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Impact of anticipated regrets after-retirement on retirement planning behavior of the Nigerian workers

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Abstract
Aged people often express regret about financial decisions made in their earlier working life that exposed them to old-age financial insecurity. Prior work has discovered one outcome, saving regret, or people expressed wish that they had saved more earlier in life. In order to bridge the knowledge gap, the present research intends to examine the impact of anticipated regret on retirement planning behaviour to make extra voluntary retirement savings. The study is cross sectional in nature with a sample of 600 Nigerian workers from three geopolitical zone. Using smart PLS, the result obtained show that retirement planning intention has a significant positive impact on retirement planning behavior of the workers. Similarly, attitude towards financial planning and financial planning control has a significant positive impact on retirement planning intention of the workers. However, social influence has no significant impact on retirement planning intention. On the other hand, anticipated regret has a significant positive impact on attitude towards financial planning, retirement planning intention and social influence. Thus, anticipated regret plays a significant role in influencing attitude, social perception and financial perception and control on the formation of intention and retirement planning behavior. Practical Implications of the study revealed a significant correlation between psychological factors and retirement planning behavior of the workers. Most importantly, anticipated regrets were consistent with other factors.

Keywords: Anticipated regrets, Attitude, Financial perception, Retirement planning intention, Social perception

1. Introduction

Many studies show concern about the incidence of financial bankruptcy among people during retirement. However, the sustainability of both public and private pension across the globe is at risk due to financial deficits (Farrar, Moizer, Lean, & Hyde, 2019). Research shows that the share of the global population aged 65 years or above is projected to rise from 10% in 2022 to 16% in 2050. By 2050, the number of persons aged 65 years and above worldwide is projected to be more than twice the number of children under five years of age and about the same as the number of children under twelve years (UN, 2022). In countries, where a substantial proportion of retirement income rests on savings, there is much concern that a sizeable part of the population reaches retirement with inadequate financial resources. Therefore, it has become necessary for the workers to save more for the rainy days. Despite this issue of importance, many Nigerians find themselves regretting the past ones they reach retirement age. Research shows that majority of retired Nigerians wish they had saved more for retirement to avoid stress, bitter experiences and challenges (Awa, Kalu, & Ihiabe, 2022; Echeng, 2018). Others regrets are more detailed because the respondents wish they had prepared better for anticipated poverty due to reduction of purchasing power, increasing prevalence of chronic diseases, with the

accompanying increased in healthcare expenses, financial burdens and elder abuse which has also been gaining attention as a major social problem in Nigeria (Daramola, Awunor, & Akande, 2018). Thus, retirement is a multidimensional concept that can be viewed as a process or act involving a series of activities which inspired people to think of planning. Retirement planning behaviour therefore, prepares workers to save for their personal needs which will in turn, covers their concerns of post-retirement life (Murari, Shukla, & Adhikari, 2021).

Many studies conducted in the past wrote extensively on retirement planning behavior (Dauda, Tolos, & Ibrahim. 2017; Dauda, 2019; Hassan, Rahim, Ahmad, Zainuddin, Merican, & Bahari, 2016; Kimiyagahlam, Safari, & Mansori. 2019; Murari, Shukla, & Adhikari. 2021; Tomar, Baker, Kumar, & Hoffmann. 2021; Liu, Bai, & Knapp. 2021). While others wrote on retirement regrets (Hurwitz, & Mitchell, 2022; Gruber, Kanninen, & Ravaska, 2022; Caliendo, & Findley, 2020; Mussagulova, Chen, & Dennis Dong, 2022; Börsch-Supan, Bucher-Koenen, Hurd, & Rohwedder, 2023; von Arx, Cullati, Schmidt, Richner, Kraehenmann, Cheval, & Courvoisier, 2018; Börsch-Supan, Bucher-Koenen,Hurd, & Rohwedder,2018; Spirling, 2019). However only one study wrote on the mediating role of anticipated regret in predicting retirement saving intention (Croy, Gerrans, & Speelman, 2015). Thus, the present study intends to fill the knowledge gap and contribute to the body of literature.

2. Literature Review and Hypotheses Development

2.1 Theory of Planned Behavior

Ajzen (1991) proposed the theory of planned behavior, to explore the factors influencing the willingness to perform actions. According to the theory, behavioral intention is influenced by three main factors: the evaluation of the behavior (attitude toward the behavior), perceived social pressure to perform or not perform the behavior (normative support), and the perceived level of personal control over the behavior (perceived behavioral control), all of which predict the intention to perform a given behavior. However, issues about the theory's predictive adequacy persist, Ajzen (1991) acknowledged that, depending on the behavioral context, it may be proper to include variables other than those in the theory's original formulation. The current study, therefore, looks into the role of anticipated regret after retirement in predicting attitude, social influence, and financial perception which in turn predict intention and behavior. The theory of planned behaviour has explained, on average across context of retirement planning intention and behavior (Bongini, & Cucinelli, 2019; Garcia Mata, 2021; Hoffmann, & Plotkina, 2020).

2.2 Retirement Planning Intention and Retirement Planning Behaviour

The focal point in the theory of planned behavior is the behavioral intention which shows the willingness to carry out the behavior in question. Behavioral Intention explained the effort made by an individual to perform the behavior. As a rule, the stronger the level of behavioral intention to carry out the behavior, the higher the chances of performing the behavior (Ajzen, 1991). It is an established fact that behavioral intention can only lead to behavioral performance if the behavior in question is within the realms of volitional control, i.e., if the person willingly decides to either carry or not to carry out the behavior. Though a sizable number of behaviors may likely meet this condition, yet the performance of most behaviors will depend on some degree of non-motivational factors such as essential opportunities and resources (for instance time, money, skills, influence of others etc) (Ajzen 1991).

On the other hand, retirement planning behavior (RPB) is derived from Ajzen's view of individual behavior. Researchers have provided a wide range of concept definitions in that regard. For example, Lee and Law (2004) describe RPB as encompassing a series of events involving financial and health planning. Hearn, Borstorff, and Thomas (2005) see it as a process that changes an individual's awareness and behavior throughout their career, making retirement a key consideration. Petkoska and Earl (2009) define RPB as the level of worker engagement in financial, health, and interpersonal/leisure planning activities aimed at achieving specific retirement goals. Gutierrez and Hershey (2015) suggest that RPB involves assessing one's situation, setting goals, and planning how to achieve them in the future. In this study therefore, RPB is characterized as a complex set of behaviors determined by attitudes towards financial planning, perceived social pressures, and financial control over retirement planning, all of which are influenced by anticipated regrets over retirement. Literature reviews reveal a significant connection between retirement planning behavior (RPB) and both financial planning for retirement and workers' savings decisions (Moorthy et al., 2012; Muhidin et al., 2013; Clark et al., 2015; Hassan et al., 2016; Kajauchire, 2015; Talib & Manaf, 2017). A recent study by Nguyen, Nguyen, Tran, and Trinh (2022) demonstrates that the intention to save for retirement strongly predicts actual retirement saving behaviors.

Thus, the following hypothesis is proposed:

H1: Retirement planning intention has a positive impact on the retirement planning behaviour of the Nigerian workers.

2.3 Attitude Towards Financial Planning and Retirement Planning Intention

Attitude towards behavior is a key concept in modern psychology, defined as the extent to which behavior is evaluated positively or negatively (Ajzen 1991; 2006; Ajzen et al., 2013). Pickens (2005) describes attitude towards behavior as a combination of personality, beliefs, values, behaviors, and motivations influenced by an individual's experiences and character. In this study, the attitude towards retirement planning refers to workers' positive or negative perceptions of retirement planning. This attitude is shaped through learning and direct experiences with people and situations. Attitudes influence decisions, guide behavior, and affect selective actions (Pickens, 2005). Overall, attitude towards behavior is a critical factor in all social decision-making processes (Begum et al., 2009).

In the field of retirement investment, Heenkenda (2016) found that most attitude variables were significantly associated with the likelihood of retirement planning readiness among estate-sector employees in Sri Lanka. Davis and Hustvedt (2012) highlighted that attitudes towards behavior have a strong positive relationship with the intention to save for retirement. Nosi et al. (2017) examined the intention to buy longevity annuities among young adults and discovered that attitude had the greatest positive impact on the intention to invest in these financial products. Schmidt (2010) reported that individuals with a positive attitude towards investing in mutual funds are more likely to purchase them.

Thus, the following hypothesis is projected:

H2: Attitude toward financial planning has a positive impact on the retirement planning intention of the Nigerian workers.

2.4 Social Perception and Retirement Planning Intention

Social Perception is coined out from the concept of Subjective norms and it is defined as a social pressure from the perceptions of important referent groups' opinions about what the person should or should not do. For instance, important

referents groups are important others, such as members of his/her family, co-workers, peers or friends, who can influence individual's decision (Ajzen 1991; Wood, & Hayes, (2012) The theory of planned behavior postulates that individual's behavioral intention is more likely to be influenced by significant referents' opinions especially when people are more prepared to undertake influence from these precise referent's groups (Ajzen 1991). Social pressure from family, friends, and colleagues can influence decision-making, and it is expected to be a determinant of individuals' intentions to engage in certain (financial) behavior (Bongini, & Cucinelli, 2019).

Therefore, family members played an essential role in the life of the Nigerian workers. They served as the determinants of financial decision because, the greatest number of the workers jointly took decisions with the members of their families. These decisions ranged from intention to plan for retirement, investment or acquisition of assets. It is common for family members to need consensus on priorities, as disagreements can disrupt the entire plan and cause misunderstandings (Olatomide & Fashiku, 2015). Additionally, health issues and social and psychological challenges are significant concerns for retirees, especially when there are delays in receiving retirement benefits (Oluremi & Bala, 2018). Nga and Yeoh (2018) identified health perception and social influences as key barriers to retirement saving behavior. Therefore, the most critical factors in retirement planning include retirement provisions, income, and health (Lee et al., 2018; Oluremi & Bala, 2018; Nga & Yeoh, 2018). Effective retirement provisions allow some workers to enjoy their retirement, spend quality time with their families, and manage health issues. Consequently, social and psychological factors, as well as the opinions of referent groups such as family, friends, co-workers, or other important individuals, can significantly impact a worker's intention to plan for retirement, either positively or negatively.

H3: Social perception has a positive impact on the retirement planning intention of the Nigerian workers.

2.5 Financial Perception and Control and Retirement Planning Intention

Money plays a crucial role in people's lives. Many workers encounter difficulties after retirement due to inadequate financial knowledge about retirement planning (Murari, Shukla, & Adhikari, 2021). Consequently, their financial status after retirement often declines because of insufficient pre-retirement planning. This lack of planning forces many individuals to continue working post-retirement to meet their financial needs (Lim, 2003). Workers who do not take precautionary measures are likely to face problems during retirement, a challenge that affects not just individuals but also societies at large. Therefore, financial perceptions and control are key factors that influence retirement planning intentions and behaviors. Financial knowledge underpins financial perception (Murari, Shukla, & Adhikari, 2021), making it essential for workers to secure a comfortable retirement. Michelle (2018) found that financial risk tolerance, future time perspective, good financial behavior, and self-assessed financial knowledge are all positively related to retirement confidence.

Although studies on financial perception and retirement planning intention are limited, Ajzen (1991) noted that behavioral intention is the primary driver of behavioral action. Numerous studies have shown that financial knowledge and literacy have a significant positive impact workers' retirement planning behavior and their financial perceptions of post-retirement life (Bongini & Cucinelli, 2019; Hassan et al., 2016; Mustafa et al., 2017; Nga & Yeoh, 2018; Tan & Singaravelloo, 2020; Van Rooij et al., 2012). Therefore, it can be hypothesized that financial

perception and control will significantly and positively influence workers' retirement planning intentions of the workers.

H4: Financial Perception and control has a significant positive impact on the retirement planning intention of the Nigerian workers.

2.6 Anticipated Regrets After Retirement and Attitudes Towards Financial Planning

Attitudes reflect the overall assessment of a behavior, while intention is shaped by an individual's attitude towards the behavior and their subjective norm. According to the Theory of Planned Behavior (TPB), a more positive attitude towards a behavior, a supportive subjective norm, and greater perceived behavioral control (PBC) lead to stronger behavioral intentions. These intentions, along with high PBC, determine the likelihood of engaging in the behavior (Ajzen, 1991). Croy, Gerrans, and Speelman (2015) conducted research to explore whether anticipated regret influences intention through affective components of attitude measurement, or if it directly impacts intention without mediation by attitude. Meta-analyses have demonstrated that affective attitude and anticipated regret are significant independent predictors of intentions and behavior, even when other TPB variables are considered (Conner et al., 2015). This suggests that both affective attitude and anticipated regret could enhance the TPB by better capturing emotional influences on intentions and behavior (Sandberg, Hutter, Richetin, & Conner, 2016).

H5: Anticipated regret after retirement has a significant positive impact on attitudes towards financial planning.

2.7 Anticipated Regrets After Retirement and Attitudes Retirement Planning Intention

The Theory of Planned Behavior (TPB), developed by Ajzen stands as the most commonly used model for understanding the cognitive factors that lead to human behavior. The Theory proposed by Ajzen in 1991, suggested that any external factors affecting intentions and behavior are mediated through the TPB components. However, an increasing body of research has shown that there are other factors that can influence intentions and behavior. This meta-analysis, for example, focuses on a significant variable called anticipated regret, which is one of the factors that can have an impact on behavior independently of the TPB components (Conner & Armitage 1998). Thus, anticipated regret is defined as one's beliefs regarding whether they will experience regret or disappointed as a result of their inaction. Anticipated regrets after retirement is therefore define as disappointment that a worker may experience after retirement if he/she fails to planned adequately for retirement. Regret is a pervasive and powerful emotion that people want to avoid (Gilovich & Medvec, 1995). Psychologists and economists argued that AR affects decision making by changing the subjective utilities of potential outcomes (Loomes & Sugden, 1982) which eventually predict intention (Richard, de Vries, & van der Pligt, 1998). Sheeran and Orbell (1999) proposed that anticipated regret (AR) creates a connection between individuals and their intentions by linking the failure to act with negative emotions. If this idea holds true, then AR should not only enhance the strength of intentions but also raise the likelihood of those intentions being translated into actions like retirement planning. Abraham and Sheeran (2004) argued that directing individuals' attention toward anticipated regret could be an effective strategy for promoting and strengthening the intention to take action. The influence of anticipated regret is applicable to the domain of retirement planning. Croy, Gerrans, and Speelman, (2015) conducted research with the aim of examining how anticipated regret influences the intention to save extra money for retirement. The findings showed

that anticipated regret plays a significant emotional role in shaping behavioral intentions to save for retirement leading to the formation of the following hypothesis.

H6: Anticipated regrets has a significant positive impact on the retirement planning intention of the Nigerian workers.

2.8 Anticipated Regrets After Retirement and Social Perception

The relationship between anticipated regrets and social perception is relatively scarce. Although few researches have been conducted on the direct relationship between anticipated regret and subjective norms which the root words of social perception, however the relationship can be viewed from the research that shows the impact of other types of norms in the decision-making process. Notably, individuals establish personal norms based on their internalized values, shaping their moral judgments regarding what is deemed right or wrong (Newton et al., 2013). Self-conscious emotions, including regret or guilt, emanate from the internalization of values as (Giner-Sorolla in 2001). These emotions are intricately intertwined with rational criteria during processing. Consequently, when rational criteria and affective elements are jointly taken into account, a more accurate prediction of behavioral intention can be achieved (Jisoo & Lee,2019).

Likewise, taking into consideration the significance of a particular aspect of behavior such as social perception and anticipating regrets can enhance our comprehension of the decision-making process. Meaning that if the referents group planned for their retirement ahead of time the workers may avoid regret in the future. Therefore, we assumed that:

H7: Anticipated regrets has a significant positive impact on social perception of the Nigerian workers.

3. Methodology

3.1 Research Design

The present study adopts a quantitative approach to assess the relationship between retirement planning behavior and its determinants. As shown in figure 1 retirement planning intention mediate the relationship between retirement planning behavior and attitude towards financial planning, social influence financial planning and control and anticipated regrets.

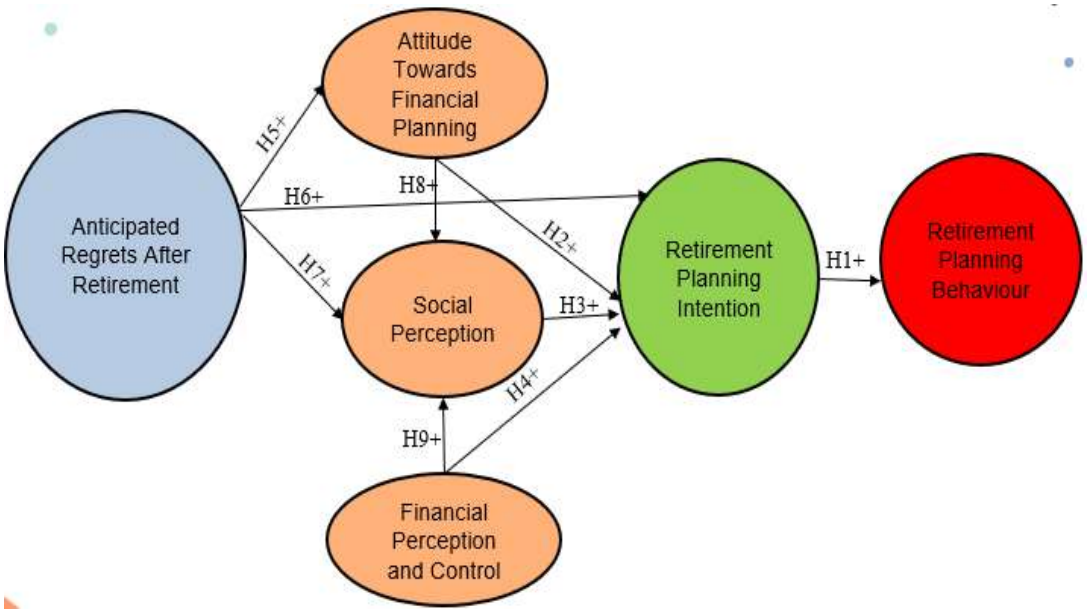

Figure 1: Research Framework

3.2 Population and Sample Size

Data collection was carried out using self-administered questionnaires to workers across six geopolitical regions of Nigerian. The population of the workers in both the public and private sectors was 65,115,671 (NBS, 2022) and Yamane (1967) standard formulae for calculating the sample of a given population was used in achieving the sample size of 399. The calculated sample size was doubled to reduce sample errors and non-response issues (Hair, Celsi, Ortinau, & Bush, 2008). Thus, 798 was the total number of questionnaires shared to the respondents.

3.3 Non-response Bias Test

Non-response bias refers to the substantial difference between individuals who participated in the survey and those who did not (Lambert & Harrington, 1990). To assess the likelihood of non-response bias, Armstrong and Overton (1977) proposed a time-trend extrapolation method, comparing early and late respondents under the premise that late respondents share similarities with non-respondents. To mitigate the issues of non-response bias, Lindner and Wingenbach (2002) recommended achieving at least a 50% response rate. In this study, respondents were categorized into early (within 30 days) and late (after 30 days) respondents (Armstrong & Overton, 1977). Out of 600 questionnaires distributed, 217 (36.16%) were returned within 30 days, and 208 (34.67%) were returned after 30 days. A total of 425 questionnaires were returned, resulting in a 70.83% response rate, which meets Lindner and Wingenbach's (2002) threshold for adequacy.

3.4 Variable Measurement and Instrument Development

This research gathers data through a structured questionnaire. The questionnaire is divided into two parts. The initial part focuses on gathering demographic information about the participants. The subsequent part aims to understand the participants' perspectives on their degree of retirement planning behavior and the factors influencing RPB which comprises of retirement planning intention, attitude towards financial planning, social influence and financial planning control. Moreover, Anticipated regrets was uses to moderates the relationship between retirement planning behavior and retirement planning intention of the workers. With the exception of retirement planning intention (Rickwood, et al., 2017), anticipated regrets and financial planning control, (Khan, Daryanto, & Liu, 2019) as well as attitude towards financial planning (Lay, & Furnham,2018), all measurement scales adapted in this study were drawn from the research conducted by Murari et al. (2021). All the variables were rated on a five-point Likert scale, where the range spans from 1 denoting strongly disagree to 5 signifying strongly agree.

4. Results and Discussion

To assess the Partial Least Squares (PLS) path models, this study followed Chin's (1998) recommendations. The testing of the PLS model involved two sequential steps: initially, the evaluation of the measurement model, including the assessment of reliability and validity, was conducted before hypothesis testing, (Hair, Black, Babin, Andersen, & Tatham, 2010). Subsequently, the evaluation of the Structural Model (SM), which includes assessing R^2 and the predictive relevance of the model, was carried out after bootstrapping to confirm the research hypotheses.

4.1 Measurement Model

The measurement model shows the associations between the latent variables and the measures of each original construct. To evaluate the PLS path models, this study followed the recommendations put forth by Hair et al. (2014). The recommendation entails evaluation of construct validity, convergent validity and discriminant

validity as described in the following sections.

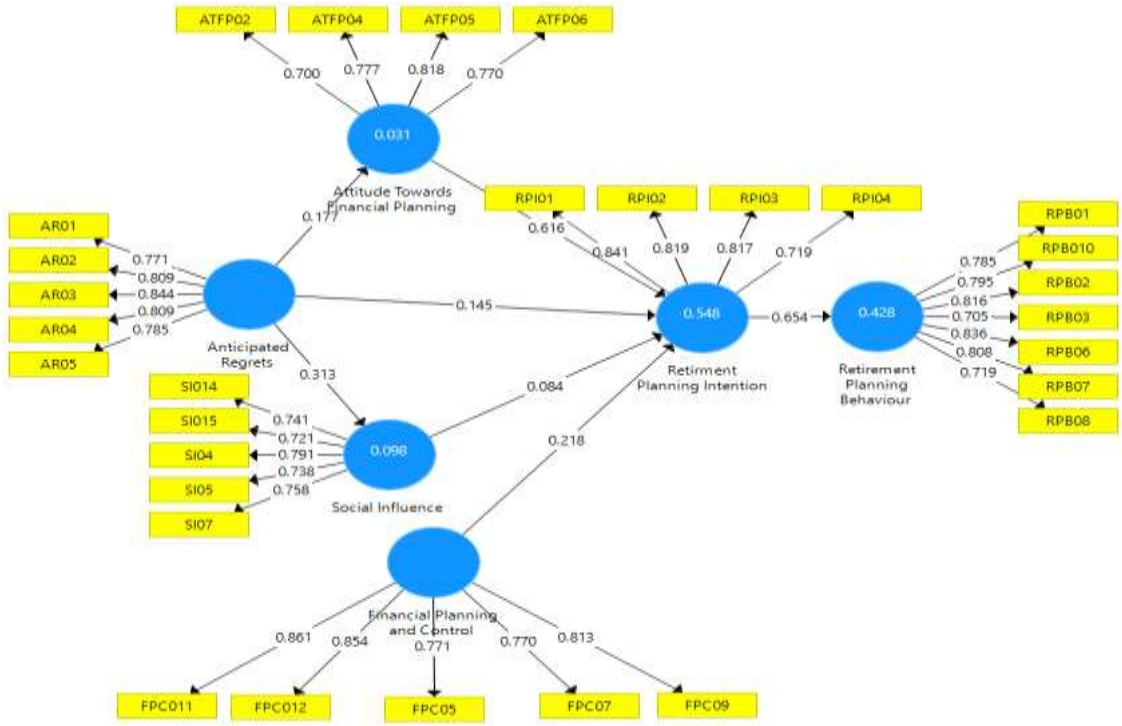

Figure 2: The Measurement Model

4.2 Construct validity of the Model

Construct validity measures how well the test results align with the relevant theories (Sekaran & Bougie, 2016). Achieving construct validity in the measurement model involves assessing content validity, which is done by examining the factor loadings of individual items (Hair et al., 2010; Chin, 1998). In this context, it is crucial that each item demonstrates significantly higher loading on the variable it's supposed to measure compared to any other variables (Chin, 2010). Consequently, if certain items exhibit higher loadings on different variables than their intended constructs, those items should be removed from the model (Hair et al., 2010). In this paper, a significant factor loading is defined with a cut-off threshold of 0.7, as established by Hair et al. (2014). Table 1 presents the data, demonstrating that all items exhibited factor loadings that were higher and more substantial on their intended constructs when compared to other constructs. Thus, this outcome serves as confirmation of the good content validity of the measurement model.

4.3 Convergent Validity

Convergent validity refers to the extent to which a set of items effectively measures a specific construct (Hair et al., 2014). This can be assessed through various methods, including examining factor loadings, calculating composite reliability (CR), and determining the average variance extracted (AVE) (Hair et al., 2010). Thus, it can be observed that all item factor loadings exceeded the recommended threshold of 0.7, as suggested by Hilman et al. (2019) and Hair et al. (2014). Additionally, the alpha coefficients, composite reliabilities (CR), and average variance extracted (AVE) all surpassed the cutoff values of 0.7 and 0.5, respectively, as indicated by Hilman et al. (2019) and Hair et al. (2014). Table 1, demonstrate that all constructs have successfully met the average criteria required.

Table 1 Convergent Validity

Construct	Items	Factor Loadings	Cronbach's Alpha	Composite reliability	Average variance extracted (AVE)
Anticipated Regrets (AR)	AR01	0.771	0.863	0.901	0.646
	AR02	0.809			
	AR03	0.844			
	AR04	0.809			
	AR05	0.785			
Attitudes Towards Financial Planning (ATFP)	ATFP02	0.700	0.766	0.851	0.589
	ATFP04	0.777			
	ATFP05	0.818			
	ATFP06	0.770			
Financial Planning and Control (FPC)	FPC011	0.861	0.874	0.908	0.664
	FPC012	0.854			
	FPC05	0.771			
	FPC07	0.770			
	FPC09	0.813			
Retirement Planning Behavior (RPB)	RPB01	0.785	0.894	0.917	0.612
	RPB010	0.795			
	RPB02	0.816			
	RPB03	0.705			
	RPB06	0.836			
	RPB07	0.808			
	RPB08	0.719			
Retirement Planning Intention (RPI)	RPI01	0.841	0.812	0.877	0.641
	RPI02	0.819			
	RPI03	0.817			
	RPI04	0.719			
Social Influence (SI)	SI014	0.741	0.807	0.865	0.563
	SI015	0.721			
	SI04	0.791			
	SI05	0.738			
	SI07	0.758			

4.4 Discriminant validity

Discriminant validity is a define as the extent to which a particular construct in a model is distinct from other constructs within the same model, indicating whether each construct measures unique and separate concepts (Hair et al., 2010). This study employed two different methods to assess discriminant validity. The first approach followed the Fornell-Larcker criterion as recommended by Hair et al. (2014) and Fornell and Larcker (1981). According to this criterion, discriminant validity is considered to be present when the square root of the Average Variance Extracted (AVE) for each construct is greater than the correlation between each pair of constructs. As shown in Table 2, our analysis confirmed that this condition was met, thus indicating the presence of discriminant validity between the constructs.

Table 2 Discriminant validity of the measurement model (Fornell-Larcker)

Fornell-Larcker criterion	AR	ATFP	FPC	RPB	RPI	SI
Anticipated Regrets	*0.804*					
Attitude Towards Financial Planning	0.177	*0.767*				
Financial Planning Control	0.065	-0.034	*0.815*			
Retirement Planning Behaviour	0.290	0.458	0.291	*0.782*		
Retirement Planning Intention	0.295	0.679	0.214	0.654	*0.800*	
Social Influence	0.313	0.535	0.090	0.637	0.478	*0.750*

Note: The square root of average variance extracted (AVE) is shown in bold and italics While the correlations of the latent constructs are the un-bolded values.

Moreover, Henseler et al. (2015) introduced an alternative method for evaluating discriminant validity using the Heterotrait-Monotrait ratio (HTMT). According to their recommendations, the HTMT value should be below 0.85 or 0.90 to establish discriminant validity.

Table 3 Discriminant validity of the measurement model (HTMT) Criterion

HTMT	AR	ATFP	FPC	RPB	RPI	SI
Anticipated Regrets						
Attitude Towards Financial Planning	0.220					
Financial Planning Control	0.102	0.185				
Retirement Planning Behaviour	0.322	0.551	0.306			
Retirement Planning Intention	0.354	0.845	0.242	0.754		
Social Influence	0.368	0.658	0.159	0.758	0.581	

Note(s): This table presents the values of HTMT for each construct
Source(s): Retrieved from PLS SEM Algorithm

Table 3 in our study reveals that all HTMT values were below this recommended threshold, further confirming the presence of discriminant validity between our constructs.

4.5 Assessment of the Structural Model

Model Fit and Relationship Between the Variables

To assess the model fit and examine the structural relationships, t-values and confidence intervals were calculated using the bootstrapping procedure of Smart PLS. In line with the recommendation of Hair et al. (2011), the significance of the path coefficients was assessed using 5,000 bootstrapped samples. Although there is ongoing debate about how to assess model fit, Hair et al., (2019) suggested a normal procedure for the estimation of the model fit by using R^2. According to Hair et al. (2019), R^2 values of 0.25, 0.50, and 0.75 are typically associated with models having weak, moderate, and substantial explanatory power. Based on this study, after running the PLS algorithm, the R^2 value obtained stand at 0.428, signifying that the independent variables (intention, attitude, social influence, financial planning and control as well as anticipated regret) accounted for 42.8% of the variance in retirement planning Behavior, which falls between weak and moderate values.

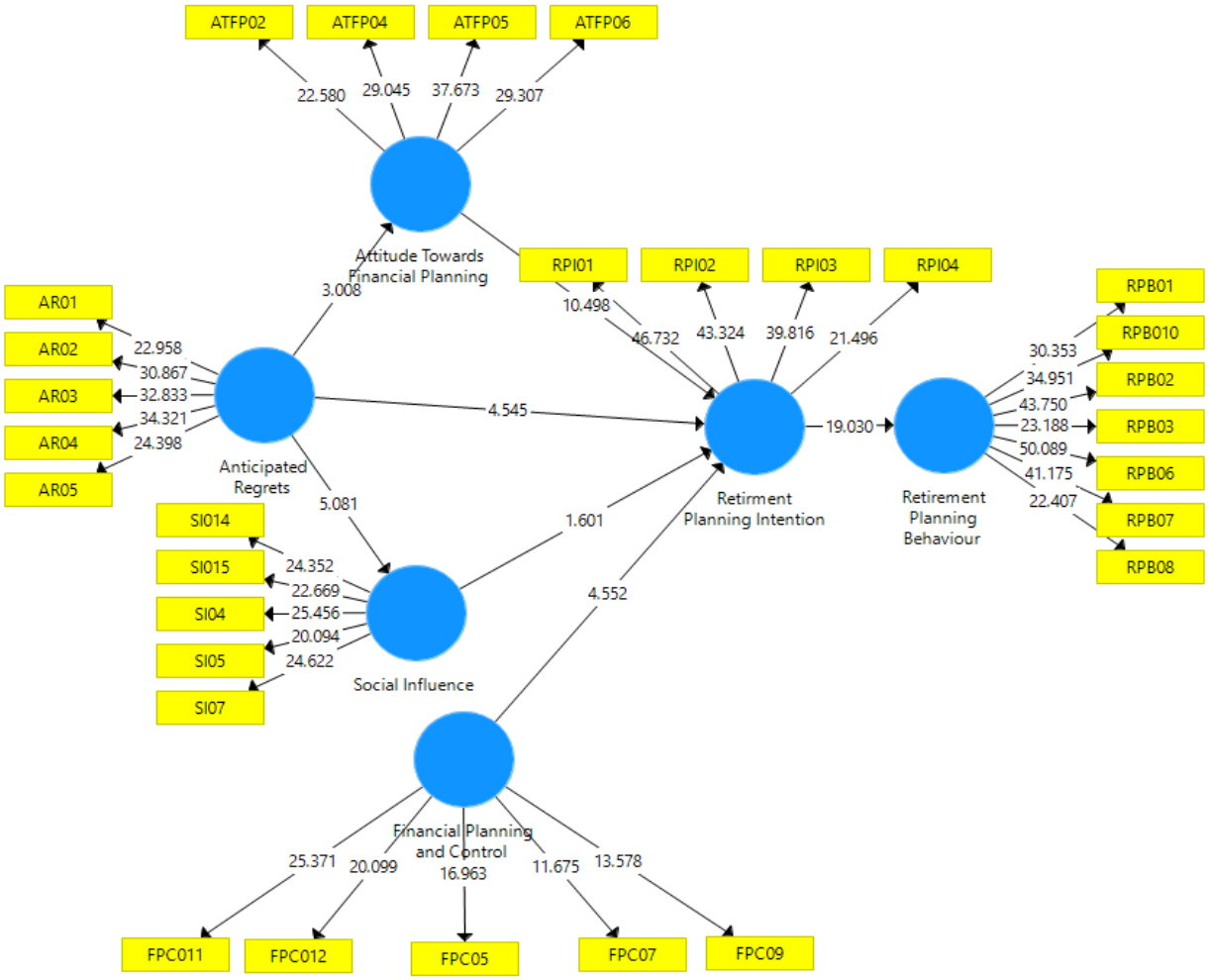

Figure 3: Result shown in the Proposed Structural Model

The final stage in the structural model entails the assessment of path coefficients which explain the predictive strength of the relationship between the independent variables (IV) and the dependent variable (DV). Therefore, The Path analysis revealed that retirement planning intention (β =0.654, $p \leq 0.001$, t-value =19.030) had significant positive impact on RPB of the workers. Moreover, attitude towards financial planning and financial planning and control had a significant positive impact on RPI (β=0.616, $p \leq 0.001$, t-value=10.498; β=0.218, $p \leq 0.001$, t-value=4.552). Hence supporting H2 and H4. However, H3 was not supported because social influence had no significant impact on RPI (β= 0.084, $p \geq 0.001$, t-value= 1.601). On the other hand, anticipated regrets had a significant impact on attitude towards financial planning, retirement planning intention and social influence (β=0.177, $p \leq 0.005$, t-value 3.008; β=0.145, $p \leq 0.01$, t-value=4.545; β=0.313$p \leq 0.01$, t-value=5.081) showing support to H5, H6 and H7.

Table 4 Testing the hypotheses of the proposed Model

Hypothesis	Relationship	Mean	Standard Deviation	T-Value	P-Value	Decision
H1	RPI → RPB	0.654	0.034	19.030	0.000***	Supported
H2	ATFP → RPI	0.616	0.059	10.498	0.000***	Supported
H3	SI → RPI	0.084	0.052	1.601	0.109	Not Supported
H4	FPC → RPI	0.218	0.048	4.552	0.000***	Supported
H5	AR → ATFP	0.177	0.059	3.008	0.003**	Supported
H6	AR → RPI	0.145	0.032	4.545	0.000***	Supported
H7	AR → SI	0.313	0.062	5.081	0.000***	Supported

Note: ***Significant at 1%,
**Significant at 5%,

4.6 Evaluation of Predictive Relevance of the Research Model

The coefficient of determination R^2 is commonly employed to assess predictive power (Hair et al., 2012; Henseler et al., 2012; Sarstedt et al., 2013). However, R^2 may not provide sufficient information regarding sample prediction (Sarstedt, Ringle, Henseler, & Hair, 2014). In contrast, Stone-Geisser's Q^2 is recognized as a measure of predictive relevance (Geisser, 1975; Stone, 1974), particularly in PLS-Path model research where it serves as an alternative to goodness-of-fit assessment (Duarte & Raposo, 2010). Besides R^2, Q^2 is considered an effective technique for evaluating predictive relevance (Stone, 1974; Geisser, 1975; Fornell & Cha, 1994; Chin, 2010). Q^2 indicates how well empirical data can be reconstructed using the model and PLS parameters to achieve predictive relevance (Fornell & Cha, 1994). It is derived from two types of prediction techniques: cross-validated communality and cross-validated redundancy.

The cross-validated communality (Q^2) is a predictive technique developed by Stone-Geisser, integral to the PLS path model for predicting omitted data points. Q^2 values are assessed using the blindfolding method, which evaluates how well the path model predicts originally observed values. In this procedure, Q^2 is computed by systematically omitting one case at a time, re-estimating model parameters based on the remaining cases, and predicting the omitted case values (Esposito Vinzi, Chin, Henseler, & Wang, 2010). The resulting Stone-Geisser Q^2 test statistic indicates the model's ability, based on its parameter estimates, to reconstruct observed values (Chin, 1998). A $Q^2 > 0$ signifies that the model has predictive relevance, while $Q^2 < 0$ indicates a lack of predictive relevance. Therefore, Q^2 assess how well the structural model impacts observed measures for each dependent latent variable through cross-validation (Tenenhaus et al., 2005). According to Esposito et al. (2010), the calculation of cross-validated communality using the Stone-Geisser Q^2 criterion is as follows:

$$\text{Stone} - \text{Geisser test criterion } Q_j^2 = 1 - \frac{\sum_k E_{jk}}{\sum_k O_{jk}}$$

Where: $Q_j^2 = \text{Stone} - \text{Geisser test Criterion}$

$E_{jk} = \text{Squares of the predicting error}$

$O_{jk} = \text{Squares of the trivial pridiction error}$

Cross-validated redundancy (Q2) is another prediction technique developed by Stone-Geisser to evaluate the predictive relevance of the inner model, which represents the relationships among evaluated constructs or variables (Hair et al., 2014). This method assesses how well the inner model predicts data using a sample re-use technique: a portion of the data matrix is excluded, model parameters are recalculated, and the omitted part is predicted based on these estimates. The

closer the predicted values are to the original values, the higher the Q2, indicating greater predictive accuracy of the model (Hair et al., 2014; McMillan & Conner, 2003). Henseler et al. (2009) suggest that a Q2 > 0 for a specific endogenous construct indicates predictive relevance of the path model. Conversely, a Q2 < 0 suggests that the construct lacks predictive relevance within the inner model. However, Rigdon (2014) and Sarstedt et al. (2014) have not explicitly discussed the quality of prediction. The calculation of cross-validated redundancy (Q2) can be expressed using the following statistical formula:

$$Q_J^2 = 1 - \frac{\sum_G SSE_{JG}}{\sum_G SSO_{JG}}$$

Where: Q_J^2= Cross-validated redundancy

$\sum_G SSE_{JG}$ = Sum of squares of prediction errors for Block J

$\sum_G SSO_{JG}$ = Sum of squares of original data observations for Block J

Table 5. Predictive Relevance of the Research Models

Variables	SSO	SSE	Q² (=1-SSE/SSO)
Anticipated Regrets	**2215.000**	**2215.000**	
Attitude Towards Financial Planning	**1772.000**	**1740.766**	**0.018**
Financial Planning and Control	**2215.000**	**2215.000**	
Retirement Planning Behaviour	*3101.000*	*2313.425*	*0.254*
Retirement Planning Intention	**1772.000**	**1163.780**	**0.343**
Social Influence	**2215.000**	**2103.768**	**0.050**

Note: SSE: sum of squares of prediction errors;
SSO: sum of squares of observations

4.8 Discussion

The present study aims to investigate how psychological, social, and financial perceptions, along with retirement planning intention factors, influence individual retirement planning behavior. This research seeks to proffer better policies, programs, and services tailored for the benefit of society, particularly for the elderly. Findings indicate that retirement planning intention play significant roles in shaping retirement planning behavior of the workers and was found to be significant. The result further shows that attitude towards financial planning for retirement and financial planning and control has a significant positive impact on retirement planning intention of the workers. However, social influence has no significant impact on retirement planning intention of the workers. The result does corroborate with the findings of Murari, Shukla, and Adhikari, (2021) in one aspect. According to Murari, Shukla, and Adhikari, (2021), social perceptions and preparations have positive influence RPB of the employees, whereas the obligations have negative effect. On the other hand, anticipated regrets has a significant positive impact on financial planning for retirement, retirement planning intention, and social influence. This result conformed with other regrets studies. In addition to studies on experienced regret, prior research has documented that people anticipate regret prior to making a decision (Shih & Schau, 2011).

5. Conclusion and Recommendations

5.1 Implications of the study

The results revealed a significant correlation between psychological factors and retirement planning behavior. Most importantly, anticipated regret was consistent with other factors. Indicating that when making decisions, people take into account their emotional reactions to possible outcomes by mentally stimulating different scenarios that 'could have been' push them to regret their actions.

Moreover, people anticipate regret if they can foresee that the negative consequences of a decision could materialize almost immediately after the decision is made. Hence the need to engage in early retirement planning behaviour.

The outcomes of this research serve as a warning for employed individuals to enhance their retirement preparations, emphasizing aspects like role clarity, engagement, readiness, and responsibilities for a more fulfilling post-retirement existence. The study suggests a direct correlation between psychological, social, and financial perceptions of life after retirement and Retirement Planning Behavior (RPB). These findings hold significance for both governmental and private sector entities engaged in providing retirement planning services, as well as for employees themselves.

5.2 Limitations and suggestions for further research

This section discussed the limitations of the study and provide avenues for further research to be conducted in the future. Firstly, the study employed a cross-sectional design, wherein both independent and dependent variables were assessed simultaneously, limiting the ability to draw unequivocal conclusions. Utilizing panel or longitudinal studies could offer deeper insights into causal relationships. Secondly, this research did not assess the effect of money on anticipated regret. Therefore, further studies can focus more on potential variables that serve as the mediators of this relationship. Additionally, since the study focused solely on a developing economy like Nigeria, its findings may not likely go to work in a different contextual setting, particularly in developed nations. Hence, further investigations are very imperative.

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