSE)	32,010.12	125	258.081		
Total (SST)	43,985.72	129			

Source: Primary Data (2022)

The analysis of the data found in the Table 4. 9 shows that, at the significance level of 5% (p-value ≤ 0.05) obtained F-statistic was 11.691. It is the greater value when it compared with the F-critical value which is 2.45. Thus, financial behavior has a significant effect on retirement planning of public health sector employees in Ngororero District. The researcher rejected the Null Hypothesis and accepted the Alternative Hypothesis. This means that financial behavior significantly influences the retirement planning behavior of public health sector employees. These findings correlate with those of Mndzebele and Kwenda (2020) which revealed that being financially prepared for retirement is a function of knowledge of financial instruments which

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would impact one's financial behavior. Overall, financial literacy variables significantly affect retirement planning behavior of public health sector employees in Ngororero District in the constructs of financial knowledge and financial behavior, at the significance level of 5% (p-value ≤ 0.05. This is explained by the fact that F-statistical values computed (observed) were more than critical values. Therefore, the Null Hypothesis is rejected and Alternative Hypothesis is accepted.

6. Conclusions and Recommendations

This study sought to examine how financial knowledge affects retirement planning behavior, to ascertain how financial behavior affects retirement planning behavior of public health sector employees in Ngororero District. On the basis of the key findings of this study the research objectives were attained and a number of conclusions were drawn. To the financial knowledge, the findings indicated that it has a significant effect on retirement planning. This is supported by the previous literature which stated that there is a significant relationship between knowledge in personal finance, financial management and saving behavior as people find it easy in their regular savings plans including saving for retirement. In relation to the financial behavior, the findings showed that it has a significant effect on retirement planning of public health sector employees in Ngororero District. These findings correlate with the findings of the past empirical studies, which showed that being financially prepared for retirement is a function of knowledge of financial instruments which would impact one's financial behavior.

The study recommended that Local Government Entities in Rwanda especially Districts and their Stakeholders would work together, for the sake of designing specific programs meant to increase the level of financial knowledge and skills in different sectors of economic activity in general and health sector in particular. The special attention would be given to the financial and managerial practices including planning, budgeting, resource mobilizations and utilization, saving, debt finance and loan management, investment, insurance and finally retirement planning. The Insurances Companies and Banking Institutions should design outreach programs towards employees in their working places so as to sensitize them about their various financial products as this would influence the people's financial behavior. The employers especially public health sector should embrace trainings om retirement saving plans and encourage the

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employees to make regular follow-up on their individual retirement saving accounts in Social Security Administration Bodies.

References

[1] Achari, D., Oduro, R. & Kwame, N. F. (2020). Financial Literacy on Retirement Planning of Workers of University of Mines and Technology of Tarkwa. *International Journal of Management Sciences, and Business Research.* Vol. 9. Issue 5.

[2] Ade, D. P. (2013). *The Effect of Financial Literacy on Pension Preparedness among Members of the Informal Sector in Kenya*. Master's Project. University of Nairobi.

[3] Adeabah, D. (2020). *Pension Literacy and Retirement Planning in an Emerging Economy*. Universty of Ghana. Business School. Legon, Ghana.

[4] Agravat, D. R. & Kaplelach, S. (2017). Effects of Demographic Characteristics on Micro Pension Uptake among Informal Employees of Kenya Port Authority. *Journal of Business and Strategic Management.* Vol. 2, Issue 2, 95-117.

[5] Aluodi, E., Njuguna, A. & Omboi, B. (2017). Effects of Financial Literacy on Retirement preparedness among Employees in Insurance Sector in Kenya. *International Journal of Business and Management.* Vol. 12, No. 10. Canadian Center of Science and Education.

[6] Amoah, R. A. (2016). *Assessing the Level and Impact of Financial Literacy on African Americans.* Dissertations and Doctoral Studies Collection. Walden University.

[7] Antoni, X. L., Saayman, M. &Vosloo, N. (2020). The Relationship between Financial Literacy and Retirement Planning in Nelson Mandela Bay. *International Journal of Business and Management Studies*. Vol. 12, No. 2.

[8] Appiah, J. (2019). *Financial Literacy and Saving Behavior among Teaching and Non-Teaching Staff of Swedru School of Business*. Master's Dissertation. University of Cape Coast, Ghana.

[9] Clark, R., Lusardi, A. & Mitchell, O. S. (2017). Employee Financial Literacy and Retirement Planning Behavior. A Case Study. *Economic Enquiry*. 55(1), 248-259.

GSJ: Volume 10, Issue 12, December 2022
ISSN 2320-9186
[10] Coile, C. C. (2015). Economic determinants of Workers' Retirement Decisions. *Journal of Economic Surveys*. 29(4), 83-853.

[11] Dauda, S., Tolos, H. & Ibrahim, Y. (2017). The Direct Predictors of Retirement Planning Behavior. A Study of Nigerian Workers. *Journal of Business and Management*. Volume 9. Issue 12, Version VI, 41-49.

[12] Demirguc-Kunt, A., Klapper, L., Singer, D. & Van Oudheusden, P. (2015). *The Global Findex Database 2014: Measuring Financial Inclusion around the World*. World Bank Policy Research Working Paper. (7255) 97.

[13] Dovie, D. A. (2018). Financial Literacy in African Society: An Essential Tool for Retirement Planning Behavior. *Contemporary Journal of African Studies*. Vol. 5, No. 2, 26-59.

[14] Fazli, S. M. & Tze Juen, T. (2014). The Influence of Financial Literacy, Saving Behavior and Financial Management on Retirement Confidence among Women Working in Malaysian Public Sector. *Asian Social Science*. Vol. 10, No. 4. Canadian Centre of Science and Education.

[15] FSDP II. (2013). *National Financial Education Strategy for Rwanda*. *Microfinance Opportunities*. FSDP II.

[16] Godwyll, P. (2018). *Financial Literacy and Retirement Planning of Employees in Ghana Immigration Services*. Master's Project. University of Cape Coast.

[17] Isaboke, E. M. & Kwasira, J. (2016). Assessment of Budgeting Process on Financial Performance of County of Government of Nakuru, Kenya. *International Journal of Economics, Commerce and Management*. Vol. IV. Issue 5. United Kingdom.

[18] Kafari, E. (2019). *Financial Literacy and Retirement Planning among Employees at Ghana GRID Company*. Master's Thesis. University of Coast, Ghana.

[19] Kimiyagahlam, F., Safari, M. & Mansori, S. (2019). Influencial Behavior Factors on Retirement Planning Behavior. The Case of Malaysia. *Journal of Financial Counseling and Planning*. Volume 30, Number 2, 244-261.

[20] Kirui, C. Z., Simiyu, E. & Ngaba, D. (2021). Personal Financial Management Practices and Demographic Factors on Financial Wellbeing of Medical Doctors Employed in Public Hospitals,

GSJ: Volume 10, Issue 12, December 2022
ISSN 2320-9186

Nairobi County, Kenya. *International Journal of Current Aspects in Finance, Banking and Accounting.* Volume 3, Issue 2: 30-50.

[21] Kulondwa, S. & Njoka, C. (2021). Financial Literacy and Personal Retirement Planning among Public Sector Employees in Bukavu City, The DRC. *Journal of Business and Management*. Vol. 23, Issue 3: 01-13.

[22] Lang'at, M. C. & Abdullah, A. (2019). Effects of Financial Literacy on Personal Financial Management in Kenya Airport Authority. *The Strategic Journal of Business and Change Management*. Vol. 6, Issue 3, 28-44.

[23] Mahlanza, T. J. (2015). *Factors influencing Retirement Savings Intensions in Botswana*. PhD Thesis. Deakin University, Australia.

[24] Mndzebele, Z. W. S. & Kwenda, F. (2020). The Effects of Financial Literacy on Financial Preparedness for Retirement among Academic Staff in Higher Learning Institutions in the Kingdom of Eswatini. *OECONOMICA*. Vol. 16. No. 5. Acta Universitatis Danubis.

[25] Mosongo, O. E., Ochieng, G. M. & Nyawira, J. (2015). Analysis of the Determinants on Retirement Planning in Kenya: A Survey of Registered Pension Schemes in Nairobi. *Research Journal of Finance and Accounting*, Vol. 6, No. 3.

[26] Mwai, C. (2018, June 08). Private Pensions Scheme Debuts in Rwanda. *New Times.*

[27] Njeri, M. R. & Duncan, E. (2017). Effects of Financial on Voluntary Retirement Planning among Employees of State Corporations under the Ministry of Health in Nairobi County, Kenya. *African Development Finance Journal*. Vol. 1, No. 1, 1-27.

[28] Ntirenganya, E. (2019, May 17). Ejo Heza: Can New Saving Schemes secure the Future of Informal Worker? *New Times*.

[29] Nyamweya, M. K. (2017). *Financial Factors affecting Retirement Planning by Saving and Credit Cooperative Societies Employees in Nakuru Town, Kenya.* Master's Thesis. Jomo Kenyatta University of Agriculture and Technology.

GSJ: Volume 10, Issue 12, December 2022
ISSN 2320-9186

[30] Ogoi, H. J. (2019). Role of Financial Literacy in Retirement Planning in Rwanda. A case of Rwanda Revenue Authority. *International Journal of Research in Management, Economics and Commerce.* Volume 9, Issue 4, 10-16.

[31] Patricia, D. & Fauziah, M. (2019). The Effect of Financial Literacy and Financial Management Behavior on Retirement Confidence. *Advances in Economics and Management Research*. Vol. 97. Atlantis Press, PICEEBA.

[32] Rasiah, R. et.al. (2020). A Structural Equation Modelling Study of the Determinants of Retirement Preparedness. *International Journal of Innovation, Creativity and Change*. Volume 11. Issue 6.

[33] RSSB. (2020). *Rwanda Social Security Board Strategic Plan July 2020-June 2025*. RSSB. Kigali.

[34] Schützeichel, T. (2019). *Financial Literacy and Saving for Retirement among Kenyan Households.* Technische Universität Münich.

[35] Selvadurai, V. (2018). *Financial Literacy Education and Retirement of the Urban Elderly in Malaysia.* PhD Thesis. University of Malaya.

[36] Tood, J. S. & Schuyler, M. R. (2017). *Retirement Planning: Important Factors Influencing a Service Member's Decision to Prepare for Retirement.* Naval Postgraduate School, Monterely, California, USA.

[37] Wamuyu, G. S. (2015). *Factors Influencing Retirement Planning and Saving of Women in Selected Private Secondary and Primary Schools in Nyeri County, Kenya*. Master's Thesis. Dedani Kimathi University of Technology.

[38] Zia, B., Randall, D. & Hakizimfura, E. (2018). *The Impact of Financial Education through Saving and Credit Cooperatives in Rwanda.* WBG, Washington D.C.