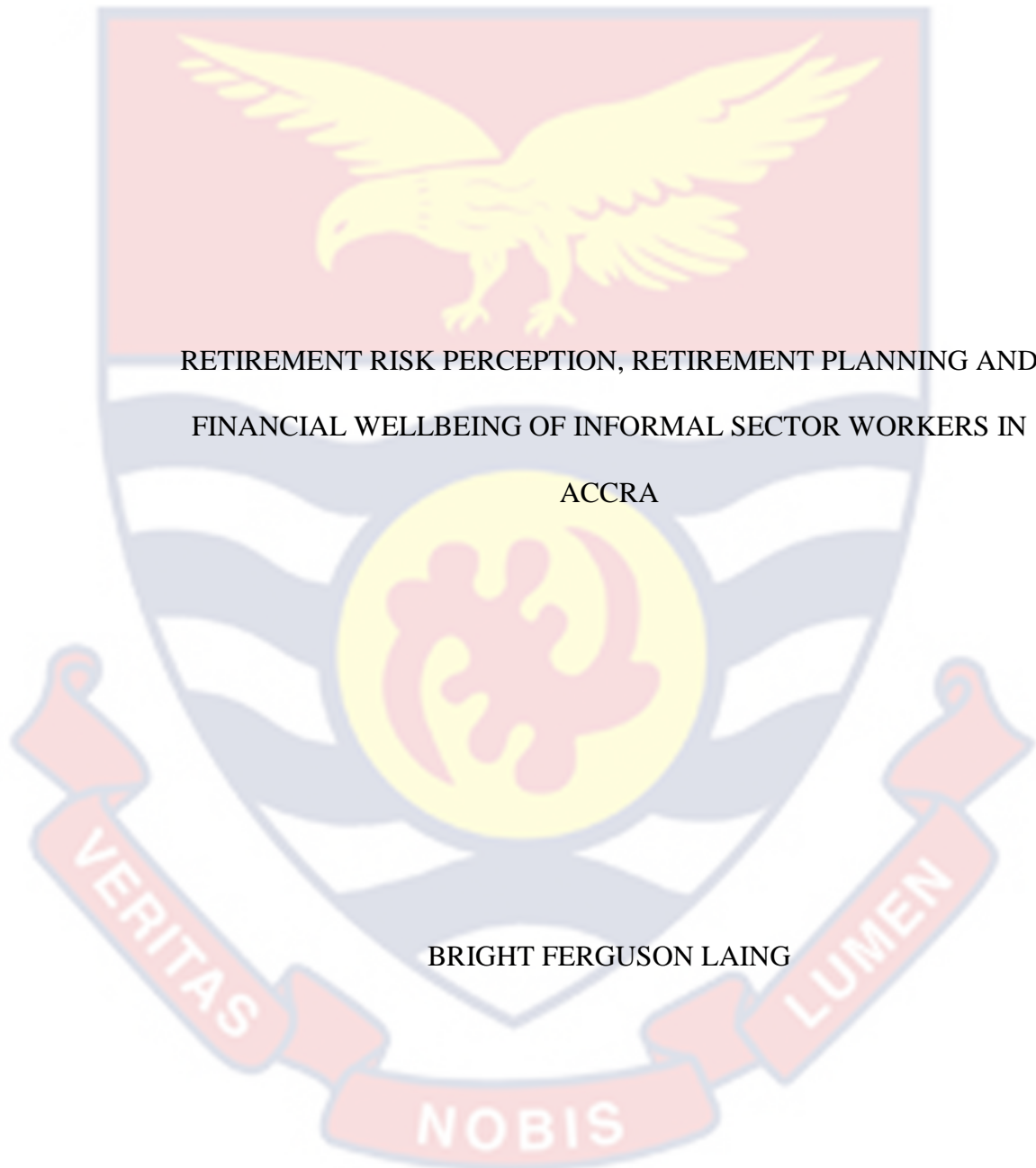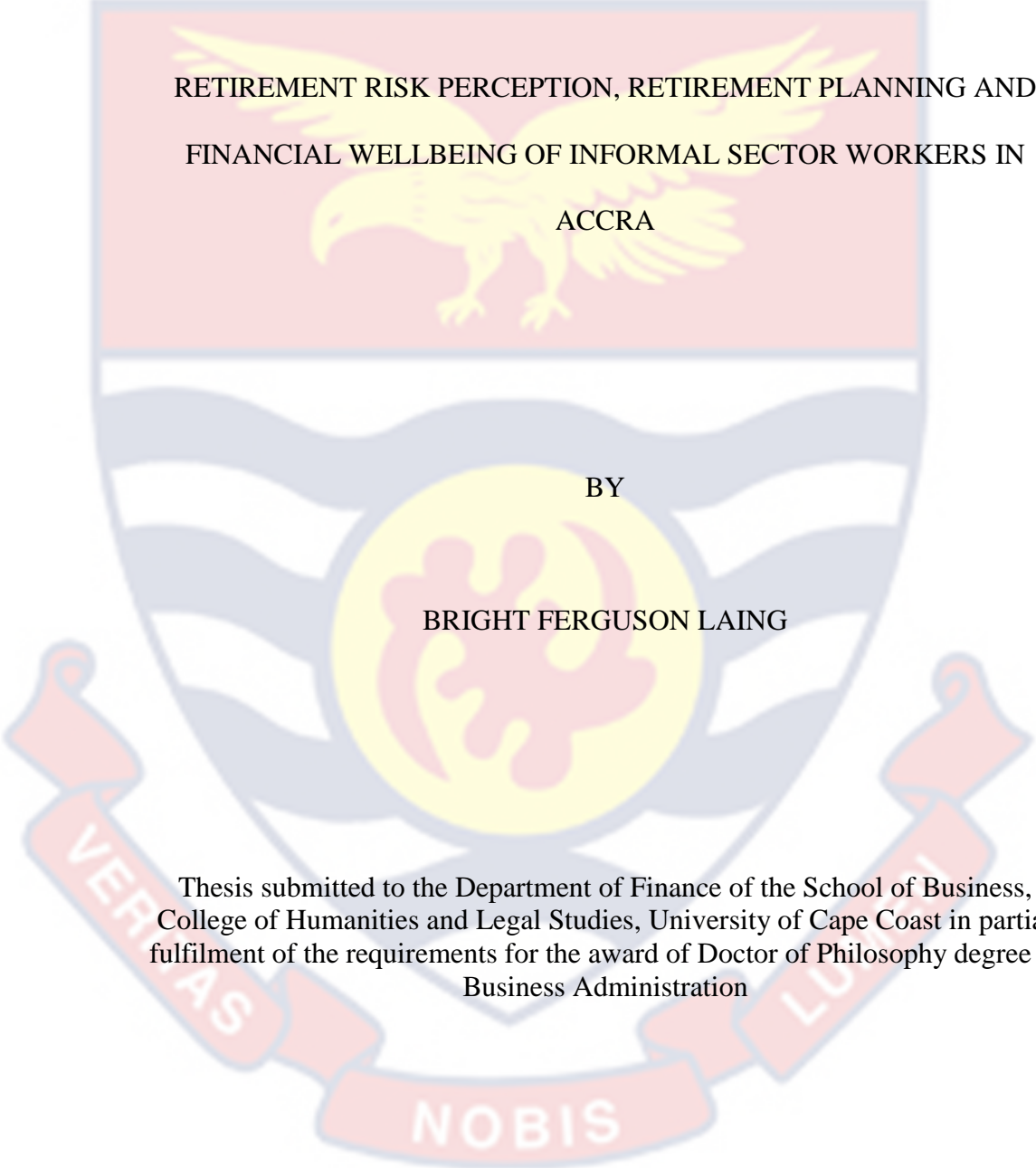UNIVERSITY OF CAPE COAST

RETIREMENT RISK PERCEPTION, RETIREMENT PLANNING AND

FINANCIAL WELLBEING OF INFORMAL SECTOR WORKERS IN

ACCRA

BRIGHT FERGUSON LAING

2023

UNIVERSITY OF CAPE COAST

RETIREMENT RISK PERCEPTION, RETIREMENT PLANNING AND

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ACCRA

BY

BRIGHT FERGUSON LAING

Thesis submitted to the Department of Finance of the School of Business, College of Humanities and Legal Studies, University of Cape Coast in partial fulfilment of the requirements for the award of Doctor of Philosophy degree in Business Administration

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ABSTRACT

The study examined the mediating effects of retirement risk perception, adaptation intention, and financial capability on the relationship between retirement risk awareness and retirement planning. It also examined the mediating effects of retirement planning on retirement risk perception and financial wellbeing, as well as on adaptation intention and financial wellbeing. The study embraced the positivist paradigm by relying on a quantitative research approach and an explanatory research design. For data collection, a structured, self-administered questionnaire was used. Using a one-stage stratified sampling method and a simple random sampling procedure, 406 respondents were selected from informal sector workers in the Greater Accra Region. The data was analysed using partial least square structural equation modelling. The results revealed a significant positive link between retirement risk awareness, retirement planning, and financial wellbeing. Retirement risk perception, adaptation intention, and financial capability partially mediated the relationship between retirement risk awareness and financial wellbeing. The study concluded that retirement risk awareness and credible retirement planning offer opportunities for informal sector workers to strategically escape retirement tragedy. In addition, awareness sources essentially prompt informal sector workers on the severity of financial risk and steps to minimise it. The study recommended that Pension trustee institutions in collaboration with the Union of Informal Workers' Associations (UNIWA) could organise retirement risk awareness programmes to help informal sector workers appreciate their financial retirement risk and adopt retirement planning and, consequently, improve their financial wellbeing.

KEYWORDS

Retirement Risk Awareness

Adaptation Intention

Retirement risk perception

Financial Capability

Financial Wellbeing

Informal Sector Workers

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DEDICATION

To my very supportive husband, Mr. Jerry Ferguson Laing and my lovely

children, Emmanuella Aseda Ferguson Laing and Samuel Adom Ferguson

Laing

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RRA   Retirement Risk Awareness

RRP   Retirement Risk Perception

PS   Perceived Severity

PV   Perceived Vulnerability

RE   Response Efficacy

SE   Self-Efficacy

AI   Adaptation Intention

FC   Financial Capability

RP   Retirement Planning

FW   Financial Wellbeing

PLS-SEM   Partial Least Square Structural Equation Modelling

AVA   Average Variance Extracted

HTMT   Heterotrait-Monotrait Ratio

VIF   Variance Inflation Factor

VAF   Variance Accounted For

ILO   International Labour Organisation

GDP   Gross Domestic Product

IFSW   Informal Sector Worker

OECD   Organisation for Economic Co-operation and Development

IBES   Integrated Business Establishment Survey

CHAPTER ONE

INTRODUCTION

Ageing and retiring are very sensitive aspects of life that can lead to psychological shock and health issues if not well planned. Likewise, when workers do not plan for retirement, it has the tendency to hamper their financial wellbeing. Thus, policymakers and academics are becoming more mindful of the importance of financial wellbeing by engaging in scholarly discourse seeking to unearth ways of improving the financial wellbeing of individuals. Although scholars seem to project financial planning as a strategy, such conversations have been scanty, especially for workers in the informal sector who make up the majority of Africa's workforce. Reports from the World Bank Group on social protection and jobs (Guven, 2019) indicate that, on average, as few as 11.6% of individuals across the region contribute to retirement planning schemes. This may have a dire effect on their financial wellbeing and expose them to financial retirement risk.

This study aims to examine the relationships among retirement risk awareness (RRA), retirement planning (RP) and financial wellbeing (FW) of informal sector workers (IFSW) in the Greater Accra Region of Ghana. The study also examines the mediating effects of retirement risk perception (RRP), adaptation intention (AI), and financial capability (FC) on the relationships among retirement risk awareness (RRA), retirement planning (RP), and financial wellbeing (FW). This first chapter covers the background to the study, followed by a statement of the problem, objectives, and hypotheses, the significance of the study, and the organisation of the study.

Background to the Study

There is a growing awareness among policymakers and academicians of the importance of financial wellbeing and, especially, the wellbeing of ageing people. The need for wellbeing measures led to the development of the Sustainable Development Goals (Ortiz, Schmitt & De, 2016; ILO, 2016). Another factor motivating the development of interest in the concept of financial wellbeing emanates from the effect of household vulnerabilities witnessed during the Global Financial Crisis, as there was a shift in responsibility from the state to individuals for social protection issues across the globe (Lusardi & Mitchell, 2014). The repercussions of these vulnerabilities are more evident with ageing populations.

The ageing population is one significant demographic development, and there is evidence (Hao et al., 2020; Medici, 2021) of an increase in this population all over the world due to longevity facilitated through better health care systems and increased fertility. Reports (He et al., 2020) indicate that as of 2020, the world's population aged 60 and above was estimated at 13.6% of the global population, with Africa estimated to have 9.3% by 2050. Likewise, the World Health Organisation (2019) estimates that roughly 8 out of 10 of the world's elderly population would reside in Africa, with Ghana holding an estimated 11.9% by 2050. Also, the United Nations (2019) stipulates the number of older people worldwide to more than double over the next three decades, hitting over 1.5 billion people in 2050, with Northern Africa and Western Asia leading the increases and Sub-Saharan Africa anticipated to experience the second-fastest increase of 101 million in 2050 (+218%). The

publication also foresees more than two-thirds of the world's older population (1.1 billion) living in less developed countries by 2050.

Thus, an increase in the ageing population is likely to result in an increase in retirees (Dovie, 2018; World Health Organisation, 2018), whose working lives would be a burden on their children for survival if their retirement is not properly planned (Gyasi, Phillips & Abass, 2018; Gyasi, Adams & Phillips, 2019). In line with the aforementioned, Ghana is estimated to have an old age dependency ratio of 8.1 (United Nations, 2019a). Traditionally, in Africa, parents invest in their children with the expectation that their children will care for them in their old age. However, due to urbanisation, industrialization, socioeconomic challenges, and job factors, young people prefer to stay in cities, closer to job areas, thus weakening social ties, which then expounds the importance of retirement planning for every informal sector worker (Lusardi & Mitchell, 2011; Noone, Stephens & Alpass, 2009; Topa, Moriano, Depolo, Alcover & Morales, 2009; Ukiri Mudiare, 2014; LooSee, 2013).

Ageing and retiring are sensitive aspects of life that can lead to psychological shock and health issues if not well planned (Dong, Chen, Xu & Xu, 2020; Gyasi, Adam & Phillips, 2019). According to Lee et al. (2021); Cuignet et al. (2020); Whitty et al. (2020); and World Health Organisation (2020), ageing is associated with multimorbidity and a gradual accumulation of molecular and cellular damage which eventually leads to decreases in physical, cognitive, and mobility, as well as several health issues that result in a natural decline in an individual's to work. The human life cycle is made up of five stages: infant, child, juvenile, adolescent, and adult (Bogin & Smith,

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1996). In the view of Hauff, Carlander, Gärling and Nicolini (2020), people try to maintain consumption levels throughout the stages of life by saving more in their adult years to be used in old age.

On the contrary, many workers in developing countries hardly achieve this goal because the majority of these adults are informally employed (Bekoreire, Were & Okeche, 2019; Gibson, 2018; Kumah, Botsie, Boachie & Adu-Brobbey, 2017; Czaja, Sharit & James, 2019) and challenged by low, irregular, and unstructured inflow (ILO, 2020), which affects their ability to build financial capacity to plan for retirement. The employed in the sector who receive wages also receive too little, though they work long hour. These factors and the fact that for informal sector workers, retirement planning is not compulsory like that of the formal sector may potentially affect their ability to contribute towards retirement planning.

Results from financial planning research have revealed ageing individuals' inability to save for future eventualities (Ali, Khan & Ahmad, 2020; Ammerman, 2017; Brüggen, Hogreve, Holmlund, Kabadayi & Löfgren, 2017; Reichlin, 2019; Trehan & Sinha, 2020) as well as their disengagement from financial services. This phenomenon could have adverse implications for the financial wellbeing of retired informal sector workers, particularly in Africa. Evans, Bazargan, Cobb and Assari (2020) have indicated that a lack of financial wellbeing results in chronic medical conditions, chronic pain, and depression. Likewise, financial stress has been linked to poor self-reported health, low quality of life, and depression (Huang et al., 2020), as cost of care and housing increases and income declines (Huang et al., 2020). It is therefore

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imperative that social policies and structures are put in place to enable workers in the informal sector attain financial wellbeing at an older age.

Issues of ageing and retiring, and the challenges it pose have led to the declaration of social protection as a remedy for protecting the vulnerable, which is a human rights declaration by the United Nations since 1948 (United Nations, 1948; Valeri, 2019) and also stipulated in Article 22 of the Universal Declaration of Human Rights, which states that every member of society has the right to social security (OECD, 2018). Also, overcoming vulnerability is a requirement stipulated in the Sustainable Development Goals, SDG1 (ending poverty), SDG2 (ending hunger), and SDG3 (promoting healthy life) (SDG, 2016; Ortiz, Schmitt & De, 2016), all of which are challenges faced by financially unstable older people during retirement.

Many countries have taken steps to provide social protection through the enactment of social protection policies. As of 2015, about 77 developing countries (World Bank, 2015; OECD, 2018) had enacted policies with a 3-pillar framework (social assistance, social insurance, and labour market programmes) as strategies geared towards combating poverty.

Ghana in its effort to do the same, enacted a pension policy (National Pensions Act, 2008, ACT 766) that caters for both formal and informal sector workers. This is a contribution-based three-tier pension scheme that mandates an obligatory contribution, by both employer and employee (tier 1), a mandatory 5% contribution of each employee's basic monthly salary (tier 2), and a voluntary contributing programme (tier 3) that accepts up to 16.5% in monthly contributions, particularly targeted at the informal sector workers. Unfortunately, the Tier 3 programme faces a challenge in fulfilling its mandate

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due to a lack of participation by the informal sector. Old age care and financial freedom though enshrined in human rights and international labour standards, are lacking due to economic challenges faced by developing countries, shifting the responsibility of social protection from the state to the individual. It is therefore imperative to discuss issues of retirement planning and financial wellbeing in the informal sector where pension covers are not compulsory but voluntary.

Available records show that Africa's informal sector is the largest across the world's continents (Medina, Jonelis & Cangul, 2017; Guven, 2019; ILO, 2018), providing employment for many who cannot be employed by the state and income for those who can survive on their skills. Reports estimate Africa's informal economy at 72% non-agricultural and as much as 90% in some countries (African Economic Outlook, 2019), with 95% of them being young workers between the ages of 15 and 24 (ILO, 2020). The importance of the informal sector in African economies cannot be underestimated as the sector's contribution to gross domestic product is estimated at 20% and as high as 65% in some countries (Medina et al., 2017).

Retirement has several connotations to diverse people, which has the potential of affecting their ability to plan for it. The understanding and meaning informal sector workers attribute to retirement planning greatly affects how they approach the matter (Agye, 2016). Retirement planning can be defined as goal-directed thoughts and behaviours that promote financial security, fulfilling lifestyles, and rewarding roles for the aged (Noone, Stephens & Alpass, 2010; Salignac et al., 2019). Retirement may mean a reduction in hours of work rather than a complete exit from a paid job for

some people, and for others, a complete exit from a paid job to bridge employment (Beehr & Bennett, 2015; Topa et al., 2018a).

For workers in the informal sector, retirement may mean a partial withdrawal from work or no withdrawal at all. This mindset can affect their perception of risk, which will further affect their willingness to plan for it. If informal sector workers perceive retirement as a thing for formal sector workers who, for regulatory reasons, are expected to disengage from paid jobs but estimate themselves as being at no risk because they would never leave their enterprise and would always have their enterprise available to take care of them, then their approach, thinking, and perception of the degree of risk would be limited by this assumption.

The perception of informal sector works on their financial retirement risk can afford them the opportunity to plan and put down measures to avert such risk. Inouye (2014) defines retirement risk perception as an individual's estimation of the probability that an event of hazard can happen to them. Within the protection motivation theory (PMT) (Maddux et al., 1982; Maddux & Rogers, 1983; Rogers, 1975), informal sector workers who perceive the adverse consequence of financial retirement risk and appraise their ability to avert such risk are better off. The proponents of the PMT reflect on financial retirement risk from the perspectives of threat appraisal (retirement risk perception) and coping appraisal (adaptation intention). The threat appraisal of retirement risk perception covers the extent to which workers examine the severity of financial insecurity during old age and perceive their level of vulnerability towards it at retirement.

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Thus, their ability to perceive financial retirement risk alerts them to consciously control and save resources towards the mitigation of such risk in the future. As espoused by Nyre and Jaatun (2017), assessments by informal sector workers of their exposure to risk would ignite their motivation to protect themselves from the vulnerability. On the other hand, adaptation intention is exhibited in an informal sector worker's expectation of outcome, which can mediate their willingness to partake in financial planning towards retirement. Bandura (1989) discusses two motivational factors that can influence behaviour in self-efficacy theory. Outcome expectancies; the belief that periodic savings efforts are enough for retirement planning, and self-efficacy; the belief that one is capable of performing the behaviour in question (Bandura, 1989).

In addition, Rogers (1975) viewed the implications of the protection motivation theory on the adaptation intention from two perspectives, namely, response efficacy (informal sector workers' belief in retirement planning as a means to financial wellbeing) and self-efficacy (informal sector workers belief in their own ability to set aside resources to plan for their retirement). All these theorists agree to the fact that an informal sector worker's valuation of the impact of their efforts in attaining desired goals in retirement planning, or the perceived usefulness of their efforts may motivate behaviour change (Leaper, 2011; Studer & Knecht, 2016; Van Eerde & Thierry, 1996).

Accordingly, retirement risk perception is among the factors that work together with retirement risk awareness to enhance workers perceptions of retirement planning (Chaswa, Kosamu, Kumwenda & Utembe, 2020). More often, retirement risk perception enables workers decide on how to safeguard

against the consequences of risk attributable to inadequate preparations for retirement planning (Morris, Soleimanof & White, 2020). Avenues such as associations and unions can enable the perception of retirement risk, as awareness of retirement risk is created through retirement planning campaigns focusing on the risks members could face if they do not plan for their retirement. An observation of the behaviours of colleagues who engage in positive retirement planning behaviours can also enhance an individual's adaptation intention and risk perception. This view is reflected in the social learning theory of (Bandura & Adams, 1977) which posits that people learn through observing behaviours, attitudes, and outcomes of such behaviours and are motivated to emulate or desist from those behaviours due to the associated rewards and punishments.

Through an observation of the frustrating life experiences of elderly people, workers in the informal sector would gain awareness of the challenges associated with retiring without a financial plan. An observation of the challenges retirees face due to a lack of retirement planning would create awareness of old age challenges and, by extension, lead to an adaptation of retirement planning (Canagarajah & Sethuraman, 2001).

Another considerable factor capable of influencing informal sector workers' retirement planning is their financial capability. Financial capability is a set of behaviours, abilities, and attitudes that facilitate successful and responsible investment choices (World Bank, 2018). Çera et al. (2020) described it as the ability to engage in some fundamental activities that require informal sector workers' financial knowledge, financial attitude, access to financial services, and financial behaviour to increase their financial potential.

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Missing in the conceptualization of financial capability is the consideration of informal sector workers pension product knowledge, although the need for access to mainstream financial services has been mentioned (Nam & Loibl, 2021).

Consequently, informal sector works financial capability may be inhibited due to a lack of knowledge pertaining to financial products that might be suitable for their specific retirement planning needs (Russell et al., 2020). Recent developments in the field of investment choices have led to a renewed interest in individuals comprehension of the available investment products (Ntalians & Wise, 2011). A broader perspective has been adopted by the capability approach (Alkire, 2005; Robeyns, 2005; Sen, 1993a) which plays a substantial role in explaining the influence of individuals capabilities in enabling retirement planning. Sen (1993) posits that social structures should be judged largely based on the amount of freedom individuals have to develop or attain valued resources and opportunities. The capability approach includes individual-level functioning and capacities and this encompasses both what informal sector workers do (e.g., make safe financial decisions) and who they are (their competence and abilities) (Çera et al., 2021). Capacity represents the numerous functions a person can achieve and requires the individual's decision. Financial capability is a demonstration of appropriate financial knowledge, attitude, and behaviour, as well as the capacity to identify the right financial product to manage complex saving and investment decisions.

Knowledge of human behaviour as expounded by behavioural scholars has helped advance the field of finance and economics (Koch et al., 2015).

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Humans' ability to make rational choices as argued by economic theorists is not automatically available (Obeng, 2019: Zahera & Bansal, 2018: Causi, 2017), poverty and financial stress put such cognitive strain on the human mind, making the activation of deliberate thinking very difficult. Also, behavioural finance theorists (Le Bon, 1896; Langer,1975; Raiffa, 1968; Kahneman and Tversky, 1979) have suggested the influence of psychological characteristics on humans ability to make rational decisions (Jurevičienė & Ivanova, 2013). In their conclusion, informal sector workers' behaviour differ from what is expected in practise, suggesting that classical finance models may not be able to predict or explain irrational financial decisions and behaviours. Behavioural finance helps explain difficulties with rational decision making. In that vein, informal sector workers' awareness of retirement risk, their perception of the risk, their intention to adapt retirement planning methods, their financial capability, and financial planning behaviour can help us understand informal sector workers non-involvement in retirement planning.

Statement of Problem

There are rising concerns about informal sector workers' inadequate patronage of pension and retirement planning schemes. These concerns stem from the fact that a greater number of workers in the informal sector rarely engage in retirement planning activities. Evidence from the Findex Survey in the World Development Report suggests that contributory pension schemes in Africa's private sector are poorly patronised (World Development Report, 2019). According to the report, only 10.2% of workers aged 15 and above engaged in savings for their old age in 2017. Also, it is estimated that on

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average, only 11.6% of the adult population aged 60 and above on the continent contributes to pension schemes available (Guven, 2019) and the greater majority of this adult community is in the formal sector. This means pension coverage in Africa is limited to the smallest segment of the population of workforce, the formal sector, to the neglect of the larger share of the region's ageing informal sector population (Dovie, 2018; World Health Organisation, 2018).

In Ghana, similar statistics can be reported on the lack of retirement planning advocacy and patronage in the informal sector. According to the National Pensions Regulatory Authority (NPRA), only 4% of informal sector workers are registered on the voluntary tier 3 pension scheme (NPRA Annual Report, 2021) which was instituted to enable informal sector workers save towards their retirement. The implication of this low interest in the scheme is an indication of the fact that majority of the country's population may be in a vulnerable state and at high risk of poverty if they do not plan for their retirement. Thus, the financial wellbeing of aged informal sector workers may deteriorate to the extent that majority of them may not be able to meet their daily basic needs if steps are not taken to change the narrative. Furthermore, informal sector workers inability to plan for their retirement will result in the deterioration of their health as they become saddled with the challenges posed by ageing, ranging from multimorbidity, a decrease in physical, cognitive, and mobility, as well as the several health issues (Cuignet et al., 2020; Whitty et al., 2020; World Health Organisation, 2020) that affect individuals as they age. An increase in health issues relating to the elderly will lead to an increase in Government expenditure in a quest to support old age financial difficulties

through free health care for the aged which may result in intergenerational inequalities and high taxes (World Bank, 2019), making the achievement of the SDG goals 1, 2 and 3   difficult. As a result of the tainted financial wellbeing of the retirees, the dependency ratio of the elderly in Ghana is projected to rise to 8:1 in 2030 (World Health Organisation, 2019).

Research on financial wellbeing have broadly focused on how household financial resilience and retirement planning lead to financial wellbeing (Mohamed, 2016; Stevenson et al., 2020). Most of these studies have looked at variables such as personal financial planning, financial knowledge, financial literacy, strategic investment planning, cultural influence on personal financial planning, and financial investment (Barbara et al., 2009; Hastings & Mitchell, 2020; Mokhtar et al., 2017; Russell et al., 2016) and how they influence financial wellbeing. Results from these studies have not delved into how retirement risk perception and adaptation intension influence financial wellbeing.

Again, most studies on this phenomenon are centred on the formal sector and the few studies that have looked at the informal sector in particular, have studied some antecedents of retirement planning (Dovie, 2018; Quartey et al., 2016; Schuabb et al., 2019). For instance, Guven (2019) argued that informal sector workers show less interest in retirement planning activities, partly due to a lack of retirement risk awareness campaigns. Also, in investigating the factors accounting for such lack of interest in retirement planning, scholars have assessed factors such as financial literacy (Dovie, 2018; Nchang & Isoh, 2020), poor savings behaviour, retirement perception (Afenyadu, 2014; Asare, 2019), financial issues, institutional bottlenecks, lack

of awareness of tier 3 schemes (Afenyadu, 2014; Donne et al., 2019), financial hardship (Dartanto et al., 2020), risk preference (Hastings & Mitchell, 2020) and fulfilment of short-term goals (Afenyadu, 2014). Other studies have looked at financial education which yields short term changes in the enhancement of savings behaviour (Atkinson et al., 2015; Collins, 2013; Miller et al., 2015).

Afenyadu (2014), Donne, Muddey, Gosu and Agbede (2019), and Momo (2019), in their study, further concluded on the lack of retirement risk awareness as a cause for informal sector workers' non-involvement in retirement planning. On the contrary, some studies (Kazaure, 2019; Liobikiene & Juknys, 2016) have found awareness to have no direct influence on the intention to plan for retirement, while Zhang et al. (2017) estimated an indirect link between awareness and financial wellbeing. This study intends to investigate the inconsistencies in the role of awareness in effecting behavioural change by introducing mediating variables (retirement risk perception and adaptation intention) that may enhance the influence of awareness on retirement planning.

Asebedo and Seay (2018) suggested further studies investigating reasons for the lack of involvement of informal sector workers in the Tier 3 voluntary pension scheme. In a review of theory and empirical evidence, Weber (2014) suggested that workers' inability to perceive risk or danger may be the cause of a lack in the allocation of resources (financial and mental attention) for retirement planning (Hastings & Mitchell, 2020; Weber, 2014). Supporting the mediating variables of retirement risk perception and adaptation intension, review of literature in the retirement planning domain

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exploring the dimensions of the theory of protection motivation is also limited. The study found only two studies (Hekken, 2018; Sörensen et al., 2017) employing the protection motivation theory in the study of retirement planning, hence, this study employs the protection motivation theory in explaining the role of retirement risk perception and adaptation intention in translating behaviour change for retirement planning.

It is impossible to discuss retirement planning and financial wellbeing without focusing on the behaviours that contribute to the accumulation of retirement funds. It is suggested that people's capacity to go from knowledge to application of what they have learned is far more significant than their knowledge. Several writers have assessed financial capacity in different ways; one notable example is the research conducted by Nam and Loibl in 2021. The researchers examined financial capacity as being financially included, financially excluded, financially educated, and financially capable. Sun, Chen, Ansong, Huang and Sherraden, (2022) also measured it looking at financial literacy, access, and behaviours. Additionally, Mokhtar, Sabri, and Ho (2020) measured the concept using four variables, thus, anticipating needs, managing finances, selecting goods, and being informed. Arguably, most of the articles reviewed failed to consider the role of financial product knowledge in enhancing financial capability and retirement planning. Without interactions with environmental elements such as financial services and appropriate public policies, financial acumen and other human capital alone cannot increase financial wellbeing, individuals must relate to their environment to produce wellbeing. This study seeks to incorporate pension product knowledge its measure of financial capability.

The present study sought to fill these gaps and extend the protection motivation theory, which seeks to explain informal sector workers perception of retirement risk and intention to adapt retirement planning methods, resulting in financial wellbeing. It also seeks to fill the gap created by the measurement and mediating effect of financial capability on retirement planning.

Purpose of the Study

The primary objective of the study was to investigate the influence of retirement risk awareness on the retirement planning and financial wellbeing of informal sector workers in Ghana through the mediating role of retirement risk perception and adaptation intention.

Objectives of the Study

Specifically, the study seeks to:

1. Examine the mediating effects of retirement risk perception and adaptation intention on the relationship between retirement risk awareness and retirement planning.

2. Determine the mediating role of retirement planning on retirement risk perception and financial wellbeing as well as on adaptation intention and financial wellbeing.

3. Investigate the mediating effect of financial capability on retirement risk awareness and retirement planning.

Research Hypothesis

H1a: There is a significant relationship between retirement risk awareness and retirement planning.

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H1b: There is a significant relationship between retirement risk awareness and retirement risk perception.

H1c: There is a significant relationship between retirement risk perception and retirement planning.

H1d: Retirement risk perception mediates the relationship between retirement risk awareness and retirement planning.

H1e: There is a significant relationship between retirement risk awareness and adaptation intention.

H1f: There is a significant relationship between adaptation intention and retirement planning.

H1g: Adaptation intention mediates the relationship between retirement risk awareness and retirement planning.

H2a: There is a significant relationship between retirement risk perception and financial wellbeing.

H2b: There is a significant relationship between adaptation intention and financial wellbeing.

H2c: Retirement planning mediates the relationship between retirement risk perception and financial wellbeing.

H2d: Retirement planning mediates the relationship between adaptation intention and financial wellbeing.

H3a: There is a significant relationship between retirement risk awareness and financial capability.

H3b: There is a significant relationship between financial capability and retirement planning.

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H3c: Financial capability mediates the relationship between retirement risk

          awareness and retirement planning.

Significance of the Study

The purpose of the study was to investigate the effect of retirement risk perception, adaptation intention and financial capability on the relationship between retirement risk awareness, retirement planning and the financial wellbeing of informal sector workers in Ghana. The study's results have the potential to contribute to policy implications for preparing informal sector workers towards gaining awareness of their financial retirement risk. It will assist policymakers in formulating policies that can help workers in the informal sector enhance their retirement savings. Tier 3 trustee institutions may need to create the awareness needed to enable workers in the informal sector assess their perception of financial retirement risk and seek ways to overcome it, resulting in the attainment of their financial wellbeing.

In several ways, the study provides substantial theoretical and empirical contributions to literature. It contributes to the debate on the influencers of financial wellbeing, in that, to improve financial wellbeing, informal sector workers who have an awareness of financial retirement risk, would perceive the risk, accept the mechanisms suggested for the mitigation of this risk, believe in their own ability to set aside resources for investment, and actually take steps to plan for their retirement in order to improve financial wellbeing.

In contributing to literature, the study extends the capability approach to theory building and supports the diverse ways of measuring financial capability. It provides a theoretical foundation for the extension of the

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protection motivation theory and its application to the retirement planning phenomenon by its employment in the determination of individuals' retirement risk perception and analysis of their adaptation intention of investment avenues.

Delimitations

Although there are several dimensions to wellbeing, this study focuses on financial wellbeing, particularly in relation to individuals' preparation for old age. Contextual variables include retirement risk awareness, retirement risk perception, adaptation intention, financial capability, and retirement planning activities leading to financial wellbeing. Retirement planning was measured by the activities and financial behaviours individuals exhibit now that will enable them allocate resources by the time they reach retirement. The study also focused on only Greater Accra Region through Ghana is made of sixteen regions.

Limitations of the Study

Despite the enormous contribution of the study, some limitations were noted. The study employed five districts from the Greater Accra region, which represents just one region out of sixteen in Ghana. Greater Accra has a cross section of informal sector workers from other regions residing in Accra, which may be representative and reflect informal sector workers in Ghana. Nevertheless, the dynamics and cultural disposition of the Greater Accra region may be different from the other regions of the country, therefore, the results of this study should be read with caution.

Operational Definition of Key Terms

The study's key concepts are described below;

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Retirement risk awareness: The degree to which individuals are enlightened, conscious and mindful of the risks that exist during retirement.

Retirement risk perception: An individual's assessment of their exposure to financial retirement risk, its severity, and their susceptibility to such risk.

Financial retirement risk: Informal sector workers' inability to maintain their preretirement income and to cater for their financial needs during retirement.

Financial capability: Having the right combination of skills, attitude, knowledge, and information that gives individuals' confidence in selecting and making beneficial financial decisions.

Retirement Planning: Retirement planning refers to financial strategies of saving and investments individuals put in place to sustain them during retirement.

Financial Wellbeing: The state of being able to meet current and future financial commitments and expenses comfortably.

Adaptation Intention: Informal sector workers belief that an adaptive strategy will be successful and their willingness to adapt these laid down mechanisms for retirement planning.

Organisation of the Study

The study is divided into eight chapters. The first chapter, which was the introductory chapter, offered a backdrop to the study, a statement of the problem, objectives of the study, research questions, significance, delimitations, and limitations, as well as the study's organisation. The second chapter contains a review of relevant literature, both theoretical and empirical, that discusses retirement risk awareness, retirement risk perception, adaptation

intention, financial capability, retirement planning, and financial wellbeing. It also elaborates on theories such as the protection motivation theory, social learning theory, social influence theory, and the capability approach.

The third chapter described the methodological framework and strategies used in arriving at the study's objectives. Chapter four focuses on an analysis of the descriptive statistics of the respondents and variables of the study. Chapters five to seven concentrate on the results of the study and a discussion of the various hypotheses drawn from the research objectives. Finally, the last chapter, Chapter eight discusses the summary, conclusions, and recommendations of the study.
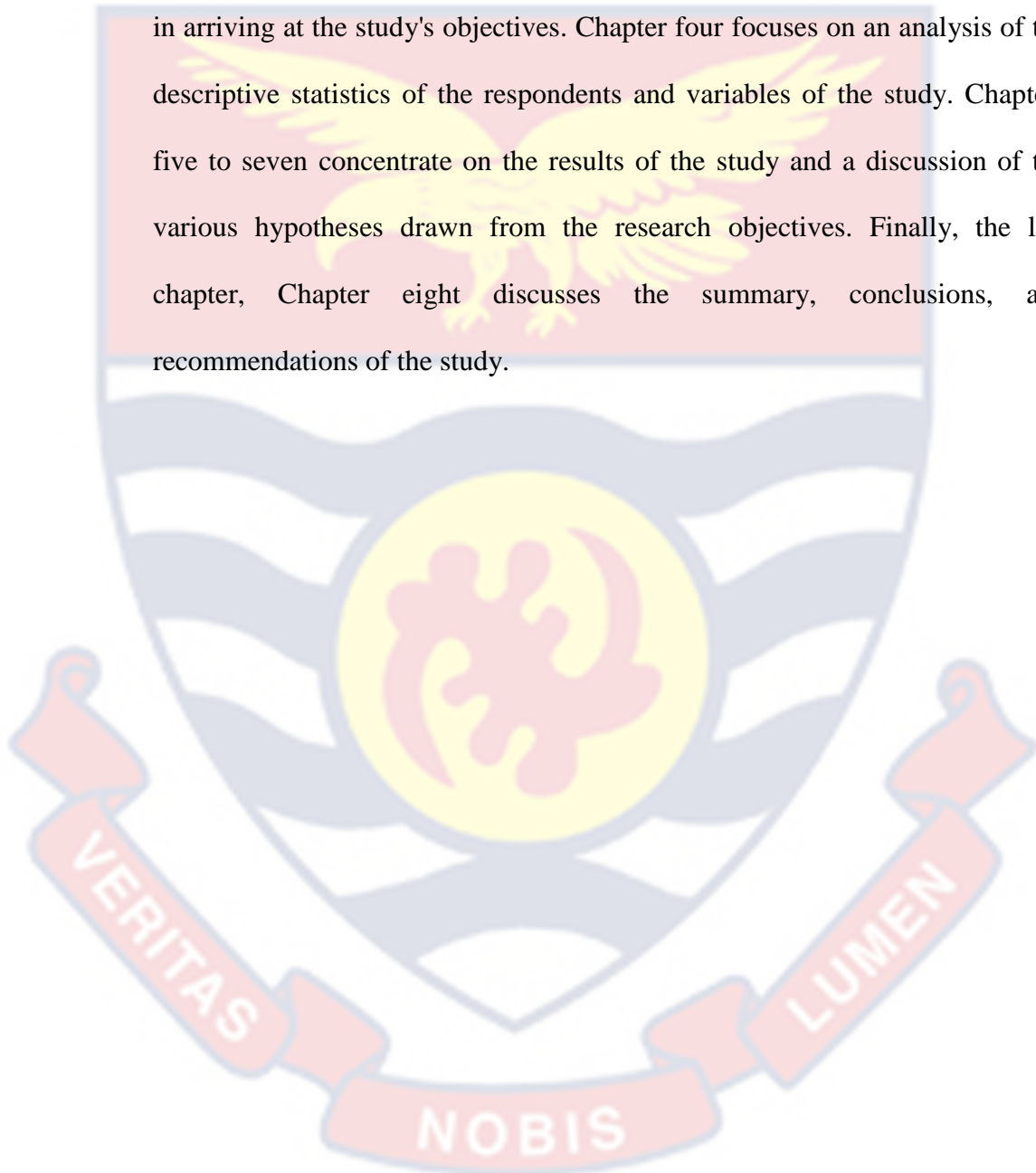
CHAPTER TWO

REVIEW OF LITERATURE

Introduction

A literature review is the demonstration of an author's understanding of the subject of research, its vocabulary, theories, major variables, and phenomena, as well as its methods and events. Additionally, undertaking a literature review informs the reader of the field's key researchers and collaborations (Randolph, 2009). Its objective is to guide the reader through existing literature on a subject and to serve as a foundation for another objective, such as justifying future studies in the field. A thorough literature study compiles data on a given issue from a variety of sources (Cronin, Ryan & Coughlan, 2008). It finds and organises concepts found in the pertinent literature.

As a result, this chapter of the thesis is devoted to a thematic review of linked theories and concepts. The theoretical evaluation contains a presentation and discussion of theories that underpin the research, while the conceptual review examines important concepts from each theory and how they connect to the research objectives.

Theoretical Review

Theoretical frameworks give research context and enable explanation as well as prediction of behaviour. Same is the purpose of social learning theory and social influence theory, which aid in the prediction of individuals' behaviour due to observational learning and identification. Likewise, the protection motivation theory enables the exploration of individuals' retirement risk perception . Thus, to construct strong arguments in support of the study's

objectives, this study pulls conclusions and ideas from these theories. The theories are herein presented as follows.

Protection Motivation Theory

Protection motivation theory (Rogers, 1975) spans from psychology and builds on the Health Belief Model by highlighting two cognitive processes: threat appraisal and coping appraisal, which are potential behavioural change forces. It enables the perception of risk and an assessment of the cognitive processes that motivate individuals' movement from a state of awareness of future financial needs to an ability to cope with or adopt active retirement planning behaviours. The model's threat appraisal component recognises two major types of cognitive processes that predict retirement risk perception , (1) the noxiousness or seriousness of the threatening event (i.e. perceived severity), and (2) the likelihood of the event occurring, susceptibility of an individual to the threats (i.e. perceived vulnerability). The second component, the coping response, discusses the process of determining one's ability to cope with and escape possible dangers by accessing adaptive behaviours. Its components include an assessment of (1) how effective the coping response is (i.e. response efficacy), and (2) whether one has the ability to engage in the coping response (i.e. self-efficacy)

Perceived severity (PS): This discusses individuals' ability to perceive risk as being severe, it involves the ability of informal sector workers (IFSW) to evaluate the seriousness of not having enough financial resources during their retirement age, its implications, and how they estimate the intensity of this difficulty, the lack of financial resources during this feeble age. A close look at problems associated with ageing highlights the grievousness of financial

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lack and spurs on the importance of retirement planning. Retirement is a period where individuals are bedevilled with health problems associated with ageing, ranging from hearing loss, diabetes, depression, heart disease, cancer, diabetes, and dementia just to mention a few. World Health Organisation, (2014) in their country assessment report on ageing and health (Ghana) reported on the changing trends in disease patterns, and multimorbidity, the issue of experiencing more than one chronic condition at the same (WHO, 2015). According to the tenets of the perceived severity dimension of the theory, informal sector workers must access the seriousness and painfulness of financial retirement risk, (the inability to maintain current expenditure levels during old age). An evaluation of grievousness of this risk will enable informal sector workers envisage the risk and begin to think of how they may avoid such a risk.

Perceived vulnerability (PV): an evaluation of the seriousness of a risky situation may not necessarily result in the perception of risk. Informal sector workers need to assess the likelihood of finding themselves in the same situation. This is the embodiment of the second dimension of the retirement risk perception variable. The probability of being susceptible to the same situation, a knowing that one may find themselves in a similar situation enables the completion of the cycle of risk analysis. According to the model, when informal sector workers perceive that by their current behaviour, they are likely to fall victim to lacking financial resources during their retirement, helps them perceive their financial retirement risk. Alternatively, informal sector works who perceive that perhaps because they run their own business, it is unlikely that they will have to retire from their job, and also, the thinking

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that their jobs can take care of their ageing needs impairs their retirement risk perception (RRP), resulting in maladaptive behaviour.

Response efficacy (RE): The assumptions of the response efficacy dimension discuss a belief in the effectiveness of a suggested coping technique. It seeks to measure the degree to which a person believes engaging in the behaviour can stop or lessen an unwanted threat, which is related to their perceptions of response efficacy. Informal sector works believe in retirement planning as a means to financial retirement risk avoidance may go a long way in enabling adaptive behaviours. Members of the informal sector must believe in institutions and systems put in place to enable retirement planning. Their believe in the alternatives provided will enable them take steps to adopt protective behaviours.

Perceived self-efficacy (PSE): Perceived self-efficacy is described as informal sector workers' perception of their ability to achieve specific levels of success that have an impact on events in their lives. Their self-efficacy values affect how they feel, think, empower themselves, and act. These various effects are created by four main processes: cognitive, emotional, affective, and selection mechanisms (Bandura, 1978, 1982). To complete the cycle of coping responses in ensuring retirement planning adaptation intentions, individuals must believe in their ability to carry out positive long-term savings behaviours that will enable them to avoid the risk of financial vulnerability during old age. Members of the informal sector need to believe in themselves as capable of preparing for their retirement. They must believe in their ability to have the means to adopt retirement planning behaviour. Individuals who are optimistic in their ability to prepare for retirement are perceived as having a high self-

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efficacy, and a disbelieve in one's ability to plan for retirement is adjudged as low self-efficacy.

According to Maddux and Stanley, (1986), there are four hypothesised sources of information on Bandura's self-efficacy expectations: (1) performance experiences, (2) verbal persuasion, (3) vicarious experiences, and (4) emotional or physiological arousal, and these all play their unique roles in motivating individuals. Informal sector workers expectation of success in outcomes (performance experiences) is the highest form of motivation, whereas vicarious experiences, thus, informal sector workers ability to observe, learn, and replicate a behaviour influences adaptation intention. Also, as opined by the social influence theory, before informal sector workers can model a behaviour, they must feel a likeness and believe in the similarities they have with the model (their peers). A belief in the fact that they are the same and are confronted with similar, if not the same challenges enable behaviour modification.

Several authors have studied self-efficacy in so many ways (Hekken, 2018) investigated the effect of massaging strategies and clarity in enabling individuals plan for retirement and confirmed the existence of a relationship between self-efficacy and financial planning behaviour. Hoffmann (2021) also established that higher financial self-efficacy is linked to lower financial insecurity. According to findings, performance vulnerability prevention is predicted by the individual's believe that they can perform the recommended behaviour (self-efficacy) and the believe that they will benefit from the action (response efficacy). In the same vein, (Hoffmann, McNair & Pallant, 2021) established an association between higher financial self-efficacy predicting

lower financial vulnerability. What is predominantly lacking in these studies is the role of retirement risk perception and its relationship with retirement risk awareness and retirement planning.

Capability Approach

The capability approach is a comprehensive normative framework for the evaluation of human wellbeing, the formulation of policies and recommendations for societal change (Shubhabrata & Ramsundar, 2012). It has been employed in several disciplines, primarily welfare economics, development studies, political philosophy, and social policy. It may be used to evaluate some elements of human welfare, such as inequity, poverty and offers a framework for conceptualising and evaluating these phenomena.

It is a theory proposed by Amartya Sen, (Sen, 1993a), which posits that social structures should be judged largely based on the amount of freedom individuals have to develop or attain valued resources and opportunities. In the same language, it theorises that the freedom to attain wellbeing depends on what individuals can do and be, and consequently the sort of life they are successfully able to lead.

The capacity approach has its roots in a series of publications that challenge the weak knowledge base of conventional economic models about the lack of an understanding of the activity's individuals are capable of performing and the kind of people they can be. Sen (1993) refers to this concept as capabilities, thus, individuals' true freedom to accomplish their preferred desires. Real freedom in this sense is having all the resources necessary to accomplish or be whatever one desires. In other words, it is not just the formal freedom to do or be anything, but also the genuine possibility

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to do so. In this sense, the capacity approach shifts the emphasis from means (people's resources and access to public goods) to objectives (what they are able to do and be with those resources and goods). Martha Nussbaum (2000) establishes a connection between a person's internal and external conditions that, collectively, comprise their capacity. In this approach, while capability is formed by a person's internal capabilities (intellectual talents), it also considers a person's external environment, such as the variety of options accessible in a particular community. The right environmental opportunities must be made available to informal sector workers to foster their understanding and appreciation of the need to plan for their retirement. One of such avenues is financial inclusion which has been agued as aiding financial capability (Nam & Loibl, 2020). The Tier 3 retirement product stands as one of such financial inclusion measures made available to informal sector workers to access for their retirement planning. Efforts to enable informal sector workers financial inclusion in retirement planning is not complete if they do not know the available products and the benefits they can derive from such products.

In the same light, Johnson and Sherraden (2007) discussed financial capacity as both an opportunity and ability. Individuals in the informal sector can have the opportunity to plan for their retirement, but as well, must have the ability and capability of planning for their retirement through the discipline of financial behaviour, financial knowledge, and financial attitude to plan for retirement.

Social Learning Theory

Bandura's Social Learning Theory (SLT), also known as Observational Learning Theory, is a way of learning based on seeing and modelling the

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behaviour of others. The SLT (Bandura,1977; 1986) posits that people learn by seeing the behaviours, attitudes, and results of others and are driven to imitate or refrain from such behaviours based on their rewards and punishments. Thus, through personal experiences and observation of the lives of the elderly, their family and friends, and union members, informal sector workers would get an understanding of retirement and the obstacles that accompany it (retirement risk). Observing the difficulties faced by retirees due to a lack of retirement preparation will raise awareness of old age difficulties, allowing persons in the informal sector to protect themselves through retirement planning.

The influence of retirement risk awareness on retirement planning has been established. In a study, Fifit and Saputri (2021) noted that an individual's awareness will motivate them to take the appropriate actions to manage their funds, reducing waste and establishing plans towards retirement savings for their old age support. Likewise, Kadoya and Khan (2020) demonstrated how social learning, consumer socialisation and social contact improve financial literacy. In the same vein, Colin and Alain (2020) demonstrated the influence of friends on financial decision making. Their study sought to moderate awareness created by social learning on financial service usage. The findings revealed that social learning moderates the link between financial literacy and the use of financial services among Kampala residents. According to the study, peers and friends are crucial socialising agents having a major effect on the use of formal financial services.

Social Cognitive Theory

Social cognitive theory discusses the change in an individual's behaviour as a result of their interactions with others. This means that individuals model behaviour by observing others. The theory views humans as conscious agents who can both shape and be shaped by their environment. The theory is an extension of the social learning theory and is based on the judgement of man as a cognitive being. An individual's intelligence learning may be closely linked to studying people within the framework of social relationships, encounters, and outside media influence (Bandura, 1991). It has been seen to play a vital role in consumption and expenditure in a variety of ways (Minguez & Sese, 2021), ranging from general persuasion to peer recognition and conformity to social norms. It denotes persuading others to recognise knowledge received from another as proof of fact. Learning that considers how conceptions, judgments, and motivations may affect a person's behaviour and the environment that shapes it. According to social cognitive theory, people actively impact their learning by interpreting the results of their actions, which in turn influences their settings and personal factors and informs and modifies subsequent behaviour rather than passively absorbing information from external inputs (Schunk, 2012).

Social Influence Theory

The social influence theory expounds on the belief that social networks may have an impact on individuals, causing a change in behaviour (Kelman, 1958). The author believed that changes in individuals' behaviour usually occur at various levels, corresponding to differences in the process by which the person accepts influence. The theory asserts that referent others influence

an individual's attitudes and behaviours through three underlying processes: (1) compliance, (2) identification, and (3) internalisation. Informal sector workers may be specifically affected by society through their compliance with others' behavioural requests or conformity, which involves changing their financial behaviour to match that of others.

The theory argues identification may influence behaviour change when individuals view their relationship with the communicator as significant, and when they identify with the communicator. The attraction to adopt a behaviour may stem from a belief in the physical characteristics of the social similarity to the source of the communication. For social influence to be successful, workers in the informal sector must believe in shared experiences, which gives rise to ideological similarity.

Agreeably, Lei and Salazar, (2022) in their study noted that individuals networking among colleges influenced their acquisition of stocks. Likewise, (Su Mustaffa et al., 2018) found that workers working in the same institution turn to be influenced to use social media due to their referent others. Informal sector workers must believe in the fact that they have similar conditions and hardships to the communicator (peers). Also, informal sector workers in a bid not to be seen as too different from their group members will adopt retirement planning as they see their colleagues making efforts to save for their retirement. Their assessment of the need for and importance of saving for their retirement plus their belief in the resulting benefit of savings also enables their adaptation of the behaviour of planning for their retirement.

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Linkage of Theories to the Study

Examining the Mediating Effects of Retirement Risk Perception and Adaptation Intention on the Relationship Between Retirement Risk Awareness and Retirement Planning.

Retirement planning can be defined as goal-directed thoughts and behaviours that promote financial security, fulfilling lifestyles, and rewarding roles for the aged (Noone, Stephens & Alpass, 2010; Salignac et al., 2019). As reflected in objective one, retirement planning is influenced indirectly by retirement risk perception and adaptation intention. The adaption of retirement risk awareness as the proceeding independent variable is guided by the social learning and social influence theory. Bandura's Social Learning Theory (SLT) (Bandura & Adams, 1977), also known as Observational Learning Theory, is a way of learning based on seeing and modelling the behaviour of others. The theory posits that informal sector workers will be influenced by an observation of the financial challenges experienced by aged individuals which may help them gain awareness of retirement risk, thereby activating the desire to make investments towards their retirement, leading to their retirement planning.

An observation of the financial difficulties faced by aged individuals will activate a thinking and an awareness of the severity of, and the realisation of their vulnerability to post-retirement financial crises (retirement risk perception) as guided by the protection motivation theory. Retirement risk perception and adaptation intention, guided by the protection motivation theory both serve as mediators of the relationship between retirement risk awareness and retirement planning. The theory explains the need for informal sector workers to go through the cognitive process of analysing post-

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retirement financial risk, perceive the severity of the risk, as well as perceive their vulnerability to the risk, making up retirement risk perception. Also, informal sector workers need to believe in the efficacy of the retirement investment package (tier 3 pension package) provided to mitigate the risk and must believe in themselves (self-efficacy) as having the capacity to put in measures to mitigate the risk, conceptualised in this study as adaptation intention. Retirement risk perception and adaptation intention enables an assessment into the cognitive processes that motivate individuals' movement from a state of retirement risk awareness of future financial needs to an ability to adopt active retirement planning behaviours.

Determining the Mediating Role of Retirement Planning on Retirement Risk Perception and Financial Wellbeing as Well as on Adaptation Intention and Financial Wellbeing.

Financial wellbeing has been defined as informal sector workers' perception of their ability to meet current financial commitments and expenses, financial comfort, financial security, resilience and the capability to plan for future financial demands (Russell et al., 2020). Similarly, others (Brüggen et al., 2017) have viewed it as informal sector workers' subjective opinion of being able to sustain present and future standards of living with financial freedom". Transitioning from employment to retirement necessitates financial planning and preparation during the pre-retirement phase which requires behavioural and attitudinal changes. The lack of retirement planning among Informal sector workers has been established (Boyetey and Enu-Kwesi, 2022; Guven, 2019). The Protection Motivation Theory (PMT) (Maddux & Rogers, 1983; Rogers, 1975) serves as the conceptual framework for

transmitting the need to plan for retirement. It is a social cognitive model that is employed in recent years to predict individuals' intention to engage in protective activities.   The theory's retirement risk perception dimension enables an assessment into two major cognitive processes that enables informal sector workers perceive the risk of retiring without enough financial reserves (retirement risk). Thus, (1) the unpleasantness or seriousness of the threatening event (i.e., perceived severity); and (2) the likelihood that the event will occur, susceptibility of an individual to the risk (i.e., perceived vulnerability). These processes translate the need for retirement planning.

Retirement planning can be defined as goal-directed thoughts and behaviours that promote financial security, fulfilling lifestyles, and rewarding roles for the aged (Noone, Stephens & Alpass, 2010; Salignac et al., 2019). It consists of a series of activities involved in the accumulation of wealth to cover needs in the post-retirement stage of life (Topa, Lunceford & Boyatzis, 2018a). It also includes estimating the targeted retirement income one may need and implementing financial strategies to provide that income (Keloth et al., 2020).   The achievement of financial wellbeing is based on the accumulation of resources which is enabled through retirement planning. Thus, informal sector workers ability to perceive financial retirement risk alerts them to consciously control and save resources towards the mitigation of such risk in the future. As espoused by Nyre and Jaatun (2017), assessments by informal sector workers of their exposure to risk would ignite their motivation to protect themselves from the vulnerability. On the other hand, adaptation intention is exhibited in an informal sector worker's expectation of outcome, which can mediate their willingness to partake in financial planning

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towards retirement. Bandura1 (989) discusses two motivational factors that can influence behaviour in self-efficacy theory. Outcome expectancies; the belief that periodic savings efforts are enough for retirement planning, and self-efficacy; the belief that one is capable of performing the behaviour in question (Bandura, 1989).

Investigating the Mediating Effect of Financial Capability on Retirement Risk Awareness and Retirement Planning

This objective is guided by the capacity approach proposed by Amartya Sen, (Sen, 1993a) which discuss individuals financial capability and wellbeing. It theorizes that the freedom to attain wellbeing depends on what individuals can do and be, and consequently the sort of life they are successfully able to lead. In the same light, Johnson and Sherraden (2007) discussed financial capacity as both opportunity and ability. Individuals in the informal sector can have the opportunity to plan for their retirement, but as well, must have the ability and capability of planning for their retirement through the discipline of financial behaviour, financial knowledge, and financial attitude and pension product knowledge to plan for retirement.

Financial capability is a set of behaviours, abilities, and attitudes that facilitate successful and responsible investment choices (World Bank, 2018). Financial decisions and investment choices have been noted as having a direct impact on retirement fortunes. The importance of making informed investment decision is crucial and connected to individuals comprehension of the available investment possibilities (Ntalians & Wise, 2011). Individuals' ability to comprehend the nature and type of investment product and the set of

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behaviours necessary for the adaptation of retirement planning choices is dependent on their financial capabilities.

Most individuals seem to lack the requisite information needed to make the best savings and investing choices (Angrisani & Casanova, 2021; Oliver-Márquez et al., 2021; Topa et al., 2018b). Creating awareness and coaching people to set their retirement vision as well as voluntarily engage in educational programmes will help build confidence for retirement planning in the long run, ensuring successful ageing (Blessing & Ph, 2021; Ghafoori et al., 2021; Lusardi & Mitchell, 2011; Zulfaka & Kassim, 2021). Bandura and Adams (1977) in a discussion of self-efficacy also stressed the fact that individuals believe in their ability to perform a behaviour can motivate behavioural change. It is therefore important to have a publicization of retirement risk awareness which incorporates information regarding pension product knowledge (how tier 3 runs, where to access such services, how much minimum value one can contribute at a time, what benefits one can access for signing unto such commitment and many more) often echoed to the hearing of the individual to enable an adherence to change. This knowledge if created can empower individual's self-efficacy, giving them confidence to approach the subject matter.

It will be difficult to achieve financial wellbeing without retirement planning. The right environmental opportunities must be made available to informal sector workers to foster their understanding and appreciation of the need to plan for their retirement. With the right attitude towards retirement planning, informal sector workers may be successful at achieving financial wellbeing during their old age. The theorisation of this study considers the fact

that awareness created from the right source will lead to pension product knowledge. Individuals who attend retirement planning interventional programmes organized by trustee institutions and unions may retain more knowledge on the type of investment packages suitable to them. This therefore forms the basis of the relationship between retirement risk awareness and financial capability.

Conceptual Review

The theoretical review helped uncover some key concepts that will be relevant to the study of retirement planning in the informal sector. The concepts included retirement risk awareness, retirement risk perception , adaptation intention, financial capability and retirement planning.

The Concept of Behavioural Finance

Behavioural finance is a novel way of studying the finance paradigm and seeks to investigate the effect of psychological factors on the behaviour of investors. It emphasises the reality that investors are not always rational, have limits, and are impacted by their prejudices, especially when individuals relax the tenets underpinning individual rationality (Thaler, 2005). It is an interdisciplinary field that relies on the theoretical assumptions of psychology and finance in a quest to uncover the causes of various investor disposition effects (Ricciardi, 2008).

Initially, financial planning was considered a special area reserved for economists, accountants, and financial counsellors. But lately, the study of psychological concepts has yielded "a collection of coherent explanatory notions" that economists may employ to better explain economic behaviour (Garca-Gallego et al., 2017). At the same time, the relevance of finances in

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retirement was acknowledged in the field of psychology (Topa et al., 2011) and academics have gradually begun to add factors from other fields into their empirical research, resulting in an increasing body of data supporting integrated studies in finance (Shultz & Wang, 2011; Taylor & Schaffer, 2013; Wang & Shultz, 2010; Wong & Earl, 2009)

Sharma (2014) in a bid to understand cognitive dissonance in relation to behavioural finance, noted that every investor employs some method for evaluating financial commitments. Fundamental and technical analysis are the two most utilised approaches, however, in practise, investment decisions are driven by other qualitative considerations ranging from cognitive to emotional factors that influence individuals' decision-making processes.

The study of behavioural finance has three components underpinning its theory: firstly, cognitive psychology, sometimes known as behavioural psychology, thus, emotional reactions to financial trading agility; social psychology, which recognises the necessity for others to approve and even promote our actions. These components have contributed to the understanding of human decision modes in several ways (DeBondt, Forbes, Hamalainen & Muradoglu, 2010), explaining the fragility of human intuition, the lack of technical literacy, and the effect and relevance of individual beliefs on financial decision making.

Conventional finance, also known as neoclassical finance, has four components: investor rationality, market efficiency, mean-variance portfolio theory, and capital asset pricing model (Chandra, 2016), however, there are counter ideological perspectives presented by behavioural finance, proposing that investors are "ordinary," not logical, or overly analytical,   that

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inefficiencies are presented in financial markets, that individuals behavioural theories play a role in investment decisions, and that investment returns are determined by other behavioural variables, needing explanation than beta. It must be stated, though, that behavioural finance is not in competition with rational finance to replace it; the tenets of standard finance are foundational to the world of finance, while behavioural finance is designed only to enhance and supplement the findings of investors' financial reasoning and to address market inconsistencies (Muradoglu & Harvey, 2012) when rational models fail to give adequate answers.

Retirement Financial Risk

Ageing and retirement are delicate aspects of life that if not well prepared for can result in physiological problems (Dong, Chen, Xu & Xu, 2020; Gyasi, Adam & Phillips, 2019). According to the World Health Organisation (2014), ageing is associated with multimorbidity that eventually results in a decline in physical, cognitive, and mobility abilities, leading to a natural decline in the ability to work (Cuignet et al., 2020). Such health issues, especially, one that makes occupation impossible may put a strain on finances at a time that one may need it most. Many authors have several descriptions for these old age challenges. Stone (2012) termed it "retirement-related risk", defining it as dangers that are more likely to arise during later life, often referred to as "The Third Age". The Centre for Retirement Research (Boston College) tries to address this issue through a "retirement risk index" which quantifies the proportion of individuals that may face the probability of not being able to maintain their pre-retirement standard of living in retirement (Munnell et al., 2006). The Society of Actuaries (2004) terms the phenomenon

"Post-retirement risks" which includes the risk of outliving assets, loss of a spouse, declining functional status, large out-of-pocket medical expenses, inflation and other family members needing assistance. This study hence conceptualises it as "financial retirement risk (FRR)", especially because the study dwells on the financial aspect of the many risks that old age brings.

The importance of this phenomenon cannot be understated, especially because it is required that informal sector workers maintain their pre-retirement income during their post-retirement days. It must be noted, however, that during retirement, workers may not have the energy needed to continue engaging in their usual hustle of life and may have health challenges that can inhibit their ability to sustain the financial demands of old age. The fact that countries would set up national offices to deal with issues of retirement financial wellbeing as well as its consideration in SDG (SDG, 2016; Ortiz, Schmitt & De, 2016) reflects the sensitive nature of the subject.

Financial retirement risk (FRR) is diverse, and many authors (Abkemeier, 2010; Laster et al., 2016; Rappaport, 2021) refer to a list published by the Society of Actuaries (Rappaport, 2017; Rappaport, 2014; Society of Actuaries, 2020; Society of Actuaries, 2004), which details some of the risk that retirees face during retirement. Published in 2003 and updated in 2020, the retirement risk chart divides risk faced by retirees into three categories: economic risk, thus, risk that individuals must consider themselves and those that may be unanticipated. Retirement is associated with risks such as inflation, interest rates, financial market failures, employer issues, longevity and many more (Society of Actuaries, 2020).

Retirement Risk Awareness

Awareness influences preparedness and creates perception. It involves recognising, realising, or being interested in learning about something, or realising that something is essential, or being aware (Gafoor, 2012). Kazaure (2019) describes awareness as individuals' ability to directly know, sense, feel, or be cognizant of events or happenings in their immediate environment. Information available to individuals enables exposure, hence increasing awareness, which is critical in the formulation of an acceptance intention or intention to change behaviour (Kazaure, 2019), the same is said of retirement risk awareness. Salah and Sasaki (2021) define retirement risk awareness as the degree to which individuals think and talk about a particular threat, which is dependent on access to information sources and knowledge acquired. It is sometimes thought of as knowing the likelihood of the occurrence of a risk. Gafoor (2012) discussed three types of awareness, thus, awareness seen as knowledge from the environment without direct instruction (observation), awareness of self (self-perception) and awareness that results in knowledge to perform a task, cognitive ability to perform a test, or an awareness that results in the attainment of some skill. Observational awareness deals with a common form of knowing, an example is having common knowledge of social, scientific, or political topics, or a state of awareness of the existence of a virus without knowing the facts about what to do to avoid infestation or how to deal with it in a case where one is infested. These types of observational awareness are supported by Bandura's social learning theory, which asserts that people learn by observing other people's behaviours, attitudes, and outcomes, and are

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then driven to replicate or avoid such behaviours based on the rewards and punishments they get (Bandura & Adams, 1977).

Thus, informal sector workers would be alerted about retirement and the obstacles that come with it through personal experience and observation of the lives of elderly people and relatives. The obstacles that confront retirees as a result of a lack of retirement planning would raise awareness of old age issues, allowing persons in the informal sector protect themselves through retirement planning.

Awareness and Knowledge

The importance of awareness has been elaborated in research resulting in a lack of pre-retirement awareness among participants (Ahmed & Wang, 2018; Niu et al., 2020; Saharan et al., 2018). Retirement financial knowledge has been studied in diverse ways, from idea formation education, mathematical calculation, and decision-making education. The efficacy of voluntary pension programmes is highly dependent on retirement knowledge, a lack of which would lead to society's low interest in alternative methods of saving for retirement (Gumola, 2019), therefore, retirement risk awareness is essential. Kłopocka (2018) asserts that an adequate contribution to the Defined Contribution System (DCS) is usually a result of long-term education and awareness creation. The South Carolina Public Employee Benefit Authority (PEBA) demonstrates the significance of awareness creation by engaging in a series of seminars coded "Be aware and prepare", which offer members information to help individuals make sound financial decisions (Kravchuk, 2007). In a study (Skarupski et al., 2020) individuals acknowledged the difficulties connected with older age and retirement stigma

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and agreed that boosting awareness and visibility of retirement and retirement-related offers would help mitigate any inadvertent unfavourable bias associated with retirement. Others have encouraged the teaching of courses related to social insurance in schools to enable awareness which may lead to the development of a habit to save and an early financial retirement planning (Płonka, 2019). Possession of surplus resources without financial knowledge of retirement-related risk and the details of the ease of using retirement services available may not lead to investment planning for retirement, it is necessary to have knowledge of how, where and when to invest to reap the maximum benefits from investment (Baker et al., 2020).

The literature on knowledge and awareness has disparities and this has led to conceptualization issues, which is consistent with findings (Sophus & Mitchell, 2019; Trevethan, 2017) in the study on knowledge and awareness. These inconsistencies can be identified even from the academic discourse between Merikle (1984) and Henley (1984) in the definition of awareness as a subject's ability to distinguish among various possible stimulus states. Idiegbeyan-Ose, Nkiko and Osinulu (2016) defined awareness as a person's cognitive ability to perceive, understand, and judge a certain phenomenon, knowledge of an object and techniques of operation. This definition seems to equate awareness to a deeper form of understanding and skills about a phenomenon. Empirical study (Gafoor, 2012; Sophus & Mitchell, 2019; Trevethan, 2017a) confirms this misconception of the variables (awareness and knowledge) and its effect on conceptualisation as these variables have been used interchangeably (Angelici et al., 2020) though representing different levels of understanding.

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Despite the synonymous use of the words awareness and knowledge, the content and findings of these studies are usually not floored. The issue of interchanging the word only arise when knowledge and awareness are intended to designate recognisable and separate empirical and conceptual realms, the contest of study (Merikle, 1984) plays a major role in placing the study in perspective. Trevethan (2017) in a bid to ransom the issue of disparities in the definition of the variables did a study investigating the words as found in various online dictionaries. The findings suggested that any attempt to define and show the broad difference in the terms awareness and knowledge was elusive. The study proposed that awareness be employed in two domains: the "knowledge domain" and the "awareness domain." In the knowledge domain, though knowledge and awareness are qualitatively equivalent, they reside at opposite extremities of the knowledge continuum. Thus, the realm of awareness encompasses general awareness knowledge (having little or no knowledge about a specific issue), as well as thorough and specific knowledge (possessing the specificity and accuracy of knowledge concerning a subject). While the knowledge domain stipulates that awareness and knowledge are qualitatively equivalent, the awareness domain "encompasses the scope of personal engagement or concern" and contains a significant personal component.

This domain implies that consciousness exists on a continuum within a single domain, ranging from low personal awareness to high personal awareness. By and large, these two domains imply that awareness can be understood as the most fundamental degree of comprehension for a given subject. To summarise, the study suggests that knowledge and awareness can

be conceptualised, with awareness being the most fundamental level of comprehension for a particular subject.

Studies seeking to access a certain difference with the variables of awareness and knowledge in conceptualising have tried to show a significant variation, preventing variable interchangeability. Sophus and Mitchell (2019) conceptualised awareness (in the study of drugs) as an individual's acquaintance with, without understanding what it entails, whereas knowledge (in the study of drugs) was seen as a thorough understanding of its efficacy, eligibility and adherence requirements, as well as how it can be obtained.

In another study (Rajamoorthy et al., 2019), knowledge and awareness were defined differently; knowledge was defined as precise and accurate information about a phenomenon, whereas awareness was defined as personally relevant information. The knowledge domain covered questions about the causal agent, transmission, prevention and symptoms. In comparison, the awareness domain tested respondents' knowledge of their own and family members' diseases and vaccination status. While awareness is primarily concerned with being aware of events, thoughts, or emotions, (Damalas & Koutroubas, 2018) knowledge is concerned with the information and skills obtained via experience or education. Thus, knowledge can encompass both theoretical and applied comprehension of a subject. The fundamental distinction between the two concepts is that knowledge is related to a thorough comprehension and sense of an idea, whereas awareness does not require a thorough understanding and is associated with personally relevant information.

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A study by Gafoor (2012) discusses measurement issues related to awareness. In recommendation, measures of awareness are to be classified into three categories based on their nomenclature, scales, exams, or questionnaires. The format of items may vary according to the population studied, whether exposure to the field of study is by training or education or novices with no prior exposure to the topic, and also according to the study's objective. Some authors have used a form of multiple-choice questioning (De Britto Pereira et al., 2008) which accessed the variable awareness and knowledge with response items "yes" or "no" without an option of "do not know". For knowledge questions, a correct response received a score of one, while an erroneous response received a score of zero. Knowledge score was derived as the aggregate of correct responses, and hence higher scores implied greater knowledge. Four questions were used to assess the awareness domain. A score of one was assigned to respondents who indicated "yes," suggesting they were aware of the phenomenon, whereas "no" and "do not know" responses received a value of zero, indicating respondents were unaware; as a result, higher scores indicating a greater level of awareness.

Risk and Retirement Risk Perception

The term "risk" alludes to the possibility of loss (Zingler & Walker, 1965). The concept of risk has been studied in varied ways, from standard finance theories to behavioural finance research. Under behavioural finance research, risk has been looked at from the viewpoint of individuals perceiving risk in investment assets (probability of loss) (Nguyen et al., 2019), which form the majority of research, to perceiving risk in future wellbeing (exposure to risk due to lack of retirement planning). Renn, Slovic and their colleagues

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(1992) estimate that risk in the future is not predetermined but is determined by individuals' present behaviours and activities. Insufficient financial reserve during retirement is an evitable risk, preventable only if individuals will act and will act early. It is crucial to emphasise that risk requires a decision, even if the action taken might be to preserve the status quo (Gough, 1990). Individuals' inability to perceive retirement risk and to take preventive measures can greatly affect their financial wellbeing as they age, especially because of the challenges presented by ageing. Roszkowski (2014) viewed risk as a cognitive activity entailing the appropriate assessment of environmental and internal states. In the authors assessment, retirement risk perception is a unique process that provides context for an objective circumstance and is affected by knowledge, emotion, and experience. Risks connected with insufficient retirement planning exhibit all of the features of hazards that do not elicit significant visceral responses (Weber, 2005), risk is outcome of behaviour rather than a characteristic of things, thus, risk is linked to a decision to change behaviour, to protect or not to act at all, rather than existing in isolation. Risk is the result of actions and inactions.

Retirement risk perception (Sjöberg, 2000) is the empirical assessment of the likelihood of a certain threat arising and how concerned people are about the consequences. It refers to individuals' subjective assessments of an adverse event (Paek et al., 2017; Rohrmann, 2008; Sjöberg et al., 2004) and their exposure. Retirement risk perception involves determining the probability as well as the consequences of a negative result. Activity-related consequences affect retirement risk perception and its assessment, which encompasses social and cultural phenomena that stretch beyond the individual

and include belief, images, tradition, and ideology (Weinstein, 1989). It is encompassed by two components: (Paek & Hove, 2017) the cognitive component, which refers to how much individuals know and comprehend a danger, and the emotional component, which refers to how they feel about a risk. Retirement risk perception is subjective and dependent on individuals' ability to predict and foresee dangers.

Numerous ideas have been tested in the study of retirement risk perception and its assessment. Literature (Boholm, 1998) discusses retirement risk perception in two categories using psychometric models, the Unknown and Dread. In the same vein, Sjöberg, Moen and Rundmo (2004) called it Dread and Novelty. Comparatively, Slovic and Peters (2006) described two key ways risk is perceived and responded to, (1) the term "risk as feelings (the affect heuristic) which relates to individuals natural and intuitive responses to danger, and (2) risk as analysis, also concerned with using logic, reasoning, and scientific deliberation to assess risk and decision making. In contrast, Covello (1995) proposes four theoretical models that explain how people perceive risks. (1) the retirement risk perception model which identifies a wide variety of factors that influence people's retirement risk perception negatively, (2) the mental noise model, which posits events producing a higher level of mental noise reduce people's ability to process risk-related information, (3) the Trust Determination (TD) Theory and (4) Negative Dominance Theory, which describe how individuals process negative and positive information. The author suggested that communicators of risk must inculcate these theories in their preparation and delivery of information on risk.

Comparatively, the bulk of theories on risk are based on the fear/dread appeal. Which asserts that anxiety and emotions cause people to alter their behaviour (Sjöberg, 2007; Slovic et al., 2006; Takebayashi et al., 2017; Tannenbaum et al., 2018), though the reverse is seen in some circumstances. Anxiety and fear are insufficient to effect behavioural change; an ability to analyse and interpret alternative scenarios plays a significant role in our response to fear (Hengen & Alpers, 2019). Assessing the likelihood of future unfavourable events may thus aid in the optimal allocation of cognitive resources (Boholm, 1998; Hengen & Alpers, 2019), subjective understandings and meanings influence retirement risk perception . Most studies on retirement planning have found that participation is minimal.

There has been little, if any, improvement in this area of responsibility. Risk can be affected by maladaptive behaviours (Hotle et al., 2020; Langford, 2002; Maddux & Rogers, 1983; Rahn et al., 2021), (defensive response, using avoidance, maintenance, and compensation) which tend to exacerbate rather than decrease responder anxiety. Individuals deliberately avoid thinking about the risk (avoidance), denial of any conceptions regarding the risk other than fear of the unknown (maintenance) which was a form of schema maintenance technique, avoiding the responsibility of concern and (compensation – eccentric) where individuals exhibited hyper vigilance and were readily triggered into worry and or rage due to the risk.

Financial Capability

Retirement planning and financial wellbeing cannot be discussed without a focus on the behaviours that help in the accumulation of funds for retirement. Individuals' ability to move from knowledge to implementation of

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what is known is estimated to be much more important in the consideration of capability. This is further echoed (Sen, 1993a) in the capability approach theoretical framework which dwells on the prioritisation of individuals being and doing and the opportunities available as the basis for emphasising capabilities. There have been several discussions on transitioning from financial literacy to financial capability. The notion of financial capability was conceived as a result of a debate about whether policymakers should place greater emphasis on what individuals do rather than what they know (Kempson et al., 2017), not just on knowledge but also on financial decision-making and implementation of what is known (Johnson & Sherraden, 2007). Financial success leading to financial wellbeing requires proper financial understanding and behaviour. Individuals must in a bid to satisfy their personal and family's social protection demands, navigate an increasingly complicated financial marketplace. This has prompted questions about how well equipped they are to do so (Atkinson et al., 2007; Kempson et al., 2017). The quality of a person's life is determined by their financial conduct, which in turn is influenced by their financial literacy (Safronova et al., 2020). Financial capability is a demonstration of appropriate financial knowledge and the capacity to manage complex saving and investing decisions (Çera et al., 2020). According to Sherraden and Ashong (2016), society has an obligation to develop financial products, services, and public policies in ways that assist individuals at the bottom of the economic ladder. The authors emphasised the necessity of the combined efforts of people's ability and opportunity to act.

With the rapid evolution of financial sector services and products coupled with low financial assets, it is laudable to assert the need for financial

inclusion in enabling financial capability. Birkenmaier, Sherraden and Curley (2013) define financial capability as individuals' knowledge and behaviour, as well as the structural environment, which combines ability to act and opportunity to act (i.e., services and product availability). In the same vein of emphasising the environmental structures representing financial inclusion, the World Bank Group (WBG) defines financial capability as individual's internal capacity to act (World Bank, 2021), and as the ability to make decisions that are best for one's financial situation given the socioeconomic and environmental circumstances. It includes customers' information (literacy), attitudes, behaviours, and skills with regard to comprehending, choosing, and utilising financial services that meet their needs (World Bank, 2013, 2017). Likewise, Birkenmaier, Maynard and Kim (2022) in a systematic review described it as having the knowledge, access, and ability to use financial products and services in order to display positive behaviours towards financial wellbeing. Other authors (Nam & Loibl, 2020) have further described financial capability as a policy concern in its ability to enhance retirement, particularly as it relates to retirement readiness. People require policies, products, and services to help them stable and secure their economic wellbeing.

In terms of the measurement of the construct, there is a lack of coherence, as espoused by Xiao and Huang (2021) and Birkenmaier, Rothwell and Agar (2022) and both authors have called for a standardisation of the concept of financial capability and its sub-dimensions. Several authors have measured the variable of financial capability differently, notably is the work of Nam and Loibl, (2021). In the bid to share the importance of financial

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capability among certain age groups, especially the aged (Nam & Loibl, 2020) measured financial capability by the variables (financially included, financially excluded, financially educated and financially capable). Using data from the U.S. National Financial Capability Study (2015) and sampling 981 lower-income Americans, the authors explored the link between financial planning behaviours specifically (on-time bill payment, emergency savings, and retirement planning) and two essential elements of financial capability (financial education and financial inclusion). The findings highlight the importance of financial inclusion for financial planning practises. Financial inclusion (having access to mainstream financial services) was significantly related to financial planning, whereas participating in workplace financial education was less significantly connected with the three financial planning behaviours. The insignificance of financial education to financial planning may be due to the fact individuals may not have adequate knowledge of the specific investment planning products that maybe useful for financial planning. This may affect their confidence to engage in retirement planning, even though they may have access to mainstream financial services. The importance of financial product knowledge in enabling retirement planning cannot be overlooked as it is the vehicle that completes the cycle to financial capability as it enables the transmission of the purpose of financial service availability, resulting in financial planning.

Again, Sun, Chen, Ansong, Huang and Sherraden, (2022) using national representative data from the 2015 National Financial Capability Study, examined the elements and processes of the financial capability framework. Measuring financial capability as antecedents of financial literacy,

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access, and behaviour, the authors noted that financial access and financial knowledge were both significantly correlated with financial socialisation and financial education. This study also excluded the need for investment product knowledge which may act as an enabler to financial capability as it serves the need of knowing which particular investment product may be useful, as well as the advantages and disadvantages associated with each.

Also, Mokhtar, Sabri and Ho (2020) in their study on the impact of socio-demographic characteristics such as age and ethnicity on financial capability measured the concept with four variables, thus, planning ahead, managing money, choosing products, and staying informed. Birkenmaier, Rothwell and Agar (2022) also examined 34 scholarly literatures on financial capability between the years 2015 and 2018 and reported that constructs for measuring financial capability were operationalized in 12 different ways. According to their study, central to the operationalization of the measurement of financial capability is the combination of objective financial knowledge and financial inclusion.

Likewise, Xiao and Huang (2021) in a systematic review discussed financial capability as a person's ability to use suitable financial knowledge, engage in desirable financial behaviours, and seize available financial opportunities to achieve financial wellbeing. Utilising bibliographic coupling analyses, the authors review 215 Scopus publications published between January 2007 and March 2022. The review revealed a surge on the topic of financial capability between 2019 to March 2022, accounting for as many as 111 articles extracted out of 215. Though publications started as far back as 2007-2009, only three publications were recorded for the period.

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Conceptual definitions on the topic were varied with broad scopes on behaviour, knowledge, knowledge-behaviour, ability-opportunity, and outcomes, which formed the bases for measurement of the variable. The behaviour definition characterised financial capability into four domains of desirable behaviour, thus managing money, planning ahead, selecting products, and remaining informed. The knowledge definitions conceptualised financial literacy and financial capability as interchangeable variables, considering people's skill to digest economic information and make educated decisions about financial planning, wealth building, debt, and pensions" suggesting that financial literacy encompasses both financial knowledge and financial behaviours. Also, the knowledge-behaviour definitions are a synthesis of behaviour and knowledge definitions that look at individuals' ability to apply relevant financial information and undertake desirable financial behaviours to achieve financial wellbeing. Again, the outcome concept emphasises both information and conduct, and claims that "financial capability shows people's awareness of financial problems, their ability to handle money, and their ability to take charge of their finances. Finally, the ability-opportunity approach demonstrates the need for external factors to enable financial capability success.

Arguably, most of the articles reported failed to consider the role of financial product knowledge in enhancing financial capability and retirement planning. Without interactions with environmental elements such as financial services and appropriate public policies, financial acumen and other human capital alone cannot increase financial wellbeing, individuals must relate to their environment to produce wellbeing. This is where financial literacy falls

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short of financial capability, which necessitates a combination of financial inclusion to support the shortfalls of financial literacy. In agreeing with authors who incorporate financial inclusion and authors (Maynard, et al., 2022; World Bank, 2013, 2017; Xiao & Huang, 2021) who noted the essence of individuals ability in their definitions, care must be taken not to overlook the role of investment/pension product knowledge in delivering retirement planning.

In defining financial capability, this study aligns with Xiao and Huang (2021), in their proposal for a standardisation of the concept using a conceptualization based on knowledge, behaviour and opportunity (KBO) approach. It must be noted that the knowledge bit must incorporate knowledge on specific investment products useful to the specific group understudy. Therefore, this study adapts the definition of financial capability as a person's ability to apply relevant financial and product knowledge, engage in acceptable financial behaviours and attitudes, and capitalise on available financial opportunities (financial services) to achieve financial wellbeing.

Retirement Planning

Ageing is an unavoidable human phenomenon that cannot be ignored, and it affects everyone regardless of race, gender, or geographic location (Thakur et al., 2020). Living long has advantages and disadvantages, ranging from the charm of growing old to the health and financial challenges it brings. There is a day when elderly people would retire from their employment and many studies have referred to this mechanism as retirement or disengagement. It is a voluntary choice for employees in the informal sector, although involuntary for those in the formal sector due to regulatory structures.

The phenomenon of retirement has been conceptualised based on several issues it delves on. Some studies have focused on the psychological connotations of exiting work and its effect on retirees, while others have looked at it from a financial perspective. Studies incorporating retirement planning have also viewed it from two approaches, the reactive and the proactive, thus post-retirement and pre-retirement (Adam et al., 2017; Kunawotor, 2013; Philippas & Avdoulas, 2021; Sabri et al., 2020; Utkarsh et al., 2020). Reactive studies focus on what happens after individuals have retired and how they adjust and cope with the financial demands of their new life (Wöhrmann et al., 2013; Yeung, 2013) whereas proactive studies (Ayasha & Rahadi, 2021; Fuzhong Chen & Meng, 2021; Herrador-Alcaide et al., 2021; Hershey et al., 2003; Hershey & Jacobs-Lawson, 2012; Hershey & Mowen, 2000; Topa et al., 2018a; Vivel-Búa et al., 2019) explore issues that lead to low financial planning towards retirement to enable avoidance of a "too late" preparation financially. These studies are centred on the financial wellbeing of ageing people as one approach, (post-retirement) and individuals present behaviours that can positively or negatively affect their retirement financial wellbeing (pre-retirement).

Retirement has different connotations for several people. For some, it's a complete exit from paid work (M. Wang & Shi, 2014), as others see it as just a phase in life. Due to changing economic conditions, more retirees are choosing bridge employment (Alcover et al., 2017; Fitzgerald, 2016) or employing themselves which is the case in the informal sector. Planning for and anticipating retirement or disengagement is an essential part of life (Hansson, 2017). According to studies, this life event may be traumatic for

those who are dealing with ill health or financial problems at the time of retirement; however, those who prepare ahead of time are less likely to face financial difficulties (Chiesa & Topa, 2019).

Antoni, Saayman and Vosloo (2020) discussed three stages of retirement planning, which should begin with planning for retirement, thus, making financial provisions for retirement, deciding on withdrawal measures to use, and lastly, how to manage and make sure one has money enough to last the retirement period. It is important to note that all these steps, good as they are can only begin if individuals have the awareness, the education and the knowledge on the importance of retirement planning.

Retirement planning consists of the series of activities involved in the accumulation of wealth to cover needs in the post-retirement stage of life (Topa, Lunceford & Boyatzis, 2018a). It also includes estimating the targeted retirement income one may need and implementing financial strategies to provide that income (Keloth et al., 2020). It can be defined also as thoughts and activities that are focused on specific goal attainment, health and financial stability, meaningful life and fulfilling responsibilities in retirement (Noone et al., 2010). Many difficult circumstances could be avoided, such as financial hardship, if people simply made more careful, deliberate choices that match their long-term best interests and goals (Howlett et al., 2008). The effects of lack of planning financially for retirement affects not just individuals (Topa et al., 2018b) but their families and in some cases, entire communities, this phenomenon may even lead to the loss of dignity for most aged people since they have to be completely dependent on others for their survival.

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Research on retirement planning has progressed through many stages; some studies (França & Hershey, 2018; Hershey et al., 2010) have focused on interdisciplinary motivational models which propose psychological elements that underpin individuals' financial planning decisions, with indications of social support and economic pressures that lead to the decision to plan. Other publishers have viewed the phenomenon using a multidimensional lens (Noone et al., 2022; Seidl et al., 2021) where retirement planning mediates the process through which pre-retirement antecedents become retirement resources.

The conceptualization of studies on retirement planning has emerged from varied perspectives, though with the same implied meaning and aim, but varied measurement. Authors' have used different phrases in unearthing the substance of the topic, such as retirement preparedness (Akben-Selcuk & Aydin, 2021; Barbosa et al., 2016; Hansson et al., 2018, 2020; Hershey & Mowen, 2000; Mooney et al., 2021; Palací et al., 2018), retirement planning. Both topical authors have defined it similarly, Hershey and Mowan (2000) defined it as how much pre-retirees estimate their retirement savings to be adequate for their perceived retirement needs. Others have seen it as the process of wealth accumulation for post-retirement (Topa, Lunceford and Boyatzis, 2018). Similarly, Akben-Selcuk and Aydin (2021) believe that perceived financial preparedness is as significant as real retirement savings, as perceptions of financial preparedness can influence when individuals plan for retirement and their future financial behaviour.

Authors of retirement preparedness and retirement planning (Hershey & Mowen, 2000) in an attempt to assess perceived retirement preparedness,

have used scales with items highlighting an understanding of the amount of money required to pay retirement expenditures effectively (Hershey & Jacobs-Lawson, 2012), investigating if the necessary calculations had been done to ensure financial viability throughout the post-employment era.

In the measurement of the variable of retirement planning and retirement preparedness, some authors have looked at antecedents (Kerry & Kerry, 2018; Noone et al., 2022; Palací et al., 2018; Topa, Moriano, et al., 2009; Vivel-Búa et al., 2019) and preconditions needed for individuals to be able to plan financially. Others (Alkhawaja & Albaity, 2020; Chan et al., 2020; Fernandes et al., 2014; Mezuk et al., 2017; Mooney et al., 2021) have focused on the psychological fundamental precepts of financial planning behaviours and attitudes towards savings behaviour (Fuzhong Chen & Meng, 2021). Individuals' ability to estimate how much they may need to be comfortable at retirement has also been used in measuring retirement planning (Hershey & Mowen, 2000; Mešťan et al., 2021).

Financial planning activities have also featured strongly in literature on the measurement of retirement planning (Stawski et al., 2007), these activities are critical because they promote investor awareness and contentment with retirement. One category of activity is information-seeking, which may include meeting with investee companies or retirement advisors (França & Hershey, 2018; Mountain et al., 2020; Park & Lee, 2011; Stawski, 2007; Tomar et al., 2021), reading books or pamphlets on investment, listening to financial programmes on the radio or television, and accessing financial planning websites. Other classifications of retirement planning activity involve attending financial seminars, or actively engaging in seminars and educational

programmes geared towards financially preparing for retirement (Araki et al., 2021; Bernheim & Garrett, 2003; Fox et al., 2005; Hathaway & Khatiwada, 2011; Hershey et al., 2003; Lusardi & Mitchelli, 2007; Nguyen, 2021; Ntalians & Wise, 2011). Group-based educational treatments, such as seminars and workplace programmes, are also likely to promote an internal locus of control and favourable attitudes towards investment.

Retirement Planning in Ghana

Retirement or disengagement planning for workers in corporations or the formal sector, is a structured plan by governments workers in the informal sector, it takes one's own effort to save towards it. Benefits from pension schemes are extremely instrumental in the consumption decisions of the elderly, without which many of them would have lived the last days of their lives in poverty (Haron et al., 2019). In helping alleviate the burden of the elderly, the International Labour Organisation in its 2001 report on social security, entreated governments all over the world to uphold human rights to respect, protect and promote the social security of the governed.

Ghana has taken steps to accomplish policies detailed in the ILO report by enacting different forms of social securities which are now called pension schemes. The National Pensions Act 2008, (Act 766) provides for the establishment of a new contributory three-tier pension scheme which is an attempt by government to ensure that employees within the informal sector are also covered. The first tier is a defined benefit compulsory scheme and is managed by the government, whereas the second and third tiers are privately managed, with tier 3 being voluntary. The third tier is an optional and

voluntary contribution scheme for employees within both the formal and informal sectors.

Financial Wellbeing

There is a growing awareness among policymakers and academicians on the importance of financial wellbeing. The concept of financial wellbeing is evolving with no clear agreement on its definition. Research on financial behaviour has in the last fifteen to twenty years seen a shift in attention from financial literacy, to financial capability, financial inclusion, even financial resilience to financial wellbeing (Russell et al., 2016).

The growing interest in wellbeing stems from two "waves" experienced after the Second World War. The first wave was centred on a progressive political jurisdiction that failed during the recession in the 1970s (Bache and Reardon, 2016). The 1990s witnessed the emergence of the second wave of wellbeing which focused more on developing countries promoting environmental and personal wellbeing (Boarini et al., 2014). The second wave of wellbeing measurement led to the development of the Sustainable Development Goals, which inculcated a multidimensional concept of measuring wellbeing to include subjective wellbeing factors.

Another factor motivating the development of interest in the concept of financial wellbeing emanates from the effect of household vulnerabilities witnessed during the Global Financial Crisis, as economies witness a shift in responsibility for social protection from the state to individuals (Lusardi & Mitchell, 2014). The concept of wellbeing has been referred to in many studies as synonymous with happiness, and in other ways as "quality of life". Happiness refers to a feeling of pleasure without pain whereas the quality of

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life goes beyond happiness to include the notion of a "good life". (Bache, 2020). The Consumer Financial Protection Bureau (2015) defines wellbeing as a state where one can cater for both current and future financial demands, whiles also enjoying life.

In another study, (Russell et al., 2020) defined financial wellbeing as an individual's perception of their ability to meet current and ongoing financial commitments and expenses, financial comfortability, feeling financially secure, resilient and the capability to plan for future financial demand. Financial wellbeing can also be viewed as an individual's subjective opinion of being able to sustain present and future desired living standards with financial freedom" (Brüggen et al., 2017). Likewise, Haq and Zia (2013) identified subjective wellbeing as a scientific identification of individuals assessment of their lives, boarding on life satisfaction, happiness and minimal levels of anxiety.

Financial wellbeing by measure can be classified into three definitional approaches. Subjective, objective and a combination of both objective and subjective characterization. Some authors believe that both subjective and objective factors contribute to a person's assessment of their existing financial situation (Vosloo, Fouche & Barnard, 2014), though others access the concept by subjective views only or objective factors distinctly.

The general definition of financial wellbeing turns to be subjective and more dependent on an individual's perception of financial wellbeing (Bache, 2020; Brüggen et al., 2017; Dang et al., 2020). The augment for such definitions generates from the belief that individuals themselves are in a better position to access their financial wellbeing status than any other person

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(Brüggen et al., 2017). In a review study, Brüggen et al. (2017) gathered that most authors suggested a subjective approach as a better measure of financial wellbeing since the phenomenon of financial wellbeing is more personal, thus, individual's wellbeing is subjective to their feeling of financial security. The study of financial wellbeing through a subjective approach also seeks to explain why individuals' reactions to life experiences differ from person to person, positively or negatively (Dang et al., 2020).

Some authors have argued that an individual's feeling or perception of financial wellbeing is not a complete measure of wellbeing (Haq & Zia, 2013; Gartaula et al., 2012; Shad & Woon Lai, 2015). Based on the economic principle of man's insatiability and desire for more, it is necessary to have a certain form of objective measure of an individual's financial wellbeing, seeking to unravel the degree of effect of institutional policy factors on the attainment of subjective wellbeing. It is worth noting that individuals may experience different levels of financial wellbeing irrespective of their objective financial position. For example, individuals earning the same financial inflow may experience different levels of financial wellbeing due to their financial commitments, goals and life aspirations (Brüggen et al., 2017). Financial wellbeing is such an important matter to consider and will need a policy framework coupled with economic and environmental policies to help individuals achieve financial wellbeing. An objective measure of financial wellbeing is necessary for policymakers as it informs the creation of an enabling environment for achieving financial wellbeing. Nonetheless, individuals' consideration and perception of their wellbeing cannot be ignored, therefore, objective measures may be used by governments as frameworks for

development with a complementing subjective measure of financial wellbeing leading to a more holistic view of the concept (Mokhtar et al., 2017; Vosloo, Fouche & Barnard, 2014; Mokhtar & Husniyah, 2017; Haq & Zia, 2013).

Another argument related to the concept of wellbeing is whether the attainment of financial wellbeing should be assessed from the public, governmental and policy points of view or the sole responsibility and effort of individuals (Bache, 2020). It is worth noting that subjective wellbeing cannot be achieved in a vacuum, in an environment deficient of objective factors. Bache's work on wellbeing in politics and policy emphasised that wellbeing should be looked at from a broader point of view (Stiglitz, 2013), incorporating government policy in achieving wellbeing rather than just economic indexes of GDP.

Empirical Review and Hypothesis Development

This empirical review part is constructed in accordance with the unique objectives of the study. The review assisted in providing the arguments and conclusions of earlier academics as well as defining areas of consensus and disagreement, so assisting in avoiding the errors made by past scholars. The review also assisted in refining the problem statement and hypotheses development.

Retirement Risk Awareness and Retirement Planning

In an examination of the significance of financial and pension information in enhancing women's knowledge and awareness about their future pension status, (Angelici et al., 2020), awareness and knowledge were used synonymously. The findings of the study indicated a lack of information and awareness regarding retirement preparation. To determine whether

increased information can influence awareness or knowledge, they created a treatment group that increased awareness and knowledge of retirement planning issues. To assess awareness and knowledge, respondents were asked four questions with responses of "true", "false" and "am not sure" to pick from. Questions span from people's knowledge about how current and future retirees' pensions are funded, calculation of pension benefits, and whether a life expectancy will lead to an increase or decrease in monthly pension allowance.

Spruit (2018) did a study to determine the causal relationship between pension awareness and pension concerns utilizing an instrumental variable method and microdata on Dutch individuals. Pension awareness was defined in this study as having two components: knowledge about the pension system and knowledge about one's own personal retirement fund situation. Results indicated that pension awareness has a considerable negative effect on pension concerns with men experiencing a greater negative effect of pension information on pension concerns than women do. The predictor variable used to assess pension knowledge in this study is the number of questions correctly answered, which is produced by summing the right responses to all the respondent's questions.

Another study used an online interactive pension planner to determine whether participants behavioural intentions, attitude, knowledge, perceived ease of use, utility, and enjoyment can be improved, (Brüggen, Post & Schmitz, 2019). This article demonstrates that interactivity has a beneficial effect on participant behaviour within the planner, as measured by the number

of clicked options, as well as on participants' intention to verify their pension situation during the next three to six months.

A study by Graber (2019) revealed little knowledge in retirement planning issues for persons utilising knowledge from programs and courses studied. Using online questionnaires, the author compared employees' perceived knowledge and actual knowledge of retirement planning topics. Individuals utilising financial service practitioners as their information source had the highest actual knowledge, and a weak correlation was found between perceived and actual knowledge for participants that were self-thought.

Literature has varying findings on the role of awareness in influencing behavioural change. Whiles some studies (Kazaure, 2019; Liobikiene & Juknys, 2016) have found awareness as having no direct influence on intention to change behaviour, others (Zhang et al., 2017) have it acting indirectly in stimulating behaviour change intentions as well as acting as mediating relationships leading to positive intentions and behavioural change. Evident is the study of Knoef, Been and Putten (2020) in a paper titled "Raising pension awareness" where they sort to investigate the effect of awareness creation through the means of letters and social media. They conceptualised awareness creation as "pension literacy and logging on to the national website (pension check)", where about 4,000 Netherlands received a letter that captured details on pension plans and offered a guide to pension inspection.

Awareness creation through social media also saw Knoef et al. (2020) approach participants aged 20 to 40 years with a Facebook advert. The aim was to examine the degree to which Facebook can be used as an efficient communication medium to disseminate crucial information and to convince

people to visit a pension website. Their findings revealed that letters with a terror appeal are more effective than Facebook adverts. In contrast, Dolls, Doerrenberg, Peichl & Stichnoth (2019) examined a policy direction in the context of the German pension system where the German pension administration began sending annual letters containing information about pension benefits. This reform did not affect the level of pensions contribution but merely allowed for their continuation. These studies both tried to measure awareness through a single medium, what is lacking is a study that incorporates several mediums and the varied effect it has on awareness, a study that informs which medium policy makers can adapt for specific occupational groups and educational standards. It is important to note that in attempting to use letters and Facebook adverts as a means of creating awareness, one must look at the nature and culture of the focus group. In dealing with informal sector workers, a blend of options must be adopted, considering options such as arising from herd effect due to organized associations and unions, family background, institutional influences, their ageing awareness and even media (Television and Radio). As much as the findings of studies are inconclusive, this study seeks to investigate further by hypothesising the following:

H1a: There is a significant relationship between retirement risk awareness and retirement planning.

Retirement Risk Awareness, Retirement Risk Perception and Retirement Planning

Transitioning from employment to retirement necessitates financial planning and preparation during the pre-retirement phase which requires

behavioural and attitudinal changes. The lack of retirement planning among Informal sector workers has been established (Boyetey and Enu-Kwesi, 2022; Guven, 2019). This study examines retirement risk perception as it relates to retirement planning through the evaluative lens of protection motivation theory. According to Sjoberg (2000), retirement risk perception refers to individuals' perceptions of an unfavourable incident and their exposure to it. It explains how concerned informal sector workers are about the potential danger of lacking financial resources during their old age (Paek & Hove, 2017b; Rohrmann, 2008; Sjöberg et al., 2004).

The Protection Motivation Theory (PMT) (Maddux & Rogers, 1983; Rogers, 1975) serves as the conceptual framework for objective one of the study. The theory's retirement risk perception dimension enables an assessment into the cognitive processes that enables informal sector workers perceive the risk of retiring without enough financial reserves (retirement risk). Protection Motivation Theory (PMT) is a social cognitive model that has been frequently employed in recent years to predict individuals' intention to engage in protective activities.

The retirement risk perception component of the model acknowledges two major cognitive processes that predict retirement risk perception : (1) the unpleasantness or seriousness of the threatening event (i.e., perceived severity); and (2) the likelihood that the event will occur, susceptibility of an individual to the risk (i.e., perceived vulnerability).

Literature in the retirement planning domain exploring the dimensions of the theory of protection motivation is limited. Nevertheless, there have been studies in different settings discussing the effect of retirement risk perception

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on behaviour modification (Rad, Mohseni, Takhti, Azad, Shahabi, Aghamolaei and Norozian, 2021). In an online survey (Rad et al., 2021), the authors predicted the preventative behaviours of COVID-19 based on the Protection Motivation Theory (PMT). They found a positive relationship between severity, vulnerability, and individuals' willingness to protect themselves.

Also, Tu, Adkins and Zhao (2019) in their study on why employees need to abide by organisational security rules and regulations, had supporting findings that employees retirement risk perception enables compliance to security principles. Again, in compliance with previous studies, Atta, uz Zaman and Hassan Khan (2021) had supporting findings for retirement risk perception as having the ability to effect a change in behaviour in the study of workplace harassment and threats. Results indicated an agreement to the fact that retirement risk perception enables employee's intention to protect their retirement.

Supporting the previous findings is the study of Janmaimool (2017) on the factors influencing people's engagement in sustainable waste management practises, Janmaimool's study revealed perceived severity and perceived vulnerability strongly explained positive waste management behaviours. On the contrary, Zhuang and Guan (2022) had contrasting findings as perceived vulnerability and past cancer information interacted to effect breast cancer screening, whereas perceived risk had little influence on cancer screening. Another contrasting finding was in the study on flood-prone areas conducted by Babcicky and Seebauer (2019). Though the sort to examine the controversial results of the PMT theory construct, the study further added to

the nonconclusive findings as it found retirement risk perception did not lead to protective behaviours. Considering the lack of literature on the mediating effect of retirement risk perception on retirement risk awareness and retirement planning, and the inconclusiveness of retirement risk perception in effecting behaviour change, the following hypothesis were proposed:

H1b: *There is a significant relationship between retirement risk awareness and retirement risk perception .*

H1c: *There is a significant relationship between retirement risk perception and retirement planning.*

H1d: *Retirement risk perception mediates the relationship between retirement risk awareness and retirement planning.*

Retirement Risk Awareness, Adaptation Intentions and Retirement Planning

The second component of the protection motivation theory, the coping response, herein referred to as adaptation intention is made up of two sub-dimensions which encompass the process of determining informal sector workers' ability to mitigate and escape potential dangers. Its components include an evaluation of informal sector workers believe in the mechanisms provided to mitigate financial retirement risk, (1) response efficacy, (2) self-efficacy, thus, individuals believe in their own ability to take steps to avoid the risk.

Several authors have studied self-efficacy in so many ways, Hekken (2018) conducted an online survey of 16 pension fund trustees members who were enrolled in an employer-sponsored pension plan. The survey had 7,117 respondents between the ages 20 – 64 and was aimed at (1) evaluating the

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individual predictors of financial planning behaviour and (2) investigating the effect of massaging strategies and clarity in enabling individuals plan for retirement. Findings revealed retirement planning was predicted by efficacy. The degree to which a person feels he can successfully plan for retirement (self-efficacy) influenced financial planning behaviour. Findings reveal that the failure to properly prepare for retirement finances is not just due to ignorance and a lack of motivation, but also largely due to people's ideas about planning behaviour, particularly their perceptions of their own self-efficacy.

Also, Hoffmann (2021) also established that higher financial self-efficacy is linked to lower financial insecurity. According to the findings, performance vulnerability prevention is predicted by the individual's believe that they can perform the recommended behaviour (self-efficacy) and the believe that they will benefit from the action (response efficacy). In the same vein, Hoffmann, McNair and Pallant (2021) established an association between higher financial self-efficacy predicting lower financial vulnerability. Again, Babcicky and Seebauer (2019) did a study on flood-prone areas with a sample size of 2007 individual households. The intention of the study was to extend the PMT theory and revisit inconclusive findings using the analytical technique of structural equation modeling. The study noted that response efficacy played a vital role in individuals' intention to protect themselves from flood disasters. In a contrasting study, Janmaimool (2017) studied the drivers of individuals' participation in sustainable waste management practises and noted that self-efficacy positive related with sustainable waste management practises. However, response efficacy did not significantly predict behaviour change in this study and this usually happens when individuals who are

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expected to model a behaviour do not believe in the channel of redemption available. Once people do not believe the proposed alternatives will mitigate a threat, they are unlikely to make behaviour modification. Another contrasting finding for efficacy was the study by (Zhuang & Guan, 2022) on cancer screening which revealed efficacy perceptions had little influence on cancer screening. On the contrary, Li et al. (2020) also in a study on cervical cancer screening found positive and significant relationships between response efficacy constructs and cancer screening knowledge.

Considering the inconsistencies in findings and the lack of literature in the retirement planning domain utilising the dimensions of the PMT, the following hypotheses were postulated.

H1e: *There is a significant relationship between retirement risk awareness and adaptation intention.*

H1f: *There is a significant relationship between adaptation intention and retirement planning.*

H1g: *Adaptation intention mediates the relationship between retirement risk awareness and retirement planning.*

Retirement Risk Perception, Adaptation Intention, Retirement Planning and Financial Wellbeing

Financial wellbeing has been defined as informal sector workers' perception of their ability to meet current financial commitments and expenses, financial comfort, financial security, resilience and the capability to plan for future financial demands (Russell et al., 2020). Haq and Zia (2013), define financial wellbeing as a scientific identification of individuals' assessment of their lives, boarding on life satisfaction, happiness, and minimal

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levels of anxiety. Likewise, others (Brüggen et al., 2017) have viewed it as informal sector workers' subjective opinion of being able to sustain present and future standards of living with financial freedom". The need for focus on financial wellbeing is due to vulnerabilities encountered by informal sector during the course of their daily activities ranging from low earnings to unfavourable working conditions. Another factor motivating the development of interest in the concept of financial wellbeing emanates from the resulting effect of household vulnerabilities witnessed during the Global Financial Crisis, as economies witnessed a shift in responsibility for social protection from the state to individuals (Lusardi & Mitchell, 2014).

Due to the fact that informal workers have to cater for themselves during their old age, it is necessary for individuals to perceive the post-retirement risk they may be prone to if they do not plan for their retirement. Retirement risk perception, according to Inouye (2014), is seen as informal sector workers estimation of the probability that a risky event will have a devastating impact on them. According to the protection motive theory (PMT) (Maddux et al., 1982; Maddux & Rogers, 1983; Rogers, 1975), informal sector workers who comprehend the detrimental impacts of financial retirement risk and assess their capacity to manage such risk are better placed and prepared to protect themselves. The PMT enables an analyses of financial retirement risk using the threat appraisal (retirement risk perception) and coping appraisal (adaptation intention). Retirement risk perception of retirement risk covers the extent to which workers in the informal sector judge the seriousness of financial insecurity in old age and evaluate their level of sensitivity towards this risk. Waheed, Ahmed, Qasim, Din and Ahmed, (2020) studied the role of

retirement risk perception as a mediator between investors' investment decisions and their financial literacy. The survey was administered to 287 investors and investment professionals who invested in Pakistanis stock market using a five-point Likert scale questionnaire. Utilising correlation and regression tests in evaluating hypotheses, the study's results indicated the significance of retirement risk perception in influencing the relationship between financial literacy and investment decisions guided by decision theory. Individuals' perception of risk enables the analysis of where and what to invest in.

Individuals investment behaviour has also been studied as exhibited in the work of (Ali et al., 2021). In this study, the authors found predictive results for the influence of investment behaviour on financial wellbeing. The study surveyed individuals in Pakistan with bank accounts. The findings demonstrated that risk tolerance, and financial literacy have an impact on individuals' investment behaviour and, as a result, their financial wellbeing. The study suggested that individuals' financial behaviour needed improvement.

The various studies discussed failed to incorporate adaptation intention which is the point where informal sector workers deliberate on their believe in protective avenues provided to escape post-retirement risk, as well as their self-believe, as having the ability to plan for their retirement. Adaptation intention emanates from two perspective, namely, response efficacy (informal sector workers believe in retirement planning as leading to financial wellbeing, their believe that periodic savings effort made is enough for

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retirement planning) and self-efficacy (informal sector workers believe in their own ability to set aside resources to plan for their retirement).

Given the scarcity of literature on retirement risk perception and adaptation intention in the retirement planning and financial wellbeing narrative, the following hypotheses were suggested:

H2a: *There is a significant relationship between retirement risk perception and financial wellbeing.*

H2b: *There is a significant relationship between adaptation intention and financial wellbeing.*

H2c: *Retirement planning mediates the relationship between retirement risk perception and financial wellbeing.*

H2d: *Retirement planning mediates the relationship between adaption intention and financial wellbeing.*

Retirement Risk Awareness and Financial Capability

According to Salah and Sasaki (2021), retirement risk awareness refers to how much people consider and discuss a certain hazard, which depends on their access to information sources and level of education. It is occasionally described as understanding and envisaging that danger may materialise. Gafoor (2012) discussed three types of awareness, thus, awareness seen as knowledge from the environment without direct instruction (observation), awareness of self (self-perception) and awareness that results in knowledge to perform a task, cognitive ability to perform a test, an awareness that results in the attainment of some skill.

Observational awareness is supported by Bandura's social learning theory which asserts that people learn by observing other people's behaviours,

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attitudes, and outcomes, and are then driven to replicate or avoid such behaviours based on the rewards and punishments they get (Bandura & Adams, 1977). Based on the social learning theory, retirement risk awareness can be influenced by socialising factors such as people's ages, the media, unions and associations, and educational initiatives by institutions.

The influence of discussions among individuals belonging to groups and associations as asserted by the social learning theory is evident in the study of Johan, Rowlingson and Appleyard (2021). The study considered the effect of personal finance education on financial capability (financial knowledge, financial attitudes, and financial behaviour) of 521 undergraduates of Indonesia's Bogor Agricultural University (IPB). The findings demonstrated that family financial socialisation, work experience, and talking about money with friends had a significant influence on financial knowledge, attitudes, and behaviour.

In a similar study, Chen, Lu and Wang (2020) examined how financial knowledge influences financial capability and informal financial education. The study forms the fourth round of National Financial Capability Study (NFCS) seeking to assess the financial capability of 16,736 American households. The findings demonstrated the need for informal financial education as it positively improves financial capability. These studies demonstrate the likelihood that a discussion of retirement risk awareness by socializing agents can inform individuals of the need to change behaviour and have a better financial attitude. Social leaning and conversations pertaining to pension product knowledge can enhance individuals' knowledge and can

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enable an assessment of the benefits obtainable from such avenues, leading to financial capability. Hence the formation of hypothesis H3a.

H3a: There is a significant relationship between retirement risk awareness and financial capability.

Retirement Risk Awareness, Financial Capability and Retirement Planning

Financial capability is a set of behaviours, abilities, and attitudes that facilitate successful and responsible investment choices (World Bank, 2018). Financial decisions and investment choices have been noted as having a direct impact on retirement fortunes. The importance of making informed investment decision is crucial and connected to individuals comprehension of the available investment possibilities (Ntalians & Wise, 2011). Individuals' ability to comprehend the nature and type of investment product and the set of behaviours necessary for the adaptation of retirement planning choices is dependent on their financial capabilities.

The capabilities approach (Alkire, 2005; Robeyns, 2005; Sen, 1993a) plays a substantial role in explaining the influence of individuals capability in enabling retirement planning. Sen (1993) posits that social structures should be judged largely based on the amount of freedom individuals have to develop or attain valued resources and opportunities. The capability approach includes individual-level functioning and capacities and this encompasses both what individuals do (e.g., make safe financial decisions) and who they are (their competence and abilities) (Çera et al., 2021). Capacity represents the numerous functions a person can achieve and requires the individual's decision.

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In the same language, it theorizes that the freedom to attain wellbeing depends on what individuals can do and be, and consequently the sort of life they are successfully able to lead. Çera et al. (2020) sees it as the ability to engage in some fundamental activities that are required for life and to stay out of poverty. Such fundamental activities have been studied (Yeung and Zhou, 2017) to include financial planning as it assists individuals in attaining financial stability in old age, through regular savings and home ownership. This implies that for individuals in the informal sector to be able to plan for retirement, they need the discipline of saving.

Çera et al. (2021) established the need to improve individual's financial knowledge, access to financial services and financial behaviour to increase their financial potential. The study also established the need for financial attitude in promoting retirement planning. The need for access to mainstream financial services has also been considered (Nam & Loibl, 2021) and this may be inhibited due to individuals lack of knowledge pertaining the products that might be suitable for their specific needs (Russell et al., 2020).

Financial capability is a demonstration of appropriate financial knowledge, attitude, behaviour, and the capacity to identify the right financial product to manage complex saving and investment decisions as adapted by this study.

H3b: There is a significant relationship between financial capability and retirement planning.

H3c: Financial capability mediates the relationship between retirement risk awareness and retirement planning.

Summary of Empirical Studies

A synthesis of empirical studies shows that behavioural finance is designed to enhance and supplement the findings of investors' financial reasoning and to address market inconsistencies (Muradoglu & Harvey, 2012) when rational models fail to give adequate answers.

The variable of wellbeing is measured either objectively or subjectively. It is worth noting that subjective wellbeing cannot be achieved in a vacuum, in an environment deficient of objective factors. Bache's work on wellbeing in Politics and Policy emphasised that wellbeing should be looked at from a broader point of view, (Stiglitz, 2013), incorporating government policy in achieving wellbeing rather than just economic indexes of Gross Domestic Product.

In the measurement of the variable of financial retirement planning and retirement preparedness, some authors have looked at antecedents (Kerry & Kerry, 2018; Noone et al., 2022; Palací et al., 2018; Topa, Moriano, et al., 2009; Vivel-Búa et al., 2019) and preconditions needed for persons to be able to plan financially. Others (Alkhawaja & Albaity, 2020; Chan et al., 2020; Fernandes et al., 2014; Mezuk et al., 2017; Mooney et al., 2021) have focused on the psychological fundamental precepts of financial planning behaviours and attitudes towards savings behaviour (Fuzhong Chen & Meng, 2021). Thus, one's ability to estimate how much they may need to be comfortable at retirement has also been used in measuring financial retirement planning (Hershey & Mowen, 2000; Mešťan et al., 2021).

Financial planning activities have also played strongly in literature in the measurement of financial retirement planning (Stawski et al., 2007), one

category of activity is information-seeking, which may include meeting with investee companies or retirement advisors (França & Hershey, 2018; Mountain et al., 2020; Park & Lee, 2011; Stawski, 2007; Tomar et al., 2021), reading books or pamphlets on investment, listening to financial programmes on the radio or television, and accessing financial planning websites. Other classifications of retirement planning activity involve attending financial seminars, or actively engaging in seminars and educational programmes geared towards financially preparing for retirement (Araki et al., 2021; Bernheim & Garrett, 2003; Fox et al., 2005; Hathaway & Khatiwada, 2011; Hershey et al., 2003; Lusardi & Mitchelli, 2007; Nguyen, 2021; Ntalians & Wise, 2011).

Summarising studies on awareness and knowledge, literature (Trevethan, 2017a) suggests that awareness be employed in two domains: the "knowledge domain" and the "awareness domain. The suggestion is that awareness be conceptualised as being the most fundamental level of comprehension for a particular subject. The fundamental distinction between the two concepts reveals knowledge as being related to a thorough comprehension and sense of an idea, whereas awareness does not require a thorough understanding and is associated with personally relevant information.

A study by (Gafoor, 2012) discusses measurement issues on awareness, in their recommendation, measures of awareness are to be classified into three categories based on their nomenclature, scales, exams, or questionnaires. The format of items may vary according to the population studied, whether exposure to the field of study is by training or education or

novices with no prior exposure to the topic; and also, according to the study's objective.

Some authors have used a form of multiple-choice questionnaire (De Britto Pereira et al., 2008), with indicators such as "yes,", "no" and "do not know", others (Angelici et al., 2020) administered questionnaires with responses of "true", "false" and "am not sure". Spruit (2018) in determining the predictor variable "pension knowledge" focused on the number of questions correctly answered, which is produced by summing the right responses to all of the respondent's questions. Again in other studies (Brüggen, Post and Schmitz, 2019), the measurement was based on interactivity, observing the number of clicked options, as well as on participants' intention to verify their pension situation.

Conceptual Framework

The study sought to examine the interrelationships among retirement risk awareness, retirement risk perception, adaptation intention, financial capability, retirement planning and financial wellbeing of workers in the informal sector. The conceptualisation of the study was guided by theories such as the protection motivation theory, social cognitive theory, social learning theory, social influence theory and capability approach. The Figure 1 was used to illustrate the interrelationships among the variables.
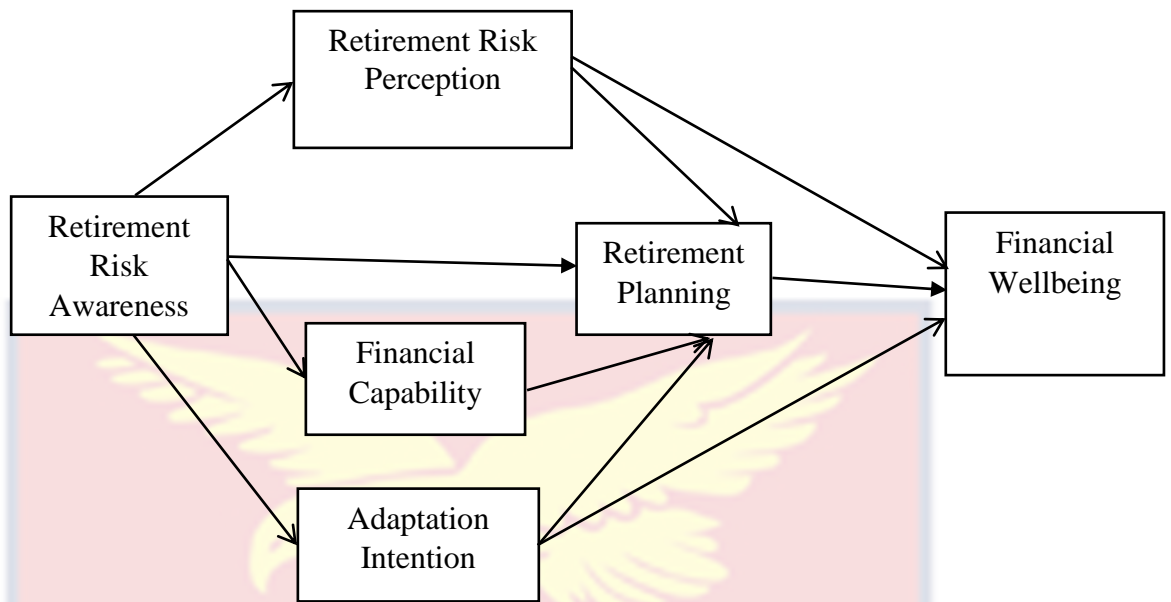
Figure 1: Conceptual Framework

Financial wellbeing, defined as informal sector workers perception of their ability to meet current and future financial commitments and expenses comfortably is the dependent variable of the study and is influenced directly and indirectly by retirement risk awareness. As reflected in the framework (Figure 1), financial wellbeing is influenced indirectly by retirement risk perception, adaptation intention, financial capability, and retirement planning. The adaption of retirement risk awareness as the proceeding independent variable is guided by the social learning and social influence theory. Bandura's social learning theory (Bandura & Adams, 1977) posits that informal sector workers will be influenced by an observation of the financial challenges experienced by aged individuals which may help them gain awareness of retirement risk, thereby activating the desire to make investments towards their retirement, leading to their financial wellbeing.

An observation of the financial difficulties faced by aged individuals will activate a thinking and an awareness of the severity and the realisation of their vulnerability to post-retirement financial crises (retirement risk

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perception) as guided by the protection motivation theory. Individuals' ability to analyse their potential of facing such financial retirement risk will enable pre-retirees in the informal sector form a perception of risk, hence endeavour to protect themselves through financial retirement planning.

The relationship between retirement risk awareness and adaptation intention is guided by the social influence theory and self-efficacy expectations which post that adaptation intention can be gained through influencers such as media, informal sector worker associations or unions, educational interventions by trustee institutions and communication among peers. Informal sector workers expectation of success in savings outcomes (performance experiences) as well as communications among peers who have adapted investment packages and are planning for their retirement will motive the desire to want take steps to plan their retirement especially when they feel that their referent others, faced with same challenges as they, have been able to sign unto the retirement planning packages. The theory also suggests that informal sector workers in a bid not to be seen as too different from their group members will adopt retirement planning as they see their colleagues making efforts to do so.

Retirement risk perception and adaptation intention, guided by the protection motivation theory both serve as mediators of the relationship between retirement risk awareness and retirement planning. The theory explains the need for informal sector workers to go through the cognitive process of analysing post-retirement financial risk, perceive the severity of the risk, as well as perceive their vulnerability to the risk, making up retirement risk perception. Also, informal sector workers need to believe in the efficacy

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of the retirement investment package (tier 3 pension package) provided to mitigate the risk and must believe in themselves (self-efficacy) as having the capacity to put in measures to mitigate the risk, conceptualised in this study as adaptation intention. Retirement risk perception and adaptation intention enables an assessment into the cognitive processes that motivate individuals' movement from a state of retirement risk awareness of future financial needs to an ability to adopt active retirement planning behaviours.

Most individuals seem to lack the requisite information needed to make the best savings and investing choices (Angrisani & Casanova, 2021; Oliver-Márquez et al., 2021; Topa et al., 2018b). Creating awareness and coaching people to set their retirement vision as well as voluntarily engage in educational programmes will help build confidence for retirement planning in the long run, ensuring successful ageing (Blessing & Ph, 2021; Ghafoori et al., 2021; Lusardi & Mitchell, 2011; Zulfaka & Kassim, 2021). Bandura and Adams (1977) in a discussion of self-efficacy also stressed the fact that individuals believe in their ability to perform a behaviour can motivate behavioural change. It is therefore important to have a publicization of retirement risk awareness which incorporates information regarding pension product knowledge (how tier 3 runs, where to access such services, how much minimum value one can contribute at a time, what benefits one can access for signing unto such commitment and many more) often echoed to the hearing of the individual to enable an adherence to change. This knowledge if created can empower individual's self-efficacy, giving them confidence to approach the subject matter.

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The theorisation of this study considers the fact that awareness created from the right source will lead to pension product knowledge. Individuals who attend retirement planning interventional programmes organized by trustee institutions and unions may retain more knowledge on the type of investment packages suitable to them. This therefore forms the basis of the relationship between retirement risk awareness and financial capability.

The capacity approach proposed by Amartya Sen, (Sen, 1993a) is used to discuss individuals financial capability and wellbeing. It theorizes that the freedom to attain wellbeing depends on what individuals can do and be, and consequently the sort of life they are successfully able to lead. In the same light, Johnson and Sherraden (2007) discussed financial capacity as both opportunity and ability. Individuals in the informal sector can have the opportunity to plan for their retirement, but as well, must have the ability and capability of planning for their retirement through the discipline of financial behaviour, financial knowledge, and financial attitude and pension product knowledge to plan for retirement.

It will be difficult to achieve financial wellbeing without retirement planning. The right environmental opportunities must be made available to informal sector workers to foster their understanding and appreciation of the need to plan for their retirement. With the right attitude towards retirement planning, informal sector workers may be successful as achieving financial wellbeing during their old age.

Chapter Summary

The purpose of the study was to investigate the roles of retirement risk awareness, retirement risk perception, adaptation intention, financial capability

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in influencing informal sector workers retirement planning, leading to financial wellbeing. A review of related literature and enabling theories are captured in this chapter. The conceptual framework of the study draws on the literature and lessons learned to form its bases. The review was very helpful in informing methodological choice, analysis, presentation of findings, comments, and suggestions. The next chapter describes the study's research methodology.

CHAPTER THREE

RESEARCH METHODS

Introduction

This chapter presents the approach applied to accomplish the study's objectives. The philosophical perspective and research methodology are presented at the beginning of the chapter. The methodology includes more discussion on the data collection methods, target population, sampling techniques, and sample size. In this chapter, validity and reliability issues, data collection, processing, analysis, as well as ethical considerations are also covered.

Research Philosophy

A discussion of research methodology necessitates a trail of choices consisting of research design, philosophical worldview, approach to inquiry, and research method, with the choice of research philosophy dictating the selection of the other alternatives. Ryan (2018) suggests that research philosophies are distinguished by ontological stands (the nature of reality-based assumptions, which influence how we perceive and investigate research objects), epistemology (preconceptions about knowledge, what makes up acceptable, true, and valid knowledge, and how we can effectively transmit knowledge to others), and axiology (Howell, 2013; Saunders et al., 2019).

Authors of research paradigms and debates of worldview have discussed two extreme philosophies in research, positivism and interpretivism (Creswell, John & Creswell, 2017; Creswell & Clark, 2017; Fetters et al., 2013; Ormerod, 2006; Plano Clark & Creswell, 2015; Saunders et al., 2019; Tashakkori & Creswell, 2007). These form the basis for any discussion of

research designs because provide divergent beliefs and principles in their attempt to describe and study the world. The central relevance of argument of these philosophies is founded on the epistemological question of whether the social world should be studied with the same ideologies as do the natural sciences.

In the present study, the positivism paradigm guided the researcher's choice of research designs with an ontological perspective which can be traced back to the works of Auguste Comte (Comte, 2000). The authors work was one of realism, the notion that objects have an existence separate from the knower, the existence of a discoverable reality (Ryan, 2006; Scotland, 2012), with objectivism as its epistemological stand, emphasising the need for the researcher to be separated from the researched. Positivism presupposes the existence of an objective reality that is separate and distinct from behaviour and thus is not the product of the human intellect (Crossan, 2003). All real knowledge, according to Auguste Comte, should be obtained from human observation of objective reality. The senses are used to collect objective, discernible, and quantifiable facts; anything else must be disregarded as transcendental. Our senses do not mediate reality. The essence of this stand is to prevent the issue of the investigator influencing research processes and results and to enable an inquiry into the true reality of a phenomenon.

According to Howell (2013), although empiricists believe in experience, empiricist philosophers at one point supported positivism in the regard that natural science is the finest kind of authentic knowledge (Burg, 2017; Hjørland, 2005). Empiricism is the belief that knowledge may be gained and developed through experience (Hjørland, 2005). The human mind is a

blank sheet onto which sensory data is transferred. At a predetermined location between the known and the unknown, science conducts controlled experiments and produces measurable observations, that are tested over and over through hypothesis testing, deductions made and laws formed that seem to predict behaviour, gradually eliminating ignorance (Howell KE, 2013). Empiricism is based on the premise that true knowledge can be verified by experience and that knowledge claims must be verifiable. A scientific explanation is an example of a scientific law, which involves declarations of recurrent patterns of experience. Prediction is possible, and science is objective because it distinguishes testable facts from value judgements (Benton & Craib, 2001).

Research Approach

Approach to research is exhibited in two distinct categories, quantitative and qualitative, or a merger of both, mixed method, generating it source from research philosophies. Positivism, leaning towards a quantitative survey design assumes commitment to a completely scientific objectivist process that produces pure data and facts devoid of subjectivity (Saunders et al., 2019). Quantitative research, often classified as being inferential, experimental, or simulation, introduces and describes theory, collects data that either validates or disproves hypotheses. It is empirical in nature, ensures validity through careful explanation, definition, or the use of pilot studies, verifying relevance with specialists and evaluating dependability through the application of statistical techniques (Atieno, 2009). Quantitative study prides itself on the reliability of its methods, thus the ability to reproduce and confirm findings through a repetition of the study, following its methods. Its approach

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to theory development may be deductive, with emphasis on testing hypotheses through evidence or inductive where data is used to generate theory (Saunders et al., 2019).

The quantitative approach aligns with the positivist worldview usually believed to be a well-formed and consistent set of beliefs that provide a solid and consistent epistemological foundation for scientific research. The approach is sometimes codenamed scientific research (Cresswell, 2013) and attempts to account for the rich and unpredictable complexity of human interaction through isolable variables, simplifying complex human dynamics into patterns (Schrag, 1992). By being objective, the researcher sorts to determine what is truly the situation of informal sector workers retirement risk perception. This enabled the testing of alternative hypotheses and the control of other possible variables that could impact the study's result. Objectivism holds that social reality exists outside of the investigators' minds and, hence, is unaffected by their views. Social phenomena and their meanings exist without the intervention of social actors.

The choice of this study's research approach is guided by the unit of study, "the informal sector", characterised by heterogeneity (variability) and the fact that they form the majority of the working population in the study area. A quantitative study gives the opportunity of questioning a sizable sample of the study unit, enabling the opportunity of getting the views of many, permitting the ability of generalization especially as the unit of study in question forms the largest workforce in this context.

The study of retirement risk awareness and retirement risk perception is multifaceted in nature as the term "risk" also referred to as "uncertainty" is

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dynamic in epistemology, with "uncertainty" being subjective in concept and "risk" of a strong objective component "subjective risk and objective risk" as stated in the (Stanford Encyclopaedia of Philosophy) (Consciousness, 2005; Fish, 2010; Hansson, 2010; Bener, 2000). The study of risk has been backed by theory in many fields and this gives room for studying the phenomenon from a positivist standpoint. This study would seek to look at the effect of individuals perception of being at risk during retirement and its ability to cause a change in their retirement planning behaviour, showing causality, and creating knowledge.

Research Design

The phenomenon under study and the variables involved are based on existing theories: protection motivation theory, social learning theory, social influence theory and the capability approach, which have been extensively utilised in the empirical studies. Also, the study's major goal is to discover how these variables relate and their effect on retirement planning behaviour. As a result, the study adopts the explanatory research design since it is the best method for explaining causal relationships.

Explanatory research focuses on studying a problem in order to explain relationships between variables (Saunders et al., 2019). Given the goal of explaining the interactions among the underlying variables, strength of explanatory research design is pertinent to the current study. To understand the links between retirement risk awareness, retirement risk perception and financial capability, it is prudent that the explanatory research design is employed. This research design is most suited to the goal of examining the impact of people's perceptions of being at risk in retirement on their ability to

adjust their retirement planning behaviour, demonstrating causation, and explaining the effects of these variables the behaviour.

Study Area

The Greater Accra Region was selected for this research due to its ability to give a fair representation of the unit of study. The region comes as the second largest in terms of its population among the administrative districts of Ghana, with a population of 5,055,883 as at the year 2020 (Ghana Statistical Service, 2020) and is featured as the most urbanised as well as cosmopolitan region. The region recorded a 54.9% in migration as of 2017 (Ghana Staistical Service, 2018) and stands as the national capital of Ghana and exhibits many economic activities. On the issue of employment, nearly three-quarters of the employed population (1,284,336) is distributed in the Accra Metropolitan Area (776,766), La Dade Kotopon Municipal holding (49,619), Tema Metropolis (160,239), La Nkwantanang Madina Municipal (22,920), Ga East Municipal (27,760), and Kpone Katamanso (18,635). Majority of employed individuals in the region are sole proprietors. In the industry sector, there are more women than men in five of the six districts studied. The informal sector is also represented in the districts largely, with La Dade Kotopon Municipal (5,005), Ga South Municipal (11,158), Adenta Municipal (6,000), Tema Metropolis (12,705) and Accra Metropolis holding the largest of the informal group (61,248).

informal sector as a business establishment that is not registered with the Ghana Revenue Authority or one that does not keep proper financial records (Ghana Statistical Service, 2015b). In underdeveloped countries, the business is typically located in the operator's home, on temporary premises, or without a permanent location. These firms are frequently tiny in scale, with little or no distinction between labour and capital as production inputs.

According to the Ghana Living Standard Survey Round Seven (GLSS 7), over seven out of ten (71.3%) of the population aged 15 and over is employed in the informal sector (Ghana Staistical Service, 2018), with 90.5% of establishments classified as informal (Ghana Statistical Service, 2015b), and Greater Accra holding 147,543 of non-household/non-domestic establishments classified as informal and employing 480,289 individuals.

Table 1: Selected Districts and their populations

Districts	Population
La Dade Kotopon Municipal	5,005
Ga South Municipal	11,158
Adenta Municipal	6,000
Tema Metropolis	12,705
Accra Metropolis	61,248
Total	96,116

Source: GSS, 2018

Sampling

The study was centred on the Greater Accra Region, with a population of 480,289 individuals working in 147,543 establishments classified as informal (Ghana Statistical Service, 2015a). The Greater Accra region was selected for this study because it accounted for the highest number (480,289) of persons engaged in informal businesses in Ghana according to the

International Business Establishment Survey: National Employment Report (Ghana Statistical Service, 2015a). Though the unit of study dwelled on the individuals working in informal institutions, the sampling first targeted the establishments and sampled the individuals in these establishments, enabling a more structured approach to the sampling. The study used a one-stage stratified sampling method to arrive at its sample unit. Greater Accra region was first stratified into districts, and five administrative districts were selected, namely: La Dade Kotopon Municipal, Ga South Municipal, Adenta Municipal, Tema Metropolis, Accra Metropolis.

A proportionate sampling technique was used to determine the sample size for each district, after which the lottery method of simple random sampling was applied in selecting sample units from informal firms in the manufacturing and service sectors located in the selected districts. The total number of firms located in the selected districts was estimated at 96,116 establishments (Ghana Statistical Service, 2016) which constituted the survey's sampling frame since the study sought to collect information from individuals in informal businesses in Greater Accra and two sub-sectors. The sampling frame was acquired from the Ghana Statistical Service, which served as a guide in reaching out to the targeted unit of study. This sampling technique gave each member of the population an equal chance of being selected (Nayak & Singh, 2021).

One volunteer was selected from each firm to participate in the survey, regardless of their designation in the firm. The statistics on informal establishments according to the Integrated Business Establishment Survey (IBES) (Ghana Statistical Service, 2015a) report consider only non-

household/non-domestic establishments, thus, informal establishments that do not use their home premises or living abode as housing for their business. These include specifications and classifications such as listed below (Ghana Statistical Service, 2015a).

1. All manufacturing units with fixed locations that can be identified and tracked.

2. Every store and container that is not utilised primarily as a home for a household.

3. Every fitting, fabrication and carpentry shops, block factory, etc., regardless of whether they are housed in an entire structure.

4. Any businesses, stores, or manufacturing facilities that are connected to or visible from the exterior of a residence but that the general public or consumers can enter or depart.

5. Every business in a complete structure (often referred to as a store) in the marketplace.

6. Stalls booths that have residents who run their businesses there full-time. These booths may be rented or bought.

For exclusion criteria however, the non-household IBES establishments exclude:

1. Hawkers

2. Traders operating in open spaces.

3. Traders in houses without stores.

As per the inclusion and exclusion criteria of IBES which forms the basis of our population, the studies inclusion criteria considered informal sector businesses that had fixed traceable workplace locations and excluded those

that could not be located in fixed traceable workplace locations. This enabled the avoidance of double sampling especially in the case of hawkers.

Sample Size

Sample size determination encompasses a consideration of several factors as recommended by (Salant and Dillman, 1994), as cited in (Chuan and Penyelidikan, 2006). According to the literature, in sample size determination, consideration must be given to (1) the level of sampling error acceptable, the size of the targeted population, (2) the heterogeneity or diversity of the population in terms of the interests being pursued, and (3) the minority subset within the sample for which estimations are required. In line with the determinate factors listed above, Krejcie and Morgan (1970) formula for determining sample size was utilised to calculate the sample size for the investigation. This sampling technique was chosen because the size of the population was known and the population heterogenous.

$$s = \frac{x^2 NP(1 - P)}{d^2(N - 1) + x^2 P(1 - P)}$$

The formula considers the following parameters.

s = minimum returned sample size

x^2 = table value of chi-square for 1 degree of freedom at the desired confidence of 5% = (3.841).

N = population size = 480,289 informal sector workers

P = population proportionality (presumed to be .50 as give the largest sample size possible)

d = the degree of accuracy stated as a proportion (.05).

$$\frac{(3.84)(480,289)\, 0.50(1 - 0.50)}{(0.05)^2(480,289 - 1) + (3.84)(0.50)(1 - 0.50)}$$

$$\frac{461,077.44}{1,201.68} = 383.69 = 384$$

The calculated figure per the parameters as shown above is 384, a comparison with Krejcie and Morgan (1970) sample size table incorporating a 5% margin of error results in an equal sample size of 384 informal sector workers. Based on the above procedures and evaluation, the figure 384 was adapted as the minimum sample expected and adjusted at 10%, which gave the total of 422, for reasons of accounting for the non-response rate in research.

The technique of proportional stratified sampling was utilised to pick respondents from the various sub-sectors using informal establishments as the point of access to persons working in these sectors. This method permits researchers to collect data proportionally from each study unit so that each unit is equally represented, survey cost reduced and enables simplification of data collection. Below are the allocations for each district.

Table 2: Sample-size distribution by district

No.	Districts/Metropolis	Population (firms)	Sample
1	La Dade Kotopon Municipal	5,005	(5,005/ 96,116) *422 =22
2	Ga South Municipal	11,158	(11,158/ 96,116) *422 = 49
3	Adenta Municipal	6,000	(6,000 / 96,116) *422 = 26
4	Tema Metropolis	12,705	(12,705/ 96,116) *422 = 56
5	Accra Metropolis	61,248	(61,248/ 96,116) *422 = 269
	Total	96,116	422

Source: Author's Construct (2023)

Data Collection Instruments

Following a survey method of data collection, questionnaires were used in collecting the research data (Appendix A). A questionnaire is a data collection instrument made up of prewritten list of questions that respondents

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fill out and record their responses to, generally within a narrow range of options (Sekaran & Bougie, 2016). In order to analyse and understudy relationships between variables, Saunders, Lewis and Thornhill (2019) advise that researchers should employ questionnaires to help them gather data on a variety of factors, test several hypotheses, and derive conclusions from inquiries into past actions, encounters, and personalities.

This study utilised closed-ended questions grouped into six sections numbered A to F and measured on a 7-point Likert scale. Section A detailed the demographics of respondents, reporting on gender, age, educational level, nature of employment, years of employment, sector of employment, income level and affiliation with associations and trade unions. Sections B to F were comprised of fourteen (14) variables with three (3) higher order constructs inclusive, sub-divided into retirement risk awareness, financial capability, financial attitude, financial behaviour, financial knowledge, pension product knowledge, retirement risk perception, adaptation intention, perceived severity, perceived vulnerability, response efficacy, self-efficacy, retirement planning and financial wellbeing. Retirement risk awareness is the variable for section B, comprising of an eight (8) item question adapted from (OECD, 2011) and measured on a 7-point Likert scale. Retirement risk awareness happens through influencers such as individuals' age, discussion with friends, media, information picked up from brochures, seminars of unions and associations, and educational interventions by institutions. This variable seeks to establish the extent to which these sources of information dissemination channels influence individuals' awareness of retirement planning, influencing

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their retirement risk perception, enables their financial capability and leads to retirement planning including product specific knowledge.

Section C has the higher order construct financial capability formed by four (4) subconstructs, namely financial attitude, financial behaviour, financial knowledge, and pension product knowledge. Financial attitude is made up of seven (7) items adapted from (Çera, Khan, Mlouk & Brabenec, 2021). The variable seeks to understudy the informal workers way of thinking, perspective, and evaluation on financial matters. The variable financial behaviour assesses how individuals administer and manage money and is measured with nine (9) questions on a Likert scale. As part of section C, financial knowledge is measured with six (6) questions and pension product knowledge with seven (7) items.

In the same vein, sections D, E, and F represent retirement risk perception, adaptation intention, retirement planning and financial wellbeing respectively. Retirement risk perception and adaptation intention (Section D) are higher order variables that seek to understudy informal sector workers ability to perceive the risk of growing old without adequate planning for their retirement risk perception. Adaptation intention also sought to measure their belief and willingness to adapt mechanisms laid down for retirement planning. These variables had two (2) sub-constructs made up of perceived severity and perceived vulnerability designated to retirement risk perception, as response efficacy and self-efficacy are sub-constructs of adaptation intention. All these constructs are measured on a seven (7) point Likert scale with perceived severity measured with six (6) items, perceived vulnerability with four (4)

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items, response efficacy with five (5) items, and self-efficacy measured with nine (9).

Variable Operationalisation

The variables utilised in the study are listed in (Table 3) below. Retirement risk awareness, financial capability, financial attitude, financial behaviour, financial knowledge, pension product knowledge, retirement risk perception , adaptation intention, perceived severity, perceived vulnerability, response efficacy, self-efficacy, retirement planning, and financial wellbeing are the enlisted variables of the study. Table 3 shows the purpose of each variable in the study, their unique operationalisation according to this study, how each variable is assessed and their source.

Table 3: Instrument for Conceptual Variables

Variable	Dimension	Nature	Number of Items	Source
Retirement risk awareness	-	Independent variable	8	(OECD/INFE, 2011)
Financial Capability	Higher order variable	Mediating variable		
	Pension Product Knowledge	Subconstruct	10	(OECD, 2018)
	Financial Knowledge	Subconstruct	9	(Çera et al., 2021)
	Financial Behaviour	Subconstruct	9	(Adam et al., 2017)
	Financial Attitude	Subconstruct	7	(Çera et al., 2021)
Retirement risk perception		Mediating variable		
	Perceived Severity of the Threat	Subconstruct	6	(Hekken, 2018)
	Perceived Susceptibility to the Threat	Subconstruct	4	(Hekken, 2018)
Adaptation Intention		Mediating variable		
	Response Efficacy	Subconstruct	7	(Nguyen et al., 2019)
	Perceived Self Efficacy	Subconstruct	12	(Lown, 2011)
Retirement Planning	-	Dependent variable/mediating variable	8	Adam et al., 2017**;**Chen et al., 2018
Financial Wellbeing	-	Dependent variable	11	Adam et al., 2017

Source: Author's Construct (2023)

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Data Collection Procedure

The study employed primary data collected from informal sector workers in the Greater Accra Region. The region was divided into administrative districts where five (5) districts were randomly selected namely La Dade Kotopon Municipal, Ga South Municipal, Adenta Municipal, Tema Metropolis and Accra Metropolis. Based on a sampling from acquired from Ghana Statistics Service, questionnaires were administered to informal sector workers and help was given to those who required some help in answering the questionnaires, especially with language translation and interpretation.

Data collection was not without difficulties, some individuals complained that other researchers take data from them, but they amount to nothing since they did not receive any feedback pertaining to the data collected. Due to this, a lot of explanation had to be done before some informal workers understood the benefits of research especially the fact that research doesn't readily translate into money but rather policies and the bridging of knowledge gaps. Although a total of 384 respondents were expected as the sample size stipulated, this number is seen as the minimum sample the study should attain.

As a result, an additional 10% questioners were added to make up for anticipated nonresponse and missing data which is common with primary data collection. Consequently, a total of 422 questionnaires were administered to informal sector workers selected at random. Out of the 422-questionnaire distributed, 406 sets of data were successfully retrieved after incomplete responses were considered and this figure is satisfactory for our sample as the minimum sample estimated was 384.

Data Processing and Analyses

The IBM SPSS (version 26) and SmartPLS (version 4) statistical software packages were used for this study data processing. To achieve the study's' objectives, inferential statistics using partial least squares structural equation modelling (PLS-SEM) was applied. These tools were chosen based on their effectiveness in exploring the correlations between variables established in the study. While percentages were employed to report on demographic variables, the objectives were examined using PLS-SEM. SPSS software supported the researcher with data coding, inputting, cleaning, and checking for outliers to ensure there were no missing numbers.

By designating distinct codes to the various elements of the constructs in the SPSS file, the questionnaire items were coded. Retirement risk awareness was coded RRA1 to RRA8, retirement panning coded RP1 to RP8 and financial wellbeing coded FW1 to FW11. Financial capability, retirement risk perception and adaptation intention are higher order variables made of financial attitude (FA1 to FA7), financial behaviour (FB1 to FB9), financial knowledge (FK1 to FK6) and pension product knowledge (PPK1 to PPK7) making up financial capability, and perceived severity (PS1 to PS6) and perceived vulnerability (PV1 to PV4) designating retirement risk perception , and, response efficacy (RE1 to RE7) and self-efficacy (SE1 to SE9), also making up adaptation intention.

PLS-SEM permits the analysis of numerous endogenous and exogenous variables using a single model, assessing all path coefficients simultaneously. It helps investigators understudy unobservable factors evaluated by measurement items as a second-generation statistical approach. It

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is composed of a set of statistical techniques that has grown in popularity in social and business sciences owing to its capacity to predict latent variables, account for various types of measurement error, testing entire theories that are applicable to a wide range of research questions (Henseler, Hubona, & Ray, 2016). PLS-SEM is a second-generation statistical technique that "allows researchers to integrate unobservable constructs." It is made up of statistical approaches that have become popularity in social and business studies due to its capacity to predict latent variables, indicate various types of estimation errors, and test whole hypotheses that are relevant for a wide range of research issues (Henseler et al., 2016).

PLS-SEM results are in two sets, the measurement model (also known as the outer model) made up of factor loadings, validity, internal consistency, and multiclonality and the second set of results noted as the structural model (inner model). According to Henseler et al. (2016) and Hair, Risher, Sarstedt, and Ringle (2019), the structural model identifies the interactions between variables of the study, whereas the measurement model specifies the relationship between construct and its observed indicators. As stated by Risher, Sarstedt and Ringle (2019), the first stage in analysing PLS-SEM findings is to examine the measurement models, making sure it fulfils all needed requirements, and next, a review of the structural model. PLS-SEM, as with most statistical approaches, comprises a set of thresholds that may be used to assess model outputs and fitness (Hair et al., 2019).

Ethical Considerations

To fulfil all ethical protocols, approval and ethical clearance was sought from the Institutional Review Board of University of Cape Coast. Voluntary

participation, right to privacy, anonymity and confidentiality of information was considered in the questionnaire design. Regarding voluntary participation, every respondent was allowed to participate in the study based on their free will. In addition, the issue of anonymity was adhered to by restricting respondents from providing detailed information about themselves on the questionnaire in relation to names, contact numbers and personal addresses.

Furthermore, respondents were assured that none of their identities would be leaked to the public domain nor used for purposes other than this study. More so, the study ensured confidentiality of information by assuring respondents that all information provided would be kept confidential. Respondents were also be assured that none of the information provided would be used against them. Respondents were informed be free to opt out or withdraw anytime from the research. Finally, no material reward was given to respondents to induce participation.

Chapter Summary

This chapter describes how the study's primary data were obtained, processed, assessed, and reported comprehensively. This includes details on the study's design and, area of the study, ethical issues, sampling and statistical tools and analysis conducted. To examine how retirement risk awareness, financial capability, financial attitude, financial behaviour, financial knowledge, pension product knowledge, retirement risk perception , perceived severity, perceived vulnerability, response efficacy, self-efficacy and retirement planning influences the financial wellbeing of informal sector workers in Ghana, an explanatory research design was combined with quantitative analysis. Questionnaires were utilised to collect primary data,

which was then analysed using the PLS Structured Equation Model. The study population consisted of workers in the informal situated in the Greater Accra Region of Accra.

CHAPTER FOUR

DESCRIPTIVE STATISTICS OF RESPONDENTS AND VARIABLES

Introduction

The study sought to examine the influence of retirement risk awareness on retirement planning and financial wellbeing of informal sector workers in Greater Accra through the mediating roles of retirement risk perception, adaptation intention and financial capability. In the current chapter, the descriptive statistical analysis was captured. The analysis comprised a report on the demographic characteristics of the respondents who participated in the study, the assessment of the levels of the variables using means and standard deviations, as well as the evaluation of the normality of the data collected. Regarding the demographic characteristics, the information captured includes the respondents' gender, age, education, nature of employment, experience, sector of employment, income level, and associations/unions. The parameters used to test for the normality of the data were Skewness and Kurtosis.

Demographic Profile of Respondents

This section presents the background features of the respondents of the study. The specific data collected concerning the respondents were, gender, age, education, nature of employment, experience, sector of employment, income level, and associations. According to the statistics in Table 4, the number of females 214 (52.7%) who work in the informal sector companies sampled were more than the males 192 (47.3%).

Table 4: Background of the Respondents

Variable	Indicator	Frequency	Percent (%)
Gender	Female	214	52.7
	Male	192	47.3
Age group	18 – 27	116	28.6
	28 – 37	114	28.1
	38 – 47	130	32.0
	48 – 57	40	9.9
	58+	6	1.5
Education	Basic education or less	109	26.8
	Secondary education	230	56.7
	Tertiary	67	16.5
Employment	Self employed	268	66.0
	Employed	103	25.4
	In apprenticeship	35	8.6
Number of years	1 - 3 years	147	36.2
	4 - 6 years	112	27.6
	7 - 9 years	59	14.5
	10+ years	88	21.7
Sector	Manufacturing industry	88	21.7
	Service sector	318	78.3
Income level	GH¢500 or less	67	16.5
	GH¢501 - GH¢1000	191	47.0
	GH¢1001 - GH¢1500	100	24.6
	GH¢1501 - GH¢2000	22	5.4
	GH¢2001 - GH¢2500	7	1.7
	GH¢2501 - GH¢3000	1	.2
	Above GH¢3000	18	4.4
Association	Work/trade related association	140	34.5
	Social/family association	81	20.0
	None	185	45.6
Total		406	100

Source: Field Survey (2023)

Again, the age group of the respondents was taken into account to assess the working class of the informal workers. A look at the summary of the report in Table 4 indicated that all the workers were within the youthful working age. In sum, 130 (32%) of the workers were within the majority age group range of 38 – 47 years. Next group 116 (28.6%) was within the age range of 18 – 27 while 114 (28.1%) of the respondents were between 28 – 37 years old. Furthermore, 40 (9.9%) of the respondent workers were in the 48 –

57 years age group, and finally, 6 (1.5%) of the informal sector workers had 58 years and above.

Accordingly, the level of education of the respondents suggests they all have appreciable knowledge to respond to the questions asked. For instance, majority of the respondents have secondary education 230 (56.7%). For basic education level, 109 (26.8%) of them were within that rank while 67 (16.5%) of the workers obtained tertiary education. With regards to the type of employment of the respondents, the data shows that majority of them 268 (66%) reported that they were self-employed, 103 (25.4) were employed by other informal sector organisations, whiles the least 35 (8.6%) of them were into apprenticeship jobs.

For the number of years employees have worked with their respective organisations of businesses, the table reveals that those who worked for a period between 1 to 3 years dominated in the study 147 (36.2%). They were followed by those who accumulated experience between 4 to 6 years 112 (27.6%). The least were those who worked for their current employers for between 7 to 9 years 59 (14.5%). The other demographic variables of the respondents regard their sector of work, income levels and whether or not they belonged to any of the informal sector associations and their nationality. For sector of work, 318 (78.3%) of them were in the service sector whiles the remaining 88 (21.7%) worked in the manufacturing industry. For their level of income, the data shows that the majority of the workers earn an income within the range of GH¢501 - GH¢1500, whiles the few of the workers received above GH¢2000. Finally, the information in Table 4 shows that some of the respondents were part of associations/ informal sector worker unions whiles

others were not. The checks depict that 185 (45.6%) of the informal sector workers sampled were not part of either work/trade related association or social/family association.

Test for Normality

The procedure used in SmartPLS for estimating the PLS-SEM results is non-parametric in nature, and as with non-parametric statistics, the requirements for running assumptions are usually optional (Hair et al., 2019). Although these normality checks are not compulsory when using PLS-SEM for data analysis (Hair et al., 2019), Pallant (2016) notes that the process is necessary for users to have a good view of how the respondents perceive the phenomenon studied. These normality checks on data are done to ascertain how evenly distributed the data points are relative to each other or how close or far the data is from normal curve. Thus, despite several approaches existing on how to check for normality, Pallant's (2016) criteria were used in the study. The author suggests that data is normal when the Skewness and Kurtosis scores of the various items of the constructs deployed in a study fall between 0 to ±1.5.

Also, descriptive statistics through means and standard deviations were used to assess the levels of the various constructs and sub-constructs, thus, retirement risk awareness, retirement risk perception, adaption intention, financial capability, retirement planning and financial wellbeing. Since the items of the constructs were rated on 7-point Likert scale, a cut-off mean level of 3.4 or less is "low" and a mean of 3.5 or above is "high" with reference to (Dess, Lumpkin & McFarlin, 2005), who estimated a cut-off mean level of 2.9 or less is "low" and a mean of 3 or above is "high" for a 5-point scale. The

tables that ensue were used to assess the means, standard deviations, and normality statistics of the respective variables. Table 5 was used to present summaries on the retirement risk awareness construct.

Table 5: Normality and Descriptive Assessment for Retirement risk awareness

Measurement Item	Mean	Std. Dev	Skewness		Kurtosis	
	Stat	Stat	Stat	Std. Error	Stat	Std. Error
Information picked up from a brochure	4.23	1.22	-1.13	0.121	1.12	0.242
Product information from sales agent	4.20	1.05	-1.15	0.121	0.74	0.242
Discussion among friends and family	4.16	1.02	-1.10	0.121	1.20	0.242
Information in the mainstream media (tv, radio, newspaper)	4.28	0.91	-1.11	0.121	1.28	0.242
Information on social media (WhatsApp, Facebook, Twiter, etc)	4.25	0.92	-1.03	0.121	0.43	0.242
Employer advice and education	4.30	0.84	-1.00	0.121	0.48	0.242
Self-knowledge and experience	4.11	1.02	-1.04	0.121	0.95	0.242
Seminars and outreaches (from trade unions and institutions)	3.92	1.17	-0.39	0.121	1.17	0.242
Mean of means	4.17	0.76	-0.89	0.121	1.46	0.242

Source: Field Survey (2023)

Table 5 demonstrated that the data gathered for the retirement risk awareness construct was not contaminated with normality issues. The scores of the Skewness and Kurtosis indicated that the data were normally distributed for the retirement risk awareness scale. This is because the values for both tests were below the plus or minus 1.5 threshold. For descriptive, the results reveal that on overall, retirement risk awareness construct was high suggesting that the respondents have fair ideas about risk associated with growing old without retirement. This was reflected in the mean score of the mean of means ($M = 4.17$; $SD = 0.76$).

Table 6 was used to assess the descriptive and normality of the retirement risk perception construct. The table contains two sub-constructs, i.e., perceived severity and perceived vulnerability which define the retirement risk perception construct, all rated on a 7-point Likert scale. For perceived severity, the results in Table 6 indicated that the data points gathered from the respondents were evenly distributed and met the normality criteria. The same can be alluded to mean of the severity sub-construct. Accordingly, the perception established by the respondents is that the risk associated with growing old without retirement income will be severe based on the overall mean (M = 4.09; *SD* = 0.94). For instance, the results show that it will be risky if a respondent's retirement income is insufficient to cover their desired lifestyle at retirement (M = 4.09; *SD* = 1.03); the risk will be high if respondents' live so long that their retirement income is insufficient to cover your longevity (M = 3.91; *SD* = 1.17); and the risk of being unable to cater for their family and social commitments after retirement due to insufficient income will also be high (M = 4.12; *SD* = 0.27).

Table 6: Normality and Descriptive Assessment for Retirement risk perception

Measurement Item	Mean	Std. Dev.	Skewness		Kurtosis	
	Stat	Stat	Stat	Std. Error	Stat	Std. Error
Severity						
How risky is the following?						
Retirement income insufficiency	4.09	1.03	-1.47	0.121	1.07	0.242
Longevity income insufficiency	3.91	1.17	-1.37	0.121	1.09	0.242
Medical cover inefficiency	3.97	1.00	-1.25	0.121	1.24	0.242
Family and social commitments income insufficiency	4.12	0.27	1.04	0.121	0.92	0.242
Retirement income insufficiency scares me	4.23	0.98	-1.00	0.121	0.34	0.242
Retirement income insufficiency will be very severe	4.22	0.864	-1.46	0.121	0.67	0.242
Mean of means	4.09	0.94	0.41	0.121	0.57	0.242
Vulnerability						
How risky is the following?	4.29	0.90	-1.01	0.121	0.35	0.242
Retirement income insufficiency	4.32	0.89	-1.11	0.121	0.90	0.242
Longevity income insufficiency	4.38	0.93	-1.06	0.121	0.99	0.242
Medical cover inefficiency	4.44	0.81	-0.79	0.121	0.57	0.242
Mean of means	4.35	0.71	-0.31	0.121	0.67	0.242
Retirement risk perception (overall mean)	4.22	0.75	-0.76	0.121	1.39	0.242

Source: Field Survey (2023)

Again, by relying on the established criteria for normality and the descriptive statistics, the results in Table 6 show that the parameters for the normality of data for perceived vulnerability were upheld. Observing the scores of Skewness and Kurtosis has cleared doubts about the existence of abnormal data distribution. In the same vein, because the mean of means and standard deviation of the perceived vulnerability (M=4.35; *SD*= 0.71) construct was high, it can be said that the respondents perceived the

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vulnerability of risk of growing old without sufficient retirement income to be high. Finally, the overall retirement risk perception construct, which sums severity and vulnerability, was high on the scale of 7. This was reflected in the mean and standard deviation (M=4.22; *SD*= 0.75) of the construct in the Table 6.

Table 7 assessed the normality and levels of the adaptation intention construct. The table coves two main sub-constructs, i.e., response efficacy and self-efficacy which define the adaptation intention construct, all rated on a 7-point Likert scale.

Table 7: Normality and Descriptive Assessment for Adaptation Intention

Items	Mean	Std. Dev	Skewness		Kurtosis	
	Stat	Stat	Stat	Std. Error	Stat	Std. Error
Response Efficacy						
I believe in saving money for the future	4.36	0.81	-1.45	0.121	0.16	0.242
I believe financial assets are safe for retirement planning	4.17	0.90	-1.50	0.121	0.83	0.242
I believe in using financial investments through banks for my retirement planning	4.38	0.72	-1.45	0.121	0.46	0.242
I believe saving money at the bank for retirement is not a waste of time	4.45	0.72	-1.15	0.121	0.38	0.242
I trust my bank is very reliable	4.50	0.74	-1.02	0.121	0.48	0.242
Mean of means	4.37	0.48	-1.04	0.121	0.08	0.242
Self-Efficacy						
Progress with my financial objectives	4.25	0.82	-1.46	0.121	0.06	0.242
Able to stick to budget.	4.23	0.87	-1.08	0.121	0.39	0.242
Difficulty resolving financial issues	4.29	0.81	-1.34	0.121	0.63	0.242
Use loans to cover unforeseen costs.	4.33	0.73	-1.20	0.121	0.73	0.242
Insecurities about managing money	4.40	0.80	-1.06	0.121	0.75	0.242
Usually worrying about retirement income.	4.50	0.69	-1.45	0.121	0.11	0.242
I feel the money I can pay for Tier 3 pension contribution cannot meet my retirement goal	4.44	0.82	-1.04	0.121	0.70	0.242
Financial knowledge for retirement	4.42	0.84	-1.05	0.121	0.84	0.242
I have no idea what to do regarding my pension	3.18	1.52	-0.29	0.121	-0.39	0.242
Mean of means	4.22	0.47	-0.94	0.121	0.57	0.242
Adaptation intention	4.29	0.43	-0.10	0.121	0.03	0.242

Source: Field Survey (2023)

Like the other constructs, the response efficacy and self-efficacy sub-constructs of the adaption intention and their specific items met the normality threshold. A cursory look at the values of the Skewness and Kurtosis in the Table 7 demonstrated that issues of abnormality in the data were not detected. This means that the sub-constructs and the main construct qualified for use in further statistical analysis. Also, the means of the various items together with the overall mean of the adaptation intention illustrated that the respondents agreed to the effect that they are aware of the various methodologies at their disposal for planning their retirement.

The following table, Table 8 was developed to assess the normality and levels of the financial capability (FC) construct. The FC comprised four main sub-constructs, namely, financial attitude, financial behaviour, financial knowledge and pension product knowledge. The items mean of means of these sub-constructs were aggregated to make the overall mean for the financial capability construct. The breakdown was reported in Table 8.
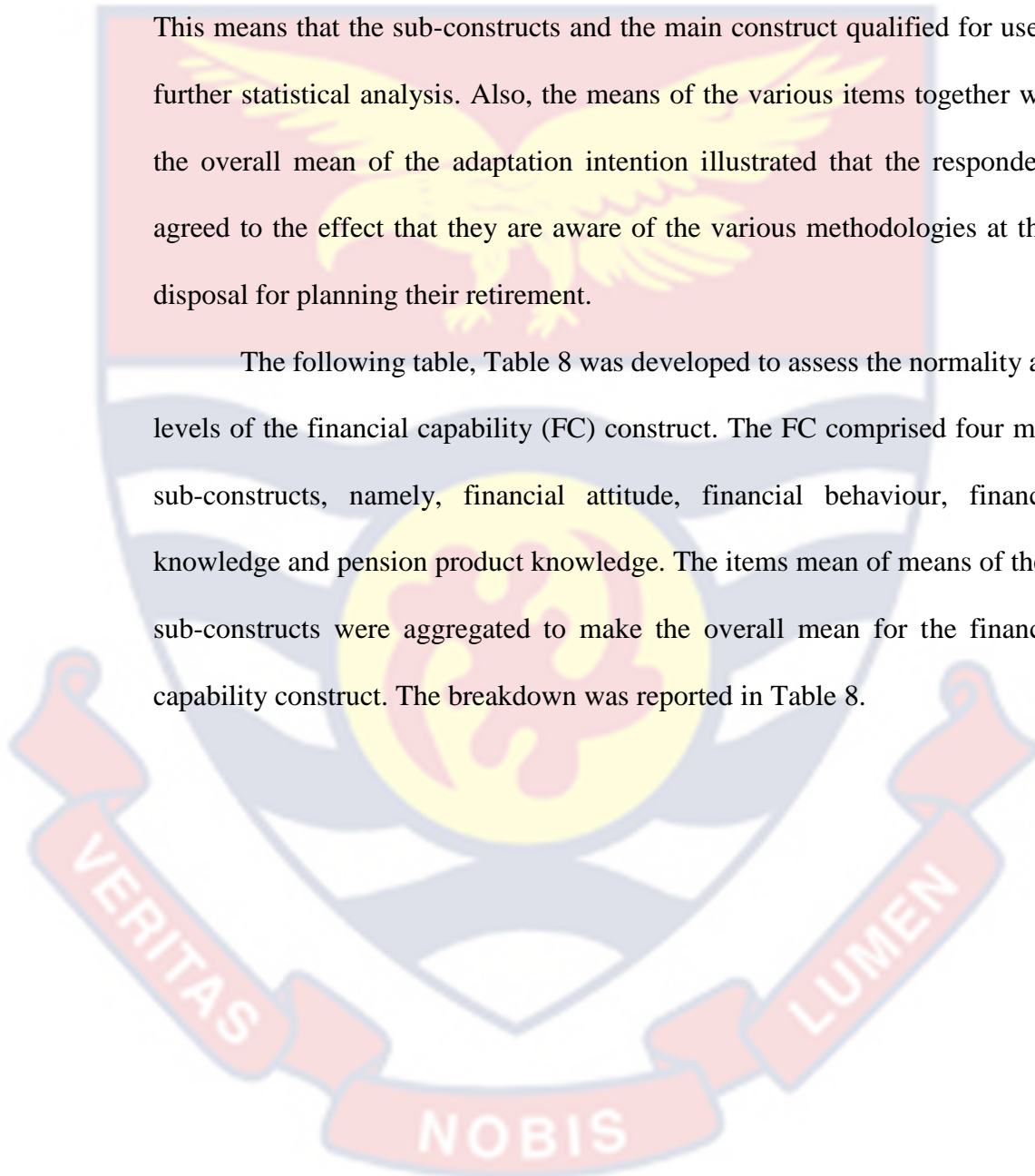
Table 8: Normality and Descriptive Assessment for Financial Capability

Items	Mean	Std. Dev	Skewness		Kurtosis	
	Stat	Stat	Stat	Std. Error	Stat	Std. Error
Financial Attitude						
I set goals for the future	2.36	0.81	-1.45	0.121	1.23	0.242
I pay my bills on time	3.44	0.74	-1.08	0.121	1.07	0.242
I keep a close personal watch on my financial affairs	2.46	0.64	-1.06	0.121	1.24	0.242
I am prepared to risk some of my own money when saving or making an investment	2.51	0.70	-1.09	0.121	0.77	0.242
I tend to live for today and let tomorrow take care of itself	1.48	0.80	-0.29	0.121	0.69	0.242
I find it more satisfying to spend money than to save it for the long-term	2.41	0.67	-1.45	0.121	0.06	0.242
I believe money is there to be spent	2.31	0.69	-1.48	0.121	0.82	0.242
Mean of means	2.42	0.50	-0.23	0.121	0.01	0.242
Financial Behaviour						
I establish financial targets for the future which influences the management of my expenses	2.44	0.64	-1.44	0.121	0.47	0.242
I follow a weekly or monthly plan for expenses	1.38	0.69	-0.73	0.121	0.01	0.242
I compare prices when buying something	1.45	0.68	-1.16	0.121	0.63	0.242
I analyse my financial situation before a big purchase	1.41	0.69	-1.5	0.121	0.73	0.242
I have plans to achieve my financial goals (retirements, savings, investments etc.)	2.37	0.75	-1.69	0.121	0.54	0.242
I know the conditions of financial institutions' loans	2.38	0.71	-1.584	0.121	0.61	0.242
I compare interests when saving	2.37	0.64	-1.19	0.121	0.30	0.242
I seek financial advice when making investment decisions	2.41	0.70	-1.48	0.121	0.54	0.242
I cross-check bank interest rates before taking a loan	2.75	1.30	-1.08	0.121	0.01	0.242
Mean of means	2.11	0.46	-1.29	0.121	0.21	0.242
Financial knowledge						
How would you rate your overall knowledge about financial matters compared with other adults?	2.10	1.24	-0.09	0.121	-1.00	0.242
An investment with a high return is likely to be highly risky	3.12	1.28	-0.22	0.121	-0.90	0.242
If someone offers you the chance to make a lot of money, it is likely that there is also a chance that you will lose a lot of money.	3.41	1.30	-0.38	0.121	-0.96	0.242
High inflation means that the cost of living is increasing	2.66	1.40	0.20	0.121	-1.26	0.242

rapidly						
It is usually possible to reduce the risk of investing in the stock market by buying a wide range of stocks and shares.	2.49	1.43	0.40	0.121	-1.23	0.242
It is less likely that you will lose all your money if you save it in more than one place	2.27	1.47	-0.27	0.121	-1.26	0.242
Mean of means	2.67	0.95	-0.04	0.121	-0.82	0.242
Pension Product Knowledge						
One must wait till their tier 3 pension investment reaches maturity before withdrawal	1.83	1.09	1.27	0.121	0.80	0.242
Tier 3 investments cannot be used as collateral for loans	2.78	1.17	-0.64	0.121	-0.46	0.242
Tier 3 pension savings will pay monthly income when an individual is on retirement	3.49	1.17	-0.28	0.121	-0.87	0.242
Tier 3 pension savings do not allow the withdrawal of money before maturity	3.76	1.13	-0.51	0.121	-0.59	0.242
Tier 3 pension savings can only be withdrawn after one is 60 years	2.15	1.40	-0.17	0.121	-1.17	0.242
Tier 3 pension savings do not attract any interest	2.07	1.06	0.63	0.121	-0.61	0.242
How would you rate your overall knowledge about pension products (tier 3) compared with other adults?	2.16	0.90	0.57	0.121	0.10	0.242
Mean of means	2.61	0.54	-0.24	0.121	0.17	0.242
Financial capability (overall mean)	2.45	0.37	-0.27	0.121	0.05	0.242

Source: Field Survey (2023)

The results emanating from the Table 8 show that the constructs together with their factors or items have passed the normality checks. Thus, by relying on the recommendations of Pallant (2016) on normality checks, the information in Table 8 revealed that the data points for the construct's items were evenly distributed. This is because the scores of both the Skewness and Kurtosis fell within the -+1.5 cut-off point. Thus, the data was fit for further analysis and generalisation of the results. In addition, the mean of means of financial attitude, financial behaviour, financial knowledge and pension product knowledge and financial capability constructs revealed that the

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respondents have a low level of the variables. This means that on overall, the

informal sector workers perceive their financial capability to be low.

Table 9: Normality and Descriptive Statistics Assessment for Retirement Planning

Items	Mean	Std. Dev	Skewness		Kurtosis	
	Stat	Stat	Stat	Std. Error	Stat	Std. Error
I have a retirement investment account	2.12	0.93	-1.25	0.121	1.02	0.242
I have a retirement plan I am actively working at	2.29	0.76	-1.50	0.121	0.95	0.242
I am actively saving for retirement	1.43	0.74	-1.47	0.121	0.15	0.242
I am currently participating in a private pension plan	2.29	0.69	-0.99	0.121	0.16	0.242
I make contributions monthly/weekly towards my retirement	2.22	0.77	-1.06	0.121	0.88	0.242
I consciously make efforts to reserve money for my retirement	1.39	0.73	-1.50	0.121	0.62	0.242
I have a special lifetime investment account towards my retirement	1.98	1.06	-1.22	0.121	1.22	0.242
I have saved enough to meet my retirement goals	1.86	1.05	-0.97	0.121	0.67	0.242
Mean of means	1.95	0.51	-1.71	0.121	0.56	0.242

Source: Field Survey (2023)

The Table 9 was deployed to assess the level of retirement planning

behaviours of the informal sector workers sampled. The aim was to assess

whether or not the respondents were making significant strides at planning for

adequate income after their retirement age. Here, 8 statements were

constructed to explain the retirement planning behaviours of the respondents

including "I have an investment account for my retirement, I have a retirement

plan I am actively working at, I am actively saving for retirement, I am

currently participating in a private pension plan, I make contributions monthly/weekly towards my retirement, I consciously make efforts to reserve money for my retirement, I have a special lifetime investment account towards my retirement, and I have saved enough to meet my retirement goals". First and foremost, the Skewness and Kurtosis statistics indicated that the data points of the construct were within the acceptable range of plus or minus 1.5. Furthermore, the average or mean of the performance of all these items proved that retirement planning behaviour of the respondents was low (M = 1.95; *SD* = 0.51) as captured in Table 9. Finally, the assessment of the financial wellbeing construct was done using Table 10.

Table 10: Normality and Descriptive Statistics Assessment for Financial Wellbeing

Items	Mean	Std. Dev	Skewness		Kurtosis	
	Stat	Stat	Stat	Std. Error	Stat	Std. Error
Comfortable with present earnings	2.14	1.08	0.91	0.121	0.38	0.242
Satisfied with current debt level	2.12	1.30	-0.15	0.121	-1.16	0.242
Keep up with financial needs	2.96	1.01	-0.05	0.121	-0.19	0.242
Pay bills monthly	2.09	1.00	0.14	0.121	-0.19	0.242
No financial problems	2.42	1.10	0.51	0.121	-0.21	0.242
Financial decision confidence	2.24	1.22	-0.08	0.121	-0.98	0.242
Financial resilience	2.78	1.15	0.09	0.121	-0.73	0.242
Financial goals achievement	2.53	1.06	0.33	0.121	-0.35	0.242
Financially independence	2.39	1.21	-0.16	0.121	-1.10	0.242
Live without loans	2.24	1.29	-0.17	0.121	-1.01	0.242
Financial satisfaction	2.72	1.14	0.18	0.121	-0.70	0.242
Mean of means	2.67	0.83	0.01	0.121	-0.20	0.242

Source: Field Survey (2023)

Concerning the construct, 10 questions were asked of the respondents to assess their financial wellbeing levels. After collecting the data, the responses were subjected to a normality test to check whether there were

extreme values that may contaminate the results. A cursory look at the values of the Skewness and Kurtosis in Table 10 suggests that the accepted parameters were not violated. Also, the means and standard deviations of each item were determined to establish surety of the existence of financial wellbeing or otherwise.

Chapter Summary

The researcher in this chapter presented information on the demographic characteristics of the respondents as well as the normality of the data. In ensuring that the responses obtained from the respondents were free from abnormal data points, Skewness and Kurtosis values were used to check for data normality. The summaries generated on the respective tables show that the constructs and sub-constructs deployed in the study met the normal distribution criteria. The next chapter addressed the research data on the analysis using partial least square structural equation modeling.
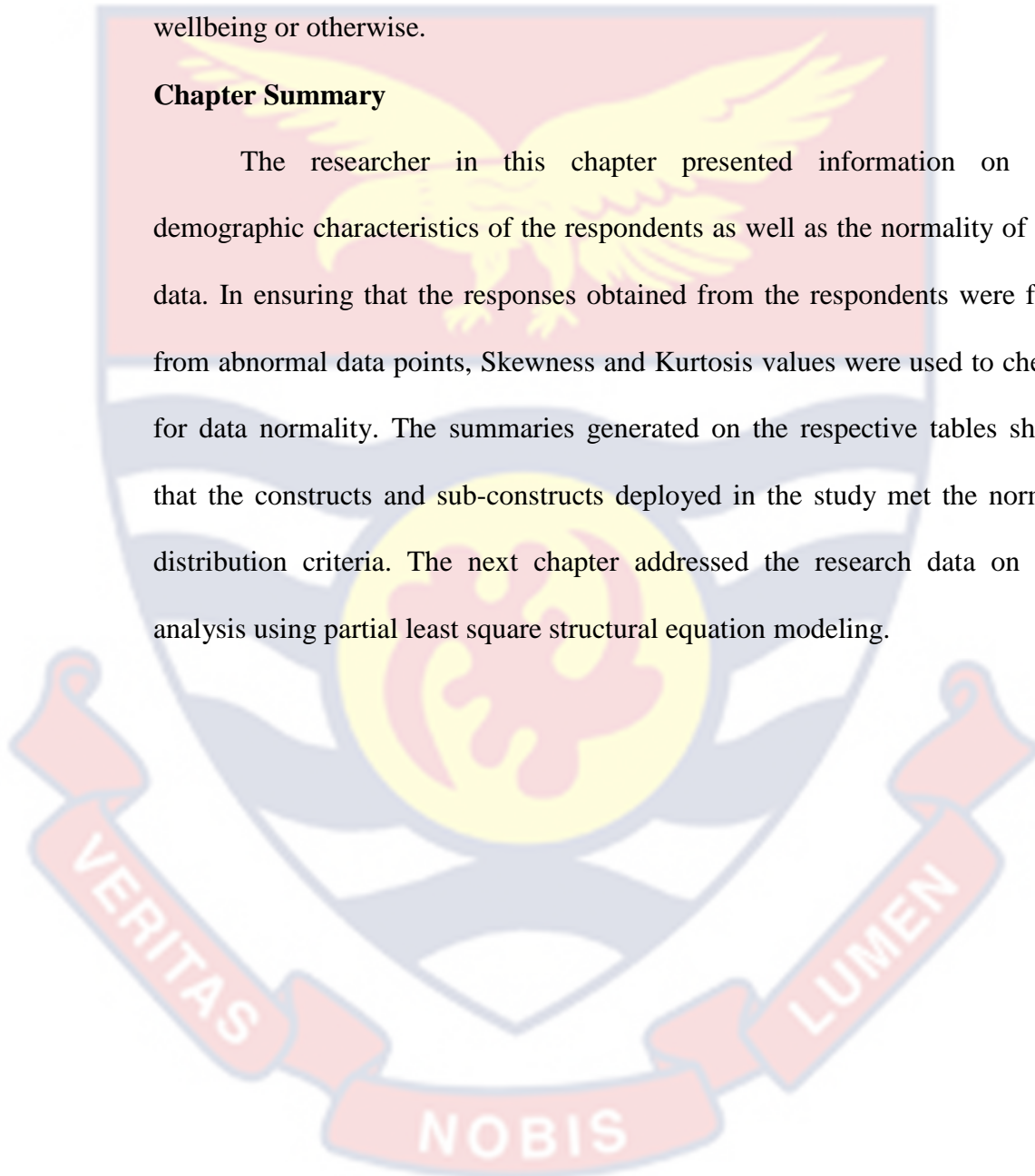
CHAPTER FIVE

THE MEDIATING EFFECTS OF RETIREMENT RISK PERCEPTION

AND ADAPTATION INTENTION ON RETIREMENT RISK

AWARENESS AND RETIREMENT PLANNING

Introduction

This chapter discusses the empirical evidence pertaining to how retirement risk awareness affects retirement planning and how retirement risk perception and adaptation intention play mediating effects in this relationship. This chapter seeks to understand informal sector workers' retirement risk awareness, and how adaptation intention and its mechanisms enable retirement planning. The outcomes are provided and discussed alongside an initial evaluation of the outer and inner models in accordance with PLS-SEM requirements.

In relation to this objective, there are seven hypotheses with variables discussed in two sections of this chapter, i.e., the measurement model and the structural model. The measurement model looked at the model's indicator loadings, CR (Composite reliability), AVE (Average variance extracted), and DV (Discriminant validity). Additionally, the structural model evaluation was centred on the path coefficient (R), coefficient of determination (R^2) predictive relevance (Q^2), and effect (f^2).

Assessment of Measurement Model

Indicator reliability

This section evaluates the reliability and validity of indicators of the variables and compares them to acceptable standards in order to conduct further analysis. All the constructs' indicators were evaluated using reflective

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measures. Evaluation of a reflective measurement model begins with an examination of the indicator loadings. According to Hair, Risher, Sarstedt and Ringle (2019), indicator loadings greater than 0.708 are acceptable since they indicate the constructs' ability to explain more than 50% of variance attributed to the indicator, providing a satisfactory item reliability to the model. Loadings that did not meet the criterion were deleted and the remaining items loaded well as per the acceptable threshold specifications (Hair et al., 2019). The results of the indicator loadings were presented in Table 11.

Internal consistency

The next stage is to evaluate the reliability of the internal consistency criterion using composite reliability. As a rule of thumb, a higher value is an indication of better reliability. According to Hair et al. (2019), in the case of exploratory research, reliability values ranging between 0.60 and 0.70, are acceptable and a score between 0.70 and above is satisfactory. The internal consistency reliability test was carried out with the help of the composite reliability in order to determine the level of dependability. All constructs meet the specifications for composite reliability.

Convergent validity

The degree to which a construct converges to explain the variance of its elements is known as convergent validity. The average variance extracted (AVE) for all items on each construct is the statistic used to assess a concept's convergent validity. An AVE of 0.50 or greater is desirable since it indicates the constructs' ability to explain at least 50% of its items' variance. The study variables had a strong convergent validity, with 0.597 being its lowest, meeting the set criteria.

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Discriminant validity

Another form of assessment of the measurement model is discriminant validity, which shows how distinctive or discriminatory a construct is experimentally from other constructs in the structural model. Two tests are used to determine discriminate validity, thus Fornell-Larcker and or Heterotrait-monotrait (HTMT) correlation ratio (Hair et al., 2019). The Fornell-Larcker criterion involves comparing each construct's AVE to the squared correlation between constructs, indicating variance shared inter-constructs, which should not be greater than their individual AVEs (Fornell & Larcker, 1981). Applying the criterion, the study variables reported a shared variance of all constructs which was not greater than their AVEs, indicating the study constructs demonstrated discriminant validity.

There has been some criticism (Hamid et al., 2017; Henseler et al., 2015) to the use of Fornell-Larcker in the determination of discriminate validity, suggesting an alternative use, the Heterotrait-monotrait (HTMT) correlation ratio (Hair et al., 2019; Henseler et al., 2015). Heterotrait-monotrait (HTMT) is observed as the mean value of item-test correlation across constructs in a model and uses a mean average comparison of constructs measuring similar unobserved phenomena. Discriminate validity is good in a model when HTMT does not exceed 0.90 (Hair et al., 2019; Henseler et al., 2015). This study satisfied the threshold for discriminate validity of <0.90.

The measures of item loadings, internal consistency and convergent validity were reported in Table 11. According to the table, the outer loadings proved reliable and were accepted in the model. A few of the items that loaded

below the 0.70 threshold were retained because they contributed to overall

reliability (Hair et al., 2019). See Appendix G

Table 11: Outer Loadings, Internal Consistency and Convergent Validity

Construct/Indicators	Outer Loadings	VIF	CA	rho_a	CR	(AVE)
Perceived Severity			0.947	0.948	0.957	0.789
PS1	0.865	3.094				
PS2	0.916	4.784				
PS3	0.891	3.863				
PS4	0.892	3.902				
PS5	0.878	4.471				
PS6	0.888	4.565				
Perceived Vulnerability			0.870	0.882	0.910	0.718
PV1	0.859	3.220				
PV2	0.906	3.863				
PV3	0.827	2.646				
PV4	0.794	4.033				
Response Efficacy			0.919	0.925	0.936	0.677
RE1	0.838	3.917				
RE2	0.876	3.136				
RE3	0.875	4.075				
RE4	0.874	3.272				
RE5	0.783	2.779				
RE6	0.791	2.494				
RE7	0.707	2.615				
Self-Efficacy			0.931	0.933	0.946	0.667
SE1	0.844	3.423				
SE2	0.828	4.778				
SE3	0.827	3.735				
SE4	0.842	4.462				
SE5	0.895	3.821				
SE6	0.890	3.547				
SE7	0.884	4.841				
SE8	0.828	4.695				
SE9	0.392	4.771				
Retirement risk perception			0.947	0.948	0.955	0.682
PS1	0.821	3.049				
PS2	0.891	4.588				
PS3	0.872	4.175				
PS4	0.908	4.854				
PS5	0.857	4.469				
PS6	0.865	4.874				
PV1	0.685	2.808				
PV2	0.674	2.511				
PV3	0.815	4.513				
PV4	0.834	2.347				
Adaptation Intention			0.932	0.937	0.939	0.549
RE1	0.757	4.117				
RE2	0.801	4.867				
RE3	0.782	4.420				
RE4	0.778	3.205				

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			CA	rho_A	CR	AVE
RE5	0.701	2.528				
RE6	0.682	2.821				
RE7	0.589	2.277				
SE1	0.691	2.630				
SE2	0.661	4.521				
SE3	0.692	4.299				
SE4	0.628	4.037				
SE5	0.652	4.195				
SE6	0.695	4.094				
SE7	0.692	4.613				
SE8	0.696	4.391				
SE9	0.667	1.114				
Retirement Planning			0.907	0.914	0.928	0.683
RP1	0.849	3.714				
RP2	0.855	3.624				
RP3	0.880	3.205				
RP4	0.808	2.507				
RP5	0.817	2.493				
RP6	0.740	2.269				
Retirement risk awareness			0.903	0.903	0.926	0.675
RRA2	0.791	2.795				
RRA3	0.858	3.600				
RRA4	0.845	3.711				
RRA6	0.879	4.021				
RRA7	0.792	2.678				
RRA8	0.757	2.361				

Notes: CA = Cronbach Alpha, CR = Composite Reliability, VIF = Variance Inflation Factor and AVE = Average Variance Extracted
Source: Field Survey (2023)

Precisely, loadings for perceived severity were between the range 0.865 – 0.892, perceived vulnerability had ranges from 0.794 – 0.906, response efficacy had lower and higher loadings as 0.707 and 0.876 respectively, loadings for self-efficacy were ranged from 0.392 - 0.895, retirement risk perception ranged from 0.674 - 0.908, adaptation intention ranged from 0.589 – 0.801, retirement planning ranged from 0.740 – 0.880 and finally, retirement risk awareness construct's indicators loaded from 0.757 – 0.879.

Furthermore, a cursory look at the values of CA, rho_A and CR, which are measures of internal consistency or otherwise, constructs' reliability was found suitable in the study. As a rule of thumb, all the measurements were

above the 0.70 cut-off point. In the case of CA values for instance, perceived severity scored 0.947, perceived vulnerability was 0.870, response efficacy had loaded 0.919, self-efficacy was 0.931, retirement risk perception was to 0.947, adaption intention was 0.932, retirement planning's CA was 0.907, whiles the CA of retirement risk awareness was pegged at 0.903. Finally, the principle of convergent validity through the AVE values was not violated. This is because all AVE scores for the respective variables were well within the 0.50 minimum threshold (Table 11). Next, Table 12 was used to assess the quality criteria for discriminant validity.

Table 12: Discriminate Validity through HTMT ratio

Constructs	AI	PS	PV	PE	RPB	RRA	RRP	SE
AI								
PS	0.619							
PV	0.722	0.845						
PE	0.890	0.538	0.769					
RP	0.884	0.518	0.733	0.880				
RRA	0.713	0.863	0.867	0.718	0.687			
RRP	0.686	0.862	0.900	0.653	0.626	0.856		
SE	0.860	0.546	0.518	0.528	0.520	0.546	0.558	

Notes: Adaptation Intention (AI); Perceived Severity (PS); Perceived Vulnerability (PV); Response Efficacy (RE); Retirement Planning (RP); Retirement risk awareness (RA); Retirement risk perception (RRP); Self-Efficacy (SE)
Source: Field Survey (2023)

The results in Table 12 revealed that discriminant validity problems were not detected. This is because the HTMT ratios of each of the constructs were well within the 0.90 rule of thumb. In sum, it can be suggested that the PLS-SEM measurement model was fit for purpose and the constructs were distinct from each other.

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Assessing the Structural Model

After a successful evaluation of the measurement model, the structural model was assessed and presented based on the parameters of path coefficient, also known as the coefficient of correlation (R), the significance of the model (T statistic and the P values), the coefficient of determination (R^2), the effect size (f^2) and the predictive relevance (Q^2). Prior to accessing the structural results, the collinearity statistics was included to test the common method bias (CMB) of the respondents to the questionnaire.

Common Method Bias: The common method bias (CMB) was tested for using Variance Inflation Factor (VIF), which is computed using variable scores of the predictor components in a partial regression. According to (Hair et al., 2019; Mason & Perreault, 1991), VIF values greater than five (>5) are suggestive of possible collinearity problems among predictor constructs, therefore, the ideal is values close to 3 or between 3 to 5. A VIF level of 5 reveals 80% of variance may be explained by indicators of the construct. According to Table 13, the study satisfies the acceptable criterion for VIF as none of the values is higher than the allowed 5, indicative of no collinearity among the exogenous constructs.

Path coefficient

This is the coefficient linking constructs in the structural model and determines the direction and strength of the relationship among variables, benchmarked on Cohens criteria (Cohen, 1992). It represents the hypothesised connection, which is used to assess the direction and strength of the associations. In this context, a score around +1 indicates a very strong association, whereas a value near 0 indicates a very weak one. Specifically,

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values <+/- 0.29, +/- 0.49 and +/- 0.5 are described as weak, moderate, and substantial respectively. The significance of this relationship is determined by the T-statistics which tells us the significance of the relationship. T-statistics should be greater than or equal to 1.96, which is further confirmed by the P values, which should be less than or equal to 0.05 (Hair et al., 2019).

Coefficient of determination

The explanatory strength of the model is indicated by the R^2, also known as in-sample predictive power which measures the variation explained by each endogenous factor (Shmueli & Koppius, 2011). R^2 values vary from 0 to 1, with values of 0.75 being substantial or large, 0.50 interpreted as moderate, and 0.25 categorised as weak. Values closer to 1 are considered as having greater explanatory power (Hair et al., 2019) .

Effect size (f^2)

The f^2 effect size metric is used to evaluate the predictive value of a model, and consequently, the predictive value of the endogenous variable, explaining how the removal of a certain predictor affects the R^2 of an endogenous construct. Effect size measures the extent or intensity of the association between latent variables (Wong, 2019). This is important because effect size allows researchers to evaluate the overall contribution of a study. According to (Hair et al., 2019), values greater than 0.02, 0.15, and 0.35 represent small effect, moderate effect, and large effect sizes, respectively.

Predictive relevance (Q^2)

In addition to an estimation of effect size of the latent variables, it is crucial to analyse the predictive significance of the model by using the Q^2 value, achieved in SmartPLS through the blindfolding technique. The ability

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to forecast quantifiable information of new cases is fundamental to an effective prediction technique (Ringle et al., 2020). A greater Q^2 score, which reflects a higher level of prediction accuracy, is translated into small variances between the predicted and original values. To reflect the prediction accuracy of the structural model for a given endogenous construct, Q^2 values for that construct should, as a rule, be greater than zero. Q^2 values greater than 0, 0.25, and 0.50 represent the PLS-path model's small, moderate, and significant predictive impact, respectively.

Higher order construct

A higher order construct is a hierarchical component model that combines observable lower-order components (LOCs) and unobservable higher-order components (HOCs) to minimise model complexity and increase theoretical simplicity (Wong, 2019). This study utilised hierarchical components model for the variables named retirement risk perception and adaptation intention which had 2 dimensions each, namely, perceived severity, perceived vulnerability, and response efficacy, self-efficacy respectively.

Mediation analysis

A mediating variable is the compositional mechanism through which the central predictor variables can influence the dependent variable of interest. In other words, a mediator identifies the method by which a certain effect happens and is also characterised as a specific case of "indirect effect" in which a priori theoretical support is required to examine substantial mediation effects (Preacher & Hayes, 2012; Hair et al., 2017). Nitzl et al. (2016) established that mediation effects can be identified by observing the performance of the direct and indirect paths of the exogenous and endogenous

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variables. To differentiate between the three types of mediation, i.e., full, partial and no mediation, the scholars claimed that both the direct and indirect columns should meet certain criteria. For full mediation, the direct path must be non-significant while the indirect path is significant. For partial mediation, both the direct and indirect paths should be significant, while no mediation is where both the direct and indirect paths are not significant.

Moreover, Hair et al. (2019) proposed the Variance Accounted For (VAF) technique to validate the types of mediation and the extent of the mediation effect on the model. Accordingly, the VAF is calculated as total indirect effect/total effect *100% on the constructs of the study. The rules for classifying these mediation types include VAF<20% = no mediation; 20%<VAF<80% = partial mediation; and VAF>80% = full mediation. The respective values obtained could also be relied upon to explain the extent of the mediation effect in a given path model.

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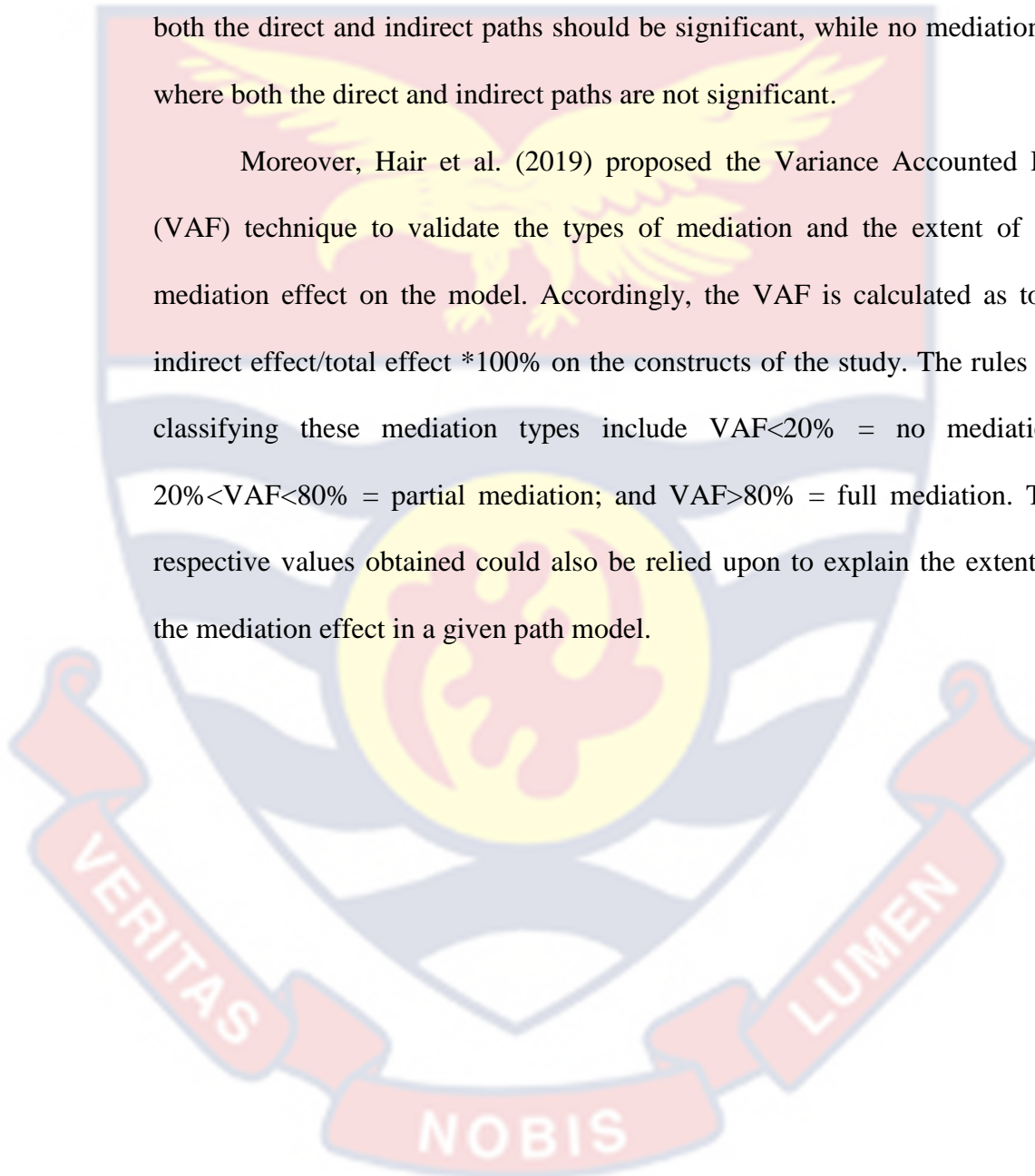
Table 13: Inner Model Specification

	VIF	Beta (R)	T stats	P-values	R^2	f^2	Q^2
Retirement planning					0.793		0.412
Retirement risk perception					1.000		0.996
Adaptation intention					0.997		1.000
(Direct Effect)- LOC/HOC							
Perceived severity -> Retirement risk perception	2.295	0.619	53.591	0.000		5.325	
Perceived vulnerability -> Retirement risk perception	2.067	0.377	19.758	0.000		2.361	
Response efficacy -> Adaptation intention	1.915	0.638	18.012	0.000		2.113	
Self-efficacy -> Adaptation intention	1.418	0.525	19.817	0.000		6.865	
Hypotheses							
H1a: Retirement risk awareness -> Retirement planning	1.228	0.592	4.428	0.000		0.088	
H1b: Retirement risk awareness -> Retirement risk perception	1.060	0.057	2.472	0.013		0.257	
H1c: Retirement risk perception -> Retirement planning	1.207	0.529	3.702	0.000		0.074	
H1d: Retirement risk awareness -> Retirement risk perception -> Retirement planning		0.030	2.578	0.004			
H1e: Retirement risk awareness -> Adaptation intention	1.936	0.011	1.996	0.046		0.018	
H1f: Adaptation intention -> Retirement planning	1.846	0.826	25.279	0.000		1.787	
H1g: Retirement risk awareness ->Adaptation intention -> Retirement planning		0.009	2.002	0.045			

For reference, an R^2 of 0.25 indicates weak, 0.5 and 0.75 indicate moderate and substantial, respectively. Likewise, f^2 values of 0.02, 0.15, and 0.35 are regarded as small, moderate, and large, respectively. Similarly, Q^2 values of 0.02, 0.15, and 0.35 are viewed as small, medium, and large.

Source: Field survey (2023)

The results coming from Table 13 reveal the structural assessment of the constructs and the hypotheses therein. First, Table (13) reveals that the LOCs had significant positive relationship with the HOC. In sum, the results show that perceived severity (R = 0.619, t = 53.59, p = 0.000) and perceived vulnerability (R = 0.377, t = 19.758, p = 0.000) are positively related to retirement risk perception. Likewise, the remaining LOCs, response efficacy (R = 0.638, t = 18.012, p = 0.000), self-efficacy (R = 0.525, t = 19.817, p < 0.000) have variously had significant positive relationship with adaptation intention. Furthermore, the results indicated that retirement risk awareness has a significant positive relationship with retirement planning (R= 0.592, t = 4.428, p = 0.000) and retirement risk perception (R = 0.057, t = 2.472, p = 0.013).

In addition, the path connecting retirement risk perception -> retirement planning (R = 0.529, t = 3.702, p = 0.000) had strong significant link among the constructs. Concerning the indirect link between retirement risk awareness and retirement planning through retirement risk perception, the finding demonstrated in Table 13 that retirement risk perception had a partial mediation effect on the relationship between retirement risk awareness and retirement planning (R = 0.030, t = 2.578, p = 0.004). The mediation relationship is partial because it satisfies the procedure outlined by Nitzl et al. (2016) that when both direct and indirect effects are significant, partial mediation exist.

Additionally, there was a very significant relationship between the constructs along the path of Adaptation intention -> retirement planning (R = 0.826, t = 25.279, p = 0.000). The results showed that adaptation intention had

a partial mediating effect on the relationship between retirement risk awareness and retirement planning (R = 0.009, t = 2.002, p = 0.045), as established by Nitzl et al. (2016), partial mediation existed when both direct and indirect effects were substantial. Furthermore, the VAF was calculated from Tables 14 and 15 to ascertain the extent of the mediation effects.

From the study, the R^2 value for retirement planning is 0.793, indicating a significant variability of 79.3% accounted for by retirement risk awareness, retirement risk perception and adaptation intention with the other 20.7% variation by extraneous variables. Likewise, retirement risk perception has an R^2 value of 1.000, also indicating a significant variation of 100% explained by retirement risk awareness, perceived severity, perceived vulnerability, as adaptation intention reported an R^2 of 0.997, indicating 99.70% of variability accounted for by response efficacy and self-efficacy. As represented further on Table 13, all lower order constructs (perceived severity and perceived vulnerability) and (response efficacy and self-efficacy) all have significantly large effects on their higher order constructs retirement risk perception and adaptation intention respectively, with values of 5.325, 2.361, 2.113, and 6.865 respectively. The results of the R^2s of the higher order constructs suggest that the various LOCs accurately measure the HOCs. In the reflections of the literature (Rogers, 1975), these LOCs were fit for the model.

In the same vein, adaptation intention also has a large effect of 1.787 on retirement planning. Retirement risk awareness had a moderate effect of 0.257 on retirement risk perception, whereas having a small effect on retirement planning (0.088) and adaptation intention 0.018). Likewise, retirement risk perception also had a small effect (0.074) on retirement

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planning. Finally, as indicated in Table 13, retirement planning and retirement risk awareness and adaptation intention all have significant predictive ability of 0.412, 0.996 and 1.000 respectively.

Table 14: Indirect Effect for Model 1

Constructs	1	2	3	4	5	6	7	8
1. Adaptation intention								
2. Perceived severity					0.328			
3. Perceived vulnerability					0.200			
4. Response efficacy					0.526			
5. Retirement planning								
6. Retirement risk awareness					0.390			
7. Retirement risk perception								
8. Self-efficacy					0.434			

Source: Field Survey (2023)

Table 15: Total Effect for Model 1

Constructs	1	2	3	4	5	6	7	8
1. Adaptation intention					0.826			
2. Perceived vulnerability					0.328		0.619	
3. Perceived vulnerability					0.200		0.377	
4. Response efficacy	0.638				0.526			
5. Retirement planning								
6. Retirement risk awareness	0.011				0.553		0.057	
7. Retirement risk perception					0.529			
8. Self-efficacy	0.525				0.434			

Source: Field Survey (2023)

Based on the results in Table 14 and 15, the VAFs for retirement risk perception and adaptation intentions were calculated as follow:

$VAF_{\text{Retirement risk perception}} = 0.390/0.529 \times 100\% = 73.7\%$ (partial mediation)

$VAF_{\text{Adaptation intention}} = 0.390/0.826 \times 100\% = 47.2\%$ (partial mediation)

Discussion

The first objective of this study was to determine the mediating effects of retirement risk perception and adaptation intention on retirement risk

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awareness and retirement planning of informal sector workers in Greater Accra. Based on this objective, seven hypotheses were created and discussed as follows:

H1a: There is a significant relationship between retirement risk awareness and retirement planning.

H1b: There is a significant relationship between retirement risk awareness and retirement risk perception.

H1c: There is a significant relationship between retirement risk perception and retirement planning.

H1d: Retirement risk perception mediates the relationship between retirement risk awareness and retirement planning.

H1e: There is a significant relationship between retirement risk awareness and adaptation intention.

H1f: There is a significant relationship between adaptation intention and retirement planning.

H1g: Adaptation intention mediates the relationship between retirement risk awareness and retirement planning.

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Figure 3: The mediating effects of retirement risk perception and adaptation intention on the relationship between retirement risk awareness and retirement planning
Source: Field survey (2023)

H1a: *There is a significant relationship between retirement risk awareness*

and retirement planning.

This hypothesis sought to test the relationship between retirement risk awareness and retirement planning. The results show that retirement risk awareness has a significant positive relationship with retirement planning (R = 0.592; t = 4.428; p = 0.000). Also, the results portray a small effect size on the R and R^2 values of retirement planning as seen in the value of f^2 (0.088; Table 13). Within the framework of Cohen (1992), it can be upheld that this link between the constructs was necessary; an indication that retirement risk awareness plays a significant role in activating activities of retirement planning. Thus, individuals' awareness of risk associated with inefficient retirement income could lead informal sector workers to plan adequately for

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retirement. Retirement risk awareness tends to put the informal sector workers on their toes to make conscious preparations for retirement. Informal sector workers' exposure to retirement risk awareness avenues like accessing retirement information from brochures, discussion among friends and family, employer advice and education, and individual experience will lead them into having a special lifetime investment account towards their retirement.

The findings corroborate with those of Fifit and Saputri (2021), who noted that an individual's awareness of risk will motivate them to take the appropriate actions to manage their funds appropriately, reduce waste and make plans towards retirement savings for supporting their old age. Also, in line with the social cognitive theory (Bandura, 1991), persons who develop fears by observing the challenges retirees face due to a lack of retirement planning would often be obliged to protect themselves through retirement planning.

H1b: *There is a significant relationship between retirement risk awareness and retirement risk perception.*

The hypothesis was set to examine the relationship between retirement risk awareness and retirement risk perception. Retirement risk awareness has a positive relationship with retirement risk perception (R = 0.057; t = 2.472; p = 0.013), per the findings. With reference to Cohen (1992), the result is suggestive of a weak relationship between retirement risk awareness and retirement risk perception. The variable retirement risk awareness has moderate effect (f^2 = 0.257) on retirement risk perception as shown the Table 13. This is indicative of the fact that awareness creation about risk of

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retirement when enhanced will achieve maximum results of individuals taking steps to plan for their retirement.

Kazaure (2019) upheld that individuals' ability to directly know, sense, feel, or be cognizant of events or happenings in their immediate environment concerning the threats of retirement enable their perception of danger for not planning their retirement. Salah and Sasaki, (2021) also concluded that the degree to which individuals think and talk about a particular threat in their immediate environment leads to an appreciation of the need to consciously prepare for their retirement. As stipulated by the social learning and social cognitive theory, awareness influencers like discussion among friends and family, union members, seminars and outreaches, mainstream media and individuals' own observations can influence individuals' awareness of the risk of growing old without retirement planning, thereby enabling their retirement risk perception.

The findings are in line with a study by Zhuang and Guan (2022) who also confirmed that, within the health sector, awareness of past cancer information enabled cancer retirement risk perception leading to an initiation of cancer screening. Hassandoust and Techatassanasoontorn (2019) also shared the conclusion that individuals' attitudes towards information security and their motivations for taking precautions are shaped and motivated by the level of security perception. It is further emphasised that observational learning and past experience leads to retirement risk perception (Ioannou, Tussyadiah &Marshan, 2021).

H1c: ***There is a significant relationship between retirement risk perception and retirement planning***

The study hypothesised the existence of a relationship between retirement risk perception and retirement planning. The results showed a significant positive relationship between retirement risk perception and retirement planning (R = 0.529; t =3.702; p = 0.00). This is suggestive of the fact that retirement risk perception plays an important role in driving retirement planning efforts of informal sector.

Individuals perceptions of an unfavourable event and their estimation of exposure to it sums up their retirement risk perception (Paek & Hove 2017; Rohrmann, 2008; Sjöberg, Moen & Rundmo, 2004) and enables them take measures to overcome and prevent such dangers from occurring. As per the assumptions of the protection motivation theory (Maddux & Rogers, 1983; Rogers, 1975), individuals who perceive retirement risk as being dreadful (perceived severity) and vulnerable (perceived vulnerability) to their future incomes will make substantial change in behaviour to plan for it. It is as seen in the studies of Tu, Adkins and Zhao (2019) which supports the fact that employees retirement risk perception enables their compliance to security principles. Again, the ability of retirement risk perception in effecting a change in behaviour is supported in the study of workplace harassment and threats with results supporting the agreement that retirement risk perception enables employees intention to protect their retirement (Atta, Zaman & Khan, 2021).

H1d: Retirement risk perception mediates the relationship between retirement risk awareness and retirement planning.

This section relates to hypothesis (H1d) which investigates the mediation mechanisms of retirement risk perception in the relationship of retirement risk awareness and retirement planning. According to (Baron & Kenny, 1986), mediation is present when the indirect path of a model is significant and mediation can be full or partial (1) if the direct link is insignificant, (2) if the direct link is significant respectively. With reference to Table 13 of this study, the indirect path (Retirement risk awareness -> Retirement risk perception -> Retirement planning) is significant (R=0.030; t=2.578; P=0.004), signifying a mediation. Also, the direct path (Retirement risk awareness -> Retirement planning) is also significant (R = 0.592; t=4.428; P=0.000). Consequently, retirement risk perception partially mediates the relationship between retirement risk awareness and retirement planning. Equally, the results revealed that through retirement risk perception, retirement risk awareness made a 73.7 percent (VAF) influence on retirement planning in the informal sector.

Protection motivation theory (Maddux & Rogers, 1983; Rogers, 1975) is a mediating variable that enables the perception of risk and coping appraisal in changing individual behaviours. According to the tenets of the theory, individuals need to perceive retirement risk by evaluating the risk as being dreadful (perceived severity) and must assess themselves as being vulnerable (perceived vulnerability) to the risk to change behaviour. This is supported in findings of climate change threat on tourism, where Chen et al. (2020) had evidence of the fact that an evaluation of the threat posed by climate change to

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ski tourism mediates the link between knowledge and behavioural intention. Ezati Rad et al. (2021) also realised that threat appraisal enabled individual's adherence to COVID-19 preventive behaviours. Thus, it is established in this study that retirement risk perception facilitates the awareness behaviours of informal sector workers towards retirement planning, furthermore, this study concludes that when the informal sectors foresee the negative effect of not planning for retirement, this will lead them into surfing for relevant information which eventually will lead to retirement planning.

H1e: *There is a significant relationship between retirement risk awareness and adaptation intention.*

The purpose of this hypothesis was to investigate the association between retirement risk awareness and adaptation intention. Retirement risk awareness has a positive link with adaptation intention (R = 0.011; t = 1.996; p = 0.046) with an f^2 of 0.018, indicating a small effect size according to the findings. This relationship between the constructs was considerable, indicating that retirement risk awareness plays a role in educating individuals about the methods and measures they can put in place to plan for their retirement.

According to the social learning theory, discussion among friends and family, union members, seminars and outreach and information obtained from mainstream media, plays a significant role in ensuring individuals awareness of retirement planning methods, channels, benefits, and institutions that manage investments towards retirement planning. Such discussions also empower individual's self-efficacy as they get the encouragement to participate in retirement planning since their colleagues can do same. Corroborating with this result is the findings of Wang et al. (2021), which

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asserts that individuals awareness of a vaccination information from medical personnel enables adaptation intentions of self-efficacy and response efficacy. Babcicky and Seebauer (2019) noted risk communication methods should be targeted at stimulating protective intentions of the target group to engage in retirement planning. Supportive of the influence of retirement risk awareness information leading to adaptation intention and behavioural change is the work of Li et al. (2020) who conclude that benefits of cancer screening knowledge shared with women enabled adaptation intentions of getting screened for cancer. By juxtaposing this to retirement planning of informal workers, this current study concludes that financial retirement risk awareness predicts the informal sector workers' intentions to plan for retirement.

H1f: *There is a significant relationship between adaptation intention and retirement planning.*

This hypothesis connects the link between adaptation intention and retirement planning of informal sector workers in Ghana. According to the results, adaptation intention has a significant positive correlation with retirement planning (R = 0.826; t = 25.279; p = 0.000). Also, the findings reveal that adaptation intention has a substantial influence (f^2 = 1.787) on retirement planning among the sampled informal sector workers. This indicates that if individuals in the informal sector believe in the methods made available for retirement planning and can believe in their own self-efficacy to plan for retirement, this will have some influence on their ability to plan for retirement. As per the tenet of the protection motivation theory (Maddux & Rogers, 1983; Rogers, 1975), individuals need to accept and believe in the alternatives provided for an alleviation of this risk, specifically response

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efficacy, and should believe in their own ability to make contributions towards their retirement (self-efficacy). These attitudes of believe, thus, response efficacy and self-efficacy, making up coping response as per the theory, and operational here as adaptation intention, facilitate individuals change in behaviour. Thus, adaptation intention influence retirement planning.

The findings correspond with works by (Delfiyan et al., 2021) who studied how farmers response to drought episodes to increase resilience and widen available alternatives for adaptation. They noted that response efficacy enables adaptive behaviours. Again, Xue, Zhao, Wang and Zhanget (2021) found that risk assessments and adaptation assessments have favourable and substantial effects on inhabitants' intentions to embrace climate change adaptation behaviours. Likewise, (Ezati Rad et al., 2021) supported the findings that response efficacy and self-efficacy positively predict the protective behaviours. In the same vein, Kursan Milaković and Miocevic (2022) and Verkijika (2018) has similar findings of adaptation intention positively impacting change in behaviour. To this end, the study concludes that adaptation intentions of the informal sector workers to retirement planning leads to actual planning for retirement.

H1g: *Adaptation intention mediates the relationship between retirement risk awareness and retirement planning.*

Table 13 reveals a significant and positive relationship between retirement risk awareness and retirement planning (direct; R=0.592; t=4.428; p=0.000), and adaptation intention (indirect; R=0.011; t=1.996; p = 0.046: p0.05). The results demonstrate once again that adaptation intention has a substantial positive relationship with retirement planning (indirect; R=0.826;

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t=25.279; p=0.000; p0.05). it is also worth noting that the indirect path (Retirement risk awareness->adaptation intention->Retirement planning) is significant (R=0.009; t=2.002; P=0.045), signifying partial mediation. In the same fashion, the result of the VAF demonstrated that due to presence of adaptation intention, retirement risk awareness influenced retirement planning by the magnitude of over 42 percent.

This indicates that part of the link between retirement risk awareness and retirement planning is transmitted through adaptation intentions of the informal sector workers in Ghana. Precisely, the findings suggest that one of the prerequisites for retirement planning is adaptation intentions of the informal sector workers. Particularly, the believes in the copping strategies at the disposer of the employee will foster the retirement planning behaviours. As per the tenet of the protection motivation theory (Maddux & Rogers, 1983), individuals can perceive retirement risk by evaluating the risk as being dreadful (perceived severity) and assessing themselves as being vulnerable (perceived vulnerability), but this will not be enough to effect substantial change in behaviour. Individuals need to accept and believe in the alternatives provided for an alleviation of this risk, specifically response efficacy and self-efficacy (adaptation intention). Individuals in the informal sector will have to analyse the efficacy of retirement planning methods outlined and believe in their own self-efficacy, thus, having confidence in their own ability to save money towards their retirement. Thus, adaptation intention influences retirement planning after the risk has been perceived.

The findings are commensurate with the findings of Chen, Dai, Zhu and Xu (2020) and Faruk & Maharjan (2022). Chen et al., (2020) and Faruk

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& Maharjan, (2022), in their study revealed the mediating role of adaptation intention (coping appraisal) in resulting in behaviour change. Worth nothing also is the study of (Bubeck et al., 2018), a survey of flood-coping behaviours. Their findings suggested that observational learning from the social context, such as friends and neighbours, is favourably associated with flood-coping appraisal which mediates, and impacts behaviour change decisions. In the same vein, Lin and Chang (2021) found Self-efficacy, a variable of adaptation intention mediates smoking-cessation.

Table 16: Summary of Research Hypotheses

Hypotheses		Decision
H1a:	There is a significant relationship between retirement risk awareness and retirement planning.	Accepted
H1b:	There is a significant relationship between retirement risk awareness and retirement risk perception.	Accepted
H1c:	There is a significant relationship between retirement risk perception and retirement planning.	Accepted
H1d:	Retirement risk perception mediates the relationship between retirement risk awareness and retirement planning.	Accepted
H1e:	There is a significant relationship between retirement risk awareness and adaptation intention.	Accepted
H1f:	There is a significant relationship between adaptation intention and retirement planning.	Accepted
H1g:	Adaptation intention mediates the relationship between retirement risk awareness and retirement planning.	Accepted

Source: Field survey (2023)

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Chapter Summary

This chapter elaborated on the research findings in accordance with the study's third objective, which was to investigate the influence of retirement risk perception and adaptation intention on the relationship between retirement risk awareness and retirement planning. In light of the stated purpose, three hypotheses were defined and discussed in relation to the findings. All the hypotheses were supported which upheld the tenets of the protection motivation theory and social learning theory, revealing the importance of retirement risk perception and adaptation intention in enabling informal sector workers retirement risk awareness leading to retirement planning.
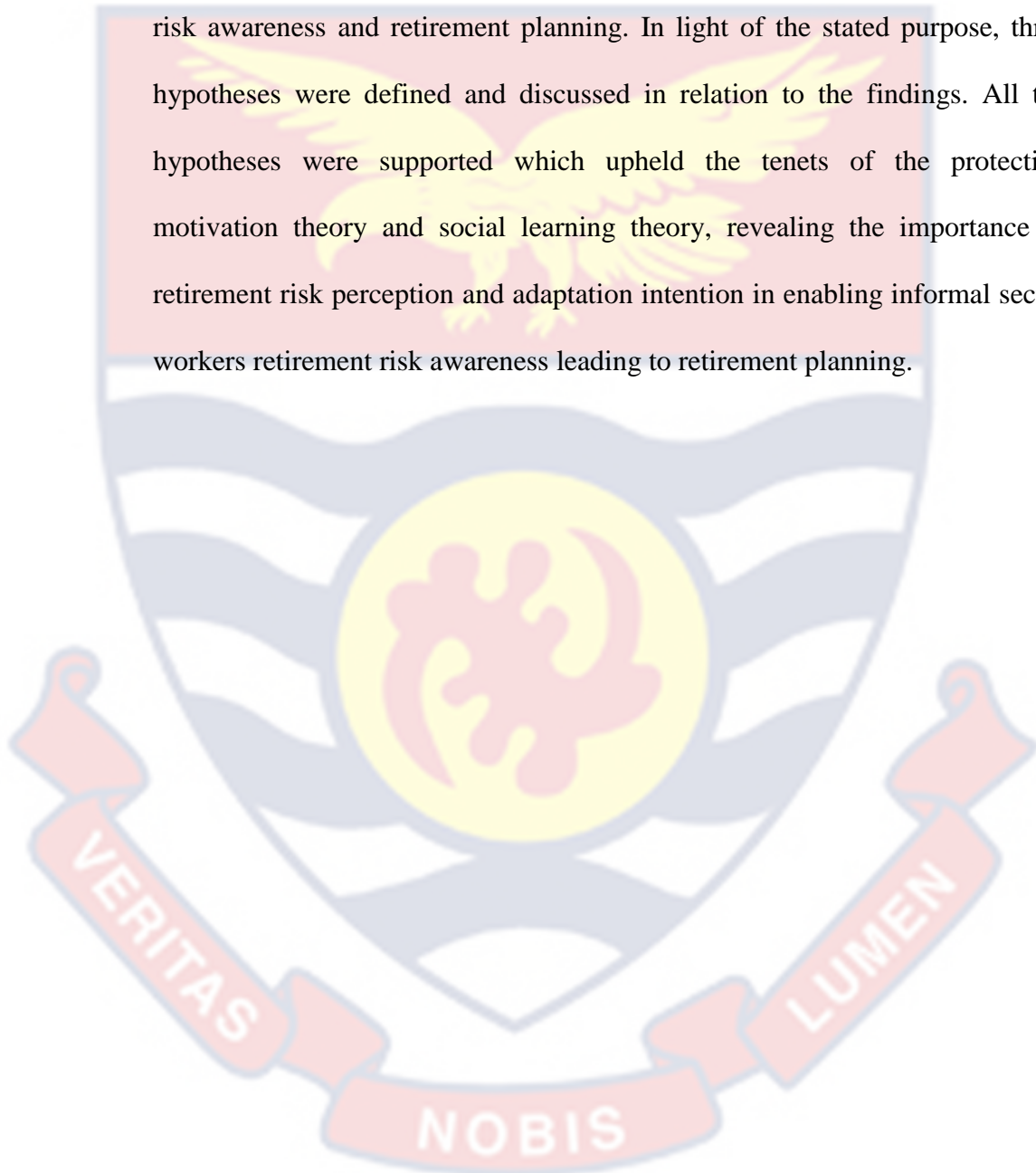
CHAPTER SIX

RETIREMENT PLANNING, RETIREMENT RISK PERCEPTION, ADAPTATION INTENTION AND FINANCIAL WELLBEING OF INFORMAL SECTOR WORKERS

Introduction

This study aimed to investigate the intervening role of retirement planning on the relationship between retirement risk perception, adaptation intention and the financial wellbeing of informal sector workers in Ghana. In connection with this goal, four hypotheses are explored. The chapter begins with an assessment of the measurement and structural models as prerequisites for the analysis of the study bounded by acceptable criteria. The figure and tables below summarise the results of the analyses of the measurement model made up of indicator loadings, CR (Composite reliability), AVE (Average variance extracted), and DV (Discriminant validity), as well as the structural model listed as the coefficient of determination (R^2), significance (t statistics and p-value), predictive relevance (Q^2) and effect size (f^2).

Assessment of the Measurement Model

The following tables assessed the criteria for the measurement model. Firsts, Table 17 assessed the indicator loading, internal consistency, convergent validity and common method biases. Table 18 evaluated the discriminant validity of the study.

Table 17: Factor Loadings, Variance Inflation Factor (VIF), Internal Consistency and Validity Statistics

Construct/Indicators	Outer Loadings	VIF	CA	rho_a	CR	(AVE)
Perceived Severity			0.947	0.948	0.957	0.789
PS1	0.865	3.094				
PS2	0.916	4.784				
PS3	0.890	4.175				
PS4	0.892	4.854				
PS5	0.878	4.469				
PS6	0.888	4.565				
Perceived Vulnerability			0.870	0.882	0.910	0.718
PV1	0.860	3.220				
PV2	0.906	2.511				
PV3	0.826	2.646				
PV4	0.793	4.033				
Response Efficacy			0.919	0.930	0.936	0.676
RE1	0.846	3.917				
RE2	0.882	4.072				
RE3	0.880	4.389				
RE4	0.875	3.271				
RE5	0.777	2.733				
RE6	0.783	2.494				
RE7	0.695	2.277				
Self-Efficacy			0.931	0.940	0.946	0.669
SE2	0.828	4.777				
SE3	0.834	3.692				
SE4	0.847	4.039				
SE5	0.899	4.137				
SE6	0.894	4.921				
SE7	0.887	3.664				
SE8	0.829	4.391				
SE9	0.360	4.770				
Retirement risk perception			0.947	0.948	0.955	0.682
PS1	0.822	3.049				
PS2	0.892	4.588				
PS3	0.873	3.863				
PS4	0.908	3.902				
PS5	0.857	4.471				
PS6	0.864	4.874				
PV1	0.683	2.808				
PV2	0.671	3.863				
PV3	0.817	4.513				
PV4	0.836	2.347				
Adaptation Intention			0.929	0.933	0.938	0.508
RE1	0.692	4.106				

			CA	CR		AVE
RE2	0.732	4.867				
RE3	0.709	4.075				
RE4	0.692	3.205				
RE5	0.693	2.528				
RE6	0.566	2.536				
RE7	0.469	2.438				
SE2	0.742	4.521				
SE3	0.779	4.299				
SE4	0.737	4.311				
SE5	0.751	4.821				
SE6	0.801	4.547				
SE7	0.793	4.613				
SE8	0.792	4.692				
SE9	0.749	1.114				
Retirement Planning			0.907	0.923	0.927	0.682
RP1	0.861	3.714				
RP2	0.865	3.624				
RP3	0.885	3.205				
RP4	0.800	2.507				
RP5	0.807	2.493				
RP6	0.722	2.269				
Financial Wellbeing			0.921	0.935	0.938	0.687
FW2	0.866	3.317				
FW3	0.884	4.616				
FW4	0.578	1.759				
FW6	0.889	4.221				
FW7	0.874	4.229				
FW8	0.870	4.455				
FW9	0.793	2.328				

Notes: CA = Cronbach Alpha, CR = Composite Reliability, VIF = Variance Inflation Factor and AVE = Average Variance Extracted
Source: Field Survey (2023)

The loadings of the different indicators of the latent variables matched the fundamental criteria for item reliability as shown in Table 17. Although some were loaded below 0.70, it was vital to maintain them in order to improve the models' overall AVE (Hair et al., 2019). The lowest and maximum loadings of the items in the constructs were as follows: perceived severity: 0.865 to 0.916; perceived vulnerability: 0.793 to 0.906; response efficacy: 0.695 to 0.882; self-efficacy: 0.360 to 0.899; retirement risk

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perception: 0.671 to 0.908; adaptation intention: 0.469 to 0.801; retirement planning: 0.722 to 0.885; and financial wellbeing: 0.578 to 0.889.

Moreover, the reliability of the constructs, also known as the internal consistency of the latent variables, was evaluated using the CA, rho A, and CR measures. A preliminary examination of Table 17 reveals that the output for achieving acceptable internal consistency of the constructs based on the boundaries of CA, rho A, and CR was maintained. Consequently, the composite reliability ratings for perceived severity, perceived vulnerability, response efficacy, self-efficacy, retirement risk perception , adaptation intention, retirement planning, and financial wellbeing were 0.957, 0.910, 0.936, 0.946, 0.955, 0.938, 0.927 and 0.938 respectively.

In addition, Table 17 demonstrated that the AVEs of the constructs adequately explained the inter-construct interactions. Lastly, the scores of collinearity statistics using the VIF revealed that there were no self-reported biases. This is due to the fact that the VIF values of the different indicators were below the permitted level of 5.0. (Becker et al., 2015). The next table (Table 18) outlined the discriminant validity ratings based on the HTMT ratio.

Table 18: Heterotrait-Monotrait ratio

	AI	FW	PS	PV	RE	RP	RRP	SE
AI								
FW	0.891							
PS	0.625	0.494						
PV	0.721	0.451	0.845					
RE	0.871	0.406	0.538	0.769				
RP	0.863	0.390	0.518	0.733	0.880			
RRP	0.690	0.498	0.862	0.900	0.653	0.626		
SE	0.876	0.865	0.546	0.518	0.528	0.520	0.558	

Notes: Adaptation Intention (AI); Financial Wellbeing (FW); Perceived Severity (PS); Perceived Vulnerability (PV); Response Efficacy (RE); Retirement Planning (RP); Retirement Risk Perception (RRP); Self-Efficacy (SE)

The values of the HTMT ratios in Table 18 are utilised to confirm the uniqueness of the different constructions. Within the allowable limits of 0.90, constructions were unique and distinguishable from each other. This indicates that the individual constructions can reflect distinct phenomena. The subsequent tables and figures showed the evaluation of the structural model and the hypotheses derived. The next paragraphs address the structural model assessment.

Assessing the Structural Model

Following the evaluation of the outer model for the study, the inner model was evaluated. The Assessment method complied with requirements by (Hair et al., 2019). The structural model largely assisted the researcher in drawing inferences on the mediating role of retirement planning in the relationship between retirement risk perception , adaptation intention and financial wellbeing of informal sector. Results are presented in Table 19.

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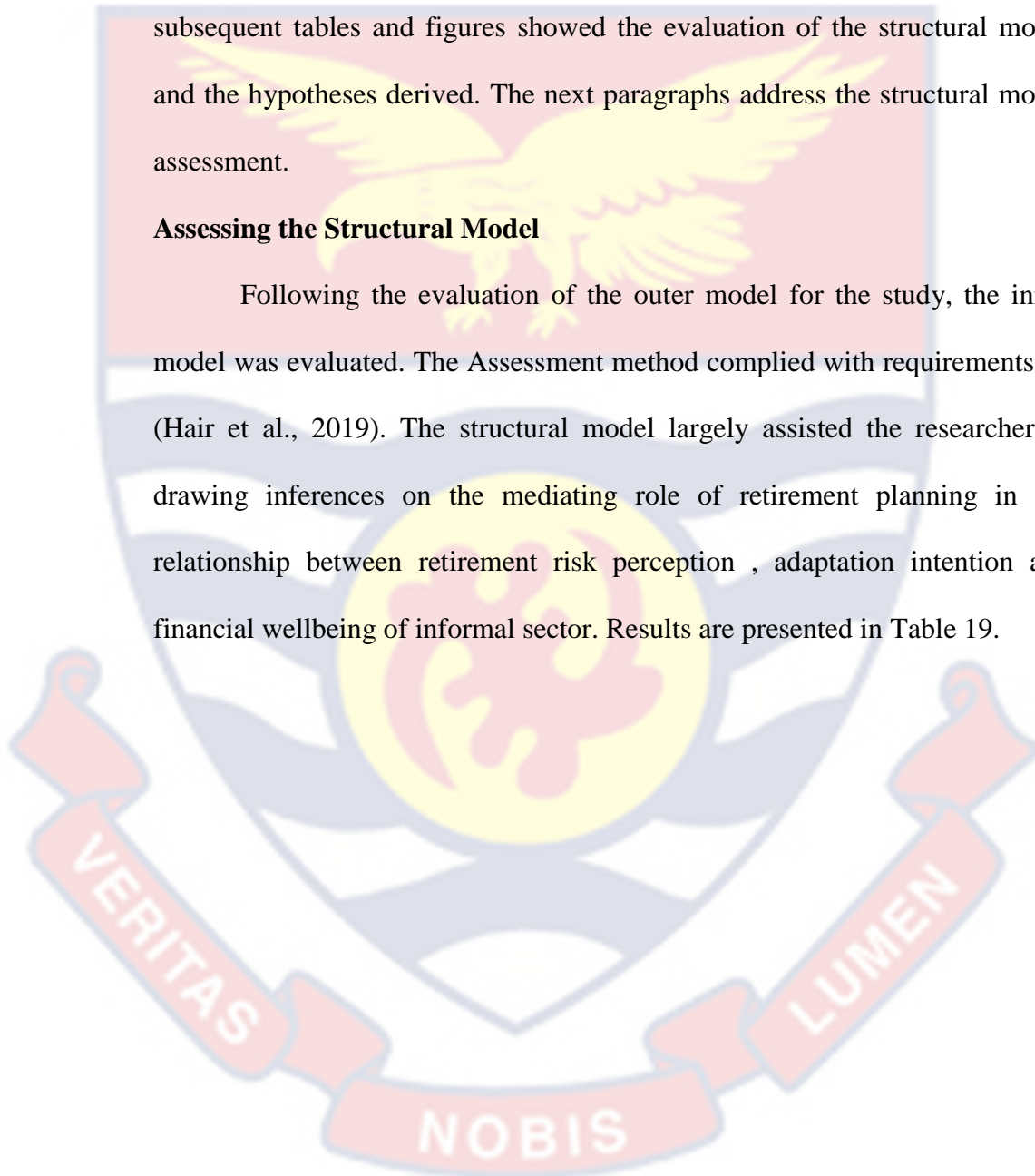
Table 19: Inner Model Specification

Paths	VIF	Beta (R)	T stats	P-values	R^2	f^2	Q^2
Adaptation intention					0.998		0.998
Financial wellbeing					0.975		0.758
Retirement planning					0.615		0.608
Retirement risk perception					1.000		1.000
(Direct Effect)- LOC/HOC							
Perceived severity -> Retirement risk perception	2.600	0.645	54.802	0.000		0.781	
Perceived vulnerability -> Retirement risk perception	2.600	0.410	41.477	0.000		0.373	
Response efficacy -> Adaptation intention	1.290	0.451	24.794	0.000		0.614	
Self-efficacy -> Adaptation intention	1.290	0.703	33.244	0.001		0.643	
Hypotheses							
Retirement Planning -> Financial wellbeing	2.597	0.725	15.40	0.000		0.650	
Retirement risk perception -> Retirement planning	1.697	0.159	2.532	0.011		0.039	
Adaptation intention -> Retirement planning	1.697	0.673	12.503	0.000		0.693	
H2a: Retirement risk perception -> Financial wellbeing	1.762	0.024	2.013	0.044		0.014	
H2b: Adaptation intention -> Financial wellbeing	2.873	0.450	9.183	0.000		0.863	
H2c: Retirement risk perception -> Retirement planning -> Financial wellbeing		0.115	2.693	0.007			
H2d: Adaptation intention -> Retirement planning -> Financial Wellbeing		0.488	7.750	0.000			

For reference, an R^2 of 0.25 is weak, while values of 0.5 and 0.75 indicate moderate and substantial respectively. Likewise, f^2 values of 0.02, 0.15, and 0.35 are regarded as small, moderate, and large, respectively. Similarly, Q^2 values of 0.02, 0.15, and 0.35 are viewed as small, medium, and large.
Source: Field Survey (2023)

The results of Table 19 reflect the structural evaluation of the constructs and hypotheses included within. The LOCs exhibited significant positive relationships with the HOC, as shown in Table 19. Perceived severity (R = 0.645, t = 54.802, p = 0.000) and self-efficacy (R=0.703, t=33.244, p=0.001) are substantially and positively associated with retirement risk perception and adaption intention respectively. Similarly, perceived vulnerability (R = 0.410, t = 41.477, p = 0.000) and response efficacy (R = 0.451, t = 24.794, p = 0.000) have moderate and positive relationships with retirement risk perception and adaption intention respectively. In addition, the results revealed that retirement risk perception has a weak positive association with financial wellbeing (R = 0.024, t = 2.013, p = 0.044) and retirement planning (R = 0.159, t = 2.532, p = 0.011).

Additionally, there was a very significant and positive relationship between the constructs along the path of adaptation intention->retirement planning (R = 0.673, t =12.503, p = 0.000) and the path connecting retirement planning to financial wellbeing (R = 0.725, t =15.400, p = 0.000), with a moderately significant correlation between adaptation intention and financial wellbeing (R = 0.450, t = 9.186, p = 0.000). Regarding the indirect association between adaptation intention and financial wellbeing through retirement planning, and again, the path connecting retirement risk perception and financial wellbeing through retirement planning, Table 19's findings showed that retirement planning had a partial mediating influence on financial wellbeing for both paths, (R = 0.488, t =7.750, p = 0.000) and (R = 0.115, t =2.693, p = 0.007) respectively. As stated in the work of by Nitzl et al. (2016), a partial mediation exists as both direct and indirect paths are substantial. In

the light of VAF calculations, the findings from Tables 20 and 21 confirmed that retirement planning played a mediating role in the links between retirement risk perception and financial wellbeing and adaptation intention and financial wellbeing.

According to the study, retirement risk perception, adaptation intention and retirement planning account for (R^2 = 0.975) 97.5% of the significant variability in financial wellbeing. Similarly, adaptation intention indicated an R^2 of 0.998, showing 99.80% of variability accounted for by response efficacy and self-efficacy, as retirement risk perception likewise indicated a considerable variance of 100% explained by perceived severity and perceived vulnerability. Also, retirement planning has a an R^2 of 0.615, indicating a 61.50% variation effected by retirement risk perception and adaptation intention.

Table19 shows that all lower order variables had substantial effects (perceived severity = 0.781, response efficacy = 0.614 and self-efficacy = 0.643) on their higher order constructs, except perceived vulnerability which had a moderate effect of 0.373 on its higher order construct. The same is true for adaptation intention and retirement planning which have a substantial effect of (f^2=0.863) and (f^2=0.650) on financial wellbeing. Likewise, adaptation intention exerts a substantial effect of (f^2=0.693) on retirement planning.

On the contrary, retirement risk perception has a weak effect of (f^2=0.039) and (f^2=0.014) on retirement planning and financial wellbeing respectively. To conclude, as stated in table 19, adaptation intention, financial wellbeing, retirement planning and retirement risk perception all have a

predictive relevance of (Q^2=0.998), (Q^2=0.758), (Q^2=0.0.608) and (Q^2=1.000)

respectively.

Table 20: Indirect Effect for Model 2

Constructs	1	2	3	4	5	6	7	8
1. Adaptation intention		0.488						
2. Financial wellbeing								
3. Perceived severity		0.090				0.102		
4. Perceived vulnerability		0.057				0.065		
5. Response efficacy		0.434				0.304		
6. Retirement planning								
7. Retirement risk perception		0.115						
8. Self-efficacy		0.676				0.473		

Source: Field Survey (2023)

Table 21: Total Effect for Model 2

Constructs	1	2	3	4	5	6	7	8
1. Adaptation intention		0.962				0.673		
2. Financial wellbeing								
3. Perceived severity		0.090				0.102	0.645	
4. Perceived vulnerability		0.057				0.065	0.410	
5. Response efficacy	0.451	0.434				0.304		
6. Retirement planning		0.725						
7. Retirement risk perception		0.149				0.159		
8. Self-efficacy	0.703	0.676				0.473		

Source: Field Survey (2023)

VAF $_{\text{Retirement risk perception -> Retirement planning -> Financial wellbeing}}$ = 0.115/0.149 x 100%

= 77.2% (partial mediation).

VAF $_{\text{Adaptation Intention -> Retirement planning -> Financial wellbeing}}$ = 0.488/0.962 x 100% =

50.7% (partial mediation).

Discussion

The second objective of this study was to determine the mediating

effects of retirement planning on the relationship between retirement risk

perception and financial wellbeing, as well as on the relationship between

adaptation intention and financial wellbeing of informal sector workers in

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Greater Accra. Based on this objective, four hypotheses were created and discussed as follows:

H2a: There is a significant relationship between retirement risk perception and financial wellbeing.

H2b: There is a significant relationship between adaptation intention and financial wellbeing.

H2c: Retirement planning mediates the relationship between retirement risk perception and financial wellbeing.

H2d: Retirement planning mediates the relationship between adaption intention and financial wellbeing.
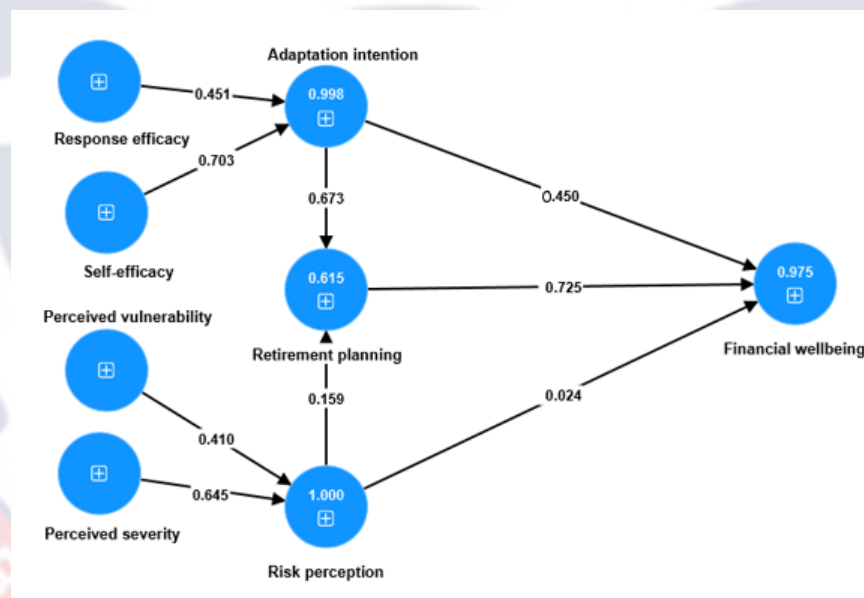
Figure 4: The mediating role of retirement planning on retirement risk perception and financial wellbeing as well as on adaptation intention and financial wellbeing.
Source: Field Survey (2023).

H2a: There is a significant relationship between retirement risk perception

and financial wellbeing

This section discusses the findings from the second objective which investigated the intervening role of retirement planning on the relationship between retirement risk perception, adaptation intention and the financial

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wellbeing of informal sector workers in Ghana. Consistent with the expectations of the researcher, H2a was supported. Thus, the findings revealed that retirement risk perception has a positive association with financial wellbeing of informal sector workers in Ghana (R = 0.024, t = 2.013, p = 0.044). This indicates that an increase in retirement risk perception may enhance financial wellbeing. When individuals realise the severity of post-retirement risk and are able to assess their vulnerability to this risk, judging themselves as being vulnerable, this can translate into they taking protective measures that lead to financial wellbeing.

By inference, informal sector workers ability to perceive post-retirement risk can enhance their desire for quality of life, leading to financial wellbeing (Gursoy & Chi, 2022). Individuals expectation of wellbeing enables their readiness to protect themselves from perceived risk (Zhang et al., 2022). As argued (Dzogbenuku et al., 2022), informal sector workers connotation of personal security propels satisfaction. According to Hassan et al. (2021), an assessment of the financial hardship, an ability to envisage financial strain, and the likelihood of not having enough financial resources during old age propels financial insecurity and a perception of risk. In studying individuals retirement risk perception, authors like Rosi et al. (2021) examined individuals sensitivity to risk, their perception of the seriousness of the risk, and their perception of susceptibility to the risk.

Supportive of this finding is the protection motivation theory (Maddux & Rogers, 1983; Rogers, 1975) which highlights two cognitive processes (severity and vulnerability appraisal) which makes up retirement risk perception, leading to behaviour change. Individuals' evaluation of the

noxiousness of growing old without sufficient financial retirement planning and their assessment of the likelihood of falling victim to the same can activate thoughtfulness that can enable behaviour change resulting in financial wellbeing.

H2b: *There is a significant relationship between adaptation intention and financial wellbeing*

In this part, objective two was addressed, which aimed to determine the significance of the relationship between adaptation intention and financial wellbeing. The finding lends credence to H2b, which accords with the researcher's hypotheses. Therefore, the outcomes demonstrated that adaptation intention significantly and positively correlates with financial wellbeing, (R = 0.673, p < 0.001, Figure 3, Table 19). Also, adaptation intention exerts a substantial effect of (f^2=0.863) on financial wellbeing. Impliedly, a unit rise in the adaptation intention of informal sector workers will lead to a strong matching increase in their financial wellbeing since the value of R implies a strong association between the constructs. In a similar vein, a unit decline in the adaptation intention of informal sector workers will lead to a decrease in their financial wellbeing. This indicates that if informal sector workers believe in the avenues created for retirement planning and believe in their own ability to make investments towards protecting themselves from post-retirement risk, this will enable their financial wellbeing.

Informal sector workers ability to make conscious efforts in knowing the right investments products needed for protecting themselves against old age financial risk can propel financial planning. A believe in taking steps to consciously reserve money towards retirement planning though informal

sector workers are saddled with several financial difficulties even in their active and energetic days can prevent their exposure to post-retirement risk in their feeble days, leading to their financial wellbeing.

Consistent with our findings, retirees with a larger number of pre-retirement preparation activities acquire greater resources which lead to favourable improvements in post-retirement wellbeing over time (Yeung & Zhou, 2017). Similarly, Amani and Fussy (2022) asserts that a lack of saving behaviour results in poor financial wellbeing. Individuals who believe in their ability and willingness to adapt protective behaviours experience lower financial insecurity (Hoffmann, 2021).

H2c: Retirement planning mediates the relationship between retirement risk perception and financial wellbeing

The section discussed the study's hypothesis H2c, which looked at the mediating role of retirement planning in the relationship between retirement risk perception and financial wellbeing. The analysis of the results showed that retirement planning partially mediates the link between retirement risk perception and financial wellbeing (R = 0.115, t = 2.693, p=0.007; Table 19). Furthermore, the results as per the VAF demonstrated that through retirement planning, retirement risk perception made a substantial (VAF = 77.2%) change on the scores of financial wellbeing. Thus, the results suggest that part of the influence of retirement risk perception on financial wellbeing is facilitated by the complimentary role of retirement planning.

The implication is that although the informal sector workers may have knowledge about how vulnerable they could be to post-retirement risk, making conscious retirement plans to mitigate those risk would improve their financial

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wellbeing. These plans may appear in the form of saving, investments and buying of real assets to improve their financial situations after retirement. The workers in the sector on many occasions face severe income insufficiency to cater for themselves in their old age (Abdulquadri et al., 2022; ILO, 2020; Swarna et al., 2022), the capacity of these employees to make conscientious efforts to learn about the appropriate investment products needed to safeguard themselves against old age financial risk might push financial planning leading to financial security. In the same vain, Nyre and Jaatun (2017) in their work on risk seeking stated that an individuals accessesmt of risk exposure will result in their motivation to protect themselves.

H2d: *Retirement planning mediates the relationship between adaption intention and financial wellbeing*

This hypothesis is situated on the mediating effect of retirement planning on the relationship between adaptation intention and financial wellbeing of informal sector workers in Greater Accra. As stipulated by Table 19, the result show a partial mediation of retirement planning on the relationship between adaptation intention and financial wellbeing, with retirement planning having a moderate influence on the relationship (R = 0.488, t =7.750, p<0.0001). Additionally, the results according to the VAF showed that adaptation intention exerts a significant influence (VAF = 50.7%) on the outcomes of financial wellbeing through retirement planning. The findings therefore imply that retirement planning plays a complementary function in enhancing the efforts of adaptation intention on financial wellbeing.

The results speak to the fact that informal sector workers acceptance of the retirement planning measures and their intention to adhere to the advice of planning for their retirement is better enhanced when individuals take practical steps to make investments both in real and financial assets. The additional effort of consciously reserving money for retirement planning leads to financial security. Confirmatory of this fact is the tenets of the protection motivation theory which states that self-efficacy and response efficacy leads to behaviour change. Workers in the informal sector will take steps to plan for their retirement when they believe in the mechanisms of financial investment planning and further believe in their ability to consistently set aside financial resources out of the already constrained financial resources towards retirement planning.

Supportive of this finding is the study by Hekken (2018) which indicated that the degree to which an individual feels he can successfully plan for retirement (self-efficacy) influences financial planning behaviour. Hoffmann (2021) also established that higher financial self-efficacy is linked to lower financial insecurity. According to the findings, vulnerability prevention is predicted by individual's belief in their ability to perform a recommended behaviour (self-efficacy) and the belief that they will benefit from the action (response efficacy). In the same vein, (Hoffmann, McNair and Pallant, 2021) established an association between higher financial self-efficacy predicting lower financial vulnerability.

Chapter Summary

This chapter evaluated the mediating role of retirement planning on the relationship between retirement risk perception, adaption intention and

financial wellbeing. The study's findings revealed that all the hypothesised model links were statistically significant. In line with the protection motivation theory, the results demonstrated that informal sector workers' perception of their financial retirement risk and belief in the available systemic alternatives provided to enable resource allocation enables their ability to plan for retirement. Also, it is resolved that resource allocation in the form of retirement planning influences financial wellbeing.

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CHAPTER SEVEN

THE MEDIATION EFFECT OF FINANCIAL CAPABILITY ON

RETIREMENT RISK AWARENESS AND RETIREMENT PLANNING

Introduction

This chapter examines the empirical data on the effect of financial capability in enabling and strengthening the relationship between informal sector workers' retirement risk awareness leading to retirement planning. The chapter is made up of three hypotheses discussed in two sections, namely the measurement model and the structural model. The measurement models examined the indicator loadings, CR (Composite reliability), AVE (Average variance extracted), and DV (Discriminant validity) of the model. Likewise, the structural model was evaluated using the coefficient of determination, path coefficient, predictive relevance, and impact.

The table below (Table 22) shows how the loadings of the various indicators of the latent variables fulfilled the essential requirements for item dependability. Although some were loaded below 0.70, maintaining them was critical in order to increase the models' overall reliability (Hair et al., 2019) as loading greater than 0.300 generally implies a moderate connection between the item and the factor (Tavakol & Wetzel, 2020). Peterson (2000) in a meta-empirical analysis stated that behavioural data in factor analyses typically account for 56.6% of variation, with an average factor loading of 0.32.

Table 22: Outer Loadings, Internal Consistency and Convergent Validity

Construct/Indicators	Outer Loadings	CA	rho_a	CR	(AVE)
Financial Attitude		0.928	0.929	0.942	0.699
FA1	0.817				
FA2	0.872				
FA3	0.869				
FA4	0.887				
FA5	0.810				
FA6	0.791				
FA7	0.799				
Financial Behaviour		0.922	0.927	0.936	0.647
FB1	0.815				
FB2	0.804				
FB3	0.831				
FB4	0.756				
FB5	0.810				
FB6	0.775				
FB7	0.817				
FB8	0.824				
Financial Knowledge		0.762	0.831	0.838	0.584
FK1	0.478				
FK2	0.867				
FK3	0.891				
FK4	0.455				
FK5	0.500				
FK6	0.819				
Pension Product Knowledge		0.887	0.894	0.920	0.699
PPK1	0.637				
PPK2	0.881				
PPK3	0.855				
PPK4	0.862				
PPK5	0.915				
Financial Capability		0.945	0.953	0.951	0.627
FA1	0.740				
FA2	0.787				
FA3	0.769				
FA4	0.807				
FA5	0.748				
FA6	0.736				
FA7	0.790				
FB1	0.777				
FB2	0.760				
FB3	0.721				
FB4	0.608				

FB5	0.596				
FB6	0.555				
FB7	0.626				
FB8	0.619				
FB9	0.625				
FK1	0.446				
FK2	0.604				
FK3	0.636				
FK4	0.300				
FK5	0.372				
FK6	0.741				
PPK1	0.540				
PPK2	0.595				
PPK3	0.571				
PPK4	0.583				
PPK5	0.662				
Retirement Planning		0.916	0.921	0.935	0.706
RP1	0.882				
RP2	0.785				
RP3	0.888				
RP4	0.856				
RP5	0.853				
RP6	0.770				
Retirement Risk Awareness		0.771	0.894	0.856	0.580
RRA1	0.872				
RRA2	0.813				
RRA3	0.889				
RRA4	0.903				
RRA5	0.882				
RRA6	0.617				

Source: Field survey (2023)

According to Table 22, the loadings for financial attitude (FA), financial behaviour (FB), pension product knowledge (PPK), financial knowledge (FK), retirement planning (RP) and retirement risk awareness (RRA) were within the range 0.455 - 0.915. Financial capability (FC) is a composite variable having figures ranging from 0.300 - 0.807. The study's indications were proven to be reliable.

Again, an examination of the values of CA, rho A, and CR, which are measures of internal consistency, revealed that the study's constructs'

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reliability and validity were adequate. As a rule of thumb, all the measurements exceeded the 0.70 threshold. As referenced in Table 22, the CA value for financial attitude was (0.928), financial behaviour (0.922), financial knowledge (0.762), pension product knowledge (0.887), financial capability (0.945), retirement planning (0.916), and retirement risk awareness was (0.771).

Also, the average variance extracted (AVE) was investigated to determine the convergent validity of reflective constructs' indicators (Hair et al. 2016). All AVE ratings for the corresponding variables were considerably above the minimal criterion of 0.50 (Hair et al., 2020), (Table 22). AVE for financial attitude was (0.699), financial behaviour (0.647), financial knowledge (0.584), pension product knowledge (0.699), financial capability (0.627), retirement planning (0.706) and retirement risk awareness (0.580). The next table (Table 23) outlined the discriminant validity ratings based on the HTMT ratio.

Table 23: Discriminate Validity through Heterotrait-Monotrait Ratio (HTMT)

	FK	FA	FB	FC	RP	RAA	PPK
FK							
FA	0.787						
FB	0.534	0.728					
FC	0.825	0.862	0.871				
RP	0.194	0.097	0.081	0.135			
RRA	0.423	0.326	0.162	0.339	0.900		
PPK	0.681	0.604	0.407	0.796	0.113	0.284	

Notes: Financial Knowledge (FK); Financial Attitude (FA); Financial Behaviour (FB); Financial Capability (FC); Retirement Planning (RP); Retirement Risk Awareness (RRA); Pension Product Knowledge (PPK)
Source: Field survey (2023)

The study further evaluated validity metrics for the respective latent constructs based on discriminant analysis test. In particular, the Heterotrait-Monotrait (HTMT) correlation ratio was assessed. Discriminate validity was further established as verified in Table 23 that financial knowledge, financial attitude, financial behaviour, pension product knowledge, financial capability, retirement planning and retirement risk awareness were unique constructs, as well shown by the HTMT ratios. The lowest and highest readings for HTMT correlation ratio was 0.097 to 0.900, hence, all values were between the stipulated criterial of >=0.90 (Henseler et al., 2015).

Assessment of Structural Model

Parameters such as the path coefficient (also known as the coefficient of correlation or R), the significance of the model using T statistic and P values, the coefficient of determination (R^2), the effect size (f^2), and the predictive relevance (Q^2) of the model were evaluated. Collinearity data were checked for common method bias (CMB).

Common Method Bias Assessment

Table 24 shows that the VIF scores did not show any evidence of common method biases. There was no evidence of data contamination due to self-reported biases, since all VIF values for each indicator were in the range 1.033 – 2.953, below the 5 thresholds (Hair et al., 2019).

Table 24: Inner Model Specification

	VIF	Beta (R)	T stats	P-values	R^2	f^2	Q^2
Financial capability					0.999		0.999
Retirement planning					0.679		0.674
Hypotheses (Direct Effect)- LOC/HOC							
Financial knowledge -> Financial capability	2.103	0.202	9.256	0.000		0.882	
Financial attitude -> Financial capability	2.953	0.394	26.154	0.000		0.591	
Financial behaviour -> Financial capability	1.935	0.370	19.201	0.000		0.720	
Pension product knowledge -> Financial capability	1.583	0.241	18.155	0.000		0.498	
Hypotheses							
Retirement risk awareness -> Retirement planning	1.033	0.835	42.402	0.000		0.501	
H3a: Retirement risk awareness -> Financial capability	1.080	0.323	20.438	0.041		0.007	
H3b: Financial capability -> Retirement planning	1.033	0.080	3.089	0.002		0.019	
H3c: Retirement risk awareness -> Financial capability -> Retirement planning		0.026	4.333	0.007			

For reference, an R^2 of 0.25 indicates weak, 0.5 and 0.75 indicate moderate and substantial, respectively. Likewise, f^2 values of 0.02, 0.15, and 0.35 are regarded as small, moderate, and large, respectively. Similarly, Q^2 values of 0.02, 0.15, and 0.35 are viewed as small, medium, and large.
Source: Field Survey (2023)

The outcomes shown in Table 24 detail the results for the structural model, an examination of hypotheses and constructs. The LOCs had significant positive correlations with the HOC financial capacity. Notably, financial knowledge (R=0.202; t = 9.256; p < 0.001) and pension product knowledge (R=0.241; t=18.155; p<0.01) show a weak positive influence on financial capability. Likewise, financial attitude (R=0.394; t=26.154; p<0.001) and financial behaviour (R=0.370; t=19.201; p<0.001) also show a moderate positive correlation with financial capability. Though the relationship of the LOC on the HOC is noted as statistically weak and moderate, the LOC have a large effect on the HOC, notably, financial knowledge -> financial capability recorded (f^2=0.882), financial attitude -> financial capability (f^2=0.591), financial behaviour -> financial capability (f^2=0.720), and pension product knowledge -> financial capability (f^2=0.498).

The results also detail a statistically significant positive relationship between retirement risk awareness and retirement planning (R = 0.835; t = 24.402; P<0.001; Figure 4), characterised as a strong relationship. This is further confirmed by the large causative effect (f^2=0.501) of retirement risk awareness on retirement planning. The findings again show retirement risk awareness as having a moderate positive relationship with financial capability (R=0.323; t = 20.438; P=0.041; Figure 4), and financial capability, a weak positive relationship with retirement planning (R = 0.080; t = 3.089; P=0.002; Figure 4). The influence of retirement risk awareness on financial capability (f^2=0.007) and financial capability on retirement planning (f^2=0.019) is considered as a small effect size.

Finally, regarding the significance of the indirect association between retirement risk awareness and retirement planning enabled by financial capability, Table 24 indicates that financial capability had a partial mediating effect on retirement risk awareness and retirement planning (R = 0.026, t =4.33, p = 0.007) as the link between retirement risk awareness and retirement planning recorded a significant positive relationship (R = 0.835; t = 24.402; P<0.001) in accordance with principles of mediation (Nitzl et al., 2016). The scope of the indirect relationship was further confirmation using the VAF approach to mediation proposed by Hair et al. (2019). Tables 25 and Tables 26 provide results for the indirect and direct total effects respectively.

On the subject of coefficient of determination, the study found that the various exogenous constructions had varying effects on the endogenous constructs. Precisely, financial knowledge, financial attitude, financial behaviour and pension product knowledge, explain 99.90% of the significant variability in financial capability (R^2=0.999). Similarly, retirement planning had an R^2 of 0.679, indicating a 67.90% variability explained by retirement risk awareness and financial capability. In terms of the predictive relevance of the endogenous variables, the Q^2 in Table 24 reveals that the financial capability and retirement planning all had a strong predictive power (Q^2 = 0.999) and (Q^2 = 0.647) respectively on the model.

Table 25: Indirect Effect for Model 3

Constructs	1	2	3	4	5	6	7
1. Financial Knowledge					0.016		
2. Financial attitude					0.032		
3. Financial behaviour					0.030		
4. Financial capability							
5. Retirement planning							
6. Retirement risk awareness					0.026		
7. Pension product Knowledge					0.019		

Source: Field Survey (2023)

Table 26: Total Effect for Model 3

Construct	1	2	3	4	5	6	7
1. Financial Knowledge				0.202	0.016		
2. Financial attitude				0.394	0.032		
3. Financial behaviour				0.370	0.030		
4. Financial capability					0.080		
5. Retirement planning							
6. Retirement risk awareness				0.063	0.834		
7. Pension product Knowledge				0.241	0.019		

Source: Field Survey (2023)

From the results in Tables 25 and 26, the VAF was calculated as:
= 0.026/0.063 x 100% = 41.3%

Discussion

The third objective of this study was to investigate the mediating effect of financial capability on the relationship between retirement risk awareness and retirement planning. Three hypotheses were created and discussed as follows.

H3a: There is a significant relationship between retirement risk awareness and financial capability.

H3b: There is a significant relationship between financial capability and retirement planning.

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H3c: Financial capability mediates the relationship between retirement risk awareness and retirement planning.
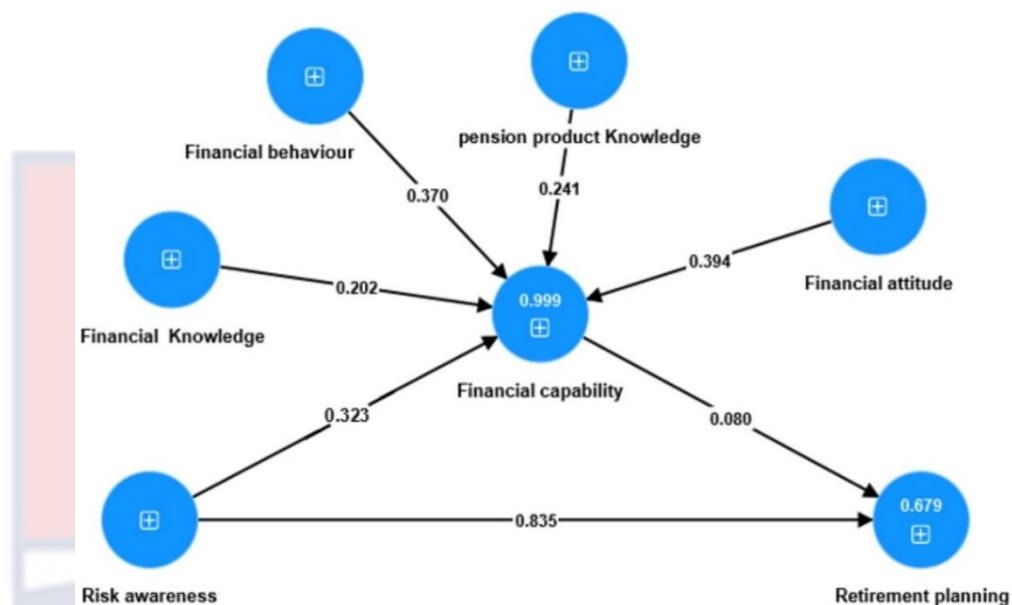
Figure 5: The mediating effect of financial capability on retirement risk awareness and retirement planning
Source: Field Survey (2023)

H3a: *There is a significant relationship between retirement risk awareness and financial capability.*

This section evaluated the first hypothesis of the third objective of the study, particularly, H3a, which analysed the relationship between retirement risk awareness and financial capability of informal sector workers in Ghana. Figure 5 demonstrates that retirement risk awareness has a favourable relationship with financial capability (R=0.323; t = 20.438; P=0.041; Figure 4). The value of R indicates that the link between the constructs is moderate, hence an increase in one unit of retirement risk awareness will result in a corresponding increase in the financial capability of informal sector workers. Similarly, a unit decline in the activities of retirement risk awareness would result in a decrease in the financial capability of informal sector workers.

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Results of the study indicate that avenues for creating retirement risk awareness like campaigns organised by trade unions and the media can enhance individuals financial capability, especially their pension product knowledge which is essential to their ability to adapt retirement planning models. Individual's awareness of post-retirement risk enables their ability to adapt ways to overcome this risk, hence enhancing their financial capability. Retirement risk awareness can be gained through awareness avenues like seminars, media, observational learning, and sales agents. According to the result, when informal sector workers are exposed to educational seminars organised by their trade unions and institutional authorities, they gain awareness on topical issues of post-retirement risk, benefits of retirement planning, investments products available, financial behaviours and attitudes that build financial capability.

Groups tend to provide significant advantages for financial education and coaching, notably through peer support and recognition (Peeters et al., 2018). Members in the same group might be affected by communications and the perceptions of their peers (Hu et al., 2019; Liang et al., 2021). The findings confirm the assession that informal sector members belonging to such unions will be challenged by their peers who take steps to protect themselves financially as per the tenets of the social influence theory (kelman, 1958).

Additionally, media communication enables post-retirement risk awareness. A proliferation of information concerning the severity of post-retirement risk and the investments mechanisms available will enable individuals retirement risk awareness (Zúñiga & Chen, 2019). Likewise, the results confirmed the assertion that retirement risk awareness avenues like

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mass media, particularly television influences individuals' awareness, teaching them how to interact with their surroundings, and sometimes enhanced their academic performance (Makinde & Article, 2020).

H3b: *There is a significant relationship between financial capability and retirement planning.*

This hypothesis discussed the relationship between financial capability and retirement planning. Financial capability is a HOC with LOC such as financial knowledge (R=0.202; t=9.256; p<0.001) and pension product knowledge (R=0.241; t=18.155; p<0.01) having statistically positive correlation with financial capability, as well as financial attitude (R=0.394; t=26.154; p<0.001) and financial behaviour (R=0.370; t=19.201; p<0.001). Although the correlation of the LOC with the HOC is noted as statistically weak and moderate, the LOC have a large influence on the HOC, notably, financial knowledge -> financial capability recording (f^2=0.882), financial attitude -> financial capability (f^2=0.591), financial behaviour -> financial capability (f^2=0.720), and pension product knowledge -> financial capability (f^2=0.498).

In line with the H3b, the study's results showed that financial capability has a significant positive relationship with retirement planning (R = 0.080; t = 3.089; P=0.002; Figure 4). Inference from the results revealed that when informal sector workers are financially capability, they are able to plan for retirement. As held by Çera et al. (2020), workers need to engage in curtain fundamental activities such as financial knowledge, financial attitude, access to financial services and financial behaviour to increase financial potential. Supportive of the study of Çera et al. (2020) is the capability

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approach (Alkire, 2005; Robeyns, 2005; Sen, 1993a)   which discusses individual-level functioning and capacities encompassing both what they do (e.g., make safe financial decisions) and who they are (their competence and abilities). In relation to this current study's findings, it implies that employees who demonstrate financial capability traits will be able to make responsible investments choices (World Bank, 2018).

In line with the expectations of the LOC and the capability approach, Willows (2020) confirmed that individuals need to develop traits of financial attitude and financial behaviours to influences retirement planning. Another trait important to financial capability building is individuals financial and investment product knowledge (Nam & Loibl, 2021). Individuals lack of knowledge pertaining to the products that might be suitable for their specific retirement planning needs will hamper their ability to properly and successfully plan for it (Russell et al., 2020).

H3c: *Financial capability mediates the relationship between retirement risk awareness and retirement planning.*

The findings for the third hypothesis (H3c) of objective three which examined the influence of financial capability on the relationship between retirement risk awareness and retirement planning was discussed in this section. Consistent with the researcher's expectations, H3c was supported. Thus, the results showed that financial capability partially mediated the relationship between retirement risk awareness and retirement planning (R = 0.026, t =4.33, p = 0.007; Table 24) of informal sector workers in Ghana. The mediation is denoted as partial, and this is consistent with the principles of mediation (Nitzl et al., 2016), thus, direct link between retirement risk

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awareness and retirement planning is significant (R = 0.835; t = 24.402; P<0.001).

The scope of the indirect relationship is further confirmed through the VAF approach to mediation proposed by Hair et al. (2019). According to Tables 25 and 26, the VAF result (41.3%) confirms a partial mediation. As per the results, financial capability accounted for 41.3 percent of the improvement in the association between retirement risk awareness and retirement planning. Thus, the results suggest that part of the influence of retirement risk awareness on retirement planning is enhanced by the complimentary role of financial Capability.

The finding implies that the influence of retirement risk awareness on retirement planning is heightened when individuals possess financial capability. Financial capability encompasses traits that portray individuals financial attitude behaviour, knowledge, and pension product knowledge. As per the tenets of the capabilities approach (Alkire, 2005; Robeyns, 2005; Sen, 1993a), informal sector workers must have certain capabilities in line with what they do (financial behaviours and attitudes) and what they know (financial knowledge and product knowledge). The tenet of this theory reflects the findings in this study as the formative agents of financial capability have a strong influence on the variable. Complementary to findings of this study is the work of Waga, Memba and Muriithi (2021) which amplifies the importance of financial behaviour in enabling workers achieve their statutory contributions while averting financial risk. Likewise, Tiwari, Yadav and Vadgam (2021) had supporting results in their study on the influence of financial behaviour and attitude on retirement planning.

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Similarly, as per the tenets of the social influence theory (kelman, 1958), the discussion of peers on investment resources is also influential in enabling the financial capability of informal sector workers leading to their adaption of retirement planning measures.

Chapter Summary

The study's findings were analysed in light of existing theories and empirical evidence. The research findings reflected the tenet of the social learning theory, coupled with the principles of the capability approach in enabling the formative agents of financial capability in influencing informal sector workers' financial capability through retirement risk awareness leading to retirement planning.

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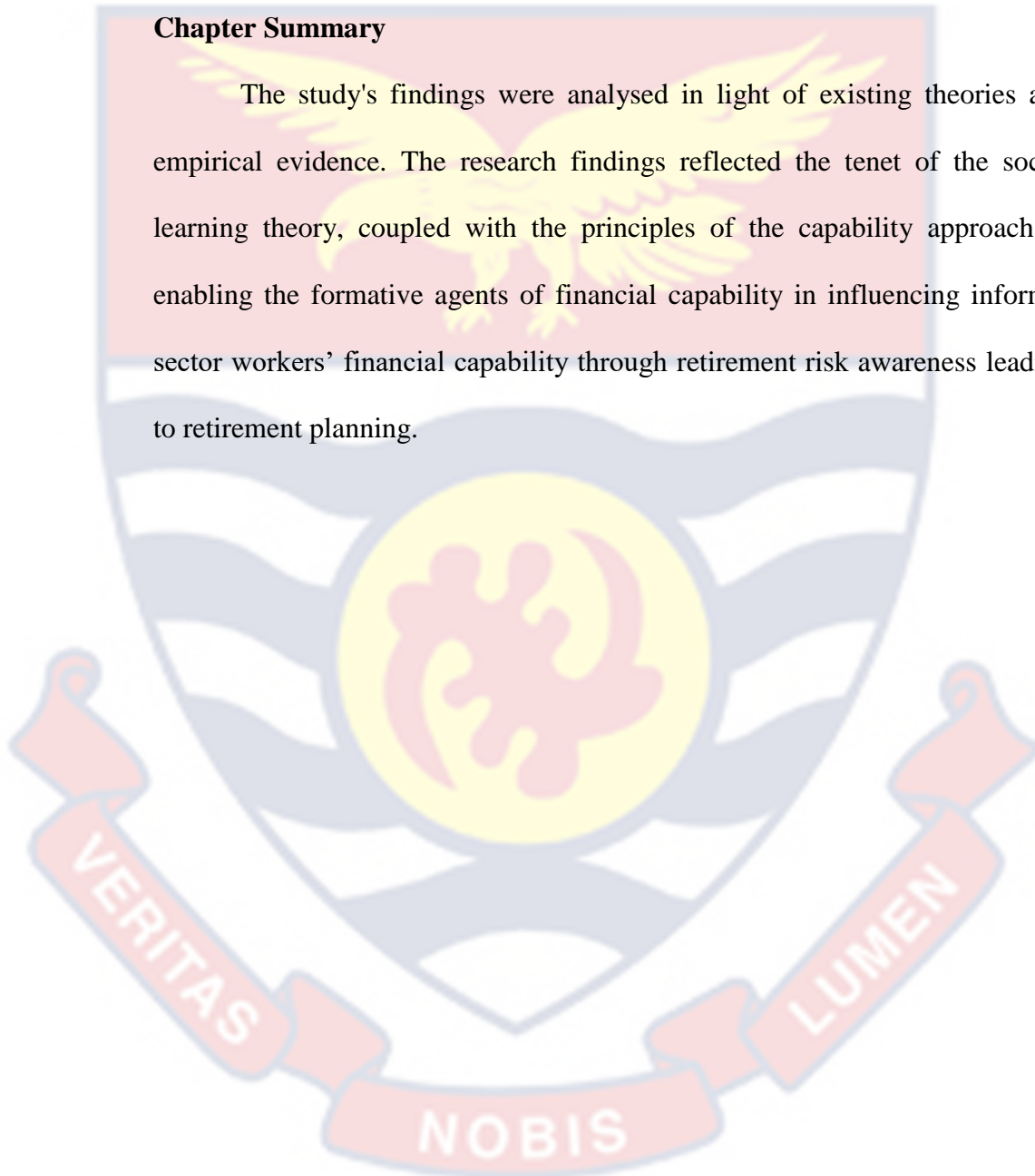
CHAPTER EIGHT

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Introduction

This chapter contains the summary, conclusion, recommendations, and suggestions for future studies. These subheadings were examined in light of the results and discussions, as well as the inferences taken from the results for policymaking and recommendations for future researchers.

Overview of the Study

The study's overarching goal was to investigate the impact of retirement risk awareness on the retirement planning and financial wellbeing of informal sector workers in Ghana through the mediating role of retirement risk perception and adaptive intention. Specifically, 14 hypotheses emanating from three objectives set were addressed to achieve the principal aim of the study. These are, to;

1. Examine the mediating role of retirement risk perception and adaptation intention on the relationship between retirement risk awareness and retirement planning. The corresponding hypotheses were as follows:

H1a: There is a significant relationship between retirement risk awareness and retirement planning.

H1b: There is a significant relationship between retirement risk awareness and retirement risk perception .

H1c: There is a significant relationship between retirement risk perception and retirement planning.

H1d: There is a significant relationship between retirement risk awareness and adaptation intention.

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H1e: There is a significant relationship between adaptation intention and retirement planning.

H1f: Retirement risk perception mediates the relationship between retirement risk awareness and retirement planning.

H1g: Adaptation intention mediates the relationship between retirement risk awareness and retirement planning.

2. To determine the mediating role of retirement planning on retirement risk perception, adaptation intention and its effect on financial wellbeing.

H2a: There is a significant relationship between retirement risk perception and financial wellbeing.

H2b: There is a significant relationship between adaptation intention and financial wellbeing.

H2c: The mediating role of retirement planning on the relationship between retirement risk perception and financial wellbeing.

H2d: Retirement planning mediates the relationship between adaption intention and financial wellbeing.

3. To investigate the mediating role of financial capability in the relationship between retirement risk awareness and retirement planning.

H3a: There is a significant relationship between retirement risk awareness and financial capability.

H3b: There is a significant relationship between financial capability and retirement planning.

H3c: The mediating role of financial capability on the relationship between retirement risk awareness and retirement planning.

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Believing in a positivist philosophical perspective, the study utilised a quantitative research approach in investigating these objectives. Using a one-stage stratified sampling method, Greater Accra Region was first stratified into Districts where five administrative districts were selected, namely La Dade Kotopon Municipal, Ga South Municipal, Adenta Municipal, Tema Metropolis and Accra Metropolis. A proportionate sampling technique was used to determine the sample size for each district, after which simple random sampling was applied in selecting sample units from informal sector firms in the manufacturing and service sectors located in the selected districts. One volunteer was selected from each firm to participate in the survey.

In determining the sample size, Krejcie and Morgan (1970) formula for sample size determination was utilised which gave a sample size of 384, incorporating a 5% margin of error. The sample figure of 384 was adjusted at 10% for reason of accounting for non-response rate in research, resulting in a total of 422. Questionnaires were administered and 406 samples were retrieved which was sufficient for the study as the minimum sample size estimated was 384.

Data processing was by IBM SPSS (version 26) and analysis was done using PLS-SEM with the aid of SmartPLS (version 4) software. The ensuing sections captures the summary, conclusions and recommendations derived from the study.

Summary of Key Findings

Concerning the first objective of the study which evaluated the effect of retirement risk perception, and adaptative intention on the relationship between retirement risk awareness and retirement planning of informal sector

workers, the findings revealed that the various hypotheses derived were supported. Thus, in relation to the hypotheses that connect retirement risk awareness with retirement planning, retirement risk perception and adaptation intention (H1a, H1b, H1d), it showed that retirement risk awareness has a significant relationship with retirement planning, retirement risk perception and adaptation intention respectively. The results implied that, a proliferation of retirement risk awareness mechanisms to informal sector workers would lead to them making informed retirement plans, form accurate retirement risk perception and be exposed to sufficient strategies to avert retirement risk.

The findings further revealed that retirement risk perception and adaptation intention have a significant relationship with retirement planning, reflecting hypothesis (H1c and H1e). Furthermore, it was resolved that retirement risk perception and adaptation intention partially mediates the relationship between retirement risk awareness and retirement planning. This implies that when informal sector workers have the awareness of post-retirement risk, they must further believe in their vulnerability to this risk and must believe in the methods provided to avert such risk. These believes will propel them to take steps to overcome this risk at the point where retirement risk awareness is created. Therefore, a lack of retirement risk perception and adaptation intention, can hinder informal sector workers ability to take steps to plan for their retirement.

The second goal of the study investigated the intervening role of retirement planning on the relationship between retirement risk perception, adaptation intention and the financial wellbeing of informal sector workers in Ghana. The findings revealed that the various hypotheses derived were

supported. Regarding the hypotheses that link retirement risk perception, and adaptation intention to financial wellbeing (H2a, and H2b), it was determined that retirement risk perception and adaptation intention have a positive correlation with financial wellbeing. This indicates informal sector workers perception of their vulnerability to post-retirement risk and their estimation of the severity of this risk will lead to their financial wellbeing. Again, their believe in the mechanisms applicable to mitigate this risk will result in their financial wellbeing.

Also, for hypotheses (H2c and H2d), retirement planning partially mediated the relationship between retirement risk perception and financial wellbeing, likewise the relationship between adaption intention and financial wellbeing. This suggest that, though individuals may perceive post-retirement risk and believe in the methods applicable to mitigate this risk, their ability to be financially well is dependent on the real steps they take to plan for their retirement. In that regard, perceiving the risk and believing in the coping methods is not enough, informal sector workers must take practical steps to plan for their retirement to be able their financial wellbeing.

With reference to objective three, the study investigated the mediating role of financial capability on the relationship between retirement risk awareness and retirement planning. Three hypotheses were teased out from this objective (H3a, H3b and H3c). Results from this objective revealed that all hypotheses were supported. For hypothesis (H3a), the results indicated a significant relationship between retirement risk awareness and financial capability, like wise hypothesis (H3b), indicating a significant relationship between financial capability and retirement planning. Impliedly, retirement

risk awareness influencers create the avenue for informal sector workers to gain financial capability and this capability enables informal sector workers plan for their retirement.

Again, results from hypothesis (H3c) shows that financial capability partially mediates the relationship between retirement risk awareness and retirement planning. Inferences from this finding supports the ideology that as much as informal sector workers are exposed to retirement risk awareness influences and become aware of financial retirement risk, their financial capability which is drawn from these retirement risk awareness influences strongly enables them to plan for their retirement. Retirement risk awareness through seminars serves as a medium though which financial behaviour, attitude and pension product knowledge are formed, which become a catalyst for retirement planning. Retirement risk awareness creations mediums should purposefully incorporate discussions on pension products suitable for informal sector workers.

Conclusion

The study investigated the effect of retirement risk awareness on the retirement planning and financial wellbeing of informal sector workers in Greater Accra through the mediating role of retirement risk perception, adaptation intention and financial capability. The outcomes of this investigation revealed that retirement risk awareness positively and significantly influenced retirement risk perception, adaptation intention, financial capability and retirement planning. Also, retirement risk perception, adaptation intention and financial capability significantly influenced retirement planning. Likewise, retirement risk perception and adaptation

intention positively influence financial wellbeing. Further, retirement risk perception, adaptation intention and financial capability partially mediated the relationship between retirement risk awareness and retirement planning. In addition, retirement planning partially mediated the relationship between retirement risk perception and financial wellbeing, as well as the relationship between adaption intention and financial wellbeing.

In conclusion, the study sheds light on the need to strengthen and encourage retirement risk awareness campaigns and avenues in the informal sector. Since retirement risk awareness has been found as one of the prerequisites for retirement risk perception, adaptation intention, financial capability and retirement planning of informal sector workers, the measure when enhanced will variably stimulate the aforesaid behaviours. The knowledge about the severity of post-retirement risk and how vulnerable the workers are likely to fall prey to risks would prompt them to take retirement plans by setting aside resources whether in real assets or in financial assets to cater for the needs at their inactive age. Therefore, informal sector workers who possess positive financial behaviour, financial attitude, financial knowledge, and knowledge of the necessary investment products, specifically the tier 3 pension products are able to make appropriate retirement plans.

Furthermore, retirement risk perception and adaptation intention are two important factors for retirement planning and financial wellbeing. While retirement risk perception sets the pace for workers to think about the means of averting the severity and risk at retirement, adaptation intentions and financial capability facilitate the process of choosing from available financial products. Given that these two concepts are critical for fostering financial

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wellbeing, it is essential to think of adequate means to sensitise informal sector workers on the dangers of post-retirement risk.

Moreso, the study concludes that for awareness measures to be effective, it must have the ability to influence individuals' estimation of the severity and vulnerability to financial retirement risk and must be able to equip individuals' knowledge of the probable mechanisms for retirement planning, as well as enhance their financial capability. Again, to help informal sector workers achieve financial wellbeing, individuals must not only perceive financial retirement risk and have adaptation intention but also take practical steps to acquire investment resources to plan for their retirement, which will result in financial wellbeing.

Recommendations

On the bases of the evidence documented concerning the findings of the study, this section sought to offer practical implications drawn from the study. Because of the significant findings established in the interrelationship between retirement risk awareness, retirement risk perception, adaptation intention, financial capability, retirement planning and financial wellbeing, it is recommended that stakeholders in the informal sector take steps to improve upon the retirement risk awareness schemes for informal sector workers. First, government of Ghana should focus on regularising and enforcing the Pension Act to make it compulsory for the informal sector workers to commit to planning for their retirement just like the formal sector workers. E.g., Informal employers with at least five employees should be mandated by law to enrol their members on a pension scheme. The government should also incorporate incentives to encourage informal sector participation in the scheme.

In addition, the study recommends that the Registrar General's Department prepares a brochure which contains relevant information about retirement planning and pension products, and this document made available to informal sector workers during their business registration processes. Some valuable information in the brochure may include among others information on tier 3, specifying its working mechanisms, importance, benefits, and some trustee institutions to serve as a medium of education for informal sector workers. This would increase their awareness and knowledge base concerning the various means by which they can plan for retirement.

Furthermore, it is recommended that Pension trustee institutions and the Union of Informal Workers' Associations (UNIWA) offer education to their members on the need to plan for their retirement and the consequences that may arise due to a lack of planning for their retirement. These institutions in creating retirement risk awareness should consciously focus on emphasizing the risk of growing old without financial coverage. This could include an interview of older folks who are experiencing challenges due to a lack of retirement planning. Institutions and unions in creating retirement risk awareness should consciously incorporate information on pension product knowledge, benefits, and the ease of participation to enlighten their members. With this knowledge and encouragement, they will be able to take steps to plan for their wellbeing. Also, the association should organise education programmes regularly in order to expose their members to the various coping strategies such as the investment packages that are available to enable retirement planning. Institutions can also create an award mechanism to award union members who

have been consistent with their contribution. This can serve as a form of motivation for sustainable contribution.

Contribution to Knowledge

The study provides empirical foundation for the extension of the protection motivation theory and its application to the retirement planning phenomena by its employment in the determination of individuals' retirement risk perception and analysis of their adaptation intention of investment avenues. This study is among the few (Hekken, 2018) to have employed the protection motivation theory in retirement planning research.

In contributing to literature, the study extends the capability approach to theory building and supports the diverse ways of measuring financial capability.

The study provides substantial theoretical and empirical contributions to literature. It contributes to the debate on the influencers of financial wellbeing, in that, informal sector workers need to have an awareness of their post-retirement risk, must perceive the risk, accept the mechanisms suggested for the mitigation of this risk, believe in their own ability to set aside resources for investment, and actually take steps to plan for their retirement in order to result in the realisation of their financial wellbeing.

Again, the study enables the development of scale, which is an adaptation of previously validated measures which can serve as the bases for the measurement of retirement risk perception and adaptation intention, contributing to literature.

The study contributes to policy by enjoining the government through its agencies to put in place structures that will encourage informal workers in planning for their retirement. As espoused earlier, this points out that

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government can establish institutional structures that will compel informal sector workers into taking on retirement planning packages such as the tier 3 scheme.

It provides implications for preparing informal sector workers towards gaining awareness for knowledge creation, enabling them to realize the dangers of post-retirement risk. It will assist policymakers in formulating policies that can assist informal sector workers to enhance their retirement savings. Tier 3 trustee Institutions may need to create the awareness needed to enable informal sector workers to assess their retirement risk perception to post-retirement risk, seeking ways to overcome it, resulting in the attainment of their financial wellbeing.

Suggestions for Future Studies

This study employed a quantitative approach to evaluating the research objectives of the study. As a result, the researcher was not able to pick the views and suggestions about retirement planning from the respondents. This may offer a myopic generalisation of the results. Further studies may explore a mixed method approach so that informal sector workers' opinions can be properly assessed through interviews and focus group discussions. Again, future researchers could explore the reasons for lack of adequate retirement planning in the informal sector. The revelation from the present study showed low level of informal sector workers participation in retirement planning. Studies on the reasons accounting for this would be useful to augmenting the findings reported in the present research. Also, researchers can look into what age informal sectors may want to go for retirement, this will inform the research community of their intention and perception on the retirement phenomenon entirely.

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APPENDICES

APPENDIX A : QUESTIONNAIRE

UNIVERSITY OF CAPE COAST

COLLEGE OF HUMANITIES AND LEGAL STUDIES

SCHOOL OF BUSINESS

DEPARTMENT OF FINANCE

Research Data Collection Instrument

Hello Respondent,

This questionnaire seeks to gather information on *Retirement Risk Perception, Retirement Planning and Financial Wellbeing of Informal Sector Workers.* You are kindly requested to respond to all questions applicable to you and provide responses reflecting your true and utmost knowledge of the topic under study. The information required here is purely for academic purposes. Hence, the ultimate privacy and confidentiality of the data provided as a respondent are highly assured and respected.

Consent

I have read the foregoing information, or it has been read to me. I have had the opportunity to ask questions about it and any question I have asked has been answered to my satisfaction. I consent voluntarily to participate as a respondent in this study and understand that I have the right to withdraw from the study at any time I feel uncomfortable.

Yes ☐   **No** ☐

Thank you for your participation.
Bright Ferguson Laing
(SB/BUA/19/0028)

SECTION A - Background Characteristics

This section takes data on your background characteristics. Select the most appropriate answer applicable to you

1. Kindly indicate your gender
   - ○ Male   ○ Female
2. Kindly select your age bracket
   - ○ 18 – 27   ○ 28 – 37   ○ 38 – 47   ○ 48 – 57   ○ 58+
3. Kindly indicate your level of formal education

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o   Basic education or less   O Secondary education   O
Tertiary

4. Kindly indicate your nature of employment
    o Self-employed   O Employed   O In apprenticeship
5. Kindly indicate your level of experience or years of employment
    o 1 – 3 years   O 4 – 6 years   O 7 – 9 years   10+ O
    years
6. Kindly indicate your sector of employment
    o Manufacturing   O Services
7. Kindly indicate your income level
    o GH₵500 or less
    o GH₵501 – 1000
    o GH₵1001 – 1500
    o GH₵1501 – 2000
    o GH₵2001 – 2500
    o GH₵2501 – 3000
    o Above GH₵3000
8. Which of these associations are you a member of? Tick [√] all that
    apply to you.
    O Work/trade-related association O Social/family association
    O None

SECTION B – Retirement Risk Awareness
This section seeks to gather responses on retirement risk awareness. Please
read thoroughly and indicate the extent to which each of these items is
influential in creating your awareness of retirement risk. Kindly use the seven-
point Likert scale to indicate the level of influence of each item, where 1 =
least form of influence and 7= highest form of influence. Please Tick [√] as
applicable.

No	Items (Sources of awareness)	1	2	3	4	5	6	7
1	Information picked up from a brochure							
2	Product information from the sales agent							
3	Discussion among friends and family							
4	Information in the mainstream media (tv, radio, newspaper)							
5	Information on social media (WhatsApp, Facebook, Twitter, etc)							
6	Employer advice and education							
7	Self-knowledge and experience							
8	Seminars and outreaches (from trade unions and institutions)							

SECTION C: Financial Capability

This section measures your views on financial capability. Financial capability in this study has five dimensions; (1) financial behaviour, (2) financial attitude, (3) financial knowledge, and (4) Pension product knowledge. Kindly use the scale provided for each dimension to answer the questions.

The scale for this section ranges from 1-Disagree, 2-Least Agree, 3-Fairly Agree, 4-Much Agree, and 5-Strongly Agree. Please Tick [√] as applicable.

Financial attitude								
No	**Statements**	**1**	**2**	**3**	**4**	**5**	**6**	**7**
1	I set goals for the future							
2	I pay my bills on time							
3	I keep a close personal watch on my financial affairs							
4	I am prepared to risk some of my own money when saving or making an investment							
5	I tend to live for today and let tomorrow take care of itself							
6	I find it more satisfying to spend money than to save it for the long-term							
7	I believe money is there to be spent							

Financial Behaviour								
No	**Statements**	**1**	**2**	**3**	**4**	**5**	**6**	**7**
1	I establish financial targets for the long term (future) that influence the management of my expenses							
2	I follow a weekly or monthly plan for expenses							
3	I compare prices when buying something							
4	I analyse my financial situation before a big purchase							
5	I have plans to achieve my financial goals (retirements, savings, investments etc.)							
6	I know the conditions of financial institutions' loans							
7	I compare interests when saving							
8	I seek financial advice when making investment decisions							
9	I cross-check bank interest rates before taking a loan							

FK - Financial Knowledge

The scale for this question is 1-very low, 2- Below Average, 3- Average, 4-Above Average, and 5- Very High. Please Tick [√] as applicable.								
No	**Statements**	**1**	**2**	**3**	**4**	**5**	**6**	**7**
1	How would you rate your overall knowledge about financial matters compared with other adults?							

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	1-Disagree, 2-Least Agree, 3-Fairly Agree, 4-Much Agree, and 5-Strongly Agree. Please Tick [√] as applicable.							
2	An investment with a high return is likely to be highly risky							
3	If someone offers you the chance to make a lot of money, it is likely that there is also a chance that you will lose a lot of money.							
4	High inflation means that the cost of living is increasing rapidly							
5	It is usually possible to reduce the risk of investing in the stock market by buying a wide range of stocks and shares.							
6	It is less likely that you will lose all your money if you save it in more than one place							

Pension Product Knowledge

1-Disagree, 2-Least Agree, 3-Fairly Agree, 4-Much Agree, and 5-Strongly Agree. Please Tick [√] as applicable.

No	Statements	1	2	3	4	5	6	7
1.	One must wait till their tier 3 pension investment reaches maturity before withdrawal							
2	Tier 3 investments cannot be used as collateral for loans							
3	Tier 3 pension savings will pay monthly income when an individual is on retirement							
4	Tier 3 pension savings do not allow the withdrawal of money before maturity							
5	Tier 3 pension savings can only be withdrawn after one is 60 years							
6	Tier 3 pension savings do not attract any interest							
The scale for this question is 1-very low, 2- Below Average, 3- Average, 4- Above Average, and 5- Very High. Please Tick [√] as applicable.								
7	How would you rate your overall knowledge about pension products (tier 3) compared with other adults?							

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SECTION D – Retirement Risk Perception

This section looks at your risk perception for not saving towards retirement. Kindly use the five-point Likert scale provided to indicate your level of agreement with the statements in each area.

The scale is 1-Not risky/likely/disagree, 2-Slightly risky/likely/agree, 3-Fairly risky/likely/agree, 4-Risky/likely/agree, and 5-Highly risky/likely/agree. Please tick [√] as applicable.

No	Statements	1	2	3	4	5	6	7
Perceived Severity of the Threat								
1	How risky would it be if your retirement income is insufficient to cover your desired lifestyle?							
2	How risky would it be if you live so long that your retirement income is insufficient to cover your longevity?							
3	How risky would it be if your retirement income is insufficient to cover your medical expenses?							
4	How risky would it be if your retirement income is insufficient to cover your family and social commitments?							
5	The thought of growing old without retirement income scares me							
6	Growing old without retirement income will be very severe							
Perceived Vulnerability (Susceptibility) of the Threat								
1	How likely is it that your retirement income will not be sufficient to cover your desired lifestyle?							
2	How likely is it that you will live so long that your retirement income will not cover your longevity?							
3	How likely is it that your income after retirement will not be sufficient to cover your medical expenses?							
4	How likely is it that your retirement income will not be sufficient to cover your family and social commitments?							
Response Efficacy								
1	I believe in saving money for the future							
2	I believe financial assets are safe for retirement planning							
3	I believe in using financial investments through banks for my retirement planning							
4	I believe saving money at the bank for retirement is not a waste of time							
5	I trust my bank is very reliable							

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6	Setting money aside for retirement planning will reduce financial risk at retirement							
7	Thinking about retirement planning now is important							
Perceived Self Efficacy								
1	I make progress with my financial objectives							
2	I am able to Stick to budget.							
3	I have difficulty resolving financial issues							
4	Use loans to cover unforeseen costs.							
5	I have insecurities about managing money							
6	Worrying about money in retirement is a common occurrence.							
7	I feel the money I can pay for tier 3 pension contribution cannot meet my retirement goal							
8	I have the financial knowledge to plan for my retirement							
9	I have no idea what to do regarding my pension							

SECTION E - Retirement Planning Behaviour

This section looks at your retirement planning behaviour. Kindly use the five-point Likert scale provided to indicate your level of agreement with the statements.

The scale is 1-Disagree, 2-Least Agree, 3-Fairly Agree, 4-Much Agree, and 5-Strongly Agree. Please tick [√] as applicable.

| No	Statements	1	2	3	4	5	6	7
1	I have an investment account for my retirement							
2	I have a retirement plan I am actively working at							
3	I am actively saving for retirement							
4	I am currently participating in a private pension plan							
5	I make contributions monthly/weekly towards my retirement							
6	I consciously make efforts to reserve money for my retirement							
7	I have a special lifetime investment account towards my retirement							
8	I have saved enough to meet my retirement goals							

SECTION F - Financial Wellbeing

This section looks at your perceived Financial Wellbeing. Kindly use the five-point Likert scale provided to indicate your level of agreement with the statements.

The scale is 1-Disagree, 2-Least Agree, 3-Fairly Agree, 4-Much Agree, and 5-Strongly Agree. Please tick [√] as applicable.

No	Statements	1	2	3	4	5	6	7
1	I am comfortable with my present earnings							
2	I am satisfied with my current debt level							
3	I am able to keep up with my financial needs							
4	I have enough money to pay my bills monthly							
5	I do not have financial problems							
6	I am confident with my financial decisions							
7	I am able to absorb financial shocks							
8	I have enough income to achieve my financial goals							
9	I am financially independent							
10	I have the ability to fund living expenses without taking a loan							
11	I am satisfied with my overall financial condition							

Thank you
End of Survey

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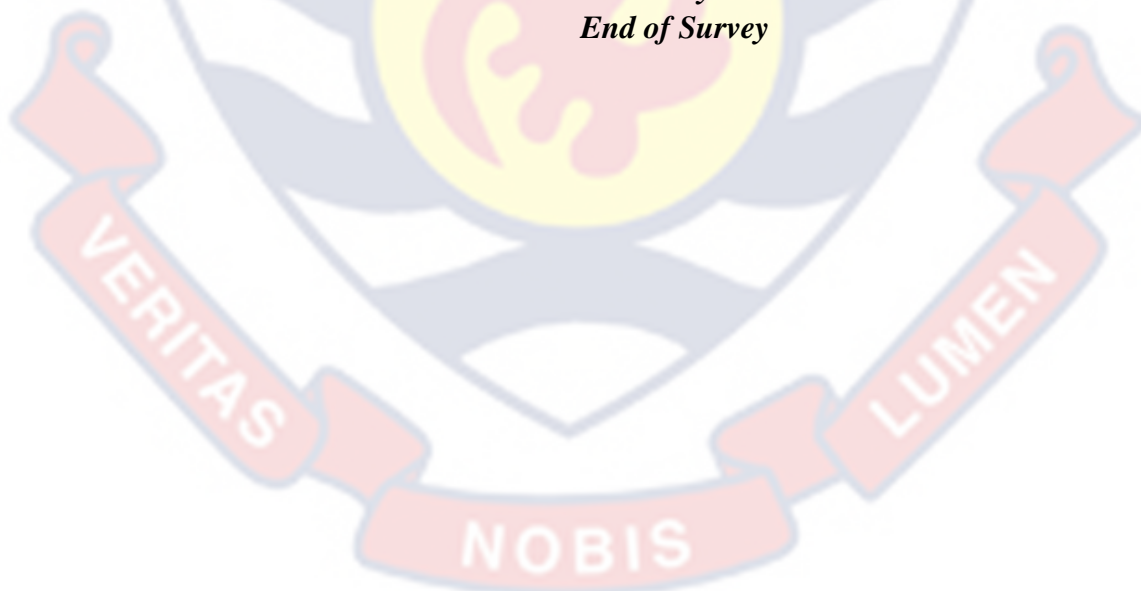
APPENDIX B: ETHICAL CLEARANCE APPROVAL LETTER

UNIVERSITY OF CAPE COAST

INSTITUTIONAL REVIEW BOARD SECRETARIAT

TEL: 0558093143 / 0508878309
E-MAIL: irb@ucc.edu.gh
OUR REF: UCC/IRB/A/2016/1629
YOUR REF:
OMB NO: 0990-0279
IORG #: IORG0011497   **14TH NOVEMBER, 2022**

Ms. Bright Akpene Ametorwo
Department of Finance
University of Cape Coast

Dear Ms. Ametorwo,

ETHICAL CLEARANCE – ID (UCCIRB/CHLS/2022/48)

The University of Cape Coast Institutional Review Board (UCCIRB) has granted Provisional Approval for the implementation of your research **Retirement Planning and Financial Wellbeing of Workers in the Informal Sector.** This approval is valid from 14th November, 2022 to 13th November, 2023. You may apply for a renewal subject to submission of all the required documents that will be prescribed by the UCCIRB.

Please note that any modification to the project must be submitted to the UCCIRB for review and approval before its implementation. You are required to submit periodic review of the protocol to the Board and a final full review to the UCCIRB on completion of the research. The UCCIRB may observe or cause to be observed procedures and records of the research during and after implementation.

You are also required to report all serious adverse events related to this study to the UCCIRB within seven days verbally and fourteen days in writing.

Always quote the protocol identification number in all future correspondence with us in relation to this protocol.

Yours faithfully,

Kofi F. Amuquandoh

Ag. UCCIRB Administrator

ADMINISTRATOR
INSTITUTIONAL REVIEW BOARD
UNIVERSITY OF CAPE COAST

APPENDIX C: APPLICATION FOR ETHICAL CLEARANCE

PMB 100, Tesano,

Accra - Ghana

April 22, 2022

The Chair,

The Institutional Review Board

University of Cape Coast

Dear Sir/Madam,

<u>**AN APPLICATION LETTER FOR ETHICAL CLEARANCE OF THESIS PROPOSAL**</u>

I am a Doctor of Philosophy (Business Administration) candidate at the School of Business, University of Cape Coast, with student index number **SB/BUA/19/0028.** I write to apply for an ethical clearance to enable me to proceed with collecting data for my thesis. The title of my thesis is "**Retirement Planning and Financial Wellbeing of Workers in the Informal Sector**".

Attached is the proposal and cover letters from the School of Business and my Principal Supervisor.

The curriculum vitae of my Principal Supervisor has also been attached.

Counting on your cooperation.

Thank you.

Yours faithfully,

Bright Akpene Ametorwo

PRINCIPAL INVESTIGATOR

APPENDIX D: LETTER OF SUPPORT FOR ETHICAL CLEARANCE

UNIVERSITY OF CAPE COAST

COLLEGE OF HUMANITIES AND LEGAL STUDIES

SCHOOL OF BUSINESS

DEPARTMENT OF FINANCE

Telephone: +233(0)502616748
Email: daf@ucc.edu.gh
               dept.fin@yahoo.com
Website: www.df.ucc.edu.gh

UNIVERSITY POST OFFICE

CAPE COAST, GHANA

Our Ref:

Your Ref.

LETTER OF SUPPORT FOR ETHICAL CLEARANCE

Ms Ms. Bright Akpene Ametorwo is a PhD (Business Administration) at the Department of Finance of the School of Business, University of Cape Coast. Her registration number is SB/BUA/19/0028. She is applying for ethical clearance to enable her undertake data collection as part of her thesis on the topic "Retirement planning and financial wellbeing of workers in the informal sector".

I would be grateful if you could offer her the necessary assistance with regards to data and any other relevant information she will need to enable her undertake her academic research.

Be assured that this research is purely academic and data will be kept completely confidential.

Yours faithfully,

Prof. Siaw Frimpong
HEAD

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APPENDIX E: INTRODUCTORY LETTER FOR ETHICAL

CLEARANCE

UNIVERSITY OF CAPE COAST

COLLEGE OF HUMANITIES AND LEGAL STUDIES

SCHOOL OF BUSINESS

DEPARTMENT OF FINANCE

Telephone: +233(0)502616748
Email: daff@ucc.edu.gh
              dept.fin@yahoo.com
Website: www.df.ucc.edu.gh

Our Ref:

Your Ref.

UNIVERSITY POST OFFICE

CAPE COAST, GHANA

2nd March 2022

The Chair
Institutional Review Board
University of Cape Coast
Cape Coast

Dear Sir/Madam,

INTRODUCTORY LETTER: MS BRIGHT AKPENE AMETORWO

The bearer of this letter, Ms. Bright Akpene Ametorwo, is a PhD Business Administration student at the Department of Finance. I support her application for application for ethical clearance from your outfit.
She is conducting a study on the topic **"Retirement planning and financial wellbeing of workers in the informal sector"**.

I would be grateful if you could offer her the necessary assistance to enable her commence data collection.

I count on your usual cooperation.

Yours faithfully,

Prof. Siaw Frimpong
PRINCIPAL SUPERVISOR

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APPENDIX F: INTRODUCTORY LETTER FOR DATA

COLLECTION

UNIVERSITY OF CAPE COAST

COLLEGE OF HUMANITIES AND LEGAL STUDIES

SCHOOL OF BUSINESS

DEPARTMENT OF FINANCE

Telephone: +233(0)502616748
Email:　　dsf@ucc.edu.gh
　　　　dept.fin@yahoo.com
Website:　www.df.ucc.edu.gh

Our Ref:

Your Ref.

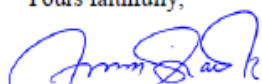UNIVERSITY POST OFFICE

CAPE COAST, GHANA

2nd March 2022

The Chair
Institutional Review Board
University of Cape Coast
Cape Coast

Dear Sir/Madam,
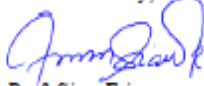
INTRODUCTORY LETTER: MS BRIGHT AKPENE AMETORWO

The bearer of this letter, Ms. Bright Akpene Ametorwo, is a PhD Business Administration student at the Department of Finance of the School of Business, University of Cape Coast. In partial fulfilment of the requirements for the programme, she is conducting a study on the topic "Retirement planning and financial wellbeing of workers in the informal sector".

I would be grateful if you could offer her the necessary assistance with regards to data and any other relevant information she will need to enable her carry out the research.

I count on your usual cooperation.

Yours faithfully,

Prof. Siaw Frimpong
HEAD

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APPENDIX G : FACTOR LOADINGS FOR MODEL 1

Outer loadings					
Mean, STDEV, T values, p values					
	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values
PS1 <- Perceived severity	0.865	0.865	0.026	33.129	0.000
PS1 <- Risk perception	0.821	0.820	0.029	28.575	0.000
PS2 <- Risk perception	0.891	0.891	0.015	59.226	0.000
PS2 <- Perceived severity	0.916	0.916	0.011	82.611	0.000
PS3 <- Risk perception	0.872	0.872	0.015	56.511	0.000
PS3 <- Perceived severity	0.891	0.890	0.013	68.150	0.000
PS4 <- Perceived severity	0.892	0.892	0.014	61.768	0.000
PS4 <- Risk perception	0.908	0.908	0.012	76.050	0.000
PS5 <- Perceived severity	0.878	0.878	0.018	47.478	0.000
PS5 <- Risk perception	0.857	0.858	0.017	49.995	0.000
PS6 <- Perceived severity	0.888	0.887	0.014	61.660	0.000
PS6 <- Risk perception	0.865	0.865	0.019	45.179	0.000
PV1 <- Risk perception	0.685	0.686	0.039	17.587	0.000
PV1 <- Perceived vulnerability	0.859	0.860	0.015	58.740	0.000
PV2 <- Risk perception	0.674	0.674	0.040	16.990	0.000
PV2 <- Perceived vulnerability	0.906	0.907	0.010	88.976	0.000
PV3 <- Perceived vulnerability	0.827	0.826	0.027	30.515	0.000
PV3 <- Risk perception	0.815	0.815	0.028	29.193	0.000
PV4 <- Perceived vulnerability	0.794	0.792	0.029	27.361	0.000
PV4 <- Risk	0.834	0.834	0.019	43.513	0.000

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perception					
RE1 <- Response efficacy	0.838	0.838	0.025	33.008	0.000
RE1 <- Adaptation intention	0.757	0.758	0.032	23.425	0.000
RE2 <- Adaptation intention	0.801	0.802	0.023	34.724	0.000
RE2 <- Response efficacy	0.876	0.876	0.017	51.116	0.000
RE3 <- Response efficacy	0.875	0.874	0.021	41.411	0.000
RE3 <- Adaptation intention	0.782	0.783	0.031	25.351	0.000
RE4 <- Response efficacy	0.874	0.874	0.018	48.810	0.000
RE4 <- Adaptation intention	0.778	0.779	0.025	30.783	0.000
RE5 <- Adaptation intention	0.701	0.703	0.038	18.509	0.000
RE5 <- Response efficacy	0.783	0.784	0.038	20.655	0.000
RE6 <- Response efficacy	0.791	0.790	0.035	22.876	0.000
RE6 <- Adaptation intention	0.682	0.683	0.043	15.997	0.000
RE7 <- Adaptation intention	0.589	0.590	0.042	14.160	0.000
RE7 <- Response efficacy	0.707	0.705	0.037	19.324	0.000
RPB1 <- Retirement planning	0.849	0.849	0.020	41.494	0.000
RPB2 <- Retirement planning	0.855	0.855	0.027	32.241	0.000
RPB3 <- Retirement planning	0.880	0.880	0.017	52.267	0.000
RPB4 <- Retirement planning	0.808	0.808	0.035	22.831	0.000
RPB5 <- Retirement planning	0.817	0.817	0.032	25.219	0.000
RPB6 <- Retirement planning	0.740	0.739	0.034	21.862	0.000
RRA2 <- Risk awareness	0.791	0.790	0.030	26.446	0.000
RRA3 <- Risk awareness	0.858	0.857	0.020	42.865	0.000
RRA4 <- Risk awareness	0.845	0.845	0.019	44.540	0.000
RRA6 <- Risk awareness	0.879	0.879	0.017	53.114	0.000

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RRA7 <- Risk awareness	0.792	0.792	0.024	32.356	0.000
RRA8 <- Risk awareness	0.757	0.757	0.027	27.828	0.000
SE1 <- Self-efficacy	0.844	0.844	0.022	38.200	0.000
SE1 <- Adaptation intention	0.691	0.691	0.031	22.033	0.000
SE2 <- Self-efficacy	0.828	0.828	0.023	36.130	0.000
SE2 <- Adaptation intention	0.661	0.659	0.043	15.211	0.000
SE3 <- Adaptation intention	0.692	0.688	0.041	16.874	0.000
SE3 <- Self-efficacy	0.827	0.826	0.021	40.032	0.000
SE4 <- Self-efficacy	0.842	0.841	0.021	39.886	0.000
SE4 <- Adaptation intention	0.628	0.624	0.045	14.071	0.000
SE5 <- Adaptation intention	0.652	0.649	0.046	14.239	0.000
SE5 <- Self-efficacy	0.895	0.894	0.016	57.335	0.000
SE6 <- Self-efficacy	0.890	0.890	0.016	53.963	0.000
SE6 <- Adaptation intention	0.695	0.692	0.046	15.247	0.000
SE7 <- Adaptation intention	0.692	0.689	0.050	13.714	0.000
SE7 <- Self-efficacy	0.884	0.884	0.016	56.736	0.000
SE8 <- Adaptation intention	0.696	0.693	0.042	16.640	0.000
SE8 <- Self-efficacy	0.828	0.827	0.027	31.219	0.000
SE9 <- Adaptation intention	0.667	0.664	0.045	14.707	0.000
SE9 <- Self-efficacy	0.392	0.393	0.051	7.682	0.000

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APPENDIX H: FACTOR LOADINGS FOR MODEL 2

Outer loadings					
Mean, STDEV, T values, p values					
	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values
FWB2 <- Financial wellbeing	0.866	0.866	0.021	41.755	0.000
FWB3 <- Financial wellbeing	0.884	0.884	0.014	62.626	0.000
FWB4 <- Financial wellbeing	0.578	0.577	0.051	11.252	0.000
FWB5 <- Financial wellbeing	0.889	0.889	0.014	61.812	0.000
FWB7 <- Financial wellbeing	0.874	0.874	0.020	44.500	0.000
FWB8 <- Financial wellbeing	0.870	0.871	0.016	53.485	0.000
FWB9 <- Financial wellbeing	0.793	0.793	0.031	25.351	0.000
PS1 <- Risk perception	0.822	0.821	0.029	28.560	0.000
PS1 <- Perceived severity	0.865	0.865	0.026	33.109	0.000
PS2 <- Perceived severity	0.916	0.916	0.011	82.647	0.000
PS2 <- Risk perception	0.892	0.892	0.015	60.106	0.000
PS3 <- Risk perception	0.873	0.873	0.015	57.173	0.000
PS3 <- Perceived severity	0.890	0.890	0.013	68.089	0.000
PS4 <- Perceived severity	0.892	0.892	0.014	61.652	0.000
PS4 <- Risk perception	0.908	0.908	0.012	76.119	0.000
PS5 <- Perceived severity	0.878	0.878	0.018	47.575	0.000
PS5 <- Risk perception	0.857	0.857	0.017	49.444	0.000
PS6 <- Perceived severity	0.888	0.887	0.014	61.822	0.000
PS6 <- Risk perception	0.864	0.864	0.019	44.628	0.000
PV1 <- Risk	0.683	0.683	0.039	17.328	0.000

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perception					
PV1 <- Perceived vulnerability	0.860	0.860	0.015	58.916	0.000
PV2 <- Perceived vulnerability	0.906	0.907	0.010	89.769	0.000
PV2 <- Risk perception	0.671	0.671	0.040	16.725	0.000
PV3 <- Perceived vulnerability	0.826	0.825	0.027	30.363	0.000
PV3 <- Risk perception	0.817	0.817	0.027	29.750	0.000
PV4 <- Perceived vulnerability	0.793	0.792	0.029	27.243	0.000
PV4 <- Risk perception	0.836	0.836	0.019	44.545	0.000
RE1 <- Adaptation intention	0.692	0.691	0.035	19.608	0.000
RE1 <- Response efficacy	0.846	0.846	0.024	35.598	0.000
RE2 <- Response efficacy	0.882	0.883	0.016	54.935	0.000
RE2 <- Adaptation intention	0.732	0.731	0.031	23.443	0.000
RE3 <- Adaptation intention	0.709	0.708	0.034	21.036	0.000
RE3 <- Response efficacy	0.880	0.880	0.020	43.748	0.000
RE4 <- Adaptation intention	0.692	0.691	0.035	19.501	0.000
RE4 <- Response efficacy	0.875	0.875	0.018	48.673	0.000
RE5 <- Response efficacy	0.777	0.777	0.040	19.660	0.000
RE5 <- Adaptation intention	0.603	0.603	0.048	12.678	0.000
RE6 <- Response efficacy	0.783	0.782	0.036	21.626	0.000
RE6 <- Adaptation intention	0.566	0.565	0.050	11.374	0.000
RE7 <- Response efficacy	0.695	0.693	0.039	17.921	0.000
RE7 <- Adaptation intention	0.469	0.467	0.049	9.634	0.000
RPB1 <- Retirement planning	0.861	0.862	0.019	45.600	0.000
RPB2 <- Retirement planning	0.865	0.865	0.025	34.034	0.000

RPB3 <- Retirement planning	0.885	0.885	0.016	53.852	0.000
RPB4 <- Retirement planning	0.800	0.800	0.037	21.850	0.000
RPB5 <- Retirement planning	0.807	0.805	0.035	23.191	0.000
RPB6 <- Retirement planning	0.722	0.720	0.037	19.509	0.000
SE1 <- Self-efficacy	0.846	0.847	0.022	38.236	0.000
SE2 <- Self-efficacy	0.828	0.828	0.023	36.035	0.000
SE2 <- Adaptation intention	0.742	0.743	0.029	25.527	0.000
SE3 <- Self-efficacy	0.834	0.834	0.020	42.697	0.000
SE3 <- Adaptation intention	0.779	0.780	0.024	32.567	0.000
SE4 <- Self-efficacy	0.847	0.847	0.020	41.792	0.000
SE4 <- Adaptation intention	0.737	0.737	0.026	28.698	0.000
SE5 <- Adaptation intention	0.751	0.751	0.027	27.948	0.000
SE5 <- Self-efficacy	0.899	0.899	0.015	60.215	0.000
SE6 <- Self-efficacy	0.894	0.894	0.016	57.026	0.000
SE6 <- Adaptation intention	0.801	0.801	0.025	32.096	0.000
SE7 <- Self-efficacy	0.887	0.887	0.015	58.550	0.000
SE7 <- Adaptation intention	0.793	0.793	0.029	27.595	0.000
SE8 <- Self-efficacy	0.829	0.828	0.027	31.127	0.000
SE8 <- Adaptation intention	0.792	0.792	0.024	32.666	0.000
SE9 <- Adaptation intention	0.749	0.749	0.032	23.390	0.000
SE9 <- Self-efficacy	0.360	0.359	0.059	6.090	0.000

APPENDIX I: FACTOR LOADINGS FOR MODEL 3

Mean, STDEV, T values, p values			
	Original sample (O)	T statistics (|O/STDEV|)	P values
FA1 <- Financial attitude	0.817	35.142	0.000
FA1 <- Financial capability	0.740	26.440	0.000
FA2 <- Financial attitude	0.872	41.150	0.000
FA2 <- Financial capability	0.787	28.584	0.000
FA3 <- Financial capability	0.769	32.847	0.000
FA3 <- Financial attitude	0.869	56.108	0.000
FA4 <- Financial attitude	0.887	56.966	0.000
FA4 <- Financial capability	0.807	35.489	0.000
FA5 <- Financial attitude	0.810	34.101	0.000
FA5 <- Financial capability	0.748	27.349	0.000
FA6 <- Financial capability	0.736	28.156	0.000
FA6 <- Financial attitude	0.791	31.374	0.000
FA7 <- Financial attitude	0.799	31.086	0.000
FA7 <- Financial capability	0.790	32.685	0.000
FB1 <- Financial capability	0.777	32.584	0.000
FB1 <- Financial behaviour	0.815	36.499	0.000
FB2 <- Financial behaviour	0.804	27.120	0.000
FB2 <- Financial capability	0.760	28.660	0.000
FB3 <- Financial capability	0.721	21.814	0.000
FB3 <- Financial behaviour	0.831	38.966	0.000
FB4 <- Financial capability	0.608	14.991	0.000
FB4 <- Financial behaviour	0.756	20.819	0.000
FB5 <- Financial behaviour	0.810	22.025	0.000
FB5 <- Financial capability	0.596	12.532	0.000
FB6 <- Financial capability	0.555	13.401	0.000
FB6 <- Financial behaviour	0.775	29.050	0.000
FB7 <- Financial behaviour	0.817	34.169	0.000
FB7 <- Financial capability	0.626	16.323	0.000
FB8 <- Financial capability	0.619	15.873	0.000
FB8 <- Financial behaviour	0.824	34.104	0.000
FB9 <- Financial capability	0.625	18.442	0.000
FK1 <- Financial capability	0.446	9.326	0.000
FK1 <- Financial Knowledge	0.478	7.673	0.000
FK2 <- Financial Knowledge	0.867	48.493	0.000
FK2 <- Financial capability	0.604	13.550	0.000

FK3 <- Financial capability	0.636	14.751	0.000
FK3 <- Financial Knowledge	0.891	61.752	0.000
FK4 <- Financial capability	0.300	2.220	0.026
FK4 <- Financial Knowledge	0.455	2.601	0.009
FK5 <- Financial capability	0.372	3.057	0.002
FK5 <- Financial Knowledge	0.500	3.256	0.001
FK6 <- Financial capability	0.741	27.520	0.000
FK6 <- Financial Knowledge	0.819	32.796	0.000
PPK1 <- pension product Knowledge	0.637	17.651	0.000
PPK1 <- Financial capability	0.540	15.835	0.000
PPK2 <- pension product Knowledge	0.881	52.476	0.000
PPK2 <- Financial capability	0.595	14.374	0.000
PPK3 <- pension product Knowledge	0.855	42.746	0.000
PPK3 <- Financial capability	0.571	12.742	0.000
PPK4 <- Financial capability	0.583	14.000	0.000
PPK4 <- pension product Knowledge	0.862	37.553	0.000
PPK5 <- Financial capability	0.662	19.335	0.000
PPK5 <- pension product Knowledge	0.915	69.279	0.000
RPB1 <- Retirement planning	0.882	80.402	0.000
RPB2 <- Retirement planning	0.785	22.026	0.000
RPB3 <- Retirement planning	0.888	73.252	0.000
RPB4 <- Retirement planning	0.856	51.106	0.000
RPB5 <- Retirement planning	0.853	49.571	0.000
RPB6 <- Retirement planning	0.770	32.705	0.000
RRA1 <- Risk awareness	0.872	3.642	0.000
RRA2 <- Risk awareness	0.813	34.009	0.000
RRA3 <- Risk awareness	0.889	73.519	0.000
RRA4 <- Risk awareness	0.903	89.390	0.000
RRA5 <- Risk awareness	0.882	69.733	0.000
RRA6 <- Risk awareness	0.617	12.579	0.000