

Retirement Planning: A Moderated Mediation Model of Cognitive Beliefs, Retirement Planning Attitude, and Money Availability

AFM Jalal Ahamed¹ and Yam B. Limbu²

Abstract

Retirement planning has been extensively studied in developed countries; however, it has received scant scholarly attention in developing nations. This study examines the role of cognitive factors associated with retirement planning intentions in the context of a developing country, focusing on financial risk tolerance and self-efficacy within the cognitive appraisal theory framework, considering the mediating role of retirement planning attitudes and the moderating impact of financial resource availability. Data collected from surveys of 301 adults in Dhaka, Bangladesh were analyzed using a Partial Least Squares Structural Equation Modeling (PLS-SEM) approach. Findings revealed that retirement planning attitudes mediate the relationship between cognitive factors and retirement planning intentions. Interestingly, risk tolerance negatively impacts retirement planning intentions through attitudes, while financial self-efficacy shows a positive influence. Furthermore, the availability of financial resources moderates these relationships, indicating that retirement planning attitudes significantly influence intentions when financial resource availability is low. This research contributes to the understanding of retirement planning in a developing country context, highlighting the importance of cognitive factors and financial resources. Tailored retirement planning strategies should consider individual financial conditions and cognitive beliefs. The insights are valuable for policymakers and financial advisors, particularly in developing nations.

Creative Commons License



This work is licensed under a Creative Commons Attribution-Noncommercial 4.0 License

Recommended Citation

Ahamed, A. J., & Limbu, Y. B. (2024). Retirement planning: A moderated mediation model of cognitive beliefs, retirement planning attitude, and money availability. *Financial Services Review*, 32(2), 77-93.

¹ Corresponding author (jalal.ahamed@his.se). School of Business, University of Skövde, Skövde, Sweden

² Feliciano School of Business, Montclair State University, Montclair, NJ, USA

Introduction

Recent years have seen heightened attention given to retirement planning, particularly in developing countries. Research has mostly concentrated on Western and developed countries, where an aging population and a lack of retirement readiness are major concerns (Hibbert et al., 2012; Kung et al., 2023). These studies have underscored the criticality of understanding the motivations and practices behind individual retirement savings, particularly in light of the increasing reliance on personal savings for post-retirement life (Noone et al., 2010). However, the landscape of retirement planning in developing countries presents a starkly different context, which has been relatively underexplored in the literature.

Developing nations, particularly in Asian countries, have traditionally relied on intergenerational support systems, with children caring for elderly parents (Gruijters, 2017). This cultural norm, often overshadowed by more immediate concerns such as poverty, has typically relegated retirement planning to a secondary concern. However, urbanization, increased life expectancy, and the move towards nuclear families are altering perceptions of retirement planning, even among younger demographics (MacFarland et al., 2004). A report by HSBC Limited (2015) on retirement concerns in 15 countries highlights this shift, with significant percentages expressing anxiety about running out of retirement funds and inadequate savings (Kimiyağhalam et al., 2017).

Despite wide-reaching attention to retirement planning, the factors affecting attitudes and intentions towards retirement planning, particularly in developing nations, has received scant scholarly attention. Numerous studies have emphasized the influence of financial literacy and knowledge on retirement planning attitudes and intentions (e.g., Lusardi & Mitchell, 2011; Meir et al., 2016; Safari et al., 2021; Van Rooij et al., 2012). However, little research has examined the cognitive aspects influencing these attitudes, such as financial risk tolerance and self-efficacy. Moreover, retirement planning, distinguished from general saving behaviors, is complex and influenced by various demographic,

psychological, and cultural factors (Kimiyağhalam et al., 2017; MacFarland et al., 2004; Petkoska & Earl, 2009). Even though financial self-efficacy is a well-versed topic in personal finance, little research has explored how it impacts personal financial management behavior (Goyal et al., 2022). Our study aims to fill this gap by exploring how cognitive factors and financial resource availability affect retirement planning intentions in a developing country context, using Bangladesh as a case study.

Our research enriches the literature by incorporating cognitive appraisal theory (Lazarus & Alfert, 1964) and examining the roles of financial risk tolerance and self-efficacy on retirement planning intention through a person's retirement planning attitude. We investigate how these cognitive beliefs, formed through the perception and assessment of financial scenarios, influence retirement planning attitudes and intentions. We propose and test a moderated mediation model to examine the moderating effect of financial resource availability, acknowledging its significant impact on the relationship between retirement planning attitudes and intentions.

This study addresses a critical gap in the literature by focusing on the context of a developing country and offers new insights into the cognitive foundations of retirement planning. It enhances understanding of the interplay between individual beliefs and financial conditions in shaping retirement planning intentions, providing valuable implications for policymakers, financial advisors, and individuals in emerging economies.

Literature Review

Retirement Planning Intention

In the realm of retirement planning, understanding the allocation of income for saving, investing, and spending during retirement is critical (Kimiyağhalam et al., 2017). Behavioral finance research suggests that the financial behavior of investors is shaped by their attitudes (Roberts & Jones, 2001). Studies have identified saving attitudes as key predictors of retirement planning, with a positive orientation towards retirement linked to more extensive

financial planning (Kimiyağhalam et al., 2017; Taylor-Carter et al., 1997). Much of the existing literature has centered on the impact of financial literacy and knowledge on retirement planning attitudes and intentions (Lusardi & Mitchell, 2011; Meir et al., 2016; Safari et al., 2021; Van Rooij et al., 2012), leaving the cognitive factors influencing these attitudes relatively unexplored.

This study leverages cognitive appraisal theory (Lazarus & Alferf, 1964), widely used in psychology to understand how emotions are shaped by personal interpretations and evaluations of situations, to dissect the cognitive underpinnings of retirement planning. It is important to note that this theory has been applied to a variety of psychological fields, including stress research, health psychology, and emotion regulation (Chen & Matthews, 2003; Sorić et al., 2013; Yih et al., 2019). This investigation examines how financial risk tolerance and self-efficacy as cognitive dimensions affect retirement planning intentions and how retirement planning attitudes mediate this effect. Moreover, we examine the moderating effect of an individual's financial availability on these relationships, providing a nuanced understanding of the interplay between cognitive factors and financial circumstances in shaping retirement planning behavior. The ensuing sections detail the study variables and a conceptual framework for this study.

Financial Risk Tolerance

Over the past 20 years, there has been an increase in interest among researchers, policymakers, and investment advisers in understanding risky financial decisions (Grable, 2016). Risk tolerance, conceptualized as an individual's propensity to engage in either riskier or more conservative investment decisions, is increasingly being recognized as a central theme in financial decision-making research. Recognized as a cognitive belief, financial risk tolerance encompasses an individual's perceptions and mental processes surrounding risk, and their capacity to handle potential losses, rather than tangible behaviors or outcomes (Bayar et al., 2020; Grable, 2016; Jacobs-Lawson & Hershey, 2005). Following Grable's (2000) definition, financial risk tolerance is described as

an individual's willingness to endure uncertainty in financial decisions.

An individual's propensity for financial risk-taking significantly influences their investment choices and, consequently, their overall financial behavior, including key areas such as retirement planning (Bapat, 2020; Garman & Fogue, 2014; Grable, 2016; Mathew et al., 2022). Financial risk tolerance is instrumental in shaping how much one allocates towards various financial safety nets like emergency and pension funds (Harahap et al., 2022). The literature on general investments and retirement planning consistently indicates that risk-tolerant individuals are inclined towards high-risk assets or larger defined contribution plans, while risk-averse individuals prefer safer investments like bonds (Jacobs-Lawson & Hershey, 2005; Park & Martin, 2022). Existing research also suggests that higher risk tolerance correlates with more comprehensive planning, higher income, and inversely with age (Deaves et al., 2007). However, Croy et al. (2010) noted this correlation is specific to equity investment decisions, not additional contributions. In the United States, risk tolerance positively impacts retirement planning (Park & Martin, 2022), while in Indonesia, entrepreneurs with high financial risk tolerance demonstrate more robust saving behaviors (Harahap et al., 2022). Contrarily, studies in India (Garman & Fogue, 2014; Mathew et al., 2022) indicate a negative impact of risk tolerance on financial well-being, attributed to cultural factors leading to less materialistic tendencies and satisfaction with safer, lower returns. Interestingly, younger Indians show a trend towards riskier investments like stocks; a similar pattern was observed among financially stable Bangladeshis living in urban areas (Ahamed & Limbu, 2018).

Research on financial risk tolerance primarily centers on general investment decisions, with limited focus on its impact on retirement savings plans (Jacobs-Lawson & Hershey, 2005; Park & Martin, 2022). The current study seeks to bridge this gap, particularly in the context of a non-Western developing country undergoing rapid economic and social transformations. By examining financial risk tolerance as a key cognitive belief influencing retirement planning attitudes, this research aims to enrich the

understanding of retirement planning behaviors in evolving economic landscapes.

Financial Self-Efficacy

Bandura's social cognitive theory, foundational in self-efficacy research (Bandura, 1982, 2012), posits that an individual's self-efficacy, or belief in their capability to execute tasks and manage life's challenges, is pivotal (Bandura, 2006; Farrell et al., 2016). Self-efficacy, a multidimensional construct encompassing beliefs about personal control and performance, significantly influences motivation and task persistence, with lower levels often leading to disengagement or reduced effort in the face of adversity (Fan, 2022; Furrebøe & Nyhus, 2022; Goyal et al., 2022).

Within this framework, financial self-efficacy emerges as a critical subset of general self-efficacy, significantly predicting financial behaviors (Fan, 2022; Goyal et al., 2022; Lone & Bhat, 2022). Defined as the confidence in one's ability to manage personal finances effectively (Fan, 2022; Farrell et al., 2016), individuals with higher financial self-efficacy are more adept at controlling their finances and perceive financial challenges as opportunities rather than threats. This proactive attitude fosters achievements that further enhance financial outcomes (Farrell et al., 2016). High financial self-efficacy correlates with efficient financial management and positive financial results (Mathew et al., 2022). Farrell et al. (2016) found it to be a strong predictor of investment and savings product ownership among women. Tang et al. (2019) demonstrated its direct and indirect impact on investment decisions, mediated by thinking styles of investors. However, Goyal et al. (2022) observed no significant link between financial self-efficacy and personal financial management behavior, attributing this to external factors like environmental conditions, especially in developing countries.

Financial self-efficacy is closely associated with emotional stability and information-processing capabilities, essential for effective decision-making (Fan, 2022). It reflects cognitive processes such as self-assessment,

goal-setting, and strategic planning. Bandura (2006) emphasized the notion that individual behavior is shaped by internal experiences, environmental contexts, and perceptions.

Previous studies have highlighted the positive influence of financial knowledge (Joo & Grable, 2005; Van Rooij et al., 2012) and education (MacFarland et al., 2004) on retirement planning. Financial knowledge is also a significant determinant of financial self-efficacy and behavior (Lone & Bhat, 2022). Consequently, in a similar line of thinking, this current study explores the relationship between behavior skills (i.e., financial self-efficacy) and attitude and intention toward retirement plans.

Hypothesis Development

Mediating Effect of Retirement Planning Attitude

Investment decisions in retirement planning are influenced by an individual's level of risk aversion (the opposite of which is risk tolerance) towards retirement products (Meir et al., 2016). However, empirical research exploring the connection between financial cognitions, such as financial risk tolerance and financial self-efficacy, and attitudes towards retirement planning remains limited. Individuals with a high tolerance for financial risk typically perceive themselves as capable of managing financial challenges and opportunities, often adopting a positive financial attitude, including optimism in retirement planning (Ramalho & Forte, 2019). This mindset is manifested in their propensity for engaging in investments with higher risk and potential returns, indicative of a proactive stance towards retirement planning (Nguyen et al., 2019; Samsuri et al., 2019). Individuals with a risk-averse disposition typically adopt a cautious and conservative approach to retirement planning (Park & Martin, 2022), whereas those who are not risk-averse are linked to positive saving behaviors and the choice of retirement-related financial products (Safari et al., 2021).

Moreover, the association between positive attitudes towards retirement planning and the intention to actively engage in such planning is well-established (Setyawan & Wijaya, 2020). This relationship suggests that attitudes

significantly influence an individual's commitment to long-term objectives like retirement planning.

This study thus conceptualizes the mediating role of retirement planning attitude in the relationship between financial risk tolerance and retirement planning intention as pivotal. This notion is consistent with the theory suggesting that attitudes are key mediators in the cognitive processes that lead to behaviors (Ajzen, 2011; Białowolski et al., 2020). It serves as a vital link between an individual's tolerance for risk and their actions taken in planning for retirement. Thus, the following hypothesis is advanced.

H₁: Retirement planning attitude mediates the effect of financial risk tolerance on retirement planning intention.

When a person has high financial self-efficacy, they are more confident in their ability to make financial decisions, which reflects a belief in their ability to manage financial matters effectively. By feeling capable and empowered in managing their finances, they may be more likely exhibit proactive and protective financial behavior such as budgeting, saving, and investing and a positive attitude towards finance (Lown, 2011; Lown et al., 2015). In other words, financial self-efficacy can shape an individual's retirement planning attitude by influencing their behavior, confidence, and emotional responses; people who believe in their financial capabilities are more likely to approach money management with a positive attitude. Thus, in this study, we conceptualize the mediating role of retirement planning attitude in the link between financial self-efficacy and retirement planning intention as attitudes integrate cognitive and emotional responses, provide motivation, and ensure consistency between what people believe and how they intend to act (Ajzen, 2011). Accordingly, we advance the following hypothesis.

H₂: Retirement planning attitude mediates the effect of financial self-efficacy on retirement planning intention.

Moderated Mediation Effect of Money Availability

Financial resources are one of the key factors affecting welfare in old age (Herrador-Alcaide et al., 2021). However, past research indicates that individuals are unprepared for retirement due to insufficient savings or limited assets (Joo & Grable, 2005). One of plausible explanation is that people allocate their finances based on their life stage while being limited by their available resources (Safari et al., 2021). In such a scenario, the money available at a person's current disposal is a significant condition affecting their overall retirement planning intention.

Typically, consumers use retirement planning to maintain a quality of life comparable to their pre-retirement level. Previous research shows that present income and retirement planning are positively correlated (Park & Martin, 2022). Instead of looking at a person's absolute income, we consider their available money, a more justified conceptualization for retirement planning, as an individual's ability to spend money is determined by the amount of budget or extra funds available at the moment (Badgaiyan & Verma, 2015; Foroughi et al., 2012). Research shows that the lack of money affects a person's purchasing power, since they avoid shopping and buying if they do not have the necessary money (Foroughi et al., 2012).

An individual's retirement planning attitude reflects their beliefs and attitudes about retirement plans, but it doesn't necessarily determine their financial resources. When an individual has limited financial resources due to low income or high debt, their retirement planning attitude may have less influence on their retirement planning intention (Mauldin et al., 2016). Regardless of their attitude toward saving and planning for retirement, their retirement planning intention is affected by the availability of resources (in this case, money) (Kumar et al., 2019). One's attitude towards retirement can influence their intention to save for retirement, but their actual ability to do so depends on their financial resources and circumstances. People with positive retirement attitudes may still face limitations in their ability to save for retirement if they are burdened by other financial obligations. Hence, money availability can moderate the indirect effects of financial self-efficacy and financial risk tolerance on retirement planning

intentions. This conceptualization indicates a moderated mediation relationship from a statistical perspective (Preacher et al., 2007). Accordingly, we hypothesize the following:

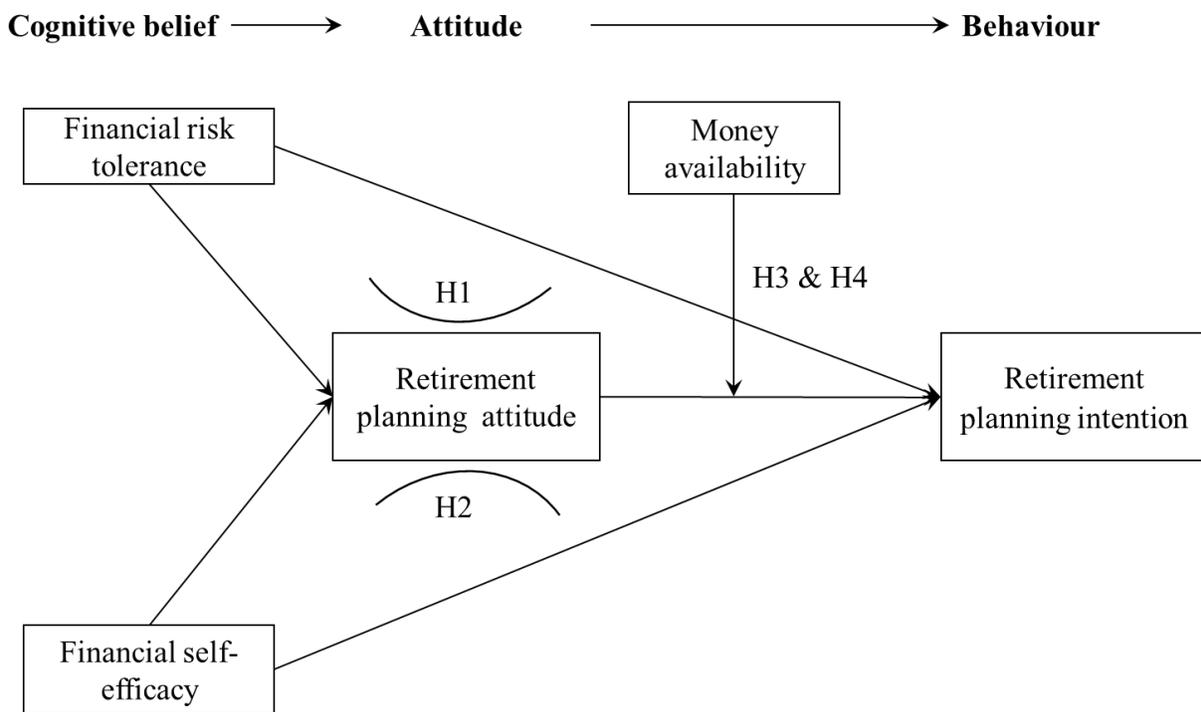
H₃: Money availability moderates the indirect effect of financial risk tolerance on retirement planning intention through retirement planning attitude.

H₄: Money availability moderates the indirect effect of financial self-efficacy on retirement planning intention through retirement planning attitude.

on retirement planning intention through retirement planning attitude.

To better understand the hypothesized relationships, we developed a conceptual model, as shown in Figure 1, which depicts the mediating role of retirement planning attitude on the direct influences of financial risk tolerance and self-efficacy on retirement planning intention. It also shows the moderating role of money availability on such mediating effects.

Figure 1. Conceptual Framework Showing Hypothesized Relationships



Methodology

Sample and Data Collection

A market research firm was hired to collect responses from adults living in Dhaka, the capital and most populous city of Bangladesh. The recruited fieldworkers distributed self-administered survey questionnaires to respondents in key commercial areas of the city, including Motijheel, Gulshan, Mohammadpur, Banani, and Uttara. The data collection period

spanned from April to May 2023. Out of 870 individuals approached, 329 successfully completed the survey, resulting in a response rate of 37.82%. After eliminating cases with incomplete responses, a total of 301 usable responses were retained for the analysis. Table 1 provides an overview of the study population's characteristics, offering insights into their gender distribution, marital status, age range, income level, occupational sectors, and educational background.

Table 1. Demographic Characteristics of Respondents (N=301)

	Variable	Numbers	Percent
Gender	Male	197	65.40
	Female	104	34.60
Marital status	Married	264	87.7
	Unmarried	35	11.6
	Other	2	0.70
Age	Median age		36 – 40 years
Family income	Median monthly family income	101,000 – 120,000 BDT (equivalent to approx. USD 913 – 1,084)	
Occupation	Banker	85	28.20
	Governement service	96	31.90
	Businessman /entrepreneur	41	13.60
	Private service	38	12.60
	Other	41	13.60
Education	Higher secondary/vocational high school	13	4.30
	Bachelor's degree	3	1.0
	Master degree	42	14.0
	Doctoral degreee	17	17.0
	Other	226	75.10

Measures

We adapted four-items from Joo and Grable (2004) to measure financial risk tolerance (e.g., I am more comfortable putting my money in a bank account than in the stock market). All responses ranged from 1 (strongly disagree) to 7 (strongly agree). We used Farrell et al.'s (2016) six-item scale to measure financial self-efficacy (e.g., I worry about running out of money in retirement). The retirement planning attitude (e.g., Planning for retirement needs too much time and effort) and retirement planning intention (e.g., I participate in workshops/seminars on retirement planning) variables were measured using a six-item scale and nine-item scale, respectively, that were adapted from previous studies (Kimiyaahalam et al., 2017; MacFarland et al., 2004; Noone et al., 2010; Petkoska & Earl, 2009; Van Rooij et al., 2012). The measure of money availability was adapted from Badgaiyan & Verma (2015).

Data Analysis Method and Bias Checks

We investigated and tested the hypothesized relationships using a two-step Partial Least Squares (PLS-SEM) approach. We first evaluated

the validity and adequacy of the constructs (outer measurement model), followed by testing the structural model with hypothesis testing (inner model) (Hair et al., 2014).

As the data were collected using a self-reported survey, multiple measures were employed to detect common method variance (CMV). Firstly, we ensured the confidentiality and anonymity of all respondents. Secondly, we employed Harman's single-factor test as part of the exploratory factor analysis (EFA) process, utilizing SPSS software and refraining from rotating factors. The results indicated that CMV was not a significant concern in our data, as evidenced by a single factor accounting for only 31% of the variance (Hair et al., 2014).

Results and Discussion

Measurement Model

The first step in PLS-SEM is the test of the measurement model by assessing convergent validity and discriminant validity (Hair et al., 2014). First, we evaluated the factor loadings of the measurement items of the respective constructs and removed those that fell below the threshold of 0.60 (Field, 2013). We then used the

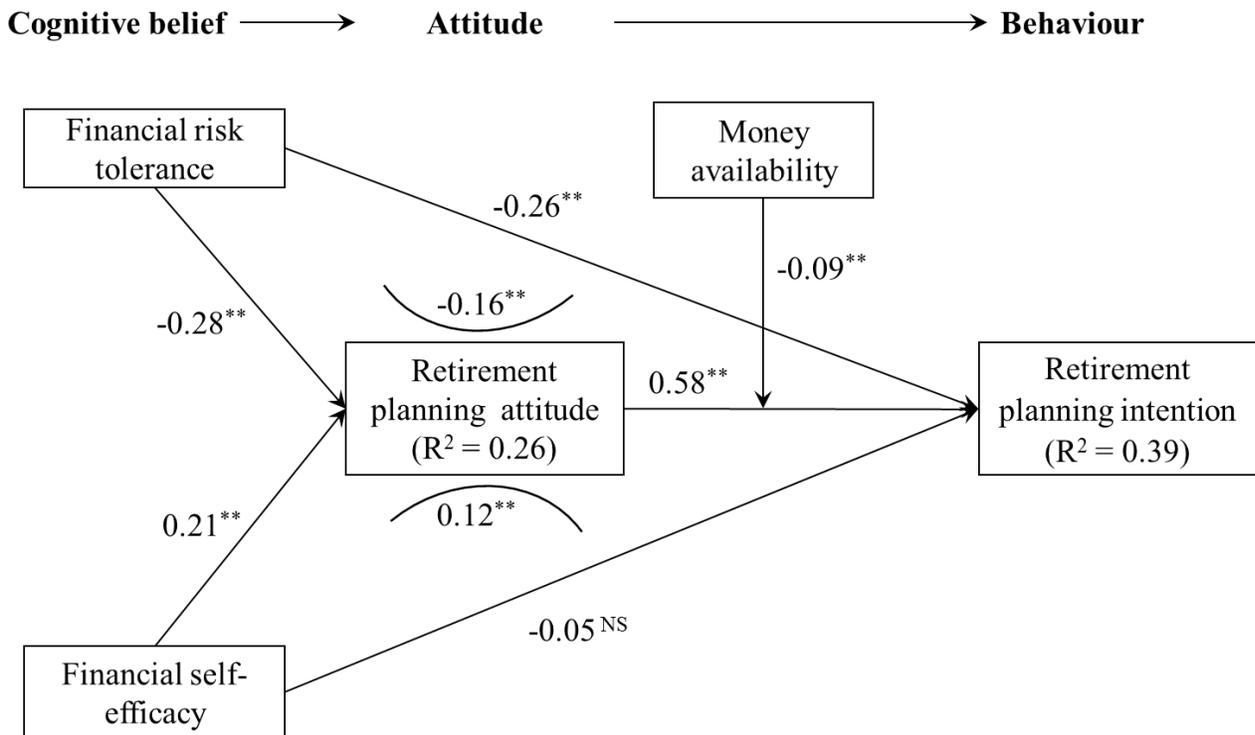
average variance extracted (AVE) values to evaluate the convergent validity of the constructs. According to Hair et al. (2014), the AVE values must be at least 0.50. Additionally, we ensured the reliability of the constructs by using composite reliability (CR) values greater than 0.60, which exceeded the statistically acceptable threshold (Shi et al., 2012). Appendix 1 summarizes the validity and reliability of the constructs used in the research model. As a measure of discriminant validity, we calculated the Heterotrait-Monotrait ratio (HTMT) of correlations (Appendix 2) and applied the Fornell-Larcker criterion (Appendix 3). We demonstrated proper discriminant validity for both indices by satisfying the recommended thresholds (Hair et al., 2014).

Structural Model and Hypothesis Testing

Once the reliability and validity of the construct have been established, the next stage in Partial

Least Squares Structural Equation Modeling (PLS-SEM) involves conducting a path analysis to evaluate the proposed direct and indirect relationships within the model. Additionally, this step assesses the overall quality and accuracy of the model's predictive capabilities. We adhered to the established procedures recommended by prior researchers for examining direct relationships and conditional mediation (e.g., Hair et al., 2014; Preacher et al., 2007). During bootstrapping, we employed the widely accepted approach of using 5,000 subsamples. In earlier versions of the Smart-PLS software, researchers had to perform multiple steps and run different models to investigate moderated mediation analyses. However, in the latest iteration, Smart-PLS 4.0, this analysis can be conducted within a single model. Figure 2 presents a visual representation of the results derived from the path model, including beta coefficients and their significance.

Figure 2. Hypothesized Relationships with Coefficients and Their Significance



In terms of assessing the quality of the model, we observed that the R-squared (R^2) and adjusted R-

squared (adjusted R^2) values for retirement planning intention were 39% and 38%,

respectively. These values reflect the predictive power of our model. Furthermore, we employed *t* statistics and *p* values to determine the

significance of the direct path coefficients, as outlined in Table 2.

Table 2. Moderated Mediation Analysis Results Showing Coefficients and Their Significance for Hypothesized Relationships

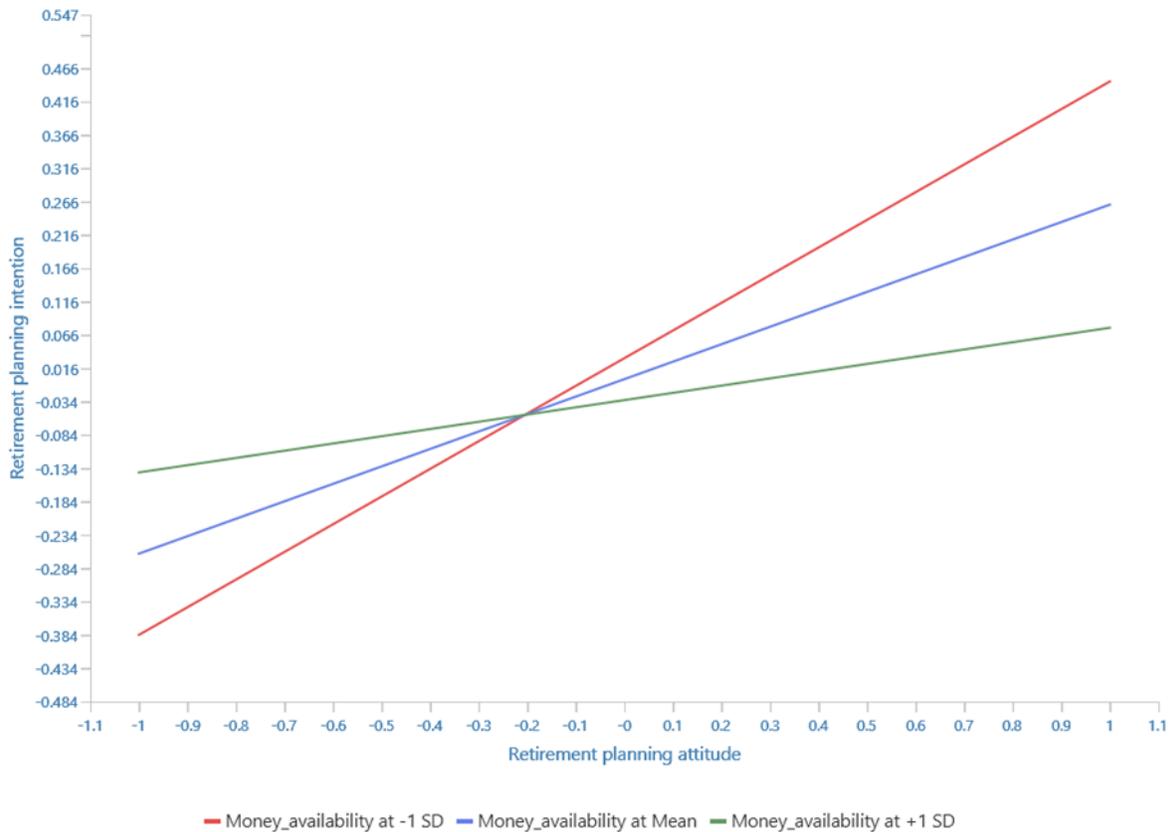
Relationships	β
<u>Direct effects</u>	
Financial risk tolerance -> Retirement planning attitude	-0.28***
Financial risk tolerance -> Retirement planning intention	-0.26***
Financial self-efficacy -> Retirement planning attitude	0.21***
<i>Financial self-efficacy -> Retirement planning intention</i>	-0.05
Retirement planning attitude -> Retirement planning intention	0.58***
Money availability -> Retirement planning intention	0.40**
<u>Specific indirect effect (mediation) (H₁ and H₂)</u>	
Risk tolerance -> Retirement planning attitude -> Retirement planning intention	-0.16***
Financial self-efficacy -> Retirement planning attitude -> Retirement planning intention	0.12***
<u>Conditional direct effect (Moderating effect)</u>	
<i>Retirement planning attitude -> Retirement planning intention conditional on Money availability at +1 SD</i>	0.09
Retirement planning attitude -> Retirement planning intention conditional on Money availability at Mean	0.24***
Retirement planning attitude -> Retirement planning intention conditional on Money availability at -1 SD	0.39***
<u>Conditional indirect effects (moderated mediation) (H₃ and H₄)</u>	
<i>Risk tolerance -> Retirement planning attitude -> Retirement planning intention conditional on Money availability at +1 SD</i>	-0.02
Risk tolerance -> Retirement planning attitude -> Retirement planning intention conditional on Money availability at Mean	-0.07***
Risk tolerance -> Retirement planning attitude -> Retirement planning intention conditional on Money availability at -1 SD	-0.11***
<i>Financial self-efficacy -> Retirement planning attitude -> Retirement planning intention conditional on Money availability at +1 SD</i>	0.02
Financial self-efficacy -> Retirement planning attitude -> Retirement planning intention conditional on Money availability at Mean	0.05**
Financial self-efficacy -> Retirement planning attitude -> Retirement planning intention conditional on Money availability at -1 SD	0.08***

Note: * *p* < .05, ** *p* < .01, and *** *p* < .001. SD = Standard Deviation

Table 2 displays the mediating effects of retirement planning attitude. The results indicate that retirement planning attitude acts as a negative mediator in the relationship between risk tolerance and retirement planning intention ($\beta = -0.16, p = 0.000$). This outcome contradicts our initial Hypothesis 1, which posited a positive effect in this regard. However, it's worth noting that retirement planning attitude serves as a significant and positive mediator in the link between financial self-efficacy and retirement planning intention, thereby lending support to Hypothesis 2 ($\beta = 0.12, p \text{ value} = 0.001$). In Hypothesis 3, we posited that the influence of financial risk tolerance on retirement planning intention, mediated by retirement planning attitude, is moderated by money availability. To test this, we employed a three-step analytical approach. First, we examined the mediating role of retirement planning attitude in the link between financial risk tolerance and retirement planning

intention, as established in Hypothesis 1. Subsequently, we assessed the moderating impact of money availability. Finally, we analyzed the conditional indirect effect (i.e., moderated mediation). The analysis confirmed the mediating role of retirement planning attitude (outlined in Hypothesis 1). Moreover, the findings demonstrate that money availability negatively moderates the connection between retirement planning attitude and intention, indicated by a beta coefficient of -0.09 and a p-value of 0.001 , as depicted in Figure 2. To delve deeper into this moderation, we conducted a simple slopes analysis using SmartPLS. This analysis highlights how varying levels of money availability (below, above, and at the mean standard deviation) affect the relationship between retirement planning attitude and intention. The results of the analysis are shown in Figure 3.

Figure 3. Moderating Effect of Money Availability on Retirement Planning Attitude and Retirement Planning Intention Link



In the third step, as shown in Table 2, we observed that at low (-1 SD) and mean levels of money availability, there was a moderation of the mediating effect of retirement planning attitude on the relationship between risk tolerance and retirement planning intention, with beta values of -0.11 ($p = 0.000$) and -0.07 ($p = 0.001$), respectively. However, this moderating effect was not present at high levels of money availability (+1 SD). Hence, Hypothesis 3 was partially supported. These results highlight the significant role money availability plays in influencing the mediation by retirement planning attitudes between risk tolerance and retirement planning intentions. At lower levels of financial resources, this mediation is more highlighted due to the crucial role attitudes play amidst financial limitations. Conversely, with high money availability, the need for such mediation diminishes, as the ability to act on retirement planning intentions faces fewer financial constraints.

In Hypothesis 4, we proposed that the availability of financial resources would moderate the influence of financial self-efficacy on retirement planning intention, with retirement planning attitude serving as a mediator. This hypothesis was examined using a three-step analytical process similar to that employed for Hypothesis 3. Firstly, the mediating role of retirement planning attitude in the relationship between financial self-efficacy and retirement planning intention was confirmed in Hypothesis 2. The moderating impact of money availability on the link between retirement planning attitude and intention was then illustrated in Figures 2 and 3. For the third step, focusing on the moderated mediation effect, Table 2 reveals how money availability influences this relationship at different levels. At low and mean levels of money availability, there was a significant moderating effect on the indirect relationship between financial self-efficacy and retirement planning intention via retirement planning attitude, with beta coefficients of 0.08 ($p = 0.001$) and 0.05 ($p = 0.003$), respectively. However, at high levels of money availability, the moderating influence of financial resources was not evident in this indirect relationship ($\beta = 0.02$, $p = 0.287$). These findings lead to a partial validation of Hypothesis 4. This

result signifies that the impact of financial self-efficacy on retirement planning intention is heightened by the level of money availability. When resources are low or average, the confidence and positive attitude generated by financial self-efficacy play a larger role in shaping retirement planning intentions. In contrast, the capacity to save and plan for retirement is less dependent on an individual's belief in their financial capabilities, as the financial means to save and invest are readily available. As a result, even if an individual has high financial self-efficacy, it does not significantly alter the likelihood of retirement planning as the financial capability to do so is already present.

Conclusion and Implications

In this study, grounded in cognitive appraisal theory, we explored the influence of financial risk tolerance and self-efficacy on retirement planning intention, mediated by retirement planning attitude. Our investigation highlights that risk tolerance and financial self-efficacy are complex factors that might be influenced by socio-demographic characteristics and personal circumstances (Samsuri et al., 2019). A significant aspect of our research focused on examining how money availability moderates the effects of financial risk tolerance and self-efficacy on retirement planning intention via retirement planning attitude. Our findings underscore the notion that the availability of financial resources markedly affects the mediation process of retirement planning attitudes in the relationship between cognitive beliefs and retirement planning intentions. This research emphasizes the complex connection between financial risk tolerance, retirement planning attitude, intention, and financial resources. It recognizes retirement planning attitude as a negative mediator between risk tolerance and retirement planning intention, shedding light on why individuals with high risk tolerance may have lower intentions to plan for retirement. Furthermore, the study highlights that the influence of financial risk tolerance on retirement planning intention, mediated by retirement planning attitude, is contingent on the availability of money. Attitude plays a substantial mediating role when money is limited or average,

but this impact lessens when financial resources are abundant. This insight is vital for developing financial education and planning programs targeted towards populations with different levels of financial resource availability.

This paper contributes to the field of financial behavior by exploring the mediated processes leading to retirement planning intentions, a dimension often overlooked in previous studies, especially in the context of a developing nation. Our moderated mediation model offers a nuanced understanding of retirement planning behavior. Theoretically, we demonstrate how different cognitive beliefs distinctly impact retirement planning attitudes and intentions, with risk tolerance having a negative effect and financial self-efficacy a positive one. The study highlights the applicability of cognitive appraisal theory in explaining retirement planning intentions.

Practically, this research has significant implications for practice and policy, especially for countries like Bangladesh. Despite the introduction of the Universal Pension Scheme 2023 by the Bangladesh government, its uptake has been limited (The Business Standard, 2023). This paper suggests that the varying levels of resource availability among individuals might influence their response to such schemes. It emphasizes the need for tailored communication strategies to foster positive retirement planning attitude, a crucial factor in retirement planning intention. As the role of perceived information transparency in fostering financial self-efficacy, particularly pertinent in emerging economies, is also paramount (Zia-ur-Rehman et al., 2021), these insights can be beneficial for other developing countries implementing similar retirement policies.

However, our study is not without limitations. The data were collected in a developing country context, and thus, the results are not generalizable, underscoring a need for future research in diverse economic and cultural settings. Our findings resonate with earlier observations of misinformation or lack of information about retirement benefits (Gustman & Steinmeier, 2001), suggesting further exploration into the relationship between financial risk tolerance, retirement planning

attitude, and intention in different demographics. Additionally, the relatively young and financially stable sample in our study may not fully represent the broader population, particularly in terms of retirement planning attitudes. Future research should study more varied populations to enhance the generalizability of the findings.

References

- Ahamed, A. J., & Limbu, Y. B. (2018). Dimensions of materialism and credit card usage: an application and extension of the theory of planned behavior in Bangladesh. *Journal of Financial Services Marketing*, 23(3), 200-209. <https://doi.org/10.1057/s41264-018-0058-5>
- Ajzen, I. (2011). The theory of planned behaviour: Reactions and reflections. *Psychology & Health*, 26 (9), 1113-1127. <https://doi.org/10.1080/08870446.2011.613995>
- Badgaiyan, A. J., & Verma, A. (2015). Does urge to buy impulsively differ from impulsive buying behaviour? Assessing the impact of situational factors. *Journal of Retailing and Consumer Services*, 22, 145-157. <https://doi.org/10.1016/j.jretconser.2014.10.002>
- Bandura, A. (1982). Self-efficacy mechanism in human agency. *American Psychologist*, 37(2), 122-147. <https://psycnet.apa.org/doi/10.1037/0003-066X.37.2.122>
- Bandura, A. (2006). Guide for constructing self-efficacy scales. *Self-efficacy Beliefs of Adolescents*, 5(1), 307-337.
- Bandura, A. (2012). Cultivate self-efficacy for personal and organizational effectiveness. *Handbook of Principles of Organizational Behavior: Indispensable Knowledge for Evidence-Based Management*, 179-200. <https://doi.org/10.1002/9781119206422.ch10>
- Bapat, D. (2020). Antecedents to responsible financial management behavior among

- young adults: moderating role of financial risk tolerance. *International Journal of Bank Marketing*, 38(5), 1177-1194. <https://doi.org/10.1108/IJBM-10-2019-0356>
- Bayar, Y., Sezgin, H. F., Öztürk, Ö. F., & Şaşmaz, M. Ü. (2020). Financial literacy and financial risk tolerance of individual investors: Multinomial logistic regression approach. *Sage Open*, 10(3), 2158244020945717. <https://doi.org/10.1177/2158244020945717>
- Białowolski, P., Cwynar, A., Cwynar, W., & Węziak-Białowolska, D. (2020). Consumer debt attitudes: The role of gender, debt knowledge and skills. *International Journal of Consumer Studies*, 44(3), 191-205. <https://doi.org/10.1111/ijcs.12558>
- Chen, E., & Matthews, K. A. (2003). Development of the cognitive appraisal and understanding of social events (CAUSE) videos. *Health Psychology*, 22(1), 106-110. <https://psycnet.apa.org/doi/10.1037/0278-6133.22.1.106>
- Croy, G., Gerrans, P., & Speelman, C. (2010). The role and relevance of domain knowledge, perceptions of planning importance, and risk tolerance in predicting savings intentions. *Journal of Economic Psychology*, 31(6), 860-871. <https://doi.org/10.1016/j.joep.2010.06.002>
- Deaves, R., Veit, E. T., Bhandari, G., & Cheney, J. (2007). The savings and investment decisions of planners: A cross-sectional study of college employees. *Financial Services Review*, 16(2), 117-133.
- Fan, L. (2022). Consumer financial information processing: An integrated approach to examine individual differences. *International Journal of Consumer Studies*, 47(2), 703-722. <https://doi.org/10.1111/ijcs.12859>
- Farrell, L., Fry, T. R., & Risse, L. (2016). The significance of financial self-efficacy in explaining women's personal finance behaviour. *Journal of Economic Psychology*, 54, 85-99. <https://doi.org/10.1016/j.joep.2015.07.001>
- Field, A. (2013). *Discovering statistics using IBM SPSS statistics*. Sage.
- Foroughi, A., Buang, N. A., & Sadeghi, R. H. M. (2012). Exploring the influence of situational factors (money & time available) on impulse buying behaviour among different ethics. *International Journal of Fundamental Psychology & Social Sciences*, 2(2), 41-44.
- Furrebøe, E. F., & Nyhus, E. K. (2022). Financial self-efficacy, financial literacy, and gender: A review. *Journal of Consumer Affairs*, 56(2), 743-765. <https://doi.org/10.1111/joca.12436>
- Garman, E. T., & Fogue, R. (2014). *Personal finance*. Cengage Learning.
- Goyal, K., Kumar, S., Xiao, J. J., & Colombage, S. (2022). The psychological antecedents of personal financial management behavior: a meta-analysis. *International Journal of Bank Marketing*, 40(7), 1413-1451. <https://doi.org/10.1108/IJBM-02-2022-0088>
- Grable, J. E. (2000). Financial risk tolerance and additional factors that affect risk taking in everyday money matters. *Journal of Business and Psychology*, 14, 625-630. <https://doi.org/10.1023/A:1022994314982>
- Grable, J. E. (2016). Financial risk tolerance. *Handbook of Consumer Finance Research*, 19-31. https://doi.org/10.1007/978-3-319-28887-1_2
- Grujters, R. J. (2017). Intergenerational contact in Chinese families: Structural and cultural explanations. *Journal of Marriage and Family*, 79(3), 758-768. <https://doi.org/10.1111/jomf.12390>

- Gustman, A. L., & Steinmeier, T. L. (2001). Imperfect knowledge, retirement and saving. In: National Bureau of Economic Research Cambridge, Mass., USA.
- Hair Jr, J. F., Sarstedt, M., Hopkins, L., & Kuppelwieser, V. G. (2014). Partial least squares structural equation modeling (PLS-SEM): An emerging tool in business research. *European Business Review*, 26(2), 106-121. <https://doi.org/10.1108/EBR-10-2013-0128>
- Harahap, S., Thoyib, A., Sumiati, S., & Djazuli, A. (2022). The Impact of Financial Literacy on Retirement Planning with Serial Mediation of Financial Risk Tolerance and Saving Behavior: Evidence of Medium Entrepreneurs in Indonesia. *International Journal of Financial Studies*, 10(3), 66-81. <https://doi.org/10.3390/ijfs10030066>
- Herrador-Alcaide, T. C., Hernández-Solís, M., & Topa, G. (2021). A model for personal financial planning towards retirement. *Journal of Business Economics and Management*, 22(2), 482-502. <https://doi.org/10.3846/jbem.2020.13978>
- Hibbert, A. M., Lawrence, E. R., & Prakash, A. J. (2012). The role of financial education in the management of retirement savings. *Journal of Behavioral Finance*, 13(4), 299-307. <https://doi.org/10.1080/15427560.2012.735727>
- Jacobs-Lawson, J. M., & Hershey, D. A. (2005). Influence of future time perspective, financial knowledge, and financial risk tolerance on retirement saving behaviors. *Financial Services Review*, 14(4), 331-344.
- Joo, S. H., & Grable, J. E. (2004). An exploratory framework of the determinants of financial satisfaction. *Journal of Family and Economic Issues*, 25, 25-50.
- Joo, S.-H., & Grable, J. E. (2005). Employee education and the likelihood of having a retirement savings program. *Journal of Financial Counseling and Planning*, 16(1), 37-49. <https://ssrn.com/abstract=2255072>
- Kimiyaghalam, F., Mansori, S., Safari, M., & Yap, S. (2017). Parents' influence on retirement planning in Malaysia. *Family and Consumer Sciences Research Journal*, 45(3), 315-325. <https://doi.org/10.1111/fcsr.12203>
- Kumar, S., Shukla, G. P., & Sharma, R. (2019). Analysis of key barriers in retirement planning: An approach based on interpretive structural modeling. *Journal of Modelling in Management*, 14(4), 972-986. <https://doi.org/10.1108/JM2-09-2018-0134>
- Kung, C. S., Zhu, J., Zaninotto, P., & Steptoe, A. (2023). Changes in retirement plans in the English older population during the COVID-19 pandemic: The roles of health factors and financial insecurity. *European Journal of Ageing*, 20(1), 1-12. <https://doi.org/10.1007/s10433-023-00770-1>
- Lazarus, R. S., & Alfert, E. (1964). Short-circuiting of threat by experimentally altering cognitive appraisal. *The Journal of Abnormal and Social Psychology*, 69(2), 195-205. <https://psycnet.apa.org/doi/10.1037/h0044635>
- Lone, U. M., & Bhat, S. A. (2022). Impact of financial literacy on financial well-being: a mediational role of financial self-efficacy. *Journal of Financial Services Marketing*, 1-16. <https://doi.org/10.1057/s41264-022-00183-8>
- Lown, J. M. (2011). Development and validation of a financial self-efficacy scale. *Journal of Financial Counseling and Planning*, 22(2), 54-63. <https://ssrn.com/abstract=2006665>
- Lown, J. M., Kim, J., Gutter, M. S., & Hunt, A.-T. (2015). Self-efficacy and savings among middle and low income

- households. *Journal of Family and Economic Issues*, 36, 491-502. <https://doi.org/10.1007/s10834-014-9419-y>
- Lusardi, A., & Mitchell, O. S. (2011). Financial literacy and retirement planning in the United States. *Journal of Pension Economics & Finance*, 10(4), 509-525. <https://doi.org/10.1017/S147474721100045X>
- MacFarland, D. M., Marconi, C. D., & Utkus, S. P. (2004). Money attitudes and retirement plan design: One size does not fit all. *Pension design and structure: New lessons from behavioral finance*, 97-120.
- Mathew, V., PK, S. K., & Sanjeev, M. (2022). Financial Well-being and Its Psychological Determinants—An Emerging Country Perspective. *FIIB Business Review*, 23197145221121080. <https://doi.org/10.1177/23197145221121080>
- Mauldin, T. A., Henager, R., Bowen, C. F., & Cheang, M. (2016). Barriers and facilitators to saving behavior in low-to moderate-income households. *Journal of Financial Counseling and Planning*, 27(2), 231-251. <https://psycnet.apa.org/doi/10.1891/1052-3073.27.2.231>
- Meir, A., Mugeran, Y., & Sade, O. (2016). Financial literacy and retirement planning: Evidence from Israel. *Israel Economic Review*, 14(1), 75-95. <https://ssrn.com/abstract=2889925>
- Nguyen, L., Gallery, G., & Newton, C. (2019). The joint influence of financial risk perception and risk tolerance on individual investment decision-making. *Accounting & Finance*, 59, 747-771. <https://doi.org/10.1111/acfi.12295>
- Noone, J. H., Stephens, C., & Alpass, F. (2010). The Process of Retirement Planning Scale (PRePS): development and validation. *Psychological Assessment*, 22(3), 520-531. <https://psycnet.apa.org/doi/10.1037/a0019512>
- Park, H., & Martin, W. (2022). Effects of risk tolerance, financial literacy, and financial status on retirement planning. *Journal of Financial Services Marketing*, 27, 167-176. <https://doi.org/10.1057/s41264-021-00123-y>
- Petkoska, J., & Earl, J. K. (2009). Understanding the influence of demographic and psychological variables on retirement planning. *Psychology and Aging*, 24(1), 245-251. <https://psycnet.apa.org/doi/10.1037/a0014096>
- Preacher, K. J., Rucker, D. D., & Hayes, A. F. (2007). Addressing moderated mediation hypotheses: Theory, methods, and prescriptions. *Multivariate Behavioral Research*, 42(1), 185-227. <https://doi.org/10.1080/00273170701341316>
- Ramalho, T. B., & Forte, D. (2019). Financial literacy in Brazil—do knowledge and self-confidence relate with behavior? *RAUSP Management Journal*, 54, 77-95. <https://www.scielo.br/j/rmj/a/hVc4Pk6FXGRRmN6zq38h4Xg/?lang=en>
- Roberts, J. A., & Jones, E. (2001). Money attitudes, credit card use, and compulsive buying among American college students. *Journal of Consumer Affairs*, 35(2), 213-240. <https://doi.org/10.1111/j.1745-6606.2001.tb00111.x>
- Safari, K., Njoka, C., & Munkwa, M. G. (2021). Financial literacy and personal retirement planning: a socioeconomic approach. *Journal of Business and Socio-Economic Development*, 1(2), 121-134. <https://doi.org/10.1108/JBSED-04-2021-0052>
- Samsuri, A., Ismiyanti, F., & Narsa, I. M. (2019). Effects of risk tolerance and financial literacy to investment intentions. *International Journal of Innovation, Creativity and Change*, 10(9), 40-54.

- https://www.ijcc.net/images/vol10iss9/10904_Samsuri_2019_E_R.pdf
- Setyawan Hutabarat, A. S., & Wijaya, C. (2020). Analysis the effect of financial literacy on financial planning for retirement (case study lecturers and administrative staffs in Universitas Indonesia). *International Journal of Management*, 11(5), 741-750. <https://ssrn.com/abstract=3631012>
- Shi, J., Mo, X., & Sun, Z. (2012). Content validity index in scale development. *Zhong nan da xue xue bao. Yi xue ban= Journal of Central South University. Medical sciences*, 37(2), 152-155. <https://doi.org/10.3969/j.issn.1672-7347.2012.02.007>
- Sorić, I., Penezić, Z., & Burić, I. (2013). Big five personality traits, cognitive appraisals and emotion regulation strategies as predictors of achievement emotions. *Psihologijske Teme*, 22(2), 325-349. <https://hrcak.srce.hr/108516>
- Taylor-Carter, M. A., Cook, K., & Weinberg, C. (1997). Planning and expectations of the retirement experience. *Educational Gerontology: An International Quarterly*, 23(3), 273-288. <https://doi.org/10.1080/0360127970230306>
- The Business Standard. (2023, October 22). *Why there isn't much enthusiasm over Universal Pension anymore*. Available at <https://www.tbsnews.net/bangladesh/why-there-isnt-much-enthusiasm-over-universal-pension-anymore-724694> . Date accessed on December 21, 2023.
- Van Rooij, M. C., Lusardi, A., & Alessie, R. J. (2012). Financial literacy, retirement planning and household wealth. *The Economic Journal*, 122(560), 449-478. <https://doi.org/10.1111/j.1468-0297.2012.02501.x>
- Yih, J., Uusberg, A., Taxer, J. L., & Gross, J. J. (2019). Better together: a unified perspective on appraisal and emotion regulation. *Cognition and Emotion*, 33(1), 41-47. <https://doi.org/10.1080/02699931.2018.1504749>
- Zia-ur-Rehman, M., Latif, K., Mohsin, M., Hussain, Z., Baig, S. A., & Imtiaz, I. (2021). How perceived information transparency and psychological attitude impact on the financial well-being: mediating role of financial self-efficacy. *Business Process Management Journal*, 27(6), 1836-1853. <https://doi.org/10.1108/BPMJ-12-2020-0530>

Appendix 1. Reliability and Validity of the Constructs

Constructs	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
Retirement planning intention	0.77	0.78	0.85	0.59
Retirement planning attitude	0.67	0.67	0.80	0.51
Financial risk tolerance	0.80	0.80	0.91	0.83
Financial self-efficacy	0.80	0.83	0.84	0.56
Money availability	0.61	0.62	0.84	0.72

Appendix 2. Discriminant Validity - HTMT Matrix

Constructs	Retirement planning intention	Retirement planning attitude	Financial risk tolerance	Financial self-efficacy	Money availability
Retirement planning intention					
Retirement planning attitude	0.63				
Financial risk tolerance	0.72	0.61			
Financial self-efficacy	0.19	0.40	0.18		
Money availability	0.38	0.65	0.54	0.75	

Appendix 3. Discriminant Validity - Fornell-Larcker Criterion

Constructs	Retirement planning intention	Retirement planning attitude	Financial risk tolerance	Financial self-efficacy	Money availability
Retirement planning intention	0.77				
Retirement planning attitude	0.46	0.71			
Financial risk tolerance	-0.57	-0.45	0.91		
Financial self-efficacy	0.17	0.41	-0.23	0.75	
Money availability	-0.26	-0.41	0.37	-0.56	0.85