

Extended Interactive Theory of Planned Behavior (EITPB) and its Influence on Retirement Savings Patterns among Civil Servants in Malaysia

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ABSTRACT

Retirement savings behavior (RSB) represents a crucial concern, given that many civil servants in Malaysia encounter challenges in maintaining sufficient savings for their retirement. The key aim of the investigation is to analyze the Extended Interactive Theory of Planned Behavior (EITPB), the determinants of Attitude Towards Retirement Savings (ATRS)— Financial Risk Tolerance (FRT) and Past Behaviors (PB)—and Subjective Norms (SN). These psychological components are juxtaposed with financial elements, such as Matching Contributions (MC), to grasp their effects on RSB. The examination looks into the moderating effects of Perceived Government Policy (PGP) and Perceived Behavioral Control (PBC), covering their predecessors, Financial Literacy (FL) and Self-Control (SC), on the association between these independent variables and RSB. Data were collected from the targeted sample of civil servants using a qualitative method through structured surveys. The findings revealed that personal financial attributes and structural supports, such as matching contributions and supportive policies, are significant in fostering positive retirement savings behaviors. Future research is suggested to investigate other variables, such as replacement rate and dividend on savings that could increase retirement savings behavior among civil servants in Malaysia. Future studies could also extend the scope of the current research by investigating diverse populations beyond Malaysian civil servants, such as private sector employees, self-employed individuals, or retirees. Exploring the role of emerging digital financial tools in enhancing financial literacy and self-control also represents a promising area for future investigation. The study concludes that perceived government policies and perceived behavioral control, supported by financial literacy and self-control, further modulate these associations, implying that targeted interventions could enrich retirement savings behaviors among public servants in Malaysia.

Keywords: Extended Interactive Theory of Planned Behavior (EITPB), Civil Servants Malaysia, Retirement Savings Patterns, Moderating Variables, Matching Contributions

INTRODUCTION

Research Background

Low retirement savings behavior among civil servants in Malaysia constitutes a pressing issue that calls for prompt intervention. Despite the existence of pension schemes, numerous civil servants exhibit inadequate preparedness for retirement, resulting in financial instability and challenges. Under Article 132 Federal Constitution of Malaysia, public servants or civil servants in Malaysia consist of the armed forces, judicial and

legal service, general public service of the federation, police force, joint public services (Article 133), and education service. There are almost 1.6 million civil servants in Malaysia, including statutory bodies. By implementing extensive reforms within the retirement framework, such as augmenting tax advantages, offering matching contributions, and investing in financial literacy programs, policymakers can help massive numbers of civil servants to adeptly navigate their careers in public service. The resolution of this issue is crucial for Malaysia to uphold its dedication to safeguarding the well-being of civil servants and fostering a society where individuals can retire with assurance and peace of mind.

The exacerbation of financial distress is worsened by the revelation that more than 49,000 civil servants are on the brink of bankruptcy due to mismanagement of loans, leading to accruing debts that exceed their repayment capacity [1]. A significant proportion of the Malaysian populace, specifically half, struggles to set aside more than RM1,000 for unforeseen circumstances due to insufficient knowledge of financial planning [2]. Findings also indicate that 48% of Malaysians lack emergency funds [3]. A study conducted by the Perbadanan Insurans Deposits Malaysia (PIDM) in 2023 supports this assertion, revealing that many Malaysians struggle to manage financial crises. The survey found that 55% of respondents had savings of less than RM10,000 available for emergencies. Although the Malaysian Department of Insolvency (MDI) reported a decline in bankruptcy incidences among civil servants and retirees in 2023, there is still a risk of civil servants facing bankruptcy. This risk is attributed to inadequate financial management practices despite their stable income [4].

The challenges associated with the rise in poverty among older individuals (Department of Statistics Malaysia [DOSM], 2023) and the lack of adequate retirement savings (Bank Negara Malaysia [BNM], 2022) remain significant focal points within the social security framework of Malaysia. Urgent governmental intervention is imperative to alleviate the financial strain on retirees, particularly those reliant on public pensions, where the minimum pension has stood at RM1000 since January 1, 2018 [5]. Furthermore, retirees' funds for post-career financial planning have been declining due to the government's new policy allowing public sector employees to receive Cash Awards in place of Leave (GCR) while still employed, unlike the previous rule that restricted GCR disbursements after retirement. This adjustment could have repercussions on the retirement funds of public servants, resembling the withdrawal process of the Employee Provident Fund (EPF). Malaysia's government is broadening the scope of this initiative to include government employees eligible for early GCR withdrawals. Additionally, there is an ongoing academic discourse concerning the premature withdrawal of EPF funds before retirement and the persisting issue of insufficient post-retirement savings [6].

The issue regarding public service retirement savings continues following the announcement made by the Malaysian government on July 13, 2023. This announcement concerns the pension and derivative pension for civil servants who retired before and in 2013. The payments will be made based on the original pension amount. Retirees will no longer be entitled to an annual increment of 2%, a decision made after a ruling by the Federal Court. The ruling entails the adjustment of pension disbursements for civil servants who retired pre-2013 back to the levels of December 2012, while those who retired post-2013 will see their pension payments reverted to the original sum received at the time of retirement. The disparity between the prevailing pension sum and the initial amount will persist to be provided through a special assistance program known as Special Recognition for Retirees, ensuring that pensioners receive an equivalent sum as of June 2023. Nevertheless, the sustainability of this special assistance is uncertain due to legitimate expectations.

In April 2024, the Malaysian government announced the introduction of Account 3 under the Employee Provident Fund (EPF), which features a flexible scheme. This development generated diverse reactions within the Malaysian community, leading to debates about its potential impact on the fund's investment strategies and member benefits. As a result, discussions on the topic became more complex [7]. This scenario vividly illustrates the pivotal role of information and financial literacy in shaping individuals' behaviors while highlighting how the moderating influence of PGP can either bolster or diminish the relationship between independent variables and RSB.

Therefore, this study seeks to explore the effects of various elements on the saving habits for retirement by employees of the states in Malaysia. Prior research has identified demographic and psychological factors as key determinants of RSB, as demonstrated in studies by [8], [9], as well as [10]. Moreover, the current study also investigates the potential moderating effect of perceived government policies (PGP) on RSB, expanding

on existing literature, which suggests that perceived government policies could moderate the link between retirement goal clarity and financial planning for retirement [11]. There has been a lack of research investigating whether PGP can moderate the connections among antecedents of Attitude Towards Retirement Savings (ATRS), Subjective Norms (SN), Perceived Behavioral Control (PBC), and financial variable (matching contribution [MC]) and RSB. Thus, by employing the extended interactive theory of planned behavior (EITPB) model, this study aims to offer insights and anticipates a more comprehensive understanding of the determinants influencing civil servants' behavior toward enhancing retirement savings.

METHODOLOGY

This study adopts a quantitative research design, which is suitable for examining the relationships between influencing factors and Retirement Savings Behavior (RSB). In addition to individual-level analyses, wider studies have analyzed the cultural and social dimensions of financial behaviors. The target population comprises civil servants in Malaysia, specifically those in permanent positions under Federal and State schemes or local authorities. In order to obtain a representative sample, purposive sampling is used, targeting individuals who meet the following criteria: employment in Grades 9 to 15, a minimum of one year of experience, and active tax files. This approach emphasizes the collection of relevant and contextually rich data rather than broader generalizability.

The required sample size is determined using the G*Power 3.1 software, which ensures adequate statistical power with an alpha level of 0.05, a power of 0.95, and an effect size of 0.15. These parameters indicate that a sample size of 172 respondents is sufficient for detailed statistical analysis. Data were gathered through a structured, self-administered questionnaire distributed online to enhance accessibility and efficiency. Most variables were measured using five-point Likert scales ranging from "strongly disagree" to "strongly agree," while RSB is measured with a seven-point Likert scale. This design ensures the collection of reliable, nuanced data aligned with the research objectives.

Data analysis was conducted using SPSS and SmartPLS, both of which are acknowledged for their statistical modeling features. This dual approach leverages SPSS's strengths in descriptive statistics and data management, while SmartPLS performs well in modeling complex relationships. Structural Equation Modeling (SEM) serves as the primary analytical method for testing the hypothesized relationships, given its usefulness in managing complex causal frameworks and addressing measurement errors. Descriptive statistics provide insights into the demographic characteristics of the respondents, while inferential statistical methods, such as regression analysis, assess the relationships between key constructs.

Partial Least Squares-Structural Equation Modeling (PLS-SEM) is utilized to evaluate both measurement and structural models simultaneously. This second-generation multivariate technique reduces error variance and supports the assessment of complex theoretical frameworks, which is essential for improving theoretical models based on empirical data. Internal consistency and convergent validity checks were performed to ensure the model's reliability. Bootstrapping is used to determine the statistical significance of path coefficients, strengthening the analysis.

The proposed framework is validated, and its predictive accuracy is assessed using SEM techniques. Key metrics, including the coefficient of determination (R^2), effect size (f^2), and predictive relevance (Q^2), were calculated to assess the model's explanatory power. These evaluations ensure the framework's utility in predicting behavioral outcomes. An out-of-sample prediction analysis further confirms the model's robustness and practical application.

Reliability and validity are ensured through several measures. Internal consistency is evaluated using Cronbach's Alpha or Composite Reliability (CR), with a threshold value of 0.70 considered acceptable. Factor loading analysis assesses construct validity, ensuring that items correctly load onto their intended constructs. Content validity is established through expert review by specialists in finance and behavioral research, ensuring the relevance and clarity of the questionnaire items. A pilot test with 30 participants identifies any ambiguities or issues, and the results confirm strong internal consistency.

LITERATURE REVIEW

A. Relationship and Hypothesis Development Between the Related Variables

1) Financial Risk Tolerance (FRT) and Attitude Towards Retirement Savings (ATRS):

The connection between individuals' tolerance for financial risks and their perspective on retirement savings is crucial in shaping behaviors related to retirement savings and planning. This illustrates how financial risk tolerance (FRT) significantly influences individuals' attitudes toward financial risks, consequently affecting their investment choices [12]. FRT is intricately linked to investment behavior, where risk inclinations play a significant role in determining individuals' financial investment decisions. Various studies consistently demonstrate a robust relationship between risk inclinations and portfolio selections, suggesting that individuals with lower aversion to risks tend to allocate a greater proportion of their investment portfolios to assets with higher risk levels, such as stocks [13]. Individuals with higher risk tolerance are more inclined to invest in riskier and larger-scale portfolios. In contrast, those with lower risk tolerance typically choose moderate savings accounts, resulting in lower overall savings [10].

Prior research has highlighted the significant and positive relationship between Financial Risk Tolerance (FRT) and financial behavior, indicating a direct correlation. This study emphasizes the significance of considering risk tolerance in understanding financial decisions and behaviors. Risk tolerance influences individuals' investment decisions and can impact the level of boldness in financial choices, demonstrating a connection between risk tolerance and attitude toward financial decisions [14].

Further discussion recognizes that FRT is associated with personality traits, such as extroversion and openness to experience, with extroversion and openness showing a positive relationship with risk tolerance. Personality factors like agreeableness, conscientiousness, and neuroticism have been found to have a negative relationship with risk tolerance, suggesting these traits' association with risk aversion. Studies have indicated that investors' attitudes towards risk-taking are influenced by their personality characteristics, highlighting the role of individual attitudes in determining FRT [15].

FRT refers to individuals' willingness to accept financial risk, reflecting their attitude toward financial risk [16]. Previous research has shown that FRT is linked to demographic traits and personality types in investment decisions, indicating its correlation with attitude [17]. [18] found FRT association with attitude, with risk attitude being a significant factor influencing risk tolerance. Studies suggest that risk attitude directly influences investors' FRT, indicating a strong correlation between the two factors. Psychological traits, such as attitude toward money, financial self-efficacy, and financial risk tolerance, have a positive impact on personal financial management behavior [19].

Overall, some debate among researchers about the exact nature of the relationship between FRT and attitude is still ongoing. In order to show how this approach could be useful, the present study investigates the hypothesis suggesting a link between financial risk tolerance and attitude toward retirement savings:

H1: Financial risk tolerance has a significant and positive relationship with attitude toward retirement savings.

2) Past Behavior (PB) and Attitude Toward Retirement Savings (ATRS):

Previous experiences with various financial products, such as stocks, bonds, and retirement accounts, can influence attitudes. Positive experiences, such as achieving good returns or reaching financial goals, can boost confidence and encourage saving habits. Conversely, negative experiences can lead to caution and a more conservative approach to retirement savings. As highlighted by [20], attitudes are shaped by past experiences and perceptions related to behavior. Previous research emphasizes that past behavior influences the stability of attitudes it elicits, with biased scanning leading to more stable attitudes over time. Inconsistency between past behavior and beliefs can lead to changes in attitudes corresponding to the beliefs, potentially leading to attitude change [21].

It is widely recognized that past experiences play a significant role in shaping attitudes toward specific behaviors. Feedback on past behavior has a direct impact on attitudes and choices, separate from specific thoughts about outcomes [22]. Several studies have shown that past behavior is a strong determinant in shaping retirement savings behavior. Many studies have attempted to explain the relationship between past behavior and attitude toward retirement savings. For example, previous research has confirmed that past behavioral biases positively impact attitudes towards investment, supporting the hypothesis that it plays a crucial role in investment decision-making [23]. Past behavior is an important factor that may influence both intention and future behavior. Various forms of past behavior, such as experience with behavior, frequency of the behavior, and habits, have been studied and shown to have significant effects [20]. Past financial experiences influence how students currently manage their finances [24]. Recent studies also consistently show that past experiences or past behavior are correlated with attitude. Past experiences have a direct correlation with individuals' attitudes toward risk, uncertainty, and precautionary measures. Experience plays a vital role in influencing people's intentions to adopt self-protective behaviors, such as purchasing insurance and safety devices [25]. Past disaster experience directly influences the attitudes of strategic decision-makers (SDMs) toward disaster planning [26]. Individuals open to experience are more likely to accept products of new technologies, suggesting a positive relationship between openness and attitude [27].

Based on the discussion, the relationship between past behavior and attitude has been consistently shown to be relevant in recent studies. Thus, this study posits that the following hypothesis holds in the context of retirement savings behavior among civil servants in Malaysia:

H2: Past behavior has a significant and positive relationship with attitude toward retirement savings.

3) Financial Literacy (FL) And Perceived Behavioral Control (PBC):

Financially literate individuals tend to be more confident in their ability to make informed financial decisions. This confidence often leads to more proactive retirement planning and saving behaviors. Specifically, perceived behavioral control (PBC) plays a key role in retirement savings, as it involves having the confidence to take control of one's financial future and make consistent savings decisions. Recent studies have focused on the relationship between FL and PBC. These studies suggest that the more knowledge a person has, the more positive action they will take in decision-making. For instance, one study found that financial knowledge is positively linked to PBC, which in turn, influences financial behavior [28].

Other studies on Islamic banking from a different perspective found that Islamic financial literacy is positively linked to PBC. This suggests that individuals with higher FL are more likely to feel in control of their behavior toward adopting Islamic banking. People with sufficient financial knowledge are better equipped to understand how to behave when it comes to adopting Islamic banking, highlighting a positive connection between FL and perceived control [29]. FL also has a significant impact on consumptive behavior, indicating a correlation between FL and behavioral control. Research demonstrates that higher levels of FL are associated with reduced consumptive behavior, reinforcing the connection with behavioral control. The findings highlight how FL influences students' spending habits and indicate a link with behavioral control [30].

In the decision-making process for investments, FL plays a crucial role in influencing PBC. Individuals with higher levels of FL tend to have better control over their investment decisions because they have a greater knowledge and understanding of financial concepts. Improved FL can result in increased confidence in decision-making, thereby positively impacting perceived control over financial choices. Understanding financial products through FL can enhance PBC, assisting individuals in making well-informed and confident investment decisions. Therefore, there is a positive relationship between FL and PBC in the context of investment decision-making [31].

Research has shown a strong connection between FL and PBC. Previous studies have demonstrated that higher levels of FL have a positive impact on perceived behavior, particularly in saving money. In a model of saving behavior, both FL and perceived behavior were found to be significantly positively related to each other. The research confirms that greater FL directly and positively influences saving behavior, including PBC. Prior studies have suggested that improving FL can effectively encourage saving behavior and the intention to save

more, underscoring the importance of PBC in financial decision-making [32]. Based on these findings, the study proposes the following hypothesis:

H3: Financial literacy has a significant and positive relationship with perceived behavioral control.

4) Self-control (SC) and Perceived Behavioral Control (PBC):

Self-control allows individuals to stick to their savings plans, regularly contribute to retirement accounts, and avoid unnecessary withdrawals, ensuring a stable accumulation of retirement funds. Perceived behavioral control (PBC) reflects individuals' confidence in their ability to execute a specific behavior, such as saving for retirement. High PBC indicates a strong belief in one's capability to manage and control their financial behaviors. Numerous studies have highlighted SC as a crucial factor in shaping retirement savings behavior. For instance, SC is positively linked to saving behavior. PBC can influence individuals' decisions in situations where self-control is needed, such as spending habits and saving behavior [33].

Recent studies have focused on the relationship between self-control and perceived behavioral control and found that the two factors are positively associated. Individuals with high self-control tend to have a stronger belief in their ability to carry out specific behaviors. This association was evident in a study demonstrating how self-control significantly impacts students' saving behavior, as it enables them to manage their money and finances more effectively [34]. Furthermore, high self-control is positively linked to goal achievement, regular saving propensity, and the ability to manage unexpected expenses. On the other hand, a lack of self-control leads individuals to accumulate more debt, particularly consumer debt. Perceived behavioral control is about anticipating how easy or difficult it will be to carry out a specific behavior. While self-control influences individuals' ability to regulate behavior, thoughts, and emotions for goal achievement and saving behavior, perceived behavioral control focuses on the anticipated ease or difficulty of behavior execution [35].

According to previous research, SC significantly influences saving behavior, suggesting that individuals with strong self-control are more likely to develop positive saving habits. Consequently, there is a direct association between SC and PBC in the context of saving behavior [36]. Self-control is related to perceived behavioral control and plays a critical role in shaping behavior. Studies show that SC acts as a mediating variable between factors, such as financial literacy, peer influence, and saving habits, underlining its significance in the decision-making process. Individuals with higher levels of SC tend to exhibit stronger cognitive control, which impacts their ability to make informed judgments and decisions [37]. SC is associated with PBC, and there is a positive correlation between self-efficacy and self-control, with an internal locus of control predicting self-efficacy levels, thereby linking SC with PBC [38]. Self-control is significantly linked to PBC as it is an essential component of the theory of planned behavior (TPB). Individuals with robust SC can effectively manage their actions and decisions, such as handling finances and prioritizing savings for the future [39]. Therefore, the following hypothesis is proposed based on the theoretical discussion:

H4: Self-control has a significant and positive relationship with perceived behavioral control.

5) Attitude Toward Retirement Savings (ATRS) and Retirement Savings Behavior (RSB):

Numerous studies widely use attitude as the main predictor in shaping individual savings behavior in general savings and investment behavior. Positive financial attitudes and behaviors increase the likelihood of individuals perceiving themselves as adequately prepared for retirement. Previous researchers found that financial attitude has a significant and positive impact on financial management behavior. This means that individuals' feelings about their finances affect how they manage their money, suggesting the direct relationship between attitude and behavior in financial management. Students with excellent financial attitudes are more likely to manage their finances effectively. Thus, fostering a positive financial attitude could lead to better financial responsibility [24]. Attitude toward investment behavior is significantly associated with investment intentions [23]. Therefore, attitude is a positive predictor of the behavior to invest [40]. Relationships between saving attitudes and retirement planning were found to be significantly and positively associated [41]. Additionally, financial attitudes have a significant effect on investment decisions [42]. Understanding financial concepts correlates positively with the ability to save, indicating that a good attitude

toward financial literacy enhances saving behavior. Goal setting positively impacts savings behavior, suggesting that a positive attitude towards setting specific financial goals fosters a savings habit [43]. Psychological characteristics such as attitude toward money positively influence Personal Financial Management Behavior (PFMB), while external locus of control and procrastination negatively affect it [44].

ATRS (Attitude Towards Retirement Savings) indicates how individuals perceive the importance of saving for retirement. A positive attitude reflects a strong belief in the necessity and benefits of future planning. Researchers globally have used ATRS to explore its relationship with RSB (Retirement Saving Behavior). For example, in Malaysia, ATRS is positively correlated with retirement preparation among Gen Y in Selangor, Malaysia [45]. Furthermore, attitudes toward retirement and retirement behavior significantly influence retirement security for Malaysian civil servants [46]. A study found that financial attitudes positively affect a person's likelihood of saving money in Vietnam [47]. Research in the USA highlights a strong relationship between individuals' attitudes toward retirement planning and their retirement saving behavior, emphasizing the importance of fostering positive attitudes to encourage proactive retirement savings behavior [48]. In addition, many social scientists are also increasingly interested in examining the predictors of retirement savings behavior. For instance, research shows that individuals with a positive attitude toward retirement savings are more likely to save for retirement. This tendency is often linked to their overall financial satisfaction, which is a key component influencing their planning behavior [49]. Attitudes toward financial risk correlate with pension savings, indicating that individuals' risk tolerance influences their RSB. Financial attitude and financial literacy significantly impact retirement planning [50].

Maintaining a positive attitude is closely linked to financial literacy and voluntary contributions to pension savings. This connection suggests that individuals' understanding and management of finances significantly influence their retirement savings behavior. Higher financial literacy, which reflects a proactive approach to managing pension savings, is associated with making better decisions and accumulating larger pension savings [51]. A positive attitude toward retirement significantly influences retirement savings intention among adults in Malaysia, suggesting that those with a positive view of retirement are more likely to save for it. People with a positive attitude towards retirement tend to spend less than they earn and prioritize saving for the future, directly impacting their retirement saving behavior. Empirical evidence shows that a positive attitude toward savings leads to beneficial financial practices, including RSB [28]. Studies have demonstrated that individuals with a positive attitude toward retirement savings are more likely to engage in behaviors that support retirement planning, such as saving more and spending less, which helps them better prepare for retirement [52].

Research suggests that individuals with a positive attitude toward saving are more inclined to save for retirement. This positive outlook makes the concept of setting aside money for the future more appealing and important. Studies have shown that a person's attitude toward saving is a strong predictor of their actual saving behavior. In essence, those who view retirement saving positively are more likely to actively save for it. A positive attitude toward retirement savings directly influences one's saving behavior, prompting individuals to take practical steps, such as regular contributions to a retirement account. Moreover, fostering positive financial attitudes from an early age is crucial, given the clear link between attitudes toward retirement savings and actual saving behavior [53]. Research has also highlighted a significant relationship between individuals' attitudes toward retirement planning and their retirement saving behavior. A positive attitude toward retirement planning is associated with more proactive and thorough financial planning for retirement [54].

Feelings about retirement significantly affect planning for it. A positive or negative outlook can lead to either early or delayed planning. Individuals who view retirement as a distant event often postpone preparations and may miss out on investment opportunities that could improve the retirement experience. Adopting a proactive approach to retirement savings can improve financial preparedness, reducing the risk of encountering financial difficulties later in life [55], [56]. A positive attitude towards retirement savings, supported by effective pension communication, is likely to encourage proactive retirement saving behavior. Having better knowledge and attitudes may lead to better retirement planning decisions, suggesting a connection between attitudes and behavior [57]. Individuals with a positive attitude toward life are more likely to engage in behaviors that help ensure a happy retirement, such as maintaining an investment portfolio with savings and risky assets. This

positive outlook reflects a willingness to take risks associated with holding risky assets, potentially leading to higher returns and supporting retirement savings [58].

The following findings suggest that individuals who struggle with financial decisions and commitments are less likely to save for retirement. This indicates a strong connection between attitudes toward savings and actual saving behaviors. Non-savers are characterized by poor financial self-control and high planning costs, implying that attitudes toward the complexity and discipline of saving significantly impact one's ability to save for retirement [59]. Additionally, a study found that the personal attitudes of students towards risky investments did not have a direct or mediating influence on their investment intentions. This indicates that personal preferences toward risky investments are not strong predictors of investment decisions. The risk-averse culture of the participants may have influenced these results [60].

Recent studies have continued to examine the factors that influence RSB. They have consistently found a strong relationship between attitude and RSB. These studies have emphasized that individuals' attitude toward saving for retirement significantly impacts their actual saving behaviors. Having a positive attitude towards financial planning can result in higher retirement savings. Therefore, it is important to cultivate a proactive attitude toward retirement savings to encourage better saving habits among individuals [61]. Additionally, studies have shown that individuals' attitudes toward accumulating wealth and resources directly influence their RSB [62]. Thus, taking into account the extensive literature on the positive relationship between attitudes toward retirement savings and actual saving behaviors, this study proposes that:

H5: Attitude toward retirement savings has a significant relationship with retirement savings behavior.

6) Subjective Norms (SN) and Retirement Savings Behavior (RSB):

When people feel strong social pressure to save for retirement, they are more likely to save. Similar to ATRS, SN is also a strong predictor of RSB. There is a significant and positive relationship between subjective norms and the intention to behave, which in turn affects saving behavior [63]. Subjective norms, which are the opinions of friends and family, have a strong influence on financial decisions [40]. SN significantly impacts risky investment intention [60]. Many studies have shown that SN, such as financial socialization, influences financial planning behavior, including RSB, based on interactions with family, friends, and colleagues [49]. The perceived expectations of others, or subjective norms, can significantly impact individuals' decision to save for retirement. If family, friends, and society value and expect retirement planning, individuals are more likely to save. In cultures that emphasize collective support, such as extended family systems, the pressure to save might be lessened, affecting personal saving behavior. Employers' encouragement and provision of retirement planning resources can positively affect employees' saving habits [55].

Previous research emphasizes the significant impact of subjective norms (SN) on the intention to save in a voluntary retirement fund [64]. The study discovered that SN has a noteworthy indirect effect on saving behavior. This indicates that the influence of family, friends, and society can strongly encourage individuals to save, potentially affecting their retirement saving habits. The connection between social influence and retirement planning was found to be significantly and positively linked [41]. Support from social groups plays a critical role in shaping retirement planning behavior. This is due to subjective norms, or the perceived social pressure to engage in or refrain from a behavior, which greatly influences decision-making processes related to financial planning for retirement. If the SN in their environment emphasizes the importance of retirement planning, individuals are more likely to adopt similar behaviors [10].

Most past researchers agree on the significantly positive relationship between subjective norms (SN) and retirement saving behavior (RSB). Subjective norms, which represent the financial opinions of those around an individual, have a significant influence on retirement saving behavior. When making financial decisions, people often rely more on the opinions of others than on facts, highlighting the crucial role of social influences. The impact of SN is evident in how individuals engage in proactive behaviors, such as saving more or investing wisely, based on the financial behaviors and opinions of their peers or society at large. This indicates that a supportive social environment that values financial preparedness can encourage better retirement-saving behaviors [43].

Subjective norms, influenced by the opinions and behaviors of spouses, family, and peers, significantly affect individuals' intention to save for retirement. The pressure or encouragement from significant others can lead to earlier retirement planning and increased participation in saving activities. There is a positive relationship between SN and the behavioral intention to engage in retirement savings, demonstrating that social influences play a crucial role in financial planning for retirement. Individuals are more likely to save for retirement if they perceive that important people in their lives approve of and support this behavior [28].

Subjective norms play a crucial role in shaping individuals' intentions and behaviors regarding retirement savings. Understanding this relationship can help financial advisors and educators design more effective strategies to encourage retirement planning and saving. Therefore, this study suggests the following hypothesis:

H6: Subjective norms have a significant and positive relationship with retirement savings behavior.

7) Matching Contribution (MC) and Retirement Savings Behavior (RSB):

Loss aversion is the idea that people prefer to avoid losses rather than acquire equivalent gains. This concept is relevant in this context because the potential loss of not receiving the employer match can motivate employees to contribute at least enough to qualify for the full match. The availability of matching contributions is often associated with higher participation rates in retirement savings plans. Employees are more likely to participate in retirement plans if they are aware of the matching benefit rather than delaying or opting out. The current study provides insight into how matching contributions can drive higher participation rates and increased savings in retirement plans, leveraging both financial incentives and behavioral economics principles to encourage better retirement savings behavior.

Matching contributions (MC) are commonly used in studies on specific behaviors, such as employer decisions affecting employee participation and asset allocation in retirement saving programs. Research has shown that policies encouraging or requiring increased savings over time, influenced by employer matching, can lead to higher employee saving rates in retirement plans [65]. Employer matching contributions encourage employees to save more for retirement. Research shows that this plan design can positively influence saving behavior and often leads to higher participation rates and increased contributions.

The relationship between matching contributions and retirement saving behavior is significant and multifaceted, as it influences participation rates and contributions. The presence of a match is perceived as an added benefit, making the act of saving more appealing [66]. While the inclusion of a matching contribution in savings plans increases participation rates and contributions, its impact is less significant compared to nonfinancial approaches. The effectiveness of matching contributions is moderated by factors such as the match rate, income level, and the presence of other behavioral interventions [67]. Studies have shown that matching contributions increase participation in savings plans and the total amount saved, indicating a positive relationship between matching contributions and retirement saving behavior. However, increasing the monetary value of the financial incentive (e.g., higher match rates) has a minimal effect on the amount saved, suggesting that while matching contributions encourage saving, the size of the match may not be the most significant factor. Matching contributions are seen as a cost-effective strategy to improve savings outcomes, especially for low-income individuals, highlighting their importance in promoting savings behavior. Researchers also found that deposit frequency and amounts were higher in the first intervention year than in the second [68].

Research shows that matching contributions (MC) significantly increase participation in voluntary saving plans, indicating its positive relationship with retirement saving behavior. When employers provide a match on contributions, individuals contribute more to their retirement plans. Government matching contributions are found to be a stronger incentive for savings compared to tax advantages, highlighting their importance in encouraging retirement savings. The introduction of matching contributions in retirement accounts leads to higher saving rates and capital stock, demonstrating their effectiveness in promoting savings behavior [69]. In Turkey, a study found that matching contributions and automatic enrollment reforms resulted in more people participating in the individual pension system (IPS) [70]. The introduction of a matching contribution policy

led to a significant increase in the number of new individual pension system participants. Specifically, there was a 111% rise in the monthly average of new participants after the policy implementation. This suggests a strong positive relationship between matching contributions and the decision to participate in retirement saving plans. Following the matching contribution policy, there was an 18% increase in average contributions paid by participants. It indicates that the policy not only encourages more people to start saving for retirement but also motivates them to contribute more towards their savings [70]. Matching contributions significantly influence RSB by increasing participation and the amount saved, demonstrating the effectiveness of this incentive in promoting financial security for the future. Thus, this study proposes the following hypothesis:

H7: There is a significant relationship between matching contributions and retirement savings behavior.

8) Moderating Effects of Perceived Behavioral Control (PBC):

As highlighted by [71], the interactive theory of planned behavior (ITPB) emphasizes the moderating variable of PBC in the relationship between RSB with ATRS and SN. According to [72], the strength of the relationship between two constructs changes as the levels of the moderator construct change.

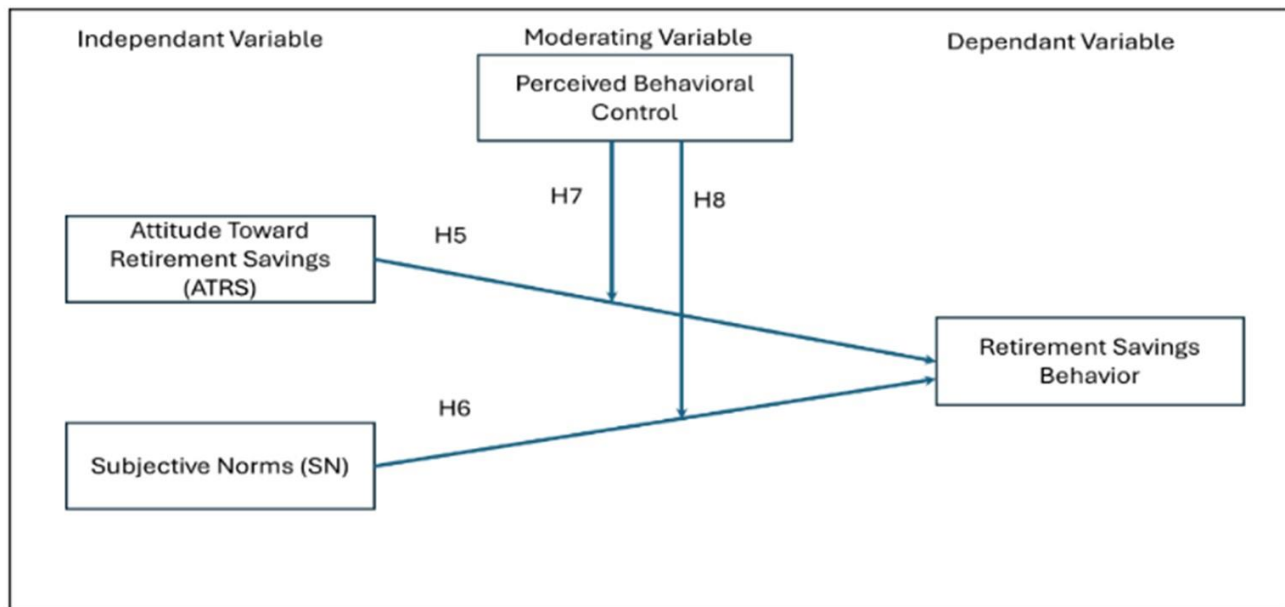


Figure 1: The Moderating Role of Perceived Behavioral Control between Retirement Savings Behavior with Attitude Toward Retirement Savings (ATRS) and Subjective Norms (SN)

8a) Perceived Behavioral Control Moderates the Relationship Between Attitude Toward Retirement Saving (ATRS) and Retirement Savings Behavior (RSB): The concept that perceived behavioral control (PBC) moderates the relationship between attitude toward retirement savings (ATRS) and retirement savings behavior (RSB) can be examined using the interactive theory of planned behavior (ITPB). According to the ITPB, an individual’s behavior is shaped by three factors: attitude toward the behavior, subjective norms, and perceived behavioral control. The role of PBC is to strengthen the relationship between RSB and ATRS and subjective norms. When PBC is considered a moderator, it means that the strength and/or direction of the relationship between ATRS and RSB changes depending on the level of PBC. Previous studies have found that individuals who feel more in control of their financial abilities are likely to have a stronger link between their positive attitudes toward retirement savings and the actual behavior of saving for retirement. Therefore, PBC can enhance the relationship between a positive attitude toward retirement savings and the actual behavior of saving for retirement by providing the means and confidence to act on those attitudes [49].

Researchers describe PBC (perceived behavioral control) as individuals’ belief in their ability to save for retirement. PBC can moderate the relationship between their attitude toward retirement savings and their actual saving behavior. (a) If individuals believe they can effectively save for retirement, they are more likely to do

so, even if their initial attitude towards saving is not strong. (b) Conversely, if individuals doubt their ability to save, a positive attitude toward retirement savings might not lead to actual saving behavior. Employers can enhance PBC by providing financial education and resources to employees [55]. PBC influences individuals' confidence in their ability to save for retirement. Individuals who feel more in control of their financial actions are more likely to translate positive attitudes toward retirement savings into actual saving behaviors. This control can enhance the impact of positive attitudes toward retirement savings on saving behavior [28].

Various studies in different disciplines have discussed the role of perceived behavioral control (PBC) as a moderator in the relationship between attitude and specific behavior. This suggests that individuals with higher PBC are more likely to translate positive attitudes toward recycling into actual recycling behavior. Specifically, individuals who believe they have the ability and resources to recycle (high perceived behavioral control) are more likely to act on their positive attitudes toward recycling because they feel more confident in their ability to overcome barriers to recycling. The study found that the relationship between attitude and recycling intention is stronger among individuals with high perceived behavioral control. Conversely, individuals with low perceived behavioral control in environmental messages, such as a PSA video on recycling, can effectively increase their recycling intention by improving their attitude toward recycling. This suggests that PBC can influence how persuasive messages are processed and acted upon [73].

Research in another discipline also demonstrates that PBC can moderate the effect of attitudes on behavior by influencing individuals' perceptions of their ability to perform the behavior. For instance, even if someone has a positive attitude toward road violations, if they perceive that they do not have control over performing such actions (due to external factors or personal limitations), they may be less likely to commit them [74]. Other studies that examined the connection between exercise and energy consumption have found that as PBC increases, the impact of attitude on the intention to perform a behavior also grows. If someone believes they can easily perform a behavior, their positive attitude toward that behavior is more likely to lead to actual action. While findings on specific behaviors suggest that the moderating role of PBC could be applied to other actions as well, indicating a broad relevance of this relationship [75].

The present study investigates the impact of civil servants' behavior on retirement savings in Malaysia. While previous research has explored the effects of certain factors on retirement savings behavior, this study specifically examines the influence of civil servants' behavior on retirement savings. This study aims to determine whether this perspective provides additional insights into retirement savings behavior. Therefore, based on the aforementioned arguments, the study hypothesizes the following:

H8: Perceived behavioral control does significantly moderate the relationship between attitude towards retirement savings and retirement savings behavior

8b) Perceived Behavioral Control Moderates the Relationship Between Subjective Norms (SN) and Retirement Savings Behavior (RSB): Perceived behavioral control, which includes financial literacy, mental accounting, and financial cognition, plays a significant role in individuals' ability to engage in financial planning, particularly in saving for retirement. It acts as a mediator between subjective norms (such as financial socialization) and individuals' intentions and behavior regarding retirement savings. This suggests that the stronger the individuals' perceived control over their financial decisions, the more likely they are to conform to societal expectations and norms regarding retirement savings. Essentially, PBC enhances the influence of subjective norms on retirement saving actions by providing individuals with the knowledge and confidence necessary to save for retirement [49].

In research on recycling, it has been found that PBC can influence the relationship between subjective norms and recycling behavior. People with high PBC are more likely to believe in their ability to recycle, even without strong social pressure to do so. The confidence in their ability helps them overcome the lack of social encouragement. On the other hand, for individuals with low PBC, the impact of subjective norms on recycling behavior may be stronger. If these individuals perceive strong social support or pressure to recycle, they may be more likely to consider recycling, even if they feel less capable of doing so. Subjective norms show the highest variance in behavioral tests, possibly because researchers found that moral norms play a significant role in shaping subjective norms [73].

In a different light, PBC influences the connection between subjective norms and road violation behavior, illustrating the intricate relationship between individual control perceptions and the impact of social pressures on behavior. When individuals believe they have high control over their actions, subjective norms are more likely to encourage road violations. Conversely, if individuals perceive they have low control over their actions, the impact of subjective norms on road violations decreases. This is because the perceived lack of control serves as a barrier to translating social pressures into actual behavior [74]. Previous studies also discovered that as PBC increases, the impact of subjective norms on behavioral intentions decreases. This indicates that when individuals feel more in control of performing a behavior, they are less influenced by their perceptions of others' expectations. These findings are consistent for two different behaviors (exercising and reducing energy consumption), suggesting that greater perceived control reduces the influence of social pressures on decisions to engage in the behavior [75].

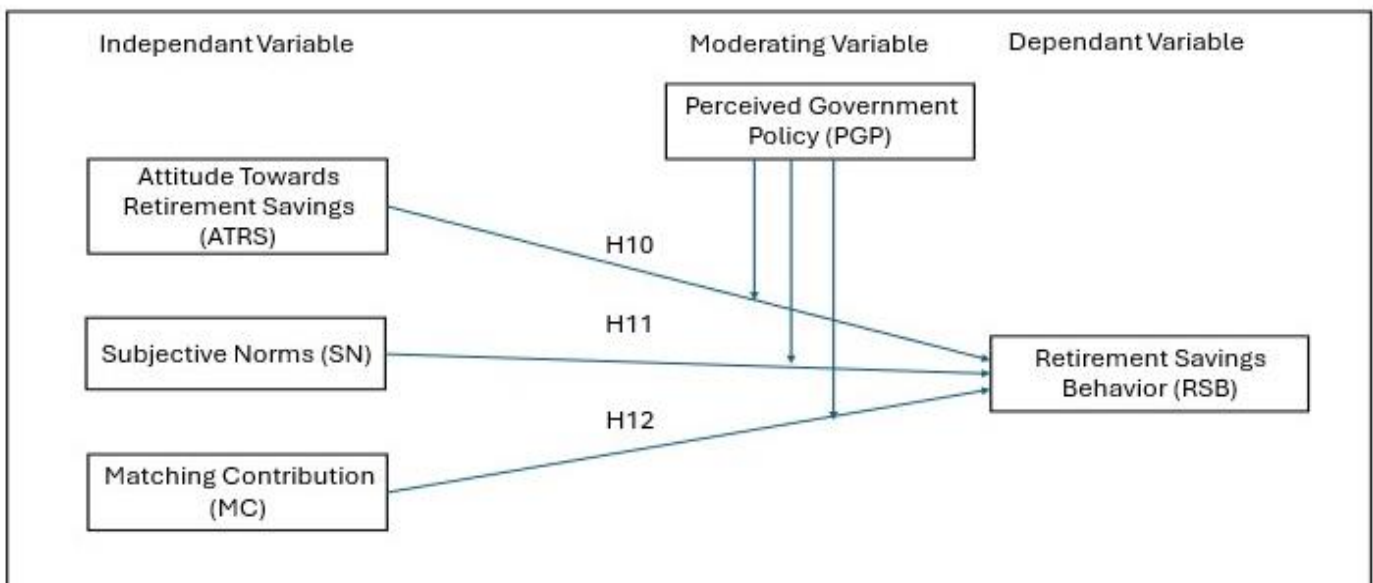
Perceived behavioral control (PBC) can either strengthen or weaken the impact of subjective norms on recycling behavior. This emphasizes the importance of taking individual perceptions of control into account when designing interventions to promote retirement savings behavior. Based on these considerations on the moderating effects of perceived behavioral control on the relationship between retirement savings behavior, attitudes, and subjective norms, this study proposes the following hypothesis:

H9: Perceived behavioral control does significantly moderate the relationship between subjective norms and retirement savings behavior.

9) Moderating Effects Of Perceived Government Policy (PGP):

Based on Figure 2, perceived government policies can moderate the relationship between civil servants' attitudes and their retirement savings behavior. When civil servants perceive government policies as supportive and beneficial, their positive attitudes toward retirement savings are more likely to translate into proactive savings behavior.

Figure 2: The Moderating Role of Perceived Government Policy



Policy between Retirement Savings Behavior with Attitude Toward Savings (ATRS), Subjective Norm (SN), and Matching Contributions (MC)

9a) Perceived Government Policy (PGP) Moderates the Relationship Between Civil Servants' Attitude and Retirement Savings Behavior (RSB): The attitudes of civil servants toward retirement savings are influenced by their trust in government policies, the perceived stability and reliability of pension schemes, and the clarity and communication of these policies. Positive perceptions can lead to a more favorable attitude toward saving

for retirement. Civil servants who are well-informed about government policies and feel that these policies are designed in their favor are more likely to save for retirement. Conversely, if they perceive the policies as inadequate or unreliable, their positive attitudes may not necessarily lead to increased savings behavior. A few studies examined the role of Perceived Government Policy (PGP) as a moderating factor in the relationship between civil servants' attitudes and Retirement Savings Behavior (RSB). Some studies emphasize that PGP, as an external factor, significantly influences both savings behavior and the attitude of Malaysian civil servants, suggesting that PGP may have a potential moderating effect [76].

The role of perceived government policy (PGP) as a moderating factor has been studied in previous research. There is evidence suggesting that PGP has a significant positive relationship with financial planning for retirement. Previous studies have highlighted that PGP moderates the relationship between retirement goal clarity and financial planning for retirement. However, there is no evidence that it moderates the relationship between attitude and financial planning for retirement. The primary focus was on financial self-efficacy and retirement goal clarity as the main factors affected by perceived government policy [11]. There have been few studies investigating PGP as a moderating factor in the context of attitude and RSB. Additionally, several studies applied PGP to moderate the relationship between attitude and specific behavior. For instance, the effectiveness of PGP significantly influences recycling behavior and supports policy measures. The perceived effectiveness of policy measures is expected to correlate with behavioral intentions, indicating that policy measures serve as motivational tools to change people's behavior. Research has shown that the perceived effectiveness of policy instruments, such as incentives versus disincentives, can impact the acceptability of policy measures, which in turn, influences recycling behavior [77]. Moreover, a study found that PGP moderates the relationship between residents' attitudes toward waste separation and their actual separation behavior [78]. The finding suggests that how effective residents perceive these policies to be can strengthen or weaken the impact of their attitudes on their behavior.

A study suggested that government subsidies have a significant positive impact on residents' energy-saving behavior. This indicates that these policies can amplify the effect of energy-saving attitudes on behavior. It also emphasized that energy-saving attitudes and environmental responsibility positively influence energy-saving behavior. Additionally, government subsidy policies specifically enhance the impact of energy-saving attitudes. The findings imply that government policies not only directly influence energy-saving behavior but also interact with psychological factors such as attitudes to further promote energy conservation. The study also indicated that effective government policies, when positively perceived by residents, can significantly enhance the impact of their energy-saving attitudes on their behavior. This makes these policies a crucial tool for promoting energy conservation [79].

Research indicated that government incentives such as tax breaks and subsidies have a positive impact on the sales of hybrid and new energy vehicles (NEVs). However, these policies have a weak moderating effect on the relationship between consumers' attitudes and their purchase behavior. Though government policies can influence the purchase of NEVs, their effect is generally small, as financial benefits, performance attributes, and psychological needs also play important roles in this relationship [80]. Furthermore, the relationship between attitude toward entrepreneurship and the actual development of entrepreneurial ventures can be significantly influenced by perceived government policies (PGP). PGP can enhance individuals' attitudes toward entrepreneurship by creating an encouraging and safe environment for starting new ventures. Government policy acts as a moderator between attitudes toward entrepreneurship and entrepreneurial development. It means that the effect of individuals' attitudes on their likelihood to engage in entrepreneurship can be strengthened or weakened depending on PGP [81]. Another study from a different discipline shows that government intervention can strengthen the positive relationship between safety values and the buying attitudes of consumers toward green products. When consumers perceive strong government support for green products, their safety concerns are more likely to translate into positive buying attitudes. PGP is a significant moderating factor that can influence the relationship between consumer attitudes and values and their green product purchase behavior. This highlights the importance of government action and policy in promoting green consumption [82].

In addition, another study examined the intricate link between farmers' attitudes toward environmental protection and their actual involvement in such initiatives. The study particularly investigated the influence of

PGP on this connection. The findings generally show a positive inclination among farmers, suggesting a strong willingness to engage in environmental protection efforts. The study emphasizes the significance of a supportive policy framework in bridging the disparity between farmers' positive attitudes toward environmental protection and their practical involvement in these endeavors. It highlights the necessity for policies that not only foster positive attitudes but also facilitate the realization of these attitudes into concrete actions [83]. A previous study on vaccination behavior discovered that PGP positively moderates the relationship between attitude and vaccination behavior among teachers [84]. Research across diverse fields of studies shows that PGP can moderate the relationship between attitude and RSB among civil servants in Malaysia. A positive perception of government policies strengthens the influence of positive attitudes on retirement savings behavior. Civil servants who perceive that the government offers adequate retirement benefits and incentives are more likely to act on their positive attitudes and save for retirement. Consequently, based on the arguments outlined, the present study proposes the following hypothesis:

H10: Perceived government policy does significantly moderate the relationship between civil servants' attitudes and retirement savings behavior.

9b) Perceived Government Policy Moderates the Relationship Between Civil Servants' Subjective Norms and Retirement Savings Behavior: PGP can moderate the influence of subjective norms on retirement savings behavior through the implementation of incentive structures, educational programs, regulatory environments, and clear communication about public pension systems. By establishing a supportive framework and providing the necessary tools and information, governments can strengthen the subjective norms that encourage proactive retirement savings behavior among civil servants and the broader population. Very few studies investigated this relationship in the context of RSB. Past multidisciplinary studies reveal different findings relevant to the current study. For instance, research shows that government incentives, such as tax breaks and subsidies, boost sales of hybrid and new energy vehicles. However, their impact on the relationship between subjective norms and purchasing behavior is weak. Public awareness of government policies can act as a moderator in the acceptance process of NEVs. When consumers are more aware of these policies, they may be more inclined to purchase NEVs to align with subjective norms and expectations. PGP does moderate the relationship between subjective norms and the purchase of new energy vehicles, but the effect is generally small. While these policies can influence purchase willingness and timing, they are not the sole motivator for consumers [80]. The relationship between subjective norms and separation behavior is moderated negatively by the perceived effectiveness of inducement policies. This means that when residents believe the policies are effective, the influence of social pressures or norms on their behavior to separate waste decreases [78].

PGP can influence the association between subjective norms and energy-saving behavior, either making it stronger or weaker. For example, if people believe that the government strongly supports energy-saving efforts, the social pressure to save energy (subjective norms) may have a greater impact on their actual behavior. Research indicates that government policies, such as subsidies and incentives, can significantly affect energy-saving behaviors by making it easier and more rewarding for people to adopt these behaviors. PGP plays a significant role in moderating the relationship between subjective norms and energy-saving behavior. When individuals perceive strong government support for energy-saving initiatives, the social pressure to save energy is more likely to result in actual energy-saving actions [79].

PGP moderates the relationship between farmers' intention to participate and their actual behavior in environmental protection. Supportive environment policies strengthen the positive impact of participation intention on actual behavior; when farmers view government policies favorably, subjective norms have a stronger influence on their participation [83]. A study suggests that PGP positively moderates the link between subjective norms and vaccination behavior among teachers. This implies that when teachers perceive government vaccination policies as effective, they are more likely to be swayed by social pressures to vaccinate. Teachers have a vital role in influencing vaccination decisions within families, highlighting the importance of their perceptions of policy effectiveness [84]. Overall, the study demonstrates that most findings still show some level of relationship, whether strong or moderate, but are subject to other contributing factors. Therefore, the study proposes the following hypotheses:

H11: Perceived government policy does significantly moderate the relationship between civil servants' subjective norms and retirement savings behavior.

9c) Perceived Government Policy (PGP) Moderate the Relationship Between Matching Contributions (MC) and Retirement Savings Behavior (RSB): Few studies examined how PGP moderates the relationship between matching contributions and RSB. Most research highlighted the direct relationship between matching contribution and savings behavior, emphasizing that PGP is necessary to strengthen the behavior. A study by [85] found that financial incentives, such as matching rates, effectively boost savings behavior, with higher match rates leading to increased saving amounts. It highlighted the power of these incentives as motivators and suggested that structured incentives could benefit from government support. Government policies that support or enhance these incentives could strengthen the relationship between matching contributions and savings behavior by increasing trust and participation in savings programs.

Various literary works have discussed matching contributions offered by employers to retirement savings plans as an additional incentive, which is also encouraged by public policy. The employer's matching contributions were designed to further incentivize employees to contribute their retirement savings. Research has shown that a matching contribution of 25% can increase savings plan participation by approximately 5 percentage points. While the effect is modest, it indicates that financial incentives, including those supported by government policies, influence savings behavior. The perceived gain or pain (PGP) of retirement savings moderates the relationship between matching contributions and retirement savings behavior. Specifically, PGP influences individuals' motivation to save based on the availability of employer's matching contributions, suggesting that perception of these policies affects responsiveness to the incentives. Although the relationship is modest, PGP plays a significant role in moderating this relationship [67].

In Türkiye, research primarily focused on the effects of a national matching contribution policy reform. They found an association between matching contributions and retirement savings behavior, which was significantly influenced by PGP. The policy resulted in a 111% increase in the monthly average of new individual pension system participants, indicating a strong response to government-supported financial incentives. Furthermore, an 18% increase in average contributions was observed after the implementation of the matching contribution policy, further highlighting the effectiveness of government intervention in encouraging retirement savings. Thus, the results of the study suggested that positive PGP significantly enhances the effectiveness of such financial incentives [86]. Research in Turkey has found that government matching contributions significantly encourage savings in voluntary pension programs. In Türkiye, government matching is universal rather than targeted. Thus, the perception of fairness and inclusivity could further moderate the relationship between matching contributions and savings behavior, potentially leading to higher participation rates [87]. Overall, the study suggests that PGP moderates the relationship between matching contributions and savings behavior. This is achieved by influencing public trust, perceived benefits, and the willingness to participate in retirement savings programs. Based on these arguments, the study postulates the following hypothesis:

H12: Perceived government policy does significantly moderate the relationship between matching contributions and retirement savings behavior.

Conceptual Framework

The determinants of retirement savings behavior among civil servants in Malaysia are identified by the research conceptual framework of this study, as indicated in Figure 1. The framework presents a comprehensive framework on RSB among civil servants in Malaysia. It highlighted the antecedents of independent variables of Attitude Towards Retirement Savings (ATRS), namely Financial Risk Tolerance (FRT), Past Behaviors (PB), and Subjective Norms, which are presented as psychological elements, while financial consideration is represented by Matching Contributions (MC) on Retirement Savings Behavior (RSB). This research also examines the moderating impact of Perceived Government Policy (PGP) and Perceived Behavioral Control (PBC) and the antecedents, namely Financial Literacy (FL) and Self-Control (SC), between the independent variables and RSB among civil servants in Malaysia. The development of the framework is based on the integrated Extended Interactive Theory of Planned Behavior (EITPB), Behavioral Economics Model (BEM), and Rational Choice Theory (RCT)

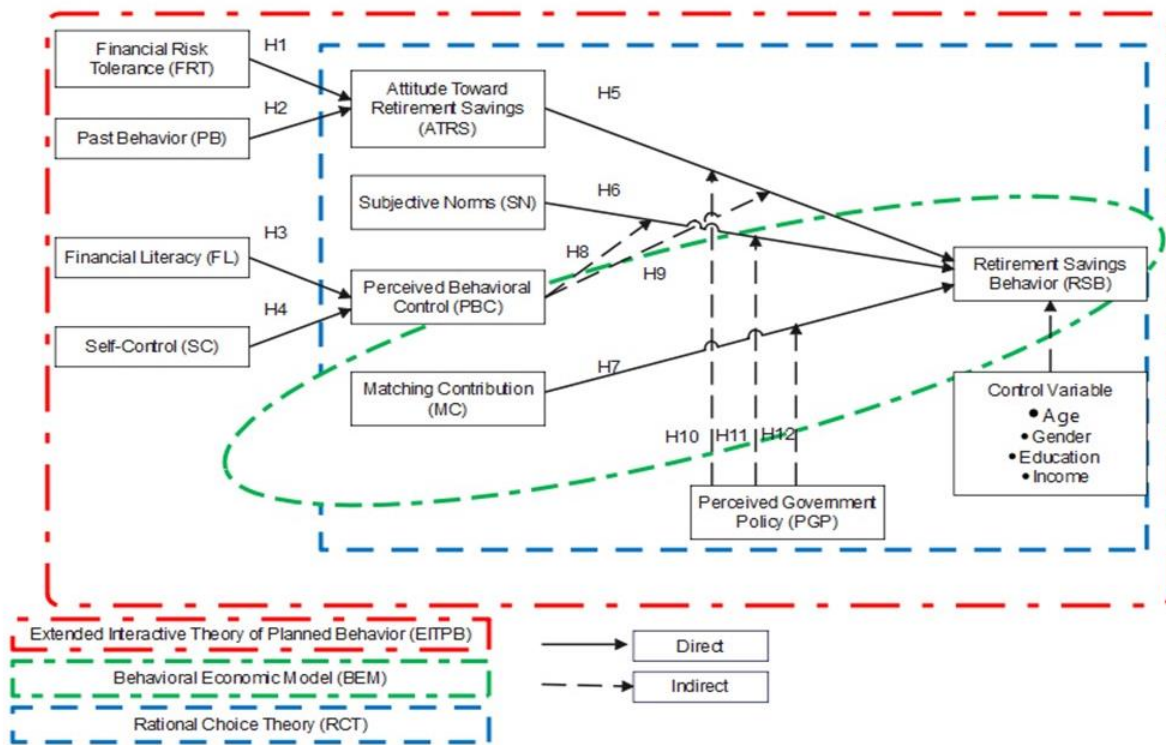


Figure 3: Conceptual Framework

DISCUSSION

Findings from previous studies confirmed that financial risk tolerance (FRT) and past behavior (PB) shaped the attitudes toward retirement savings among Malaysian civil servants. These results align with the current conceptual framework, where FRT contributes to a more optimistic view of long-term financial commitments [88]. Similarly, the influence of PB highlights the importance of individuals' historical financial decisions as predictors of their savings attitudes, reinforcing earlier findings by [47]. The integration of these variables into the Extended Interactive Theory of Planned Behavior (EITPB) highlights their pivotal role in developing targeted strategies to enhance retirement savings. This study emphasizes the dual impact of financial literacy (FL) and self-control (SC) on perceived behavioral control (PBC). High levels of FL equip individuals with the knowledge required to navigate complex financial environments, while SC facilitates disciplined savings behavior. The significant correlation between these factors and PBC is consistent with prior research, which highlights their combined effectiveness in improving financial decision-making [89]. This finding suggests that interventions focusing on both education and behavioral regulation could strengthen perceived self-efficacy in financial planning.

The results from previous studies reveal that subjective norms (SN) and attitudes toward retirement savings strongly influence retirement savings behavior (RSB). SN, reflecting the social pressures perceived by individuals, is shown to be a powerful motivator for adopting proactive savings behaviors. This aligns with findings by [90] on the influence of social expectations in financial decision-making. Similarly, positive attitudes toward retirement savings emerge as critical drivers, reinforcing the need for strategies that reshape perceptions about long-term financial preparedness. The significant role of matching contributions (MC) in promoting RSB is evident. The finding highlights the effectiveness of financial incentives in motivating savings among civil servants, aligning with studies on structural interventions in financial planning [47]. The practical implications emphasize the necessity for policymakers to integrate matching schemes as a cornerstone of retirement planning frameworks.

The moderating effect of PBC in the relationship between attitudes, SN, and RSB confirms its importance in shaping financial behavior. Individuals with high PBC are better equipped to translate positive attitudes and societal expectations into actionable savings behaviors. This interaction effect aligns with previous research, suggesting that enhancing perceived control could amplify the effectiveness of attitudinal and normative

interventions [72]. The findings in previous studies illustrate that perceived government policy (PGP) moderates the relationship between matching contributions (MC), attitudes, subjective norms (SN), and retirement saving behavior (RSB). Policies perceived as supportive enhance these relationships, reinforcing the pivotal role of external support systems in fostering a savings culture. This result is consistent with [11], who asserted that policy frameworks significantly impact financial behavior, particularly in the public sector context.

CONCLUSION

Numerous studies conducted both globally and locally have identified various theories, models, and determinants of retirement savings behavior. This study found that both psychological and financial factors significantly affect retirement savings behavior among civil servants in Malaysia. These theories, models, and determinants of retirement savings behavior were integrated into a comprehensive conceptual framework on retirement savings behavior among civil servants in Malaysia. The antecedents' independent variables of Attitude Towards Retirement Savings (ATRS), comprising Financial Risk Tolerance (FRT), Past Behaviors (PB), and Subjective Norms, are presented as psychological elements; meanwhile, financial considerations include Matching Contributions (MC). These factors' influence on Retirement Savings Behavior (RSB) among civil servants in Malaysia was examined. Additionally, the research also explored the moderating role of Perceived Government Policy (PGP) and Perceived Behavioral Control (PBC) and the antecedents, namely Financial Literacy (FL) and Self-Control (SC), in the relationships between independent variables and RSB among civil servants in Malaysia. The development of the framework is based on the integrated Extended Interactive Theory of Planned Behavior (EITPB), Behavioral Economics Model (BEM), and Rational Choice Theory (RCT). The findings suggest that enhancing financial literacy and offering matching contributions improve retirement savings behavior among civil servants in Malaysia. Twelve hypotheses were developed to test the relationships between all variables as they offer clear direction for what the current study is looking to find, especially in retirement savings behavior. It allows the current study to test predictions on retirement savings behavior while adding new empirical knowledge.

Future research should explore other variables, such as replacement rate and dividend on savings, to increase retirement savings behavior among civil servants in Malaysia. This study's conceptual framework has the potential to benefit various stakeholders, particularly civil servants in Malaysia, seeking to prepare adequately for their retirement years. Furthermore, future studies could extend the scope of this research by investigating diverse populations beyond Malaysian civil servants. Comparative studies involving private sector employees, self-employed individuals, or retirees could uncover variations in savings behavior driven by different occupational contexts and financial constraints. Another potential avenue for exploration lies in incorporating qualitative methods to complement quantitative findings. Semi-structured interviews or focus groups could provide deeper insights into how personal motivations, cultural norms, and institutional policies influence retirement savings behavior. Additionally, examining the role of emerging digital financial tools in improving financial literacy and self-control is a promising avenue for future investigation.

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