# Financial Literacy on Retirement Planning of Workers of University of Mines and Technology, Tarkwa

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***Abstract***
*Many studies conducted around the world emphasize the importance of financial literacy in this modern dispensation since in recent years financial literacy has been recognized as a key skill that leads to healthy financial attitudes. This study examines the effect of financial literacy on retirement planning using the workers in UMaT as a study. A total of 203 respondents were used for the study. The respondents were quizzed on their knowledge in general finance, savings and borrowing, insurance, investment and with some information on their retirement decisions and demographic factors. A quantitative approach was adopted for the study since it examines the relationship between financial literacy on retirement planning with a structured self-administered questionnaire as a mean for data. The study identified that financial literacy has a significant positive influence on retirement preparedness. The study documented recommendations from staffs on the need for employers to increase the amount of publications on financial education at the University Library and also organize financial literacy programs which will improve workers financial knowledge in order to help in their retirement planning. Further, based on the findings of this study, a national policy on financial literacy is urgently needed in Ghanaian education system to educate people at the early stages of their lives.*

***Keywords:*** *Financial Education;* Financial Illiteracy; Financial Knowledge; Financial Literacy; Retirement; Retirement Planning

## 1.0 Introduction

Retirement is the point where a person stops employment completely and is capable of supporting himself through alternative means such as investment, pension plans and so on (Hayman, 2014). The Government of Ghana i.e. the First Republic sort to help older workers get benefits after their long years of service to the country. To that end, the Asare Committee was setup in 1960 and on the 17th of February 1965 a Bill was passed known as the Social Security Act 1965 (Act 279) establishing the Social Security Fund to provide for contributors, benefit under superannuation, invalidity, survivors among others within the County. The Trust was established in 1972 under NRCD 127 to administer the National Social Security Scheme. Prior to 1972, the Scheme was administered jointly by the then Department of Pensions and the State Insurance Corporation. Until 1991, the Trust administered a Provident Fund Scheme, and this was converted into a social insurance pension scheme which was reformed in January 2010 by an Act of Parliament, Act 766. The Act replaced the previous-Cap 30 and SSNIT Pension Schemes. Act 766 introduced a contributory 3-Tier Pension Scheme; the establishment of a National Pensions Regulatory Authority (NPRA) to oversee the administration and management of registered pension schemes and trustees of registered schemes. Under the Act, Social Security and National Insurance Trust is to manage the basic National Social Security Scheme referred to as the 1st Tier. The other Tiers of the National Pension Scheme are:

- Tier 2 - A mandatory fully-funded and privately managed occupational scheme.
- Tier 3 - A voluntary fully-funded and privately managed provident Fund and Personal pension Plan.

The Social Security and National Insurance Trust (SSNIT) is a statutory public Trust charged under the National Pensions Act 2008 Act 766 with the administration of Ghana's Basic National Social Security Pension Scheme and to cater for the first tier of the contributory three-tier scheme. The Trust is currently the largest non-bank financial institution in the country. The primary responsibility is to replace part of lost income of Ghanaian workers or their dependents due to old age, invalidity, or loss of life. In Ghana, the retirement age for most workers is 60 years but in the Public Universities, some senior members have the opportunity to serve for 10 additional years. Those additional years are on a yearly renewal basis.

Retirement defines an increasing proportion of human life and activity, but the quality of that life can vary dramatically. Some seniors live in squalor (McDermott, Linahan, & Squires, 2009), while others look forward to spending their golden years housed (literally) on a cruise ship (Lindquist & Golub, 2004). Regardless of how each of us chooses to define a successful retirement, the ability to achieve it is largely determined by the extent to which we have planned for the financial demands as well as physical and psychosocial changes that occur during retirement, in other words, by the extent to which we have engaged in preretirement planning (Kim & Moen, 2001). Unfortunately, according to Schlossberg (2009), many people do not plan for retirement either because they are too busy with the present or are unable or unwilling to plan for the future. A temporal view on retirement recognizes that retirement is a process that unfolds over a period of time which begins with the preretirement phase, this is where one prepares his or her mind towards retirement, followed by the retirement decision/event. Postretirement is the last phase which is most viewed by the adjustment one has to make without active work.

This adjustment one has to make towards retirement are the effective plans that much be put in place before retirement which in effect will either make your postretirement life a good or bad phase. Questions like where to live and what to do after retirement are some questions one has to answers to in order to enjoy life after his/her transition. However, another important part of retirement planning that should put in to consideration are the effects of retirement on one's relationships with life partners, friends, family members, and others who form part of one's social support. There is ample evidence that retirement changes more than just the style of living; it changes relationships and one's sense of self (Atchley, 1992; Kim & Moen, 2002; Smith & Moen, 2004; Szinovacz, 2003; Szinovacz & Davey, 2005).

Retirement planning therefore is, the planning one does to be prepared for life after paid work ends, not just financially but in all aspects of life. The non-financial aspects include lifestyle choices such as how to spend time in retirement, where to live, when to completely quit working, etc. A holistic approach to retirement planning considers all of these areas. The emphasis one puts on retirement planning differs throughout different life stages. Early in a person's working life, retirement planning is about setting aside enough money for retirement. During the middle of an individual's career, it might also include setting specific income or asset targets and taking the steps to achieve them. In the few years leading up to retirement, financial assets are more or less determined, and so the emphasis changes to non-financial, lifestyle aspects. The period in a person's life following retirement in which earning income has come to a stop and the person is living off government subsidy, retirement plans, investments and/or money saved for retirement.

For one to make good plans and live comfortably during retirement, wise financial decisions during their working life must be made of which being financial literacy is in the right direction. Financial literacy affects financial decision-making; ignorance about basic financial concepts can be linked to lack of retirement planning, lack of participation in the stock market, and poor borrowing behavior. (Lusardi, 2008). Financial illiteracy is a growing economic and social concern garnering greater attention from consumer advocates, scholars, governmental agencies and policymakers. (Harnisch, 2010). The Government Accountability Office (GAO, N.D) defines financial literacy as "...the ability to make informed judgments and take effective actions regarding the current and future use and management of money." The inadequate financial literacy or financial illiteracy may lead to making poor financial choices that can have negative consequences on the financial well-being of an individual. Financial illiteracy comes about when one does not have the knowledge to take good financial decisions. It is believed that financial illiteracy coupled with other factors accounted for the recent mortgage crisis, consumer indebtedness, and household bankruptcy rate (Huston, 2010).

In conclusion, economists have been seeking to understand the links between financial literacy, retirement planning, and wealth for the last decade. This research is beginning to attribute retirement shortfalls to the fact that many workers are poorly informed about basic economic and financial concepts, including the meaning of compound interest and risk diversification etc. Such financial illiteracy is widespread, as shown by the National Council on Economic Education (2005) which found poor knowledge of key economic concepts among both high school students and working-age adults. There is also frequently a mismatch between what people think they know and objectively measured financial knowledge (Agnew & Szykman, 2008). Strikingly, people tend to be remarkably uninformed about two key sources of retirement income, namely Social Security benefits and pensions, and they often fail to understand loans and mortgages (Gustman & Steinmeier, 2004; Moore, 2003). This form of financial illiteracy could be felt across all sectors of the economy if it is allowed to persist, which cuts across all ages, cultures and income levels. The idea of a strong formal educational system as a solution to financial illiteracy is not farfetched as recent years have shown through the provision of empirical evidence by researchers to show the positive relationship between formal education and financial literacy (Lusardi & Mitchell 2007, 2011; Mandell & Klein, 2009).

## 2.0 Literature Review

## 2.1 Theoretical Review

### 2.1.1 Career Construction Theory

Savickas (2005) expanded on the work of Super (1980) to develop the career construction theory, which focuses on how individuals construct their life roles, including their careers, framed within the environment and other life domains. According to Savickas, one's career is constructed through the meaning placed on behaviors related to work life, in the context of her or his environment and experiences with others. While both Super and Savickas focused on the importance of life roles over time and used similar terms to describe life stages, Savickas diverged from Super's LCR by discouraging a focus on sequential career tasks and stages, and instead emphasizing career paths that are less predictable. Thus, individuals may move through a "mini-cycle of growth, exploration, establishment, management, and disengagement" (Savickas, 2002) during each career transition, which may result from planned career changes or from unplanned events such as layoffs or disabling illness or injury. Indeed, career construction theory focuses on the changing landscape of the world of work, and the importance of individual adaptability in response to these changes.

Career construction theory appears highly applicable to the conceptualization of retirement decisions and counseling with older workers. While the theory does not explicitly discuss retirement in the career development process, it does view career development as a fluid, lifelong process, as opposed to one that ends once an initial career decision has been made. The theory also takes other life roles into account, allowing retirement decisions to be considered in the context of other salient identities (e.g. spouse, grandparent, hobbyist, etc.). Of additional importance is the theory's focus on contextual factors as they relate to career decisions. Regarding retirement, this allows for the consideration of societal, institutional, and economic factors that might influence the decisions older workers make. The influence of culture also appears particularly salient from a constructionist perspective. Since the theory focuses on the meaning individuals make within their environment, clearly cultural context would be relevant.

A number of concepts within career construction theory appear particularly suited to retirement issues. In particular, Savickas focused on the concept of adaptability, which is quite relevant to retirement considerations in the 21st century. Savickas (1997) describes adaptability as, "the quality of being able to change, without great difficulty, to fit new or changed circumstances". Regarding the workplace, this includes readiness to cope with changes in working life. Adaptability resources include having a degree of concern about the future, the ability to take control of one's own vocational planning, curiosity about different roles one might adopt, and the confidence to pursue one's goals (Savickas & Porfeli, 2012). With the changing nature of work and the complexity involved in retirement decisions, relevant issues related to adaptability for older workers might involve the seeking out of continued learning and the development of new skills, or reorganizing one's budget based on changes in pension plans or health care costs. The concept of career management is also relevant for retirement concerns. Career management encourages workers to take responsibility and ownership for their own career paths, as opposed to expecting an employer to manage workers' careers for them. The cross-cultural validity of the construct of adaptability has recently been supported through an international project validating the Career Adapt-Abilities Scale (CAAS) in 13 countries (Savickas & Porfeli, 20 12). However, this theory has not yet been tested with individuals from racial and ethnic minority groups who are adjusting to life outside of their countries of origin. It is not yet clear how forces that limit personal volition, such as discrimination, can be incorporated into the construct of adaptability, particularly regarding control.

### 2.1.2 The Theory of Continuity

This theory is based on the premise that older adults who preserve a similar lifestyle in retirement as they previously had will have a higher level of psychological well-being (Atchley, 1989). According to Feldman and Beehr (2011), bridge employment among other gradual transitions into retirement helps older adults to maintain structure and their self-image through meaningful activities. Specifically, research on bridge employment corroborates the basic tenets of continuity theory in that individuals who enjoy their work or succeed in their careers tend to choose same-career bridge employment whereas other- field bridge employment often occurs in response to job strain (Gobeski & Beehr, 2009). Unlike the abrupt transition associated with disengagement theory, continuity theory recognizes the disadvantages of a complete cessation from work without having other aspirations. Therefore, this model addresses retirement as a stage of life and recognizes that well-being is connected to balancing work and life satisfaction.

In 2011, Pushkar, Chaikelson, Conway, Etezadi, Giannopoulus, Li and Wrosch tested the continuity theory to determine whether older adults decrease the number of activities they engage in while the frequency of meaningful activities remained consistent. Moreover, Pushkar and colleagues examined if positive affect was associated with individuals reporting that their activities were important. Their results support continuity theory in that older adults maintained a consistent level of participation in enjoyable activities while limiting their involvement in less important activities, and psychological wellbeing was correlated with finding meaning in their activities.

Continuity theory argues that peoples’ basic nature does not change much from before to after retirement. The theory is also related to decision making of retirement and it is more on how people perceive themselves and their roles in the larger societal context. Retirement preparation both formally and informally might increase subject's confidence in their abilities in making retirement transition later. According to Carter and Cook (1995), workers who value their role in a firm are likely to suffer from job involvement psychologically. Workers in the second sub-dimension are workers who work at prestigious and renowned firms, develop some attachment to the firm, and would like to be identified in society with the firm. The final sub-dimension classifies workers who have developed an attachment and value their role in their profession. Workers with higher degrees of attachment in any of these three sub-dimensions are prone to avoid retirement and ultimately planning for retirement as well (Adams & Rau, 2011).

### 2.1.3 Life Cycle Theory

The life cycle theory is used to explain how rational consumers plan their consumption and wealth accumulation over their life span. Ando and Modigliani (1963) suggest in his theory that, for an individual to have a stable life they must even out consumption throughout their lives. Thus, they store assets during the early stages of their working lives, then during the latter part of their lives fall on the stock of assets. To smoothing out consumption, the average propensity to consume must be higher in the early stages in life because individuals would have to use their savings or borrow money against future income, while older or middle-aged individuals must have a greater propensity to save, as they get closer to retirement (Ando & Modigliani, 1963). Although the life cycle economic theory as a model does not give a complete and exact representation of the realities of retirement planning, the ideas within the model are laudable (Burtless, 2006). The life cycle economic theory gives researchers and financial practitioners a stepping-stone to build an understanding of retirement as not a single event in the lives of individuals but as a transition which encompasses contextual and psychological factors that come together to explaining the retirement process holistically (Adams, Prescher, Beehr, & Lepisto, 2002). This theory has invariable been hailed as the foundation for our knowledge in financial preparation. However, there are flaws in the assumptions that are raised by the life cycle economic theory due to the fact that though people know their current earnings, they may not know their future earnings (Adams & Rau, 2011).

### 2.2 Related Concepts to Financial Literacy

Financial literacy is used interchangeably with financial knowledge and financial education in several literatures to represent the same thing leading to inability of writers to construct a standardized test for measuring financial literacy (Huston, 2010). However, some writers have managed to show some boundaries between these three dimensions. These related concepts are reviewed below.

#### 2.2.1 Financial Knowledge

Over the years, authors have used financial literacy and financial knowledge interchangeably in their literature to mean the same thing. Financial knowledge is the stock of knowledge acquired through education and/or experience specifically related to essential personal finance concepts and products (Huston, 2010). Financial literacy on the other hand is the ability and confidence to apply or use knowledge related to personal finance concepts and products. Financial knowledge plays a key role in the drive to attain financial literacy as it can be seen as a foundation on which other dimensions of financial literacy depends on. Financial knowledge is a determinant of proper management of savings, retirement planning, debt management and other financial behaviors (Huston, 2010).

A dissection of the financial literacy definition establishes the existence of two key dimensions. First, the consumer must have the knowledge to equip him or her to make financial and/or economic decisions. The second aspect dwells on the application dimension, which is the ability and the confidence of the individual to use the knowledge he or she has acquired to make financial and/or economic decisions. Therefore, financial knowledge should be seen as a subset but not to be expressed as financial literacy.

#### 2.2.2 Financial Education

For better understanding of financial literacy, various researchers have either understand financial education and its impact on financial literacy or have likened financial literacy to financial education. Financial education as defined by the Presidential Advisory Council on Financial Literacy (PACFL, 2008) as a means through which people upgrade the way they comprehend financial products, services and concepts, in efforts to empower themselves to make conscious decisions, avoid pitfalls, know to go for guidance and take other actions to consolidate their current and future financial wellbeing. The core theme in this definition is that financial education is seen as a process for getting the required training and understanding of financial concepts and packages.

The OECD (2012) defines financial education as "the process by which financial consumers/ investors improve their understanding of financial products and concepts and through information, instruction and/or objective advice, develop the skills and confidence to become more aware of financial risks and opportunities, to make informed choices, to know where to go for help and to take other effective actions to improve their financial wellbeing". Again, the major theme in the definition above is the improvement of the consumers understanding of financial products and their features. By doing so, the consumer can use the knowledge acquired through training (education) to make sound financial judgments and take the right decisions to maximize their wealth. Financial education is cardinal to consumers' comprehension of financial opportunities, decisions and payoffs. Financial education can translate into saving (wealth accumulation) and the proper management of debt as consumers come to understand the value of money and market forces (Lusardi & Mitchell, 2005). Financial education programs in the United States and elsewhere have been implemented over the years in several different settings: in schools, workplaces, and libraries, and sometimes population subgroups have been targeted. As one example, several U.S. states mandated financial education in high school at different points in time, generating "natural experiments" utilized by Bernheim, Garrett and Maki (2001), one of the earliest studies in this literature.

To support the influence that financial education has on financial behavior, international regulatory authorities have taken a keen interest in knowing the levels of financial literacy of various countries and sub regions and the implementation of policies and guidelines to establish financial education programs that would increase financial literacy rates and therefore positively influence the consumers' behavior related to financial products and services.

### 2.2.3 Financial Capability

In many studies about financial literacy, financial capabilities are mostly mentioned. The word capability can be best explained by Harvard Professor Amartya Sen as the opportunity to achieve valuable combinations of human functioning, thus, what a person is able to do or be (Sen, 2005). In this vain, financial capability is the ability of a consumer to use their knowledge about financial concepts and products and have access to financial products and services that allow them to act in their best financial interest. Thorough breakdown of the definition shows that capability takes into account not only the individuals' internal capabilities (i.e. knowledge and skills) but also the external conditions and array of opportunities available (e.g. access to products services and institutions). Financial capabilities stretch beyond an individual perspective to a structural extent. In a broader sense, financial capability to some extent depends on financial literacy and this serves as the bases for distinction between financial literacy and financial capabilities, as financial literacy is seen as a subset of financial capabilities. According to Nussbaum (2011), people may possess the required- internal capabilities but the nonexistence of external conditions in the society makes them incapable and the reverse is true. He stresses the need for policy, lawmakers, and service providers to provide a framework that presents to the individuals the full range of capabilities needed for their well-being. It is however not quite clear in terms of dependency, as to which of these two concepts leads to the other.

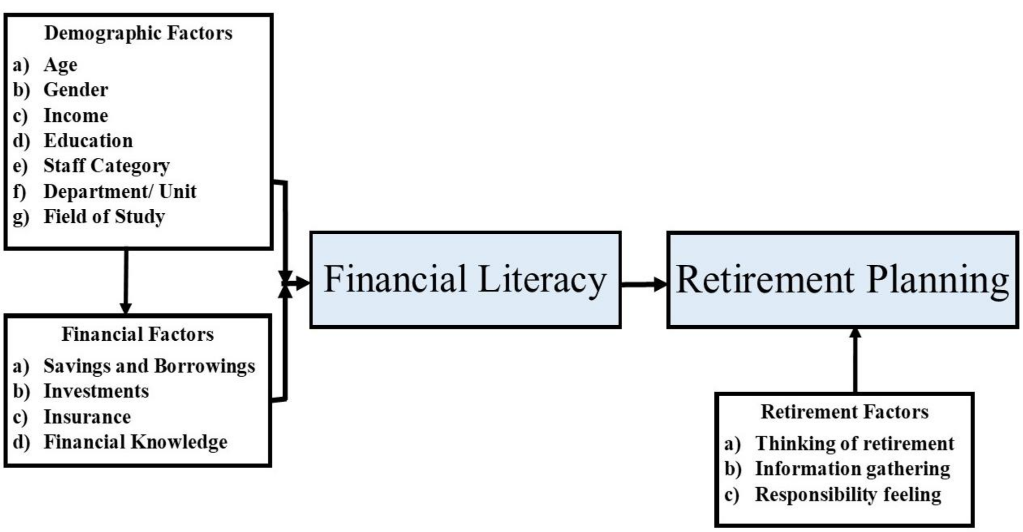


***Figure 1- Conceptual framework relating financial literacy and retirement planning***

## 3.0 Research Method and Design

### 3.1 Research Design

Studies all over the world are guided by research paradigms in the understanding, organization and observation of concept understudy. The philosophy that the researcher may use as a tool for understanding the social world is all imbibed in his choice of research paradigm (Neuman, 2006). This research employed a positivist paradigm since it seeks to objectively investigate the effect of financial literacy on retirement planning among workers using procedures and approaches that can be replicated. It seeks to establish the relationship between several factors that has effect on financial literacy by gathering quantitative data through a survey instrument.

The study would adopt a quantitative approach, by using a descriptive design to explain the results. The rationale for this method is that quantitative research measures the properties of phenomena systematically, using structured data-collection techniques, and requires that data collected be expressed in numbers; that is quantified (Babbie & Mouton, 2002). According to Polit and Hungler (1996), quantitative research involves the systematic collection of numerical information often under conditions of considerable control and the analysis of that information. This study sought to verify the findings of some previous studies on effect of financial literacy on retirement planning hence the choice of quantitative method.

### 3.2 Study Area

The research was based on the primary data collected by the researcher on the field. The primary data was gathered through the use of a structured self- administered questionnaire. The study area is the University of Mines and Technology, UMaT - Tarkwa, which is the only public full University in the Western Region of Ghana. The University has two groups that is the staff (senior members, senior staffs and junior staffs) with a population of about 450 and students (Undergraduate and Postgraduate) with a population of about 2,200.

### 3.3 Study Population and Sampling Procedure

The population of a study is the finite or infinite set of objects, elements, people or items that possesses the characteristics of interest to the researcher (Kothari, 2004). The identification of the population for a study is the first step in drawing a sample for measurement of the characteristics of interest. The population for research is made up of the staff of UMaT totaling four hundred and fifty (450) and below the retirement age. There are 148 senior members, 145 senior staff and 157 junior staffs. Therefore, workers that fall within this category was considered for this study. For every scientific study, the sample size is the number of items that is selected from the universal set (Neuman, 2006). Selecting an optimum sample size is the key to attaining the efficiency, representativeness, reliability and flexibility (Saunder, Lewis, & Thornhill, 2007). The sample size was determined based on Tabachnick and Fidell (2007) suggestion that for regression analysis, the minimum sample size (N) should be N ~50 + 8m; where M = the number of predictor variables and N is the sample size in the research. In this research, the number of independent variables is 4. The sample size becomes equal or more than 82 but three hundred (300) workers was targeted for the study at a confidence interval of 95%. This sample size helped us draw good inferences about the targeted population of UMaT, also addressed the challenge of access to the complete population, cost and time effective.

### 3.4 Regression Equation

$RTP = \alpha + \beta GFK + \varphi SNB + \psi INV + \sigma INS + \varepsilon_i$

**Table 1- Break Down of Targeted Sample (300)**

| Staff Category | Number of Staff | Stratified Technique | Sub - Sample |
|---|---|---|---|
| Senior Members | 148 | $\frac{148}{450} * 300)$ | **99** |
| Senior Staff | 145 | $(\frac{145}{450} * 300)$ | **97** |
| Junior Staff | 157 | $(\frac{157}{450} * 300)$ | **104** |
| **Total Sample** | | | **300** |

This study combines probability and non-probability sampling techniques in selecting the workers. This is because we had to give a proper representation of the whole staff categories, departments and gender within the University. This probability sampling techniques will be the stratified random sample which is a method of sampling which involves the division of a population into smaller groups known as strata which was used to help divide the worker in the staff categories of the University that is senior members, senior staff and junior staff. The non-probability sampling technique employed was the quota sample which is a sample taken from a stratified population by sampling until a pre-assigned quota in each stratum is represented will also be used to select the Male and Female at each staff categories so that gender balance will in this research. This study used the UMaT grading system as a means to grade workers in both financial literacy and retirement planning. This helped know the total number of workers who either passed or failed in financial literacy and retirement planning in relation with UMaT grading system.

### 3.6. Data Collection Instruments

The research was based on the primary data collected by the researcher on the field. The primary data was gathered using a structured self-administered questionnaire. The questionnaire was designed to cover all the objectives set by the research. The questionnaires encompassed questions about measures of financial literacy such general finance knowledge, savings and borrowing, investment and insurance together with questions on demographic, retirement planning and challenges in accessing these knowledges using the Linear Regression at a means of estimation.

A seven section questionnaire was used in this study, Section one consisted of demographics, Section two consisted of measures for general finance knowledge, Section three consisted of measures for savings and borrowing, Section four consisted of measures for investment, Section five consisted of measures for insurance, Section six consisted of measures for retirement planning by how people think about retirement, the information they gather and how people feel responsible and Section seven consisted of items measuring challenges in accessing financial knowledge.

### 3.8 Data Processing and Analysis

Data collected from the field was analyzed using statistical packages and presented in the form of tables and charts. Statistical package that was used in analyzing the data gathered from the field was Microsoft Excel (2016 edition), and SPSS statistical packages (version 21) with AMOS. The analysis of the data includes descriptive statistic like frequencies, graphs and regression to help understand the effect of financial literacy on retirement planning from the all the seven sections of the questionnaire. The choice of these techniques of analysis was arrived at after a careful consideration of the various methods used by renowned researchers in the field from existing literature (Rooij, Lusardi & Alessie, 2009; Lusardi & Mitchell, 2005). This helped in testing our hypothesis which is whether or not financial literacy has significant influence on retirement preparedness.

## 4.0 Results and Discussions

### 4.1 Descriptive Statistics on Socio-Demographic Respondents

In order to understand the role demographic factors, play in affecting financial literacy on retirement planning, the questionnaire asked questions to cover some areas of demographics. The demographics sought included ages, gender, incomes, educational background and the field of study, which is needed to study the effect of demographic factors on financial literacy as captured by the conceptual framework. Both financial literacy and retirement planning were scored. This was done to help measure the number of workers who passed against those who failed or do not have knowledge in both financial literacy and retirement planning. Financial literacy score is the summation of all the variables used for measuring financial literacy (investment, insurance, personal finance and savings and borrowing), the sum value is then divided by the total respondents and multiplied by 100% to find the percentage value which is used as a score. Retirement planning score is done similarly using the questions under section six of the questionnaire. Figure 2 gives the financial literacy scores for the entire staff category and a detailed breakdown in relation to each staff category's grade using the UMaT grading system as a point of reference.

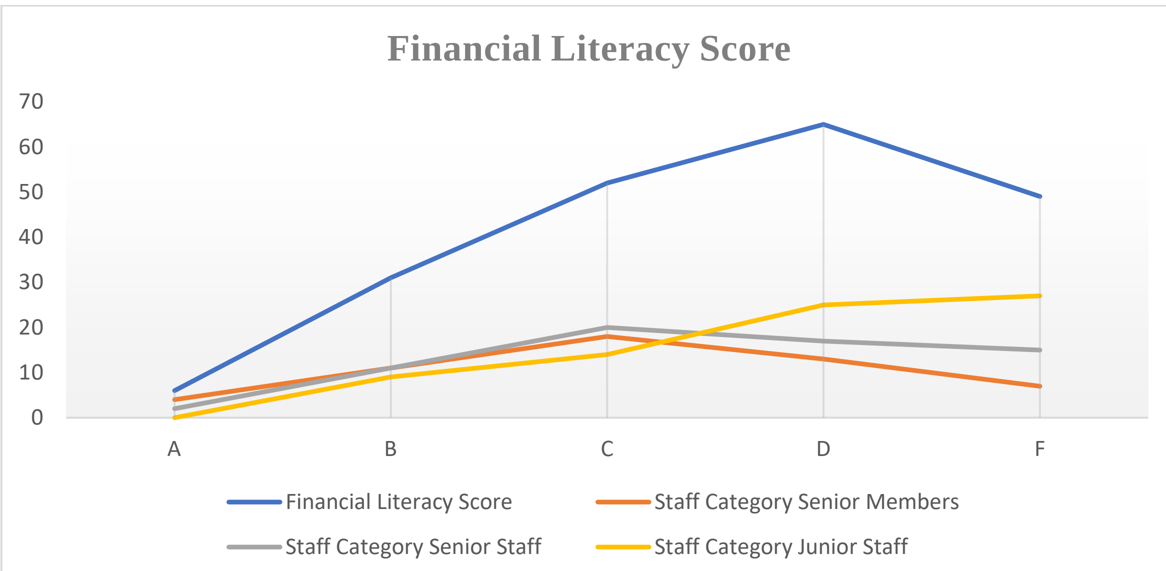


***Figure 2 - Financial Literacy Score against scores from each staff category***

Figure 2 also shows that only 6 workers out of the 203 respondents scored very high in the financial literacy test of which 4 are senior members, 2 senior staff and none for junior staff. On the average, most of the workers were found between grade C and D which is 52 and 65 workers respectively but in all, Junior Staff had the highest F score grade (27) in the financial literacy test. In terms of retirement planning, most workers think about their retirement since grade A to C has a high number of workers combined (119) than D and F (84). This is shown by the higher number of workers who had grade A (52) compared to their grade in the retirement planning test. Using the UMaT grading system, we can observe that many workers (154) passed the financial literacy test because most of the workers got above 50%.

**Table 2-Patterns of Responses for Income**

| Income Range | Frequency | Percent | Grade Score | | | | |
|---|---|---|---|---|---|---|---|
| | | | A | B | C | D | F |
| under GH¢1,000.00 | 69 | 35.0 | 0 | 8 | 11 | 21 | 29 |
| GH¢1,000.00 - GH¢1,999.00 | 53 | 26.9 | 1 | 5 | 17 | 20 | 10 |
| GH¢2,000.00 - GH¢2,999.00 | 22 | 11.2 | 1 | 6 | 5 | 6 | 4 |
| GH¢3,000.00 - GH¢3,999.00 | 17 | 8.6 | 1 | 5 | 2 | 6 | 3 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| GH¢4,000.00 - GH¢4,999.00 | 16 | 8.1 | 0 | 3 | 9 | 4 | 0 |
| GH¢5,000.00 and above | 20 | 10.2 | 3 | 3 | 6 | 5 | 3 |
| **Financial Literacy Score** | | | **6** | **31** | **52** | **65** | **49** |
| under GH¢1,000.00 | 69 | 35.0 | 8 | 7 | 10 | 7 | 37 |
| GH¢1,000.00 - GH¢1,999.00 | 53 | 26.9 | 12 | 9 | 11 | 7 | 14 |
| GH¢2,000.00 - GH¢2,999.00 | 22 | 11.2 | 7 | 1 | 8 | 4 | 2 |
| GH¢3,000.00 - GH¢3,999.00 | 17 | 8.6 | 7 | 3 | 4 | 3 | 0 |
| GH¢4,000.00 - GH¢4,999.00 | 16 | 8.1 | 3 | 5 | 3 | 3 | 2 |
| GH¢5,000.00 and above | 20 | 10.2 | 12 | 5 | 0 | 2 | 1 |
| **Retirement Planning Score** | | | **52** | **30** | **37** | **26** | **58** |

According to Abu Mansor et al (2012), the level of income of employees have been known to influence the form of financial education an employee seeks for and also agreed with the existing theory that change is career and retirement phase of life will influence a worker's financial education. This is tested by comparing income with their financial literacy levels. Even though the total response was 203, from the table 2, a total of 197 was observed which means 6 respondents were unwilling to disclose their income for the study. The table also shows that 35% of the workers have a total of less than GH¢1,000.00 as income per month which is the highest in this study and 8% for between GH¢4,000.00 - GH¢4,999.00 as income per month being the lowest. Table 2 again gives more evidence to what Abu Mansor et al (2012) gave as an explanation to the fact that people who have higher income are more motivated to seek professional help regarding investment-related decision, but the people who come from lower income group and had less income are less likely to look for professional help on retirement investment decisions. This is true as the study shows that on the average high pass rate for both the financial literacy and retirement planning are workers with high income compared to low income workers.

**Table 3-Patterns of Responses for educational level**

| Educational Level | Frequency | Percent | Grade Score | | | | |
|---|---|---|---|---|---|---|---|
| | | | A | B | C | D | F |
| None/ JHS or Middle school | 45 | 22 | 0 | 6 | 9 | 11 | 19 |
| SHS or equivalent | 31 | 15 | 0 | 3 | 8 | 14 | 6 |
| Training college, Nursing training, Polytechnic or equivalent | 12 | 6 | 0 | 0 | 3 | 7 | 2 |
| Bachelor's Degree | 44 | 22 | 0 | 5 | 9 | 15 | 15 |
| Master's Degree | 58 | 29 | 5 | 14 | 19 | 15 | 5 |
| Doctorate Degree | 13 | 6 | 1 | 3 | 4 | 3 | 2 |
| **Financial Literacy Score** | | | **6** | **31** | **52** | **65** | **49** |
| None/ JHS or Middle school | 45 | 22 | 4 | 4 | 6 | 1 | 30 |
| SHS or equivalent | 31 | 15 | 7 | 3 | 6 | 6 | 9 |
| Training college, Nursing training, Polytechnic or equivalent degree | 12 | 6 | 4 | 1 | 2 | 2 | 3 |
| Bachelor's Degree | 44 | 22 | 9 | 5 | 10 | 8 | 12 |
| Master's Degree | 58 | 29 | 24 | 13 | 11 | 7 | 3 |
| Doctorate Degree | 13 | 6 | 4 | 4 | 2 | 2 | 1 |
| **Retirement Planning Score** | | | **52** | **30** | **37** | **26** | **58** |

Due to the diversity of programs read by staff through their education, this study gathered information about the basic courses that workers read at the JHS or Middle level and below, at the senior high level before branching off to the tertiary level upwards. It therefore assumed that students are bound to get exposure to financial issues and education during their school life either through the boarding house system or through their field of studies in school. In respect of this level of education, of the 203 respondents, workers with Master's Degree had the highest with 29% followed by both Bachelor's Degree and None/ JHS or Middle school level with 22%, 15% at the SHS or equivalent level and, both Doctorate Degree and Training College, Nursing Training, Polytechnic or equivalent had a joint lowest of 6%. Table 3 shows that workers with Bachelor's degree and above tend to be more financial literate than those below bachelor's degree. It also shows the same condition towards their retirement planning.

**Table 4-ANOVA of the effect of Demographic on Financial literacy**

| | | Sum of Squares | Df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| **Q3** | Between Groups | 70.540 | 21 | 3.359 | 1.209 | .248 |
| | Within Groups | 500.073 | 180 | 2.778 | | |
| | Total | 570.614 | 201 | | | |
| **Q4** | Between Groups | 4.771 | 20 | .239 | 1.240 | .227 |
| | Within Groups | 34.058 | 177 | .192 | | |
| | Total | 38.828 | 197 | | | |
| **Q5** | Between Groups | 120.122 | 21 | 5.720 | 2.297 | .002 |
| | Within Groups | 435.746 | 175 | 2.490 | | |
| | Total | 555.868 | 196 | | | |
| **Q6** | Between Groups | 93.459 | 21 | 4.450 | 1.676 | .038 |
| | Within Groups | 480.570 | 181 | 2.655 | | |
| | Total | 574.030 | 202 | | | |
| **Q7** | Between Groups | 94.276 | 21 | 4.489 | 1.185 | .270 |
| | Within Groups | 663.146 | 175 | 3.789 | | |
| | Total | 757.421 | 196 | | | |

***Note: Q3, Q4, Q5, Q6 & Q7 are questions on Age, Gender, Income, Educational level and Field of Study.***

From the table 4, the significant value of the F -stat of Q5 is 2.297 and Q6 is 1.676 with a significant value of 0.002 and 0.038 respectively. These values are less than the significant level of 0.05, which means that both income and educational levels have an effect on the financial literacy level of workers in UMaT. While the F-stat ofQ3 is 1.209, Q4 is 1.240 and Q7 is 1.185 while 0.248, 0.227 and 0.270 respectively as significant values, this implies age, gender and field of study are statistical not significant. This show that they do not has any effect on the financial literacy level of workers in UMaT. This agreed with Githui and Ngare (2014) that other factors like income and educational levels that has effect on financial literacy also has a positive impact on retirement planning.

## 4.2 Influence of Financial Literacy on Retirement Planning Decisions

In order to investigate the effect of financial literacy on retirement planning of workers in public Universities in Ghana, the questionnaire asked questions to cover the areas about the indicators or measures of financial literacy. These questions helped measure the impact of both indicators of financial literacy individually and financial literacy on workers on retirement planning.

**Table 5-Model Summary of Indicators of Financial Literacy on Retirement Planning**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Durbin-Watson |
|---|---|---|---|---|---|
| 1 | .465[a] | .216 | .200 | 6.01855 | 1.563 |

***a. Predictors: (Constant), INS, INV, SNB, GFK b. Dependent Variable: RTP***

**Table 6-Coefficients of the Regression of Indicators of Financial Literacy on Retirement Planning**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | Collinearity Statistics | |
|---|---|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | | Tolerance | VIF |
| 1 | (Constant) | 3.670 | 2.542 | | 1.444 | .150 | | |
| | GFK | 2.883 | .644 | .305 | 4.478 | .000 | .880 | 1.136 |
| | SNB | 1.760 | .502 | .238 | 3.505 | .001 | .883 | 1.133 |
| | INV | .149 | .191 | .051 | .779 | .437 | .957 | 1.045 |
| | INS | .517 | .479 | .073 | 1.079 | .282 | .891 | 1.122 |

**Note:** RTP – Retirement Planning, GFK – General Finance Knowledge, SNB – Savings and Borrowing, INV – Investments and INS – Insurance

a. Dependent Variable: RTP

The measure of the individual indicators of financial literacy in tables 6 is to show how significant each individual indicator is on the dependent variable (RTP). According to Hair, Black, Babin and Anderson (2013), for a minimum R Squared ($R^2$) to be considered statistically significant, then with a sample size of between 100 -250 at significant level 0.05 should have at least 4 – 10 percent R Square when its independent variables is between zero to two, which explains the variation in the dependent variable that is being explained by an adjustment in an independent variable in the regression model. This mean the R Squared ($R^2$) of 21.6% and Adjusted R Square of 20% showed that the study regression is significant has shown in table 5. In table 6, both GFk and SNB are significant whiles both INV and INS not significant because UMaT workers have shown less knowledge in both investment and insurances. This is why a lot of workers are not maximizing the opportunities with investments and insurance to help increase their potential retirement benefits. From the results, the test of multicollinearity can be assessed using the Tolerance and the VIF from the collinearity statistics diagnostics section. From Adam (2015), if all the Tolerance values are greater than 0.10, it means there no multicollinearity among the independent variables as shown in table 6. The Variance Inflation Factor (VIF) also indicate that there is no multicollinearity among the independent variables since all the VIF values are less than 10. The Durbin-Watson value of l.563 in table 5 indicate that there is no auto-correlation among the residuals in the regression model. This is because the Durbin-Watson statistics is greater than l. 5 and less than 2.5.

## 4.3 Test of Research Hypothesis

The research hypothesis, below was tested to better understand the research objectives stated. That is;
**Ho:** Financial literacy does not have a significant influence on retirement preparedness.
**$H_1$:** Financial literacy has significant influence on retirement preparedness.

**Table 7-Coefficients of Financial Literacy on Retirement Planning**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | T | Sig. | Collinearity Statistics | |
|---|---|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | | Tolerance | VIF |
| 1 | (Constant) | 8.093 | 2.281 | | 3.548 | .000 | | |
| | FL | .643 | .141 | .308 | 4.558 | .000 | 1.000 | 1.000 |

a. Dependent Variable: RTP

From the result presented in table 7, the Unstandardized Coefficient implies that we intend to predict and forecast. Therefore, the constant term from the result is 8.093 and the coefficient of FL is 0.064. From the decision rule, when sig values are less than 0.05, reject the null hypothesis and fail to reject when greater. Both the sig values of the constant and FL are less than 0.05, so we reject the null hypothesis. The sig value of the F-stat of 20.772 is 0.000 < 0.05, thus we reject the null hypothesis that financial literacy does not have a significant influence on retirement preparedness. Worker's level of financial literacy has an effect on the way they make decisions towards their retirement in UMaT which also agrees with Gitari (2012) on this study to investigate the relationship between financial literacy and retirement planning in Nairobi which also shown a significant relationship between the two. In conclusion, the linear regression model can explain variation in the dependent variable.

### 4.4 Challenges in Accessing Financial Knowledge

Financial knowledge plays a key role in the drive to attain financial freedom as it can be seen as a foundation on which other dimensions of financial literacy depends on. Financial knowledge is a determinant of proper management of savings, retirement planning, debt management and other financial behaviors (Huston, 2010). Questions on challenges in accessing this information were asked to understand workers unavailability in getting that information about financial knowledge to help increase their literacy in financial and retirement planning.

**Table 8-Responses to Accessing Financial Knowledge**

| Challenges | Answers | Frequency | Percent |
|---|---|---|---|
| **How often does your employer organize financial education courses or seminars for you?** | Never | 66 | 33 |
| | Rarely | 65 | 33 |
| | Sometimes | 61 | 31 |
| | Often | 5 | 2 |
| | Always | 2 | 1 |
| **What is your level of satisfaction with the role(s) your employer plays in your preparation towards retirement?** | Not satisfied at all | 34 | 17 |
| | Not satisfied | 50 | 25 |
| | Uncertain | 64 | 32 |
| | Satisfied | 41 | 21 |
| | Very satisfied | 9 | 5 |
| **Do you take personal financial lessons?** | Never | 34 | 17 |
| | Rarely | 39 | 19 |
| | Sometimes | 82 | 41 |
| | Often | 26 | 13 |
| | Always | 20 | 10 |

From the results in table 8, we observed that financial education courses/ seminars are not organized often for the workers in UMaT since about 97% of the response fell within sometimes to never with only3% for often and always. This shows that employer's involvement in helping its employee increase their financial knowledge is inequality. On the other hand, about 26% of workers are fairly satisfied with the employer's role in their retirement preparations with 32% of them uncertain and 42% of workers not satisfied about employer's role in retirement preparations of workers in UMaT as shown in the table. Table 8 again shows that, 17% of workers never take personal financial lessons on their own, with about 19% rarely taking it but 10% of workers take personal financial lessons on their own. This indicates that workers on their own will find it difficult to increase their financial knowledge unless they are given some form of help.

**Table 9-Roles by Employer to Improve Preparation towards Retirement**

| | | Responses | | Percent of Cases |
|---|---|---|---|---|
| | | **N** | **Percent** | |
| **roles by employer** | Orientation/ Education | 69 | 40.6% | 50.7% |
| | Seminars | 53 | 31.2% | 39.0% |
| | Workshops/ Training Programes | 17 | 10.0% | 12.5% |
| | Institutional Support & Policy | 31 | 18.2% | 22.8% |
| **Total** | | **170** | **100.0%** | **125.0%** |

Table 9 shows that out of the 203 respondents of this study, only 170 respondents answered the question **"How can your employer improve their roles in preparing you for retirement?"** which show that 41 % and 31 % of them are talking about the employer organizing financial literacy education, orientation and seminars to encourage, enlighten and counsel them to increase and improve their financial knowledge as shown in table 8 that most workers do not undertake personal financial lessons on their own. Institutional support and policy had 18%, as these workers were looking at the employer coming out with support like increase in salaries, end of service benefits and adding to the retirement investment. In addition, to policies like mandatory savings towards retirement, increase in percentage of monies to SSNIT/ GUSSS which will help the employee to get most income they retire from active service and adding the retirement year on worker to their appointment letters to help them in preparing before time.

**Table 10 Cross tabulation on how workers learn/ increase their financial knowledge against staff category.**

| | | | category of staff | | | Total |
|---|---|---|---|---|---|---|
| | | | Senior Member | Senior Staff | Junior Staff | |
| where to learn/ increase financial knowle[b] | Parent | Count | 9 | 12 | 6 | **27** |
| | | % of Total | 1.7% | 2.3% | 1.1% | **5.2%** |
| | Friends | Count | 21 | 28 | 31 | **80** |
| | | % of Total | 4.0% | 5.4% | 5.9% | **15.3%** |
| | School | Count | 15 | 19 | 14 | **48** |
| | | % of Total | 2.9% | 3.6% | 2.7% | **9.2%** |
| | Books | Count | 34 | 48 | 13 | **95** |
| | | % of Total | 6.5% | 9.2% | 2.5% | **18.2%** |
| | Media (all forms) | Count | 32 | 39 | 10 | **81** |
| | | % of Total | 6.1% | 7.5% | 1.9% | **15.5%** |
| | Job/ Institution | Count | 17 | 27 | 9 | **53** |
| | | % of Total | 3.3% | 5.2% | 1.7% | **10.2%** |
| | Life experience | Count | 21 | 25 | 10 | **56** |
| | | % of Total | 4.0% | 4.8% | 1.9% | **10.7%** |
| | Financial institutions | Count | 25 | 35 | 20 | **80** |
| | | % of Total | 4.8% | 6.7% | 3.8% | **15.3%** |
| | Others | Count | 0 | 1 | 1 | **2** |
| | | % of Total | 0.0% | 0.2% | 0.2% | **0.4%** |
| **Total** | | **Count** | **174** | **234** | **114** | **522** |
| | | **% of Total** | **33.3%** | **44.8%** | **21.8%** | **100.0%** |

The cross tabulation in table 10, shows that most of the workers want to learn/ increase their financial literacy through their reading of books (18%) which is also high for senior members (7%) and senior staff (9%) but very low for junior staff (2%) who want to learn/ increase their financial knowledge through friends (6%). Media, financial institutions and friends were all also around 15% which is the second best to reading of books, showing that some workers prefer to learn/ increase their financial knowledge through these means that can also rely for good information.

## 5.0 Summary, Conclusion and Recommendations

### 5.1 Summary of Findings

The lack of information of workers who form part of financial illiterate group, to economic and financial instruments accounts for their low preparedness towards retirement. The low preparedness of workers towards retirement can lead to an increase in the dependency ratio in the economy as people who retire would have little wealth to rely on. This study investigates financial literacy and retirement planning among members of staff at the University of Mines and Technology. This study is the first attempt made in Ghana to investigate financial literacy among University workers. Past studies in Ghana focus on financial literacy among university students across the country, influence of retirement planning programs and adjustment towards retirement in Ghana. This study, therefore assessed University staff in UMaT on their knowledge in general personal finance, savings and borrowing, investment and insurance. Further investigations were conducted into the retirement planning decisions of the workers.

The first part of this study analyzed the financial literacy of UMaT staff by grading their performance in a financial literacy test with UMaT grading system. Results from the first section of the test indicated that workers with very high financial literacy are very small (6) compared to those who failed the test (49) with senior member getting more passes (4) and junior staff having of the failed margin (27). The retirement planning was also graded using the same grading system which saw senior staff having a high in grade A (24) than the other staff categories and junior staff again had the highest margin (40) of fails in retirement planning as shown in table 15. In this study, it was observed that some demographic factors are significant in relation to financial literacy like age, gender, income and field of study but one's educational level was not significant. Also, the results showed that most workers have a lower understanding of investment and insurance. This is evidenced in table 6 where both investment and insurance were not significant as indicators of financial literacy on the level of retirement planning of worker, with a lot of staff having knowledge on saving and borrowing and how to obtain monies either than the banks. This implies that on the average, respondents were not able to answer more than half of the questions in these sections of the financial literacy test. A comparison of this result with the result obtained by (Lusardi & Mitchell, 2005) shows how workers in different spheres of the world possesses the similar levels of financial literacy.

In order to find the effect of financial literacy on retirement planning, a one-way Analysis of Variances (ANOVA) test was used to determine whether there is any significant difference in the mean scores of respondents. Financial literacy was found to be significant where sig value of the F-stat of 20.772 is 0.000 < 0.05 given this decision rule, when sig values are less than 0.05, reject the null hypothesis and fail to reject when greater, so the null hypothesis was rejected. Lastly, the result of this study further revealed that the University does not organize financial education seminars for their employees. Furthermore, workers indicated their dissatisfaction with the role government plays in their financial education towards their retirement. In addition, it was revealed that both senior member and senior staff opted to increase their financial knowledge through books and this can be attributed to the fact that all of them can read and have other means which can help them read at all time and also believe that they have the resources to support it but the junior staff on the other hand, opt for the options of friends since most of them cannot read and also resources for this publications are expensive than talking to friends for information. In addition to this, workers expect financial institutions such as banks and insurance companies to provide them financial education.

### 5.2 Conclusion

It was observed during the study that only 203 respondents out of the targeted population of300 took part in the study, which gives a 67.7% response rate for the research out of which Senior Members was 26%, whiles both Senior Staffs and Junior Staffs got 37% each of the respondent. A number of conclusions can be drawn from the findings of this study. Based on the findings of this study, it can be concluded that the financial knowledge of University workers in the study area is low. Workers of UMaT showed higher knowledge in personal finance and savings and borrowing than investment and insurance. Demographic characteristics such as age, gender, income, and field of study affect the financial literacy of UMaT workers. With that said, workers were expected to engage in retirement planning practices frequently but it was found that respondents rarely take personal financial lessons on their own so need the support of the employer. Also it was observed that, financial literacy influences the retirement planning practice of keeping records of all financial and insurance related transactions, spending less than once income operating other retirement accounts apart from SSNIT/ GUSSS, setting aside money each month for savings towards retirement and for future needs /wants and keeping track of expenditure and income each month. However, the practice of comparing interest rate offers before investing for retirement is not influenced by the difference in financial literacy among workers. It was concluded that most workers prefer to go the traditional savings and low risk investment companies rather than the high-risk investment companies' due recent problems in the financial sector in Ghana.

The findings of this study further revealed that the University does not organize financial literacy seminars for their employees. This accounts for their low level of financial literacy and retirement planning and also their dissatisfaction with the role that University plays in their financial education. Aside this, this study revealed that University workers prefer to increase their financial knowledge through publications and also believe that they have the resources to support it. The junior staff on the other hand, opt for friends since most of them cannot read and resources for these books are expensive than talking to friends for information. In addition to this, workers expect the financial institutions such as banks and insurance companies to provide them financial education. This implies that University should make it their priority to provide financial education books and budget for financial literacy seminars for their workers on an annual basis. In addition to this, workers expect their financial institutions such as banks and insurance companies to be included to help provide them financial education.

### 5.3 Recommendations

This study set a context and rationale for research into effect of financial literacy on retirement planning among University workers. The findings of this study have shown that the financial knowledge of University workers is low and this affects their retirement planning as well. Based on these findings the following recommendations are made to employers, employees and policymakers.

#### 5.3.1 Employers

Notwithstanding the fact that this study is limited to University workers, by looking at the response on how employers can improve workers retirement preparedness (see table 9), firms should look at the prospects of improving the financial literacy of their employees through on-the-job training or seminars to ensure that their employees are well equipped for the future. Typically, most employer-based seminars are beyond the control of employees and these accounts for their low participation. Employers are advised not to restrict financial literacy seminars to numeracy contents but rather involve the employees in the planning of financial literacy seminars and come out with policies that can improve the benefit and income of pensioners.

#### 5.3.2 Employees

Employees are advised to partake in financial literacy seminars which are organized by their employers as evidence has been provided to the effect that seminars are an effective type of communication for workers (Clark, D'Ambrosio, Sawant, & McDenned, 2003). Evidence from this study shows that employees that take personal financial lessons plan their retirement better than those who do not. This brings to light the need for employees to personally invest in training programs and courses to improve their financial knowledge. Though employees expect their employers to educate them in financial matters, it is important for self-organized pension schemes or go to experts to explain retirement schemes and investment to them. This will close the illiteracy gap in employees' knowledge in investment and insurance looking at have insignificant both were on financial literacy.

#### 5.3.3 Policymakers

For policymakers like government, though amendments to section three of the National Pensions Act, 2008 (Act 766) have been made to ensure that employers contribute 13% in addition to the employee's contribution of 5.5% to add up to 18.5% of the monthly wage of the employee to their social security, there is the need for the government to ensure that workers understand what their contributions are worth based on the challenges workers have in understanding these policies as evident in his survey. In this vein, I recommend NPRA to undertake a national wide retirement planning program for government workers. In addition to this, there should be measures in place to ensure that financial literacy training is well incorporated in our educational system from the basic level to the tertiary level regardless of the programs or subject areas of study. This is will ensure that workers can plan their retirement without relying solely on their monthly pension benefits from SSNIT. Based on the findings of this study, it is imperative that financial institutions educate their clients on mortgages, interest compounding and the need for life and non-life insurance. In addition, the gender gap between workers in terms of financial literacy calls for women movement/groups and societies to incorporate financial literacy in their training and outreach programs.

### 5.4 Suggestion for Future Studies

1. Based on the findings of this study, it is recommended that future studies should examine the effect more demographic factors such as the number of dependents, marital status and number of cars have on the spending ratio of people.
2. The influx of technology, social media in Ghana and the changing dynamics in the world require further studies to consider if there is either a linkage between them and workers' understanding of financial literacy.
3. Further studies should probe beyond workers and research into student's retirement preparedness.

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