

**FINANCIAL BEHAVIOUR AND PERCEIVED  
FINANCIAL PREPAREDNESS FOR RETIREMENT OF  
TECHNICAL EDUCATION TEACHERS IN ANDHRA  
PRADESH**

Thesis Submitted for the Award of the Degree of

**DOCTOR OF PHILOSOPHY**

**in**

**MANAGEMENT**

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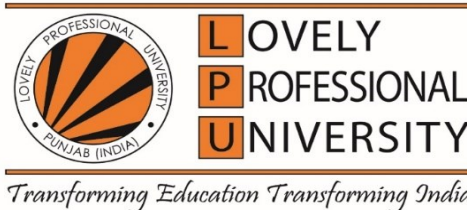
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**2024**

## **DECLARATION**

I, hereby declared that the presented work in the thesis entitled “**Financial Behaviour and Perceived Financial Preparedness for Retirement of Technical Education Teachers in Andhra Pradesh**” in fulfilment of degree of **Doctor of Philosophy (Ph.D.)** is outcome of research work carried out by me under the supervision of Dr. Pawan Kumar, working as Marketing Professor, in the Mittal School of Business Management of Lovely Professional University, Punjab, India. In keeping with general practice of reporting scientific observations, due acknowledgements have been made whenever work described here has been based on findings of other investigator. This work has not been submitted in part or full to any other University or Institute for the award of any degree.

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## CERTIFICATE

This is to certify that the work reported in the Ph. D. thesis entitled "Financial Behaviour and Perceived Financial Preparedness for Retirement of Technical Education Teachers in Andhra Pradesh" submitted in fulfillment of the requirement for the award of degree of Doctor of Philosophy (Ph.D.) in the Finance, Mittal school of Business Management, is a research work carried out by Kiran Kumar Voleti, Registration No.41800370, is bonafide record of his original work carried out under my supervision and that no part of thesis has been submitted for any other degree, diploma or equivalent course.

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## **Abstract**

Today there is a significant paradigm shift towards lifestyle and expenditure associated with the consumer buying process. As aging is a global phenomenon, it is crucial to plan for the financial behavior of every individual well in advance. It is evident that while planning for financial behavior, it is imperative to understand various financial preparedness and risks associated with now and in the future.

Limited studies have explored Financial Literacy (FL) and Retirement Planning (RP) specifically for senior high school and higher education teachers Agyemang et al., (2021), Surender & Sarma, (2017). Several studies have indicated that factors such as Future Time Perspective(FTP) Noone et al., (2012), Clark et al., (2012), Financial Risk Tolerance Arora and Mishra., (2023), Park & Martin, (2022), and Financial Knowledge(Financial Knowledge) Ademola et al., (2019), Heraty & McCarthy, (2015) influence Perceived Financial Preparedness for retirement (PFPR). An extensive Literature review suggested a correlation between FL and RP controlled by socio-demographic and psychosomatic factors.

This study investigates the Perceived Financial Preparedness for Retirement among technical education teachers in Andhra Pradesh, India. Given the global aging phenomenon and the financial vulnerability of technical teachers due to government intervention in fee structures, understanding their retirement planning is crucial. The research aimed to identify key factors influencing Perceived Financial Preparedness for Retirement in this specific population.

A self-administered online survey was conducted, yielding 535 usable responses from technical education teachers. The questionnaire, based on content analysis of relevant literature, was distributed through various online platforms. SPSS & Smart PLS was employed for data analysis. Results indicate that Financial Knowledge and Future Time Perspective significantly impact Perceived Financial Preparedness for Retirement. Contrary to common findings in the literature, Financial Risk Tolerance was found as statistically insignificant in this study. The mediating influence of Financial Risk Tolerance between Future Time Perspective and Perceived Financial Preparedness for Retirement was rejected ( $p = 0.370$ ). These findings offer

valuable insights for policymakers and researchers in developing targeted interventions to enhance retirement planning among technical education teachers. The research adds to the existing literature by exploring retirement concerns in a non-Western setting, enhancing understanding of retirement planning behaviors in diverse socio-cultural settings.

This research addresses an acute gap in retirement planning literature and provides practical implications for institutional policies and individual planning strategies. It underscores the importance of considering psychological traits in post-retirement planning and highlights the need for tailored approaches in different cultural and professional contexts.

#### **Research Objectives:**

The main objective of the study is to investigate the impact of financial behavioral variables such as Financial Knowledge, Financial Risk Tolerance & Future Time Perspective on Perceived Financial Preparedness for Retirement of Technical Education Teachers in Andhra Pradesh, India. This study consists of Five objectives. In the first objective the researcher study the influence of socio-demographic and health factors on Perceived Financial Preparedness for Retirement, in the next three objectives the researcher examine the direct relation between the Financial behavioral variables and PFPR and in the final objective the researcher determine the mediating role of Financial Knowledge and Financial Risk Tolerance between Future Time Perspective and PFPR Finally, the model has been empirically tested to understand the strength of relationships between the variables. Following are the objectives of the study.

1. To study the influence of socio-demographic and health factors on PFP for retirement.

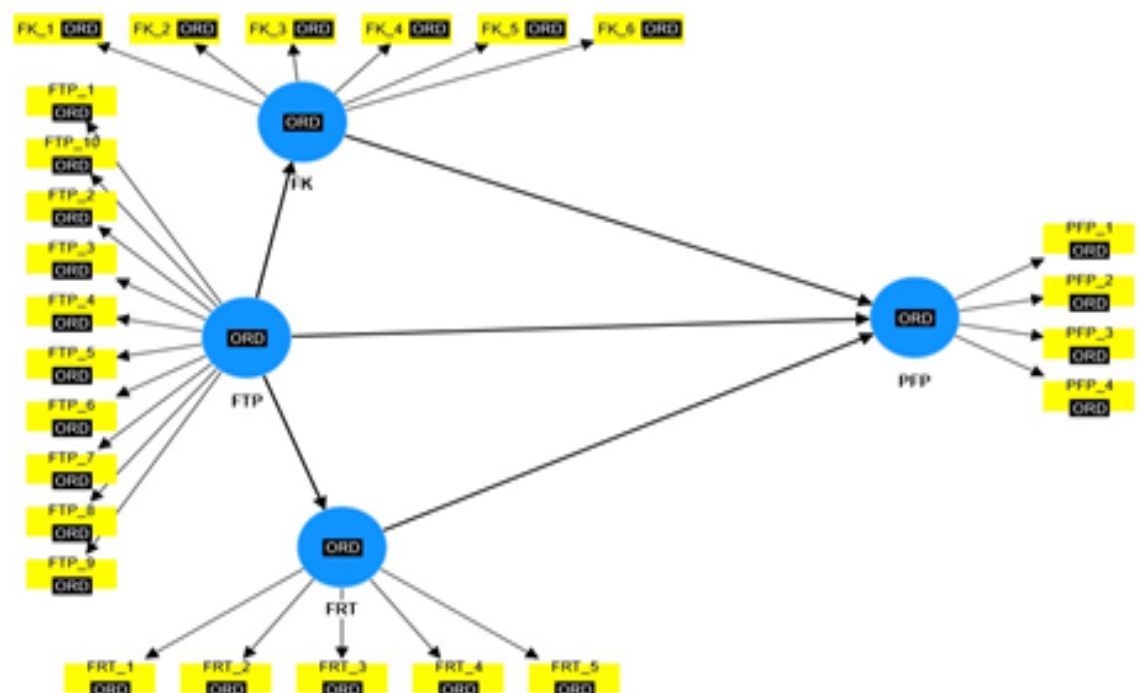
2. To investigate the influence of the Future Time Perspective on Perceived Financial Preparedness for Retirement.

3. To investigate the influence of Financial Knowledge on Perceived Financial Preparedness for Retirement

4. To examine the influence of Financial Risk Tolerance on Perceived Financial Preparedness for Retirement

5. To determine the mediating role of Financial Knowledge and Financial Risk Tolerance between Future Time Perspective and Perceived Financial Preparedness for Retirement.

*The Conceptual Model:*



**Research Hypothesis:**

Hypothesis (1H1): Health factors significantly influence Perceived Financial Preparedness for Retirement.

Hypotheses(2H1): Socio-demographic factors have a significant effect on Perceived Financial Preparedness for Retirement

Hypothesis 3H1: Financial Risk Tolerance significantly positively influences Perceived Financial Preparedness for Retirement.

Hypothesis 4H1: Financial Knowledge significantly positively influences Perceived Financial Preparedness for Retirement

Hypothesis 5H1: Future Time Perspective significantly positively influences Perceived Financial Preparedness for Retirement.

Hypothesis 6H1: Future Time Perspective significantly positively influences Financial Knowledge.

Hypothesis 7H1: Future Time Perspective significantly positively influences Financial Risk Tolerance.

8a) Alternative Hypothesis (8aH1): There is a significant mediating role of Financial Knowledge between Future Time Perspective and Perceived Financial Preparedness for Retirement

8b) Alternative Hypothesis (8bH1): There is a significant mediating role of Financial Risk Tolerance between Future Time Perspective and Perceived Financial Preparedness for Retirement

### **Research Methodology:**

The study employed a Descriptive research approach, which involves both Qualitative and Quantitative research. Descriptive research is made up of three parts: questionnaires, surveys, One-to-One interviews, and observations. A sample size of 535 was determined for the current investigation using a formula created by Bill Godden in January 2004, however as most previous researchers used sample sizes of 500 to 600, the researcher instead used 535.

The research is being conducted in the Indian state of Andhra Pradesh. According to the definition of technical education institutions given on the AICTE website, there are 506 technical colleges in Andhra Pradesh, of which 422 are private engineering colleges, and 84 are public and government-owned colleges. The researcher identified 96 colleges in 422 using systematic sampling accredited with any quality inspection bodies viz. NBA, NAAC, autonomous and deemed to be universities. In this study, the researcher excluded all government-owned colleges because the state and federal governments take care of their well-being through provident funds, pensions, and medical facilities, whereas most private engineering colleges do not. Finally, the study's total population is approximately 15524 technical teachers, with 10868 males and 4656 females. There are 11186 assistant professors, 2539 associate professors, and 1799 professors. The sampling technique utilized was a combination of convenience and random sampling. Based on convenience and availability, the researcher selected

one professor, two associate professors, and four to six assistant professors from each college.

A self-administered structured online survey was used in the investigation. The target population, technical teachers who are concerned about their FPR, was reached using a convenience sample method. The survey was administered via emails, face-to-face interviews, WhatsApp, and other internet channels. This study pulled in 600 responses in total. After screening, 535 responses were taken into consideration for further study while 65 responses were deleted. Brown (2006) suggested that for a sample size to be deemed acceptable, each item should have ten observations. Given that there are 25 items in the study, a sample size of 535 was employed, which is more than the suggested sample size of 250. As a result, the sample size can be deemed appropriate.

#### **Data Analysis:**

The data analysis was done by using SPSS 22, SmartPLS4. Demographic Profile is analyzed using descriptive statistical tools in SPSS 22. The reliability test of the model is measured with a description of the items forming the latent variables and the Internal consistency and reliability test result. Discriminant Validity of the Construct is measured by conducting the tests Heterotrait-monotrait ratio (HTMT), Fornell-Larcker criterion, and cross-loading of constructs. Variance inflation factor (VIF) test was used to measure the constructs multicollinearity. To understand an impact of one construct on another, total effects, significance of total effects, confidence intervals for total effects, and bias The constructs' corrected Confidence interval limits are calculated. Bias is estimated to explore the relationship of mediation among the constructs' particular indirect effect and specific indirect confidence intervals. F-square values for relations and r-square values for dependent constructs are determined to determine the model's quality criteria. To determine the model's predictive quality, construct validity, and indicator cross-validity redundancy are investigated.



## **Findings:**

### **Findings of the descriptive statistics:**

1. It observed that the male members (73.1%) are more conscious of their retired life preparedness than their female counterparts (26.9%).
2. It was found that a maximum of the respondents (91%) are married, this reflects that the married persons have participated in the survey to the maximum extent representing their interest in the preparedness toward retirement and related aspects.
3. Maximum respondents belong to the nuclear family (55.7%), and the rest belong to the joint family. Here, it is clear that the nuclear family members are more concerned with retirement preparedness and related aspects.
4. The respondents themselves are the primary earning members of the family.
5. The earning members in the joint family are two in 30.12% of cases and a spouse in 32.21% of cases and alone in 37.65% of cases. This reveals that most of the joint families' respondents are earning.
6. In the nuclear family, in most of the cases (57.57%), the respondents are taking any decision regarding financial matters.
7. In the case of joint families, the respondent is the primary decision maker ( 52.30% of cases), followed by the spouse (24.26% of cases), and in the rest of the cases (23.4%), both of them take the financial decisions together.
8. The respondent's age is more concentrated in the age ranging from 36 to 45 years (54.2%). This age group is more concerned about RP and Financial Knowledge accumulation. 23.9% of the respondents are within the age group of 26. To 35 years, 19.1% of the respondents are under the age group of 46 to 55 years.
9. I found that a maximum number of respondents (55.5%) have more dependent. Therefore, it is essential on their part to be highly prepared for their retirement times with proper Financial Knowledge and appropriate risk strategy.
10. As revealed in table -10 almost the number persons living in their own house and the number of persons living in rented houses are the same.

11. The maximum number of respondents with income level ranging from Rs 30001 to Rs 60000 is highest with 47%. This shows that most of the respondents belong to the lower middle-class income level. 21.1% of the respondents have a monthly income of below Rs 30000. The higher income group i.e., respondents having a monthly income more than Rs 60000, constitute 14.6% of the total sample.
12. 39.1% and 36.1% respondents are in good and excellent health condition respectively.
13. 51.6% of the respondents have mentioned that they give primary importance to their health conditions. Again, 30.8% of the respondents say they give minor importance to their health. 7.1 percent of the persons are of the opinion that they don't give that importance to their health conditions.
14. It reveals that to remain healthy most of the respondents (61.3%) prefer to eat healthily to maintain good health. The 12.3% of the respondents prefer to do exercise. 13.6% of the respondents have to believe that avoiding harmful behavior have helped them to remain healthy. 5.4% of respondents plan for their long-term health goals. 3.7% of the people go for regular health check-ups.
15. It is revealed that 66.5% of the respondents have health insurance, and the rest 33.5% of the respondents do not have health insurance. Out of the total 535 respondents, 23.7% have individual health insurance, and 76.3% have their group insurance.

### **Findings of the Structural Equation Modelling**

Descriptive analysis of an indicator data shows that it does not follow a normal distribution, providing a valid justification for using the PLS-SEM approach. Furthermore, the mean values of the items consistently fall between 4 and 5, indicating that respondents generally strongly agree with the statements in the survey questions.

The internal consistency analysis reveals that the composite reliability ( $\rho_a$ ) of the data falls within the ranges of both Cronbach's Alpha and composite reliability ( $\rho_c$ ), indicating a very high level of consistency. Notably, the Cronbach's Alpha

values for all constructs are above the standard values i.e 0.7 demonstrating that all constructs are highly reliable.

All construct Average Variance Extracted (AVE) values are greater than 0.5, suggesting that each construct adequately captures its own variance. For all constructs the values of Heterotrait-Monotrait (HTMT) are below 0.85, confirming their empirical distinctiveness. Additionally, the Fornell-Larcker criterion supports the discriminant validity of the constructs.

Collinearity among constructs is an important factor to consider, and the VIF values being below 3 for all constructs indicate that there is no issue of collinearity among the variables.

#### Model Fit Summary

	<b>Saturated Model</b>	<b>Estimated Model</b>
<b>SRMR</b>	0.05	0.054
<b>d_ ULS</b>	0.824	0.935
<b>d_ G</b>	1.344	1.352
<b>Chi-Square</b>	3688.115	3715.645
<b>NFI</b>	0.924	0.822

Source: Author's Calculations

In terms of model fit, the above table says clearly that the SRMR value is 0.050, which falls well within the recommended limits of 0.08, and the NFI value is 0.924, surpassing the recommended threshold of 0.9. These values suggest that the model meets the preliminary requirements for reliability.

The hypothesis testing results, primarily obtained through bootstrapping, reveal that the p-values for all hypotheses, except for the relationship between Financial Risk Tolerance and PFPR, are below 0.05. This suggests that all alternative hypotheses are accepted, indicating significant relationships between the constructs, except for the relationship between Financial Risk Tolerance and PFPR.

Overall, these findings suggest that the PLS-SEM is suitable for the data analysis, and the model meets essential reliability and validity criteria, except for a specific relationship between Financial Risk Tolerance and PFPR.

The present study depicts that the p-value for Financial Risk Tolerance to PFPR is 0.365 which is greater than the 0.05. Hence, the findings firmly said there is no significant influence between Financial Risk Tolerance and PFPR. Therefore, the p-value of mediating effect of Financial Risk Tolerance between Future Time Perspective and PFPR is 0.370 which is  $< (p=0.05)$ ; hence, the hypothesis is rejected.

### **Quality criteria**

Our model has three dependent constructs, i.e., Financial Knowledge, Financial Risk Tolerance, and the PFP for retirement. For Financial Knowledge, Financial Risk Tolerance, and PFP, the independent construct is Future Time Perspective. From table-4.17, it is clear that an individual's Future Time Perspective variation is affected by Financial Knowledge, FRT and PFP to the extent of 59%, 45% & 60.5%, respectively (as  $R^2$  is 0.591, 0.450, 0.605). The adjusted  $r^2$  values are also very close to the r-square values, this indicates that the addition or deletion of any new variables is not going to affect the r-square value too much. Therefore, it is confirmed that the model of this research is qualitatively excellent. The literature suggested that  $R^2$  values of 0.67 as substantial while 0.33 was moderate. Chin, (1998) Peng & Lai, (2012).

The effect size reflects the quality of the constructs, meaning that the relationship is independent of the sample size. In this case, the strength of the relationships remains unchanged regardless of variations in sample size. The minimum acceptable value for f-square is 0.02. Table 4.18 (data analysis chapter) shows that the f-square value exceeds 0.02 for all relationships between Financial Risk Tolerance and PFP, indicating that Financial Risk Tolerance to PFP has a tiny effect size. Other paths exhibit more robust and more substantial effect sizes. Overall, the model demonstrates a good quality of effect size.

Table 4.19 (data analysis chapter) shows the final constructs' predictive power, not the independent ones. The  $Q^2$  values of the final constructs, i.e., Future Time Perspective and PFP are more than 0.5. This indicates that these constructs have a high degree of predictive power.

### **Implications & Future Scope**

#### **Theoretical Contribution:**

The review of previous studies highlights more on FL and RP. Socio-demographic and psychosomatic factors control the findings pertaining to the relationships between FL and RP. The variables such as Financial Risk Tolerance, Future Time Perspective, and Financial Knowledge were independent to a more significant extent. The combination of Financial Risk Tolerance, Future Time Perspective, and Financial Knowledge that influence the PFPR were conducted to a marginal extent. All three variables' integration adds to the theoretical support given the contextual elements prevailing in the state of Andhra Pradesh, India.

#### **Practical Implications:**

The studies conducted by Young et al. (2017), Lissington (2018), Angrisani & Casanova (2021), Noone et al. (2012), and Ali et al. (2015) collectively suggested increased Financial Knowledge has a substantial impact on individuals' PFPR. The research studies conducted by Grable (2016), Xiao et al. (2001), Sung & Hanna (1998), Grima & Pavia (2019), Mayer, et al (2011), Adami, Carosi, & Sharma (2018), Leon & Pringganingrum (2018), Wang (2009), Fisher & Yao (2017), and Kumar et al. (2019) collectively indicate that a higher risk tolerance significantly influences individuals' PFPR. The studies done by Denton et al. (2004), Jacobs-Lawson et al. (2004), Kadoya & Khan (2020), Yang & Devaney (2011), Hershey and Mowen (2000), Kock & Yoong (2011), and L., Ray, A., & Ma (2023) collectively highlight a significant impact of Future Time Perspective on PFPR. This study provides insights to the community of technical teachers on how psychological traits influence post-RP.

#### **Social Implications:**

Our study will help the state and central government to formulate a structured plan for retirement policies. It also suggests that the management and governing body of the institution to include the retirement benefits in HR policies. It suggests community of technical teachers how the psychological traits work on your post-RP.

### **Limitations and Future directions:**

This study's respondents are from Andhra Pradesh, India. Extrapolating the findings to other Indian states can be challenging. Primary and secondary education teachers are out of this study's scope. The Variables of Financial Knowledge, Financial Risk Tolerance, Future Time Perspective, and PFPR were derived from existing literature. There may be other unexplored variables that affect PFPR. Despite multiple relationships, present interventions create both direct and indirect impacts on the perceived financial preparedness, and this study inspected only the direct influences for abridging the implementation process.

**Key words:** Perceived Financial Preparedness for Retirement (PFPR); FK:Financial Knowledge; FRT: Financial Risk Tolerance; FTP: Future Time Perspective; FL: Financial Literacy & RP: Retirement Planning

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**Kiran Kumar Voleti**

**Date: 09-12-2024**

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## **List of Abbreviations**

PFPR: Perceived Financial Preparedness for Retirement

Financial Knowledge: Financial Knowledge

FRT: Financial Risk Tolerance

FTP: Future Time Perspective

AICTE: All India Council for Technical Education

UGC: University Grant Commission

NBA: National Board of Accreditation

NAAC: National Assessment and Accreditation Council

RP: Retirement Planning

FL: Financial Literacy

ANOVA: Analysis of Variance

AVE: Average Variance Extracted

CB-SEM: Covariance Based-Structural Equation Modelling

DV: Dependent Variable

IV: Independent Variable

HTMT: Heterotrait-Monotrait Ratio

NFI: Non-Fuzzy Index

PLS: Partial Least Square

PLS-SEM: Partial Least Square-Structural Equation Modelling

PU: Perceived Usefulness

RMSE: Root Mean Square Deviation

SEM: Structural Equation Modeling

SRMR: Standardized Root Mean Square Residual

TPB: Theory of Planned Behavior

AVE: Average Variance Extracted

LCT: Life Cycle Theory

### **List of Appendices:**

- Research papers
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# Chapter-1

## Introduction

### 1.1 Background of the Study

Aging is a phenomenon, and it is clear that several developed and developing countries are facing unprecedented concerns due to aging, such as higher healthcare costs, potential problems with old-age income security, and post-retirement financial stability. By 2050, 20% of India's population may be 60 or older, which is far more than previous projections. According to the "India Ageing Report 2017" published by the United Nations Population Fund (UNFPA), the percentage of Indians aged 60 and more increased from 8% in 2015 to an expected 19% by 2050.

Anuradh Rao (2018). World Health Organisation data shows that between 2000 and 2015, life expectancy in India increased by six years. That trend will likely continue due to the country's growing access to healthcare. According to the HSBC Future of Retirement research (2019), only 33% of working-age respondents worldwide save for their later years, compared to only 33% of respondents in India who consistently save for retirement. It is vital to plan for financial preparedness; as considerable ranges of financial literacy are needed in the human life cycle.

Retirement is an age-related 'withdrawal from paid working life' with a reduced commitment to work (Denton and Spencer 2009). A retirement planning is an exercise which regularizing life cycle, arrange, tolerating the elements impacting retirement are taken care of. Above all family salary and retirement arrangements are firmly related. The early an individual begins contributing for retirement arranging the more he or she gets the advantages in the later age of their life (C. E. Anderson & Weber, 1993). There is a worldwide trend towards investment autonomy. People are being self-motivated to manage their own retirement savings. Individuals are expected to make important decisions about investing in retirement plans though they don't possess optimum expertise.

Globally, about half of the working people are giving greater importance to live in the present and enjoy life now rather than planning for the future. As many as 56% people live on a day-to-day basis financially which could store up problems in the future, *“Living costs have gone up so much today that most working people don’t save enough to plan their retirement but one should be able to set aside a small amount to avoid depending on others in their retirement”*(Sanghvi, 2018). While 51% are worried about residential care in their retirement, only 65% are aware of the costs of living in a residential home. About 19% people are saving for future nursing or care home fees (Sanghvi, 2018)

As many as 69% of people expect to continue working during retirement and 54% are hoping to start a business. Retirement is likely to have two stages. The first stage is right after finishing work where the individual may be busy with familial commitments, agile and in better health. About 59% think this stage would last longer. The second stage is when one is likely to incur most costs and planning for this stage is most important. About 68% expect to fund this through pension schemes and only 54% said they’d fund it through personal savings (Sanghvi, 2018).

According to research done in 1998 by Warshawsky and Ameriks, proper financial preparation is crucial for ensuring an active and enjoyable retirement. Numerous studies (Agabalinda & Isoh, 2020; Segel-Karpas & Werner, 2014; Boisclair et al., 2017; Nolan & Doorley, 2019; Hui et al., 2016) have been conducted to comprehend the significance of financial readiness in different cultural contexts. Only a few researchers have examined how Millennials consider retirement savings necessary (Young et al., 2017). Extensive literature evaluations show that demographic indicators (Stawski et al., 2007) and psychological factors that underpin financial planning for Retirement (Hershey & Mowen, 2000) are used in financial planning and investment. A later study (Karpas & Werner, 2014) examined how financial literacy, social support, and institutional backing influenced retirement plans. Further research is needed to identify the precise psychological components impacting financial well-

being, according to a study (Shobha & Chakraborty, 2017), which also indicated that psychological factors have a more substantial influence on financial well-being than an individual's demographic, social, and economic characteristics.

The influence of retirees' socioeconomic position on their views of financial sufficiency was examined in a recent study by León (2023). It came to light that the teacher retirement fund could not cover essential expenses or prevent reliance on the government in the future. Amani et al., (2023) highlighted seven obstacles to retirement planning, in their study of academics in higher education. Not knowing enough about retirement planning, not having the necessary skills to manage investments, not setting spending priorities, having the wrong attitude towards retirement, having to deal with financial restrictions caused by comprehensive family needs, retirement policies, and deviations in the law, and not having enough time to oversee investments are all factors to consider.

According to research (Tandon & Singh, 2021), the factors influencing respondents' thoughts were their financial attitude, Financial Knowledge, and financial activity. (Vaghela et al., 2023) Financially literate People tend to have more favorable views toward money, leading to better money habits. According to a recent study by Amani and Fussy (2023), several factors make it difficult for teacher retirees to transition smoothly from working to retirement. These include not saving enough money, accumulating debt at a high rate, starting a family later in life, not keeping good records, and not taking advantage of opportunities for professional growth.

Since then, many researchers have explored the impact of financial literacy on retirement readiness (Agabalinda & Isoh, 2020; Akben-Selcuk & Aydin, 2021). Researchers also identified the factors such as financial risk tolerance (Park & Martin, 2022; Noviarini et al., 2021), financial knowledge (Ademola et al., 2019), and future time perspective (Clark et al., 2019; Noone et al., 2012) influences the individuals' perceptions of their financial preparedness for retirement.

According to a comprehensive literature analysis, research on retirement savings has been conducted. It is also clear that numerous research has used cross-

sectional and cross-cultural approaches. In India, there has been a rise in the number of technical educational institutions, thereby the demand is increasing for the technical teacher's recruitment. The All India Council for Technical Education (AICTE) estimated that 30,000 technical teachers are recruited every year. It is also evident that technical teachers from central and state universities were provided attractive pension plans after retirement. However, many technical teachers from private institutions invest in the National Pension Scheme(NPS), Public Provident Funds (PPF), mutual funds, and medical insurance. Hence, the current study aims to identify primary determinants affecting technical educators' Financial Preparedness for Retirement (PFP) while also analyzing the interconnections among the underlying variables. It introduces a theoretical structure to deepen the understanding of technical teachers' PFP. This conceptual model identifies "FTP" (Future Time Perspective), " Financial Knowledge " (Financial Knowledge), and "FRT" (Financial Risk Tolerance) as pivotal elements influencing PFP.

## 1.2 Conceptualization definition VS Operationalization definition

<b>Construct</b>	<b>Conceptualization definition</b>	<b>Operationalization definition</b>
Financial Knowledge	The ability to use the knowledge & skill towards PFP for Retirement.	Financial Knowledge is an independent variable which is used to measure the present knowledge of an individual and its association with the PFP for Retirement. To measure it Six item 7 point Likert scale is developed.

Financial Risk Tolerance	The maximum degree of uncertainty that an individual is willing to endure when making a financial choice.	It is an independent variable, which is used to measure the individuals' attitude towards risk, specifically applied to PFP for Retirement. To measure it five item 7 point Likert scale is developed.
Future Time Perspective	The disposition of an individual to prioritise the future over the past and present.	It is an independent variable which is used to to evaluate the degree to which individuals prioritize the future i.e. Post retirement life, rather than the present or past. 10 item 7 point Likert scale is developed to measure Future Time Perspective.
PFP for Retirement	An Individual awareness and opinion on the part of the amount required To sustain a state of financial independence throughout the entirety of the retirement period	A Likert-type scale consisting of four items was created to assess PFP. The items in this scale focused on gauging individuals' comprehension of the amount of money required to adequately cover retirement expenses and whether they had performed the necessary calculations to ensure financial stability during the post-employment phase. The scale aimed to measure the degree to which individuals demonstrated awareness and preparedness in managing their finances for Retirement.



### **1.3 Statement of the research problem:**

As per University Grant Commission (UGC) regulations, technical education teachers in India who possess qualifications like National Eligibility Test and Ph.D. are entitled to an annual salary of 7.50 lakh rupees. Presently, the implementation of the 7th pay commission by the AICTE has set the initial monthly salary for Assistant Professors in India within the range of INR 37,500 to 57,700. However, it is essential to note that many colleges in India, specifically Andhra Pradesh, do not strictly adhere to the 7th pay scale. Among the 422 private engineering colleges in Andhra Pradesh, only 96 technical institutions are accredited, and it remains uncertain whether they are remunerating their faculty according to the 7th pay commission.

In today's modern lifestyle, many employed individuals rely heavily on credit cards and opt for Equated Monthly Installments (EMIs) for making payments. However, a significant challenge the general public faces revolves around maintaining the same standard of living even after Retirement. This raises questions regarding whether individuals prioritize savings to sustain their desired lifestyle post-retirement. Additionally, it is crucial to explore how psychological, demographic, and health-related factors influence the preparedness of technical teachers for Retirement.

Comprehensive examinations of existing literature indicate that most research on retirement readiness has predominantly focused on Western countries, while there is a need for more studies conducted in India. Moreover, the existing studies predominantly focus on respondents employed in sectors other than education. In contrast, my research explicitly targets technical teachers working in various educational institutions. Therefore, my study aims to bridge the methodological and population gaps in the current body of literature on retirement readiness.

The research addresses the social issues that most of countries suffer, especially the developed and fast-developing nations. India, which has a population of 125 Billion which emerges as one of the largest nations with aged populations by 2040, needs to address the concerns that arise due to the lack of retirement preparedness.

#### **1.4 Scope of the study**

The study concentrates on the technical teachers of Andhra Pradesh. According to the AICTE, Andhra Pradesh has 506 technical institutions, out of which 422 are private and 84 are government-owned. The teachers in government-owned universities receive benefits such as gratuity, health insurance, provident fund, and other benefits that provide financial support after Retirement. Only a few private accredited institutions with HR policies provide advantages comparable to government colleges. The study consists of primary data which is collected by thirteen districts in Andhra Pradesh (AP). A structured questionnaire is prepared and sent to 650 respondents. The researcher have received 600 respondents from the technical engineering colleges which are having Pharmacy, management studies, engineering departments, architecture, polytechnic, Private universities & Autonomous colleges.

#### **1.5 Rationale of the study:**

The present study efforts on Andhra Pradesh, an Indian state. In Andhra Pradesh, the government has implemented a fee reimbursement scheme for higher education students, mainly targeting those enrolled in technical institutes recognized by the AICTE. The government determines a college's fee based on infrastructure, faculty quality, Ranking, and accreditation. The most common fee structure lies within the range of Rs. 60,000 to Rs.1,50,000.

However, a pertinent question arises regarding how institutes can provide annual increments to their employees if the fees are capped. With inflation and the increasing cost of living, it becomes challenging for management and employees to sustain financially. This situation raises concerns about how technical teachers can effectively keep their current standard of living and plan for retirement.

The psychological aspects influence technical teachers' financial preparedness for retirement. Factors such as attitudes towards savings, risk-taking behavior, perceptions of financial security, Financial Knowledge, and future orientation significantly impact their retirement planning.

## **1.6 Significance of the Study**

Few studies have been carried out to know the attitude of millennials, young people, healthcare professional towards FPR. Few more studies focused on the Financial Literacy and RP are important considerations for both senior high school teachers and higher education teachers.

Teachers in higher education and senior high school should have a sound foundation in Financial Literacy to plan for their post retirement life, make wise monetary decisions, and manage their own finances. Financial Literacy includes understanding financial concepts like budgeting, saving, investing, and debt management.

RP is particularly crucial for teachers in order to ensure a financially secure and comfortable retirement. It involves setting retirement goals, estimating future financial needs, selecting appropriate retirement savings vehicles, and making contributions towards retirement funds.

Both senior high school teachers and higher education teachers can benefit from acquiring Financial Literacy skills and actively engaging in RP to achieve long-term financial well-being and a successful transition into Retirement. (Agyemang et al., 2021; Surender and Sarma, 2017). In India, there has been a rise in the number of technical institutions and thereby recruitment of technical teachers. As per AICTE, it is estimated that 30,000 technical teachers are being recruited every year. It is also evident that teachers from central universities and state universities were being provided with attractive pension plan post retirement. However, many technical teachers from private institutions invest in national pension scheme, public provident funds, mutual funds, medical insurances etc. No study has explored in understanding the perception of technical teachers towards their overall FPR both in Indian as well as global context. Teachers of technical education in Andhra Pradesh were surveyed on their level of Financial Knowledge, Future Time Perspective and Financial Risk Tolerance about PFP for Retirement.

## **CHAPTER 2**

### **REVIEW OF LITERATURE**

#### **2.1 Introduction**

This section establishes the theoretical groundwork for the current study. Its primary objective is to examine existing research on retirement financial readiness perceptions, financial conduct, and associated theoretical frameworks. These include Behavioral Finance Theory, Prospect Theory, Life Cycle Theory, Continuity Theory, the Theory of Planned Behavior, Heuristic Theory, and Simon's Bounded Rationality Theory.

The literature review draws from diverse sources, including academic journals, digital books, and statistical reports. This comprehensive approach has broadened our understanding and highlighted gaps in current research. The researcher compiled and categorized relevant studies into thematic subsections, facilitating a thorough exploration of the research topic.

By synthesizing this information, the researcher aims to provide a robust foundation for our investigation into perceived financial preparedness for retirement and related financial behaviors. This review not only summarizes existing knowledge but also identifies areas where further research is needed, thereby positioning our study within the broader academic discourse.

The structure of this chapter will guide readers through the theoretical landscape, beginning with an overview of key concepts and progressing through detailed discussions of each relevant theory. The researcher examines how these theories intersect and diverge, particularly in their application to retirement planning and financial decision-making. Teachers have a tremendous impact on the lives of students and society. Teachers who demonstrate financial responsibility by managing their own money well might serve as an example for their pupils. Unfortunately, many educators are clueless about handling their own money. There is a belief that teachers in technical education possess lower

levels of Financial Literacy than their non-technical counterparts. Accordingly, a survey of technical and non-technical college professors is being conducted to determine their degree of FPR.

## **2.2 The review of the literature is divided into two parts**

### 2.2.1 Theoretical review

2.2.1.1 Behavioral Finance Theory

2.2.1.2 Prospects Theory

2.2.1.3 The Life Cycle Theory

2.2.1.4 Continuity Theory

2.2.1.5 Theory of Planned Behavior

2.2.1.6 Heuristic Theory

2.2.1.7 Simons bounded rationality theory

2.2.1.8 Contribute to overall coherence

### 2.2.2 Empirical review

2.2.2.1 Perceived Financial Preparedness for Retirement

2.2.2.2 Financial Knowledge

2.2.2.3 Financial Risk Tolerance

2.2.2.4 Future Time Perspective

2.2.2.5 Relationship between Financial Knowledge & PFPR

2.2.2.6 Relationship between Financial Risk Tolerance & PFPR

2.2.2.7 Relationship between Future Time Perspective & PFPR

2.2.2.8 Socio-demographic characteristics & PFPR

### 2.2.3 Critical Issues in Retirement Planning

## **2.2.1 Theoretical Review**

The research was conducted based on well-established hypotheses that have highlighted the need for further investigation into the topic over time. Several theoretical frameworks were considered, including Behavioral, Prospect, and Life Cycle theories, Continuity Theory, Heuristic Theory, Simons bounded rationality theory, and the TPB. These frameworks provided a foundation for understanding and analyzing the factors influencing retirement readiness among technical teachers.

### **2.2.1.1 Behavioral Finance Theory**

Certain financial occurrences may be better understood by utilizing models that accept the limitations of rationality among investors and the incapacity of arbitrageurs to correct all instances of mispricing (Suganya et al., 2013). Numerous psychologists believe that the traditional axioms of financial Theory are faulty, and research has repeatedly backed this opinion. According to Agnew et al (2003), psychological proclivities may influence financial behavior. Agnew, et al (2003) claim that investors need more trust in their judgment since it is hard to calculate long-term investment returns rationally.

Shefrin and Statman (1994) and other authors emphasize that the research on behavioral finance highlights distinct market decision-making features likely to be influenced by behavioral factors. Olsen (1998) explains that there is no unifying behavioral finance theory. Behavioral finance proponents admit that typical financial models, such as profit maximization and rational conduct, may be correct up to a point. However, they argue that this model is flawed because it ignores individual behavior. Given the importance of saving and investing, this research suggests that saving behavior is impacted by factors other than an individual's judgment. These characteristics are based on people's racial and economic backgrounds. As a result, the objective one, of the study examined the impact of demographic variables on financial readiness for retirement.

Behavioural Finance theory recommends that saving conduct is impacted by various factors other than an individual's judgment

### **2.2.1.2 Prospect Theory**

Prospect theory states that individuals are more sensitive to the pain of loss than the joy of a similar gain. Probabilistic outcomes are often underestimated in comparison to more definite ones, and individuals react differently to the same events depending on whether they are presented in the context of losses or profits.

As a psychologically realistic alternative to anticipated value theory, Prospect theory was developed by (Kahneman Daniel, 1979) a Princeton University professor of psychology, and Amos Tversky. According to Kahneman's (2003) explanation of prospect theory, one can characterize how individuals make decisions when faced with risky options. A decision incorporating uncertainty is surrounded and valued in terms of possible profits or losses regarding a specified reference point, generally the purchase price.

Prospect theory explains how a person's mental emotions influence decision-making, such as regret and fear of failure (Bruce & Gupta, 2011). Prospect theory has many significant implications. How economic factors frame a result or transaction in their minds impacts the amount of value they anticipate obtaining. An experiment in which participants had to choose between spending money they had on hand now and conserving money for future purchases was guided by this idea. Discount rates and credit limits are taken into account. Thus, this research looked at how financial considerations moderate the relation between a person's Financial Literacy and their ability to fund their retirement.

Singh et al., (2023) investigated the moderating influence of risk-tolerance behavior on the relationship between personality traits and behavioral biases. Their work contributes to understand that how the individual differences influence financial decision-making.

Research grounded in Prospect Theory suggests that heuristic and cognitive biases play a significant role in shaping investment decisions (Mittal, 2019). This perspective highlights the complexity of financial decision-making processes, moving beyond purely rational models.

Kahneman and Tversky's (2013) definition of cognitive bias as a thinking error that impacts judgments and decisions is fundamental to this field. Their work underscores how systematic deviations from rationality can affect financial choices.

These studies collectively emphasize the importance of considering psychological factors in financial behavior. They suggest that personal differences in risk tolerance and cognitive processes have significant influence on investment strategies and outcomes.

By examining the interplay between risk tolerance, personality traits, and behavioral biases, researchers like Singh et al. (2023) are advancing our understanding of the multifaceted nature of financial decision-making. This line of inquiry has vital effects for financial education, policy-making, and on investment products designing.

Upcoming research in this zone might explore how these factors specifically relate to retirement planning and perceived financial preparedness. Such investigations could provide valuable insights for improving retirement outcomes across diverse populations.

By applying PT, this study explored the interconnectedness among Financial Knowledge, savings practices, and RT concerning RP.

Prospect theory talks about an individual's Financial risk and an ability to fund for their post-retirement life.



### **2.2.1.3 The Life Cycle Theory (LCT)**

According to LCT, an individual's income is rationalized to maximize lifelong utility, which deals with economic choices on retirement saving. The conventional economic approach assumes that a purely logical and very good individual consumes less income when earnings are high (during employment) and save to support for his future. This approach was initially developed based on this assumption (after retirement). Households who engage in this saving activity are better equipped to spread their consumption throughout their lifetime. Using this model, the researcher may assume the following about human behavior: that people are forward-looking and can foresee how much money they will have throughout their lives, know how much money they will need at every stage, and make wise financial choices. Being financially ready for retirement means looking to the future. Thus, the present research uses life cycle theory to explain how people decide whether or not to delay current spending in favor of future savings and investments. For this research, demographic traits, financial considerations, and the independent variable of Financial Literacy were examined to see whether they moderated the impact of financial preparation on retirement readiness.

The life-cycle model is used in RP. In 1985, Franco Modigliani won the Nobel Prize in economics for his research on the relationship between savings and the life cycle. Modigliani posited that people save and spend based on their projected lifetime incomes and consumption rather than solely on their year-to-to-year needs (Modigliani, 1976). When doing a capital requirements analysis to calculate the amount saved and invested for retirement, many scholars and financial planners implicitly employ Modigliani's Theory (Hilgert et al., 2003). Rather than focusing on a single period, savings motivated by the life-cycle principle aim to help people get the most out of their consumption throughout their lifetimes.

The life cycle assumption signifies to an economic theory concentrating on how individuals spend and save money over their lifespans. It stimulates individual to save for post-retirement life during their earnings period.

#### **2.2.1.4 Continuity Theory**

According to continuity theory, people stay fundamentally the same psychologically throughout their lifetimes. They tend to hold on to the same preferences, behavioral habits, and social milieu throughout their lives. If a person is quite active in middle age, they will probably maintain that activity level as long as their health allows it. Because of this, people who were active before retirement will continue to hunt for work even after they stop working. This might be a paid activity in a related or distinct area or a comparable or related field. In addition, if it may be regarded as "continuing" a previous activity, the choice can be utilized to work for oneself. Continuity theory is confirmed by research done by Moorthy (2012), who found that most retirees want to continue doing the same things they did before retiring. The primary demand for stability was described as securely entrenched in the individual's mind by Moorthy (2012), who also noted an internal push towards continuity. Changes in contextual circumstances and the accompanying expectations of the individual's function put pressure on external structures. As a result of changes in contextual settings, any strain on the exterior structures will be met by an equal amount of internal pressure to ensure continuity and stability. A retiree's choice to maintain a profession following compulsory retirement was examined in light of changes in socioeconomic position (external structures) over the post-retirement era. This study aimed to investigate the degree of elasticity experienced by re-employed retirees in their post-retirement career and strategies they adopt to manage. Prior research, conducted by Lusardi et al. (2010), showed that increased flexibility was a necessary prerequisite for working after retirement.

#### **2.2.1.5 Theory of Planned Behavior**

Ajzen (1991) contends that the TPB provides a theoretical framework for comprehending the particulars of individual social behaviour. It is often used to describe people's actions and identify the factors that go into people's evaluations of those actions Xiao & Wu, (2008). The setting of a behavior's goal serves as its blueprint.

TPB is used to determine how a person's deepest convictions impact their economic habits (Zocchi, 2013). As a result, it is crucial to establish which strategies are worth investigating and designed to assist people in implementing particular monetary behaviors. It is recommended that everyone have some money set aside for unexpected expenses (Abrahamse & Steg, 2009). However, one's capacity for saving is impacted by factors including lack of luck, acquaintance, resolve, and attitudes towards savings and financial institutions. Ajzen (1991) and Rutherford and DeVaney (2009) both note that the globally TPB is used to the fields of private finance, asset management, and credit advocacy research.

Variations in pre-retirement lifestyle awareness can reduce retirement endowments Griffin & Hesketh, (2012), affecting people's ability to arrange RP. The potential financial burden of retirement is a significant motivator for people to engage in RP. People's expectations for their financial situation after retirement have prompted them to take the necessary steps toward ensuring a comfortable retirement. Early RP can be influenced by factors such as realistic expectations, well-defined goals, cultural norms, and environmental influences. The incident has shed light on the individual, showing that those who prepare for retirement by setting aside money now would be in a better financial position in their golden years. However, there have been discrepancies in the findings of these empirical studies. To address this, the authors of this study employed a more profound analysis by integrating prospect theory and the planned behavior framework.

The authors hypothesized that Financial Risk Tolerance and saving behavior would act as mediators in this conceptual framework. In contrast, hive mentality in behaving would act as a restraint to show the relationship between Financial Literacy and RP. This study drew Support from several empirical studies, including Baskoro and Aulia's (2019) research on the effect of Financial Literacy on RP, Heenkenda et al.'s studies from 2014 & 2015, Chatterjee, Mahdzan, and colleagues' (2017) research, and

Zazili, (2017), Mahdzan (2017) work on the influence of Financial Literacy on Financial Risk Tolerance, saving behavior, and RP.

#### **2.2.1.6 Heuristic Theory:**

Tversky defined heuristics as strategies that can be applied to various problems and often yield correct solutions, though not always (Tversky & Kahneman, 1981).

This Theory revolves around the concept of heuristics, simplified and efficient rules of thumb that help individuals make decisions, form results, and solve problems, especially after dealing with complex issues or unfinished evidence. As aptly put by (Daniel Kahneman 1979), heuristics typically work effectively, but they can lead to organized cognitive biases in some instances (Parikh, 2011). Tversky and Kahneman's 2013, work has focused more on the impact of human heuristics decision-making process.

The technique by which investors independently find solutions via trial and error and establish useful guidelines of thumb is known as the heuristic decision-making process. It entails applying these heuristics to decision-making in intricate and ambiguous circumstances (Brabazon, 2000). Processing all of the information people receive on a daily basis is not viable. People gain an understanding of how things function through their experiences in different activities. This process generates heuristics that can be used in the same situations. This concept is specifically important in modern trading, when the financial instruments number and information concreteness have grown significantly. Decisions are made more quickly by applying heuristics than by carefully examining the available data. The biggest benefit is time savings; the main disadvantage is relying too much on past experiences. Conventional financial models rely on logical, statistical decision-making techniques and presume heuristics' absence (Shefrin and Statman, 1994). Heuristic Theory explains how investors make financial decisions under conditions of uncertainty.

### **2.2.1.7 Simons bounded rationality theory-**

Accurate projections of unpredictable conditions, lifespan are necessary to be successful with retirement savings. To tackle this problem, the human brain would have to be able to solve numerous, protracted value of money issues with enormous levels of uncertainty as a computing machine.

### **2.2.1.8 Contribute to overall coherence:**

According to behavioural finance theory, variables other than an individual's judgement influence savings behaviour. Savings normally rise with income and age, and they are favourably connected with education and overall wealth. Griffin et al. (2012) provide the Theory of Planned Behaviour. They found that RP prediction varied by gender. These variations have important ramifications for creating programs and interventions that support RP. Future Time Perspective and health situation are also important factors in retirement planning. Economic theory of life cycle hypothesis examines how people allocate money for spending and saving throughout their lives. It promotes saving for retirement instead of blowing through their entire salary during their working years.

Prospect theory proposes that Financial risk and the capacity to fund retirement are determined by an individual's level of RT.

The heuristic Theory elucidates how investors make financial decisions when facing uncertain circumstances.

## **2.3 Empirical Review:**

### **2.3.1.1 Perceived financial Preparedness for Retirement:**

Retirement is typically after reaching certain age or fulfilling specific criteria an individual's cease employment. It is a period marked by the transition from active work to a state of leisure, where individuals can enjoy personal interests, pursue hobbies, and spend time with family and friends. Retirement often involves relying on accumulated savings, pension plans, or other sources of income to support one's

financial needs during this stage of life. The purpose of retirement is to provide individuals with a period of relaxation, fulfillment, and well-deserved rest after years of work. It is also a complete withdrawal from one's work or professional career (Atchley, 1982). Denton and Spencer (2009) conducted a study that defined retirement as the gradual withdrawal from paid work without any work-related commitments. It is crucial to be financially prepared for retirement to sustain a comfortable lifestyle throughout one's post-retirement years. Financial Preparedness for Retirement involves proactive planning and ensuring financial independence even after ceasing formal employment Warshawsky & Ameriks, (2000). However, a study conducted in Israel found that many Israelis feel financially unprepared for retirement. Segel-Karpas & Werner, (2014).

Financial preparedness is often measured by individuals' confidence in their current savings being sufficient for their retirement period. Hershey et al., (2010); Lusardi & Mitchell, (2011); Womack, (2015). It has also been observed that millennials tend to have better retirement preparedness than other groups. However, they face difficulties in FL education when they are single and not fully affiliated with a job (Young et al., 2017). Furthermore, individuals with higher FL residents are more likely to have different types of retirement savings (Nolan & Doorley, 2019). Higher levels of FL have been linked to greater confidence in future financial planning (Hui et al., 2016), and older employees tend to have higher degrees of FL, making them better prepared for retirement (Rigther, 2017). Extensive literature surveys have shown that self-employed individuals and employees who hold diversified portfolios tend to save more throughout their lives (Koh & Mitchell, 2019). Nyoro and Otieno (2016) conducted a large-scale research study in Mombasa County, Kenya, to examine the predictors of employee PFPR in Government institutions. The study used a descriptive survey with 353 employees from county-run public organizations. The researchers assessed many aspects of employees' retirement planning using purposive and stratified random sampling methods. The study found that overall work experience and monthly income were important determinants of employee retirement readiness. Indeed, gender plays a significant role in retirement perceptions and financial preparedness. Studies

have consistently shown that women tend to have poorer perceptions of retirement and lower economic living standards than men. There are several factors contributing to this gender disparity:

- a) **Gender Pay Gap:** Women make less money overall than males do, which means that they will have fewer lifetime earnings and fewer options for investing and saving. Long-term effects of the gender pay gap may include lower retirement income for women.
- b) **Professional setbacks:** Female are more probable to ache obstacles in their careers as a result of caregiving obligations, such as helping elderly parents or rearing children. Reduced access to employer retirement benefits and decreased retirement savings are two possible outcomes of these disruptions.
- c) **Longer life expectancy:** Women generally have longer life expectancies than men, which means they need to plan for a more extended retirement period. This increased longevity adds financial pressure and necessitates greater financial preparedness.
- d) **Pension inequalities:** Traditional pension systems may disadvantage women due to factors like shorter work histories, part-time employment, and the exclusion of certain occupations from pension coverage. This can result in lower pension benefits for women compared to men.

Addressing these gender disparities requires comprehensive efforts, including reducing the gender pay gap, providing workplace flexibility, promoting FL and empowerment among women, and ensuring equitable access to retirement savings plans and pension benefits. By addressing these challenges, women can improve their FPR and enhance their overall economic well-being compared to men (Noone et al., 2010). However, previous literature suggests that individuals with maturity and FL skills focus more on RP, which is strongly associated with FL (Boisclair et al., 2017). In their research study conducted in the Kingdom of Eswatini, Mndzebele and Kwenda (2020) aimed to investigate the impact of FL on PFPR among teaching professionals in higher education institutions. The study hired a measurable methodology and

utilized a descriptive research design. Over-all 144 respondents were surveyed, which represented a proportionate sample from a population of 612 employees. The researchers analyzed the information composed from the inspection to determine the link between FL & PFPR. The study's findings show that, among the many components of FL, only respondents with higher knowledge of financial instruments substantially impacted FPR. This shows that academic personnel in higher learning institutions who have a better awareness of financial instruments and how to use them are more prepared for retirement.

These findings highlight the importance of targeted financial education and training programs that focus on enhancing knowledge about financial instruments related explicitly to RP. Individuals can better prepare themselves for a financially secure retirement by improving FL in this area.

Numerous studies have investigated the connection between demographic indicators and individual differences in retirement savings tendencies. Researchers such as Hershey et al. (2007) and Stawski et al. (2007), have utilized indicators such as age, gender, revenue, and education level to predict these differences.

The findings of those studies indicate several trends:

**Age:** Studies, including those by Grable and Lytton (1997), have consistently shown a significant association between age and retirement savings. Retirement savings are typically higher among older people than among younger people.

**Household income:** Research conducted by Bassett, Fleming, and Rodriguez (1998) and Poterba (1996) has highlighted a constructive correlation between household income and retirement savings. Higher-income levels are associated with greater savings for retirement.

**Education level:** Yuh and Olson (1997) revealed that education level and retirement savings are positively related.

**Gender & marital status:** Glass and Kilpatrick (1998) found that gender and marital status impact retirement savings. Married people, particularly men, tend to have larger retirement savings than single people.



These findings shed light on the demographic determinants that influence retirement savings inclinations. Understanding these correlations can assist in the creation of tailored initiatives and policies to encourage more retirement savings among certain demographic groups.

Several studies have intensively examined the psychological aspects of financial planning for retirement, shedding light on various psychological indicators that can influence individuals' retirement preparations. Hershey et al. (2007) conducted a study involving 265 middle-aged working adults to examine these psychological factors. In their research, Hershey et al. (2007) explored three specific psychological indicators:

a) ***Future Time Perspective (FTP)***: It encompasses beliefs about the future, planning, and goal-setting. Future Time Perspective refers to an individual's perception and orientation toward the future. Hershey et al. (2007) investigated how persons' Future Time Perspective related to their financial planning for post-retirement life.

b) ***Self-rated Financial Knowledge(SFK)***: Self-rated Financial Knowledge refers to individuals' self-assessment of their Financial Knowledge and understanding. It reveals the degree of assurance people have in their Financial Knowledge and their ability to make informed decisions regarding Retirement Planning.

By examining these psychological indicators, Hershey & Mowen (2000) investigated psychological determinants of financial preparedness and retirement using a sample of 230 households in Arkansas. Hershey et al. (2007) aimed to uncover their relationship with individuals' financial planning for retirement. The study's results afford insights into the psychological factors that can influence individuals' engagement and preparedness in managing their finances for retirement. Through path analysis, they found that the psychological factors significantly influenced retirement financial planning. Furthermore, Segal Karpas and Werner (2014) conducted a study with 227 non-retired Israeli adults to explore the impact of various factors on PFPR. They examined the effects of Financial Knowledge, involvement in financial activities, Support from institutions, and the general mindset towards retiring. Segal Karpas and Werner (2014) analyzed the data to understand the relationships between these variables and individuals' PFPR.

The findings of the study outlined the following:

a) ***Financial Knowledge & involvement in financial activities:*** Both perceived Financial Knowledge and involvement in financial activities emerged as significant correlates of FPR. Individuals who perceived themselves as having greater Financial Knowledge and were more actively engaged in financial activities tended to have higher levels of perceived financial preparedness.

b) ***Social & Institutional Support:*** The study investigated the influence of social & institutional Support on PFPR. However, the findings did not indicate a significant relationship between these factors and individuals' perceived preparedness.

c) ***Attitudes toward retirement:*** The study also explored the role of attitudes toward retirement in shaping perceived financial preparedness. The results did not reveal a significant association between attitudes toward retirement and individuals' perceived financial preparedness.

Overall, the study demonstrated that only a relatively small percentage of the sample perceived themselves as financially prepared for retirement. Financial Knowledge and involvement in financial activities were identified as key factors influencing individuals' perceived financial preparedness. These findings highlight the importance of financial education and encouraging active engagement in financial activities to enhance individuals' preparedness for retirement. By improving Financial Knowledge and promoting involvement in financial planning, individuals may increase their confidence and sense of preparedness for their retirement years. Moray and Vanishree (2019) investigated the role of demographic factors and behavioral biases influencing financial planning among millennials. They analyzed the financial behavior of IT millennials using the Retirement Wellness Score and applied logistic regression analysis to develop a predictive model for assessing millennial retirement readiness. Agabalinda and Isoh (2020) conducted a study in Uganda to explore the factors influencing millennial retirement preparedness. They examined the direct influence of FL on FPR, as well as the moderating effect of age. The findings of the study revealed that Financial literacy (FL) was found to have a positive direct effect on PFPR &

moderating effect of an age on the link between FL & PFPR outcome did not indicate a positive moderating effect of age in this context.

d) ***Predictors of retirement preparedness:*** Knowledge, skills, and age were identified as significant predictors of retirement preparedness. Participants who had higher levels of knowledge and skills related to RP and were older tended to have greater preparedness for retirement. However, the study found that attitude had an insignificant effect on retirement preparedness. Elif and Asli (2021) conducted a study focusing on the development and testing of a model for predicting FPR. Their research involved 600 employees and examined the mediating roles of retirement planning (RP) knowledge and attitude. The study also compared different groups' perceptions of private pension systems. The researchers employed SEM to validate the connections between the constructs.

e) ***Retirement planning (RP) knowledge & attitude:*** The study found that RP attitude positively affected FPR, indicating that persons with a more positive attitude toward RP tended to have higher levels of preparedness. However, RP knowledge had a negative effect, suggesting that persons with greater knowledge about RP may have lower levels of preparedness.

f) ***Parental influence and life satisfaction:*** The study identified a positive relationship between parental influence and life satisfaction. Participants who reported greater influence from their parents regarding RP also experienced higher levels of life satisfaction.

g) ***Pessimistic future economic perspectives:*** The study found a negative effect of pessimistic future economic perspectives on FPR. Individuals who held a more pessimistic outlook regarding the future economic conditions tended to have lower levels of preparedness. Overall, the study highlighted the mediating roles of RP knowledge and attitude in shaping FPR. The findings emphasized the importance of positive attitudes toward RP and the need to address individuals' knowledge gaps in retirement-related matters to enhance their preparedness.

### **2.3.1.2 Financial Knowledge(FK):**

In order to be said to have financial knowledge, the researcher imply that a person is aware of and has a working understanding of financial ideas, procedures, and how to apply this knowledge in order to solve monetary problems. Money-related attitudes may be characterized as having a financial outlook. A person's unique qualities lead to a certain economic activity. One must have the ability to put their understanding of money management, financial planning, saving, investing, and budgeting into practice in order to be considered financially literate. In the real world, conceptual and practical integration is a difficult. People's financial habits will change over time as they acquire more experience and knowledge.

It is essential to be financially literate in order to manage one's finances effectively. Huston (2010) and Hilgert et al. (2003) define Financial Literacy as a person's ability to make smart financial choices by having a working grasp of basic financial concepts. There seems to be a correlation between a person's financial literacy and a variety of personal financial outcomes (Babiarz and Robb, 2014; Priyadharshini, 2017). Financial Knowledge refers to the capability of understanding and effectively utilizing Monetary resources for investment purposes, as defined by Ademola et al. (2019). It encompasses a range of financial concepts, principles, and strategies that enable individuals to make informed decisions about their finances. Financial Knowledge refers to individuals' understanding of financial concepts, products, and strategies. It includes knowledge about investments, retirement accounts, tax implications, and other financial topics relevant to RP. Having a higher level of Financial Knowledge enables individuals to make more informed decisions about saving, investing, and managing their finances in preparation for retirement. Heraty and McCarthy (2015) discovered that older waged people who have a good positive belief in financial preparations for post-retirement life are able to control aspects of aging. Alternatively, individuals with an intermittent, rather than a consistent, attentiveness of the aging system are less likely to make Monetary plans for post-retirement life. The results of a study by Palaci, et al, (2017) indicated that parental financial socialization

directly and indirectly influences financial planning for retirement. Parental Financial Behavior is a positive model for developing FL, skills, and decision-making regarding RP. All of these factors contribute to an increased explained variance of FPR. Objective financial knowledge (also known as "perceived information") has also been used to measure one's ability to manage their money. A person's self-perceived level of financial knowledge is determined by how much they believe they know about the issue. A person's ability to execute basic mathematics and grasp concepts such as the worth of money, inflation, compounding interest, and risk diversification, among others, may be used to gauge their comprehension of many elements of the financial markets and products. Subjective financial knowledge has been connected to financial well-being, financial behaviour, and financial decisions (Riitsalu and Murakas, 2019; Allgood and Walstad, 2013). Subjective financial knowledge, despite earlier research indicated the relevance of both objective and subjective information in affecting behaviour, has been shown to be more effective than either objective or subjective knowledge alone. Prior studies have shown that subjective Financial Knowledge is the best way to evaluate Financial Knowledge in this study. Vaghela et al. (2023) investigated how college students' financial literacy affected their behavior through their attitude towards money. The study revealed that students who scored good marks on financial literacy tests tended to have more positive attitudes toward money, which translated into better action. Furthermore, there is a positive relationship among knowledge and RP activities and financial saving practices. This suggests that individuals with greater knowledge about financial matters are more likely to be involved in proactive RP and adopt effective saving strategies( Jacobs-Lawson & Hershey, 2005),. Ademola et al. (2019) found a significant relationship among Financial Knowledge and risk perception. However, the study also found a positive but insignificant relationship between FL and investment decisions. This suggests that having Financial Knowledge is more influential in shaping investment decisions than merely having FL.

Huston (2010) emphasizes that financial literacy should go beyond theoretical knowledge and also involve the practical application of Financial Knowledge. In other words, it is about more than just understanding financial concepts but also being able to apply that knowledge in real-life financial situations. By combining theoretical knowledge with practical application, individuals can make more informed and effective financial decisions, including RP. This suggests that simply knowing financial matters is not enough; individuals also need to apply that knowledge effectively to improve their retirement preparedness. Overall, the studies and perspectives mentioned highlight the importance of both knowledge and practical application of Financial Knowledge in RP and financial decision-making. Having a solid understanding of financial concepts and applying that knowledge can contribute to better retirement preparedness and financial well-being. According to Hershey and Mowen (2000), the primary model of monetary models emphasizes the importance of personality traits and Financial Knowledge as significant components of pre-RP. This suggests that individuals' characteristics and their level of Financial Knowledge are essential factors that influence their retirement preparations. Personality traits can encompass various dimensions such as RT, self-control, conscientiousness, and future time orientation. These traits shape individuals' attitudes, behaviors, and decision-making processes related to financial matters, including RP. For example, individuals with higher levels of conscientiousness and future time orientation may be more inclined to engage in long-term financial planning and save for retirement. The model suggests that individuals with certain personality traits, such as being proactive, disciplined, and future-oriented, may be more likely to acquire and apply Financial Knowledge effectively. These individuals are likely to engage in RP activities and make informed financial decisions to ensure a more secure and comfortable retirement.

Overall, the monetary models highlights the significance of personality traits and Financial Knowledge as key predictors of pre-retirement planning. By considering these factors, individuals can better understand their own tendencies, improve their Financial Knowledge, and make more effective retirement preparations.

Overall, these findings highlight the importance of Financial Knowledge, skills, and beliefs in influencing individuals' RP activities and financial preparedness.

### **2.3.1.3 Financial Risk tolerance (FRT)**

A one's degree of preparedness to accept risk while constructing a financial decision is denoted to as their financial risk tolerance. It is significant to keep in concentration that risk tolerance is a diverse attitude while trying to grasp it. It encompasses all areas of life, including financial, physical, social, and ethical. Risk tolerance is vital issue when it comes to retirement savings and investments, other family goals. An individual's risk tolerance has been connected to investment product selection, and portfolio approaches. The risk tolerance of each family member is a major factor in determining the best portfolio choices. Risk tolerance be determined by demographic traits such as age, gender, work position and marital status as well as their financial resources, such as income and time horizons. It is possible to predict a person's risk-tolerance based on their demographic parameters.

Various studies have explored the concept of Financial Risk Tolerance and its relationship with retirement savings and other factors. Here are, the key findings from the studies are mentioned:

#### **a) Financia; Risk Tolerance and Demographic Factors**

In 1961, Wallach and Kogan (1961) conducted a comprehensive study of RT. They found that the elderly have a lower tolerance for risk than the younger generation. Slovic (1966) stated that "*a common perception in our culture is that males should and do assume bigger risks than women.*" Studies demonstrated that, on average, female are less risk-averse than male.

MacCrimmon, Wehrung (1986) examined the relationship between risk tolerance and demographic, socioeconomic, and attitude variables. Practitioners feel that a person's degree of financial comfort and the risks and returns he or she takes are strongly influenced by marital status (Lazzarone, 1996). Roszkowski, Snelbecker, & Leimberg (1993) argued that it is possible to distinguish between different levels of risk

taking among investors based on their employment status. Over the years, there has been an increasing association between individual investors' profitability and their comfort level with financial risk (Cohn et al., 1975; Cicchetti and Dubin, 1994; Shaw, 1996). Formal education level has been found to be a determinant of an individual's RT (Baker and Haslem, (1974); Grable and Lytton, (1998). Moreover, individuals' awareness of personal finances and their future aspirations have been identified as potential factors influencing their willingness to take risks, as stated by Grable and Seay (1997), Grable and Lytton (1997), and Sung and Hanna (1996). Financial Risk Tolerance is seen as a crucial aspect that influences financial decision-making and extends to various domains of financial and public behavior (Carducci & Wong, 1998). Financial Risk Tolerance is based on an individual's overall financial situation, including income sources other than investment income (Malkiel, 1999)). Wang (2007) depicted that households with a female head are less risk-tolerant than households with a male head or a married pair. Ryack et al., (2016) Examined the association between time perspective and Financial Risk Tolerance among young adults. They found that time perspective significantly influenced Financial Risk Tolerance, but the relationship varied among individuals. Fishera & Yao (2017) analyzed gender differences in Financial Risk Tolerance. They found that income uncertainty and net worth explained the moderate relationship between gender and high RT. Individual determinants played a significant role in gender differences in Financial Risk Tolerance. Additionally, gender and occupation were the most influential demographic parameters affecting retail investors' Financial Risk Tolerance, while income and dependents had little effect (Bhattacharya and Dutta, 2019). Noviarini et al., (2021) investigated the impact of FL on debt ownership, debt anxiety, and Financial Risk Tolerance among older individuals. Surprisingly, they found no association between FL and retirement preparedness. However, higher income and education were vital factors related to higher FL and lower debt anxiety or higher RT. Park & Martin (2022) examined the effect of RP on financial and psychological factors. They found positive relationships between RP behavior, FL, savings, income, and RT. Debt did not show a significant relationship with RP. Arora & Mishra (2023) focused on the influence of age and



professional work experience on RT in emerging economies. They found a positive relationship between age, professional work experience, and Financial Risk Tolerance. Older investors had higher RT in both bull and bear market conditions.

It is evident from these studies that RT is an essential factor in retirement savings. Higher RT is associated with more aggressive saving behaviors.

These outcomes offer insights into the complex interplay between risk tolerance, retirement savings, and various demographic and psychological factors. However, it is important to note that individual preferences and attitudes toward risk may vary, and further research is needed to better understand these dynamics and their implications for retirement preparedness. Curiously, hazard resistance will increase when several things are under control with age.

#### **2.3.1.4 Future time perspective(FTP)**

According to Carstensen & Lang (1996), researchers studying human development should consider how individuals perceive the passage of time since chronological stage is closely connected to the passage of time. After reaching a particular age, individuals become increasingly aware of the fact that they have a finite amount of time remaining in their life, which is why Carstensen et al. (1999) refer to this as "generic Future Time Perspective." According to Carstensen's socioemotional selectivity theory (2021), the perception of time is crucial which aims to strive toward and how long it will take to reach those goals (e.g., Carstensen, 2006; Carstenson et al., 1999). Individuals are more likely to concentrate on favourable emotional states and interactions with close social partners.

Employees' motivation and productivity at work are affected by the goals they pursue and the time frame they consider when making decisions. As a result, older waged persons are more likely to see their professional future since more constrained than younger employees, as retirement is a key life milestone (Stamov-Roßnagel,

2015). Studies have failed to identify the causes or consequences of Future Time Perspective in the workplace Zacher and Frese (2009).

In the workplace, Occupational FTP (OFTP) is a phrase used to define the remaining time and opportunities that individuals have left in their careers. The field of work and organizational psychology encompasses the study of both general Future Time Perspective (FTP) and occupational-specific FTP (OFTP). General Future Time Perspective refers to a broad sense of remaining time and opportunities, while OFTP focuses on the specialized perception of remaining time and opportunities within an individual's career. Despite the theoretical & practical differences between these concepts, there has been a lack of systematic research specifically focused on OFTP.

In recent years, there has been an increasing interest in studying the causes and consequences of both general and OFTP in the context of work and employment. These investigations began around 2009. However, due to the differences in conceptualization, there may be limitations in comparing the results across studies.

One challenge in studying Future Time Perspective at work has been the difficulty of integrating the findings into practical advice for managers and organizations, as there has been a lack of conceptual coherence. Therefore, it is crucial to analyze and synthesize the current knowledge on Future Time Perspective at work, considering contemporary trends such as delayed retirement entry. This integration of knowledge can offer appreciated visions for researchers and experts in the field.

### **2.3.1.5 Socio-Demographic Characteristics and PFPR**

According to Lusardi and Mitchell (2007), financial illiteracy has both causes and effects, which they investigate to determine why retirement planning is so poor and why so many households have little or no savings when they reach retirement age. Financial illiteracy, according to the findings, affects both young and old people equally. This has far-reaching implications for saving, RP, mortgages, and a variety of other financial decisions. There is no actual link established between the higher levels of financial illiteracy discovered in the research and whether or not people are

financially prepared for post-retirement life. It also fails to link business interference efforts to FL rates. Therefore, Kim, Kwon, and Anderson (2005) looked at factors contributing to people's retirement confidence. When it comes to retiring comfortably, the respondents were confident. They were confident that they had saved enough money to cover medical costs, that they had saved enough money for other expenses, and that they would not run out of money before they retired which indicates their self-efficacy. Noone et al., (2010) investigated how much retirement self-efficacy and preparation activities influence people's retirement savings habits. The study compares and contrasts two different theories about people's retirement saving habits. All models have the same five variables: age, income, retirement goal clarity, a behavioral indicator. According to the study, there is evidence that income influences savings contributions directly rather than indirectly through goal clarity, as previously thought.

Individual characteristics were included as the dependent variable in the research and factors evaluating readiness for retirement. Variables related to anticipating and preparing for retirement include approaching retirement age, calculating retirement funds, saving for retirement, trusting government programs, and receiving financial education and assistance at work. To discover the connections, among demographic and financial readiness of post-retirement life researchers used t-tests, ANOVAs, correlation analyses, and multivariate regression models. Financial education at work, RP, and trust in government services are statistically significant traits associated with greater confidence in one's ability to retire. Health factors are also an important individual factor for post-retirement life. Individual traits such as anticipation and preparedness for retirement are differentiated in this research from the explanatory variables. Personal qualities may impact retirement expectations and planning, but this study does not explore this.

**Hypothesis (1H1):** Health factors significantly influence Perceived Financial Preparedness for Retirement.

**Hypotheses(2H1):** Socio-demographic factors have a significant effect on Perceived Financial Preparedness for Retirement

### **2.3.1.6 Relationship between Financial Risk Tolerance and Perceived Financial Preparedness**

Financial risk tolerance can impact people's short- and long-term investments, such as saving for a large purchase and retirement (Grable, 2016). Risk tolerance is an important concept in economics and finance (Xiao et al. 2001). Risk tolerance and the estimated time horizon until retirement are significant aspects of investment decisions in retirement preparedness (Sung & Hanna, 1998). Risk tolerance can be perceived as a personal issue that is detrimental to the risk-taking of individuals in retirement planning contributions (Grima & Pavia, 2019). Risk tolerance is a measure broadly utilized by practitioners and academics on investment strategies and retirement planning (Mayer et al., 2011). Additionally, Mayer et al. (2011) examined the relevance and rationale of risk tolerance in assessing retirement preparedness decisions (Adami et al., 2018). The results of previous studies show the role of investors' risk tolerance level on portfolio decisions in retirement funds. It was also evident that the long-run potential of stocks seems fit for retirement planning. Earlier, psychological determinants such as future perspective, financial knowledge, and financial risk tolerance were associated with knowledge of retirement planning (Leon & Pringganingrum, 2018). Furthermore, determinants such as age, education, income, and wealth also significantly influence individuals' risk tolerance toward retirement planning (Wang, 2009). It is also pertinent to understand that insufficient retirement planning is severe, both economically and individually (Cravo et al. 2019). With less argument, there needs to be a substantial place for the selection of appropriate investments to understand financial risks and their perceived risk tolerance in a realistic manner (Yao et al., 2011). Future perspectives, locus of control, Financial Risk Tolerance, and retirement goal clarity were observed as determinants of retirement planning. In addition, Financial Knowledge is a significant predictor of financial behavior and risk tolerance toward retirement planning (Fisher & Yao, 2017), an attitude of individuals' outlook that also influences retirement planning behavior (Kumar et al., 2019). Financial planners play a significant role in highlighting the significance of retirement planning to orient individuals toward long-term objectives,

such as retirement planning. The attitudes of individuals are also reflected in how they seek help from professionals. Individuals who are also risk-tolerant are more likely to seek assistance and guidance from professionals toward retirement planning decisions. Among other factors, income has a significant impact on pre- and post-retirement planning. It is also assumed that retired people with very little income could be more conservative and take less risk with lower risk tolerance during retirement. Overall, RT is a key factor that must be considered when making investment decisions for retirement preparedness. It interacts with psychological factors, the time horizon, and Financial Knowledge, influencing individuals' behavior and choices in managing retirement savings. Demographic factors and wealth influence individuals' Rn (Wang, 2009). **Hypothesis 3H1:** Financial Risk Tolerance significantly positively influences Perceived Financial Preparedness for Retirement.

#### **2.3.1.7 Relationship between Financial Knowledge and Retirement Planning Preparedness**

The studies mentioned provide further evidence for the close relationship between financial knowledge and retirement planning preparedness. Segel-Karpas, D., & Werner, P. (2014) studied the financial readiness for retirement was measured by financial knowledge and engagement in financial activities, in the context of Israel. The study revealed that individuals who perceive themselves as having a positive level of Financial Knowledge are less likely to feel underprepared for retirement. The suggestion to explore the relationship between actual savings and FPR in future studies is valuable. Examining the alignment between individuals' savings behavior and their perceived financial preparedness can provide insights into the effectiveness of their financial planning and decision-making. This can contribute to a better understanding of the link between behavior and outcomes in retirement preparedness. In the context of African-Americans, it was found that financially literate individuals in this group are more likely to be prepared for retirement. The positive and significant relationship between FL and retirement preparedness suggests that having a higher level of financial knowledge contributes to well retirement planning outcomes. Age was identified as a positive factor, indicating that older individuals tend to have higher levels of retirement

preparedness. On the other hand, employment was found to have a negative impact, suggesting that those who are employed may be less prepared for retirement. These findings emphasize the importance of FL education across various disciplines to equip individuals with the necessary financial capabilities for RP (Young et al, 2017).

The findings from the New Zealand Health, Work, and Retirement Study provide insights into the relationship between gender, work involvement, retirement adjustment, financial preparedness, and retirement thoughts among individuals transitioning from work to retirement. The study suggests that gender differences were not significant in terms of financial planning for retirement. This implies that men and women in the study sample had similar levels of financial preparedness regardless of their gender. However, it's important to note that these results may not necessarily generalize to other populations or contexts.

Work involvement was found to have an indirect effect on retirement but did not impact insignificantly financial readiness. This suggests that individuals' level of engagement in work may influence their overall retirement experience and adjustment, but it may not directly translate into better financial preparedness. Other factors and behaviors related to financial planning and savings habits are likely more influential in determining individuals' financial readiness for retirement. The study identified a positive connection between expected retirement adjustment and anticipated finances, indicating that individuals who anticipate better financial situations in retirement are more likely to have positive expectations and adjustment to the retirement phase. On the other hand, negative thinking about retirement was observed, suggesting that some individuals may have concerns or negative perceptions about retirement, which could influence their overall retirement experience.

Economic living standards were found to impact PFP, estimated finances, and estimated retirement adjustment. This indicates that individuals with higher economic living standards tend to have better financial preparedness, higher estimated finances, and more positive expectations about retirement adjustment. Economic factors, such as income, savings, and financial stability, play a significant role in shaping individuals'

retirement prospects and preparedness. Interestingly, the study found that estimated retirement time had a negative relationship with retirement thoughts, but it was not connected to PFP. This suggests that individuals who perceive a longer retirement period may have more concerns or negative thoughts about retirement. However, this perception of retirement duration does not necessarily impact their financial preparedness. Overall, the study highlights the complex interplay between gender, work involvement, retirement adjustment, financial preparedness, and retirement thoughts. It emphasizes the importance of economic factors, such as living standards and anticipated finances, in shaping individuals' retirement experiences and financial readiness. Further research is needed to explore these dynamics in different populations and contexts to enhance our understanding of Retirement Planning and financial preparedness.

In another study by Lissington (2018), Significant differences were found between passive retirees and active retirees in terms of their reliance on government-funded retirement income in New Zealand. The mentioned factors, such as reliance on government support, income, and objective lucidity, play significant roles in retirement adequacy and savings tendencies (Lissington , 2018).

Reliance on government support can provide a safety net for individuals in covering their basic needs during retirement and preventing financial difficulties. However, the certainty of retirement income is subject to various factors, including changes in the policies, fluctuations in income & health conditions. These components can influence the stability and predictability of retirement income, highlighting the importance of considering potential uncertainties when planning for retirement.

Objective lucidity, which refers to having a clear understanding of RP and saving practices, was identified as a critical indicator of preparation and arranging for retirement. This implies that individuals who possess a comprehensive understanding of retirement-related concepts and strategies are more likely to involve in effective planning and saving behaviors.

Significant impact of Individuals Income was found to be have on savings contributions. Upper income levels tend to be associated with greater savings commitments, indicating that individuals with higher earnings have more capacity to save for retirement. Additionally, age and income together accounted for a significant portion of the variance in investment commitments. This suggests that both age and income are important factors to consider when designing long-term saving strategies and retirement plans. Developing age-based models that consider individuals' unique financial situations at different stages of life can help tailor RP strategies to their specific needs and circumstances.

Overall, these findings emphasize the importance of factors such as reliance on government support, income levels, objective lucidity, and age in shaping individuals' retirement preparations and savings tendencies. By seeing these factors and developing targeted strategies, individuals can improve their retirement adequacy and improve their enduring financial well-being. Overall, these studies focused more on the role of economic living standards, government support, objective lucidity, and income in influencing retirement preparedness and financial planning. They offer valuable visions for policymakers and individuals in developing strategies and interventions to enhance retirement outcomes and ensure financial security in retirement. Increased Financial Knowledge indeed plays a crucial role in enhancing individuals' confidence and making informed decisions regarding FPR. The studies you mentioned provide valuable insights into the relationship between FL and RP. This suggests that simply having confidence does not necessarily translate into better financial preparedness. However, the study suggests that increasing FL campaigns can improve individuals' actual knowledge and financial competence, benefiting both overconfident and underconfident individuals. The study among Australian Aging Baby Boomers highlights the influence of socioeconomic status, Financial Risk Tolerance, and Financial Knowledge on financial planning (Noone et al., , 2012). The strong link between retirement preparedness (RP) and FL is further supported by the study conducted in Australia by Ali et al. (2015). The research found that the respondents are lack of understanding of the operational aspects and expectations from the retirement plan. This highlights the



importance of improving FL among young individuals to ensure they are well-informed about RP options and can make effective decisions for their future financial security Ali et al. (2015).

Sarpong-Kumankoma (2023) has revealed that a significant portion of the population lacks basic Financial Knowledge. Only approximately 27% of survey respondents answered three simple questions about inflation, interest compounding, and risk diversification correctly. Notably, FL levels were lowest among young individuals, the elderly, women, low-income earners, and those with lower levels of education. Interestingly, the study also found a positive and significant relationship between FL and the likelihood of saving for retirement. FL also typically perform better when preparing for retirement, a specific area of financial well-being (Lusardi, et al, 2023). Monetary activity has an impact on retirement financial planning, as opposed to Financial Knowledge and attitudes (W. A. Candra and S. Raharja , 2023). The profile of citizens who are less able to manage RP financially includes women, young people, divorced or separated people, people of colour, people with only a basic level of education, people living in rented housing, unemployed people (Vieira, K. M. et al., 2023). Lusardi, et al, (2023).

**Hypothesis 4H1:** Financial Knowledge significantly positively influences Perceived Financial Preparedness for Retirement

### **2.3.1.8 Relationship between Future Time Perspective and Perceived Financial Preparedness**

Extensive literature has highlighted the importance of Future Time Perspective or future orientation in the context of financial planning and retirement-saving practices. Future Time Perspective is a psychological trait that has received considerable attention in financial planning literature. Jacobs-Lawson & Hershey, (2005). Future Time Perspective is a cognitive process that divides temporal references into the past, present, and future (D'Alessio et al., 2003). Future Time Perspective has been mentioned in various studies and is considered an important factor in understanding individuals' retirement saving practices (Denton et al., (2004); Jacobs-Lawson et al., (2004). Future Time Perspective influences individuals' behavior, as

they anticipate greater outcomes from activities in which they invest time. It measures the extent to which individual's look forward to the future paralleled to the previous and current scenario ( Kadoya & Khan, 2020). Research has also demonstrated a relationship between Future Time Perspective and savings or planning behavior, indicating that individuals who perceive the future as nearer are more prepared for retirement (Yang and Devaney ,2011). Previous studies have shown a significant relationship between Future Time Perspective and FL, suggesting that individuals who consider the future and anticipate future outcomes from their financial plans tend to have more FL (Kadoya & Khan, 2020). Future-oriented individuals may exhibit greater FL, engagement in financial planning, and a readiness for retirement. Ray, A., Ma, L., and She (2023) discovered a relationship between financial security and future perspectives. The outcomes also showed that the association between Future Time Perspective and financial well-being was mediated by three different variables: clarity of one's financial goals, one's subjective Financial Knowledge, and financial responsibility. These findings suggest that considering individuals' Future Time Perspective or future orientation is crucial for understanding their financial planning and retirement preparedness behaviors. While Financial Knowledge and its engagement in monetary planning are important, some studies assume fixed retirement ages and focus less on future orientation or changing attitudes toward retirement. Kock & Yoong (2011). Hershey and Mowen (2000) found that strong future orientation positively influences knowledge & engagement in financial planning (Manturuk et al., 2012).

**Hypothesis 5H1:** Future Time Perspective significantly positively influences Perceived Financial Preparedness for Retirement.

### **2.3.1.9 Relationship between Future Time Perspective, Financial Risk Tolerance and Financial Knowledge:**

Larisa, L. E., Njo, A., and Wijaya, S (2020) show how a person's financial situation affects their vision of the future. FL had a direct impact on RP activity. A person's RT may also be affected by FL. These findings emphasize the importance of

considering Future Time Perspective in understanding Financial Risk Tolerance, financial management behavior, and RP outcomes. Future-oriented individuals may exhibit greater RT, better financial management behavior, and more effective RP. Hershey and Mowen (2000) identified a relationship between the Future Time Perspective and RP. They suggested that individual differences in Future Time Perspective among older individuals are related to the nature and quality of RP outcomes, particularly Financial Knowledge. Ryack et al. (2016) examined the relationship between the Future Time Perspective and Financial Risk Tolerance in young adults. It was found that Future Time Perspective explained a significant amount of the variance in Financial Risk Tolerance. Young adults tend to invest in riskier portfolios in order to accumulate wealth for retirement. Zhu (2019) conducted a study on adolescents in Hong Kong to investigate the factors associated with Financial Risk Tolerance. The study revealed that improving confidence in Financial Knowledge and Future Time Perspective can increase adolescents' willingness to take financial risks and live economically. Bapat (2020) conducted a study on young adults in India to inspect responsible financial management behavior. The study found that Financial Knowledge had an indirect effect on responsible financial management behavior through financial attitudes. Additionally, Financial Risk Tolerance moderated the relationship between demographic factors (e.g., age and occupation) and responsible financial management behavior. Higher degrees of FL and RT and lower discount rates were found to dramatically increase the predicted return and investment levels. As Future Time Perspective has no relationship with greater financial risk, it has been found that greater Financial Knowledge is strongly correlated with a longer view of the future (V. Bajtelsmit, et. al, 2023).

**Hypothesis 6H1:** Future Time Perspective significantly positively influences Financial Knowledge.

**Hypothesis 7H1:** Future Time Perspective significantly positively influences Financial Risk Tolerance.

**Hypothesis (8<sub>a</sub>H1):** There is no significant mediating role of Financial Knowledge between Future Time Perspective and Perceived Financial Preparedness for Retirement

**Hypothesis (8<sub>b</sub>H1):** There is no significant mediating role of Financial Risk Tolerance between Future Time Perspective and Perceived Financial Preparedness for Retirement

## **2.4 Critical Issues in Retirement Planning**

The field of Perceived Financial Preparedness for retirement among technical teachers is still in its early stages, lacking sufficient rigor and relevance. It has remained a highly debated topic in retirement financial planning for the past decade. Researchers have examined different perspectives and influential factors on financial preparedness. Limited studies have explored FL and RP specifically for senior high school and higher education teachers Agyemang et al., (2021), Surender & Sarma, (2017). Several studies have indicated that factors such as Future Time Perspective Noone et al., (2012), Clark et al., (2012), Financial Risk Tolerance Arora and Mishra., (2023), Park & Martin, (2022), and Financial Knowledge Ademola et al., (2019), Heraty & McCarthy, (2015) influence PFP for retirement.

This study aims to examine the factors that influence the Perceived Financial Preparedness for retirement among technical teachers in India. The conceptual framework proposed in this study aims to provide insights into the Perceived Financial Preparedness of technical teachers in India. The model suggests that "Future Time Perspective," "Financial Knowledge," and "Financial Risk Tolerance" are key factors affecting Perceived Financial Preparedness for retirement among technical teachers. Future research is recommended to empirically validate this proposed model and explore the interrelationships among these factors.

The "Capacity-Willingness-Opportunity Model" was presented to explain Financial Preparedness for Retirement by Hershey, et al, (2013). There are three reasons why this paradigm holds promise. Because it is meant to clarify Financial Preparedness for Retirement, it is necessarily narrow in scope. Its scope is enormous because it encompasses three dimensions and several factors. It's procedural because it takes time into account, analyzing different ages and stages and how they interact with one another and the model. Previous studies suggested that while analyzing the results of retirement, various patterns of change should be considered (Wang, 2007).

Hershey et al (2007) created a model with three dimensions: the ability, willingness, and opportunity to plan for retirement. In this context, ability refers to the unique mental faculties each person possesses to set aside money for old age. It has been found that one's ability for financial planning and saving can be influenced by various elements, including knowledge, skill, fluid and form information, and personality traits (Resende & Zeidan, 2015). Meanwhile, the characteristics that motivate people to act and result in cost savings are part of "willingness." Therefore, this component encompasses the driving forces, attitudes, and emotions that influence the likelihood that a person would initiate planning and continue the activity throughout time. A person's propensity to prepare for retirement may be influenced by several elements, including clarity and nature of their financial goals, their dread and anxiety about retirement, their perception of societal standards, and their sense of self-image. The last factor is the opportunity dimension, which recognizes the impact of environmental facilitators and restrictions on efficient financial tasking.

Previous studies have been empirically assessed for over a decade, Hershey et al., (1997), Hershey & Wilson, (2007); Hershey & Mowen, (2000), but studies have yet to analyze the full model. Some recent studies have been published on the topic although there is a need for improvement in their methodology and data collecting (Topa et al, 2018).

Financial Planning for Retirement (FPR) places a premium on helping people build retirement identities and financial self-efficacy because of their relevance to capacity. In the past, FPR was used mainly to determine whether or not a person's retirement income and cash flow sources would be sufficient over five to ten years. Life expectancy has increased by 20-30 years due to advancements in lifestyle and medical technology. In their study on the relationship between retirement readiness and adjustment, Donaldson et al., (2010) identified that self-efficacy and its near relative, a person's sense of mastery, strongly mediated the relationships. Planning for future social, emotional, and financial requirements is now integral to FPR.

Workers eligible for full retirement at age 60 may need more time to be ready to give up their jobs. Many people find meaning in their profession that money cannot quantify. There is value in having a routine at work because it gives you a sense of routine and predictability, which in turn gives you a sense of status and identity, a feeling of belonging to a group (Price et al., 1998). Retirement Planning (RP) benefits from a clear mental picture of one's ideal self in retirement (Lunceford, 2017).

The FRP prioritizes a vision of the future over cold, hard cash by focusing on creating one's ideal self during RP. It may help relieve tension caused by retirement's inevitable but unavoidable transformation of one's professional and financial identities. Individuals' motivation for participating in bridge building might be better comprehended by gaining insight into how they came to construct their ideal selves (Lunceford, 2017). In addition, it has a beneficial effect on happiness just before retirement (Lunceford, 2017). New assessment instruments created by Boyatzis et al. (2010) could be used to quantify the ideal self.

One of the most critical aspects of FPR is learning to manage one's own money well. The ability to believe in one's financial achievement in specific scenarios is known as financial self-efficacy. Self-efficacy is the idea that one can accomplish a goal or task and have the courage to pursue it (Bandura, 1997). Similarly, one's unique

perspective on aging may have an impact on FPR and other aspects of retirement preparation. According to Heraty and McCarthy (2015), older workers' FPR and their ability to find jobs after retirement may be influenced by their own ideas about what it means to get older.

Based on the intricate connections between respondent feelings and the choices the researcher make, future studies will likely focus on a broader range of affective elements and personality factors associated with willingness (Hariharan et al., 2015). The end of mandatory employment and the beginning of the inevitable decline and death that comes with old age are both reflected in retirement. Fear of death is a complicated emotional phenomenon that includes worry for one's self and one's loved ones. Thus, it seems to reason that retirement can elicit feelings of disquiet, melancholy, and dread.

To procrastinate means to delay taking an activity one intends to take, especially if waiting would have unfavorable consequences. This feature of personality might affect FPR and outcomes because many retirement-related goals are time-bound. This indicates that the passage of time may serve as a deadline for retirement plans. Preliminary evidence supporting this notion has been presented by Topa and Herrador-Alcaide (2016). However, it should be noted that their study was covered the sample of Spanish wage earners aged 45-63 who had a job with small and medium-sized firms.

The concern of being compelled to retire because of cultural expectations can harm employee satisfaction and output. The prevalent usual procedure of associating retirement with a specific age undermines the value of experienced workers and generates apprehension among their potential successors (Phillipson, 2013). Consequently, this can perpetuate negative stereotypes within the workplace. Further investigation is necessary to identify the factors influencing individuals' intentions to engage in post-retirement work. Helping retirees learn about and prepare for employment options has been shown to increase their likelihood of doing so

(Lunceford, 2017). Financial self-efficacy is correlated with the likelihood of continuing to work after retirement (Lunceford, 2017). The widespread implementation of the FPR model could be advantageous for most individuals, particularly when combined with enhancing financial self-efficacy.

When examining the role of age in the FPR, future advancements must acknowledge that the concept of ageing has several dimensions. It has been explored in terms of chronological age and related to perceived age or age as perceived within a specific group or context. By considering these various dimensions of age, a more comprehensive understanding of its influence on retirement and career decisions can be achieved. The only variable considered in FPR research thus far has been age (Hershey et al, 2013). This will allow us to test the hypotheses of Scherbov and Sanderson (2016) regarding the impact of functional, psychological, organizational, and chronological age on FPR.

To improve our understanding of FPR, future model development should investigate far-off antecedents that are not currently accounted for. However, there is a dearth of research extending this framework to older workers, even though financial socialization is one of the most studied indirect drivers of monetary behavior among adolescents and young adults (Trzcinska & Goszczynska, 2015), a lack of research on this topic is not surprising. Palaci et al., (2017) has examined the impact on FPR in the last few years. The study's findings indicate that parental financial socialization has direct and indirect effects on Flexible Retirement Programs (FPR). These effects are mediated through various channels, including FL, financial planning decisions, and financial management. Specifically, the financial socialization of parents influences individuals' FL, which in turn impacts their Monetary activities, planning and decisions, and financial management practices related to retirement. These factors collectively contribute to individuals' engagement in FPR. The study highlights the significance of parental influence in shaping individuals' financial behaviors and attitudes, ultimately



influencing their participation in FPR. In addition, parents' actions can serve as an example for their children as they learn to manage money and make choices related to financial protective regulation (FPR), which could pave the way for new opportunities for early intervention.

Finally, Zyphur et al. (2015) found a correlation between FPR and demographic factors such as gender and health. Further research is necessary to understand the reasons behind the persistence of gender differences in FPR. Gender-related variables, , may play a role in explaining these disparities. By examining the impact of gender stereotypes, which can shape societal expectations and perceptions about retirement, researchers can explore how these stereotypes influence individuals' decisions regarding FPR participation. Additionally, investigating the gender pay gap and its potential implications for RP and financial security can shed light on the unequal circumstances that may affect individuals' engagement in FPR. Furthermore, studying gender differences in decision-making processes, can provide insights into how gender-related factors impact individuals' willingness to engage in FPR and negotiate retirement-related arrangements.

Similarly, health and FPR may have a convoluted relationship. It's essential to keep in mind that health has the potential to affect one's income for a few reasons. Second, people's perceptions of their financial status may be influenced by their physical and mental health, which poverty can affect. A third factor that might increase a person's susceptibility to the effects of a bad event is the accumulation of stress from multiple sources, such as financial issues.

Finally, migration status is a significant demographic indicator that has never been acknowledged nor experimentally studied by Hershey et al. (2013). Few studies have analyzed FPR among European immigrants using statistically significant samples (Topa et al., 2012). However, recent research has revealed that immigrants' FPR may be affected by both objective variables, such as migratory seniority, and subjective

features, such as one's expectation of social mobility (Huang et al., 2017). Workplace health and happiness are positively correlated with immigrants' immigration status and their ability to assimilate into their new culture (Vîrgă & Iliescu, 2017). Because migration is a worldwide but hugely varied occurrence, examining differences in family preparation ratios (FPR) among temporary, cyclical, and permanent immigrants is important.

Banks and Oldfield (2007) analyzed older individuals in England to examine the relationship between numerical ability, cognitive function, and various wealth and retirement savings outcomes indicators. Their study revealed that a significant proportion of the elderly population faces difficulties with essential mathematical skills, with variations observed across age, gender, and education levels. Notably, the researchers established a strong correlation between numeracy skills and retirement savings and investment portfolio measures. Individuals with better numerical abilities were more likely to possess knowledge about retirement plans and exhibit a sense of financial stability.

Christelis et al. (2010) analyzed data from the Survey of Health, Ageing and Retirement in Europe (SHARE) in a related study. They found that a higher numeracy score was linearly associated with a greater likelihood of stockholding among participants. These studies underscore the importance of numerical ability and cognitive function in shaping individuals' financial behaviors and outcomes, particularly in the context of retirement savings and investment decisions. Enhancing numeracy skills and providing financial education can promote better financial outcomes for older individuals. Using information from SHARE, Gousia (2014) explores how FL affects the availability of long-term care insurance. They conclude that FL has an extensive and significant effect on the likelihood of having a private insurance policy for long-term care. This effect is independent of other characteristics like risk and time preferences.

Several studies have examined a connection between financial education and different kinds of success with money. Christiansen et al. (2008) analyze data from 10% of the adult Danish population to determine if economics education boosts stock market involvement. A positive and statistically significant correlation is discovered between studying economics and stock market participation. They consistently obtain good outcomes using different identification methods such as random effects, difference-in-difference, and IV12.

The literature on the topic of gender gaps in FL is extensive. The gender gap in FL is analyzed in a global setting and a literature review is provided by Bucher-Koenen et al. (2017). They point out that women not only score lower on tests of FL but also tend to respond with a higher rate of "do not know" answers. Using the same three questions but different fieldwork approaches, they identified that there is a consistent gender disparity in FL across all three countries, regardless of socioeconomic status or cultural and institutional factors. They also discover a substantial gender discrepancy among younger people, leading them to conclude that disparities in FL with age are not solely driven by a cohort effect linked with traditional gender roles among older women. When comparing the sexes, they discover that women are less financially literate than males even when they make all the household's financial decisions.

To create policies that would help close the gender gap in retirement income, it is essential to know how and why men and women have different FL degrees, as Fonseca et al. (2012) noted. Using data from the American Life Panel on an exemplary sample of U.S. adults aged above 18, they identified that while age, race, and income do not affect FL, males benefit more from schooling than women do. Married women had more excellent rates of FL than married males, suggesting selection into marriage for financially intelligent women, and this is true across all socioeconomic statuses.

Smith et al. (2010) use data on married couples from the HRS to investigate the association between observed wealth outcomes for households and the cognitive

capacities of both spouses, focusing on the idea that the gender gap in FL is attributable to the division of labor within couples. They use the difference in wealth between couples in whom both partners answered all three numeracy questions correctly (at \$1.7m) and those in which neither partner did (at \$200,000) to demonstrate the significance of numeracy for financial success. Regarding material possessions, the gap widens even further (by a factor of more than ten). They also find that those who do well in mathematics are likelier to have much money. The correlations also hold for the results of the stock market share of a person's wealth. Again, the effect for the financial respondent's numeracy score is substantially more significant than the non-financial respondent's numeracy score when looking at regression analyses of wealth between 2000 and 2006. Numeracy has the most significant effect on income out of the three main measures of cognition they utilize.

## **2.5. Research GAP**

### **2.5.1 Theoretical Gap**

The relationship between Financial Knowledge and RP is indeed influenced by various socio-demographic and psychological factors. Past studies have highlighted the importance of considering these factors when examining the association between Financial Knowledge and RP outcomes.

It is important to note that the findings regarding the relationship between Financial Knowledge and RP may vary across different countries due to the presence of varying controlling variables.

Additionally, while Financial Risk Tolerance, Future Time Perspective, and Financial Knowledge are often studied independently, there is a need to explore their combined influence on PFP for retirement. The integration of these variables can provide a more comprehensive understanding of the factors that shape individuals' RP behavior and their subjective assessment of preparedness.

By examining the joint effects of Financial Risk Tolerance, Future Time Perspective, and Financial Knowledge, researchers can contribute to the

theoretical understanding of RP. This integrated approach acknowledges the contextual factors that are specific to a particular nation, such as India, and helps identify the unique dynamics that influence RP decisions in that context.

Overall, by considering the interplay of these variables and the contextual factors at play, researchers can enhance our understanding of how Financial Literacy & Financial Knowledge relates to RP and contribute to the improvement of targeted strategies to improve retirement outcomes.

### **2.5.2 Empirical Gap**

Further research is needed to identify the precise psychological components impacting financial well-being, according to a study (Shobha & Chakraborty, 2017), which also indicated that psychological factors have a more significant influence on financial well-being than an individual's demographic, social, and economic characteristics.

The literature review indicates that a number of empirical studies on Financial Literacy, Financial Knowledge and RP have focused on Western countries, with limited research conducted in contexts such as Malaysia and Japan.

Given the growing aging population in developing nation like India and the concerns regarding the increasing social security budgets, there is a need to address the gaps in understanding related to Financial Knowledge, RT, and future orientation in the point of long-term financial planning for retirement.

By conducting a study in the Indian context, this research aims to contribute to the existing literature by examining the specific factors that influence RP behaviors and preparedness among individuals in India. This study seeks to shed light on the unique challenges and dynamics faced by the Indian

population in terms of Financial Knowledge, RT, and future orientation when planning for retirement.

By addressing these gaps and considering the specific context of India, this study can provide insights and recommendations that are relevant for policymakers, financial institutions, and individuals seeking to enhance their RP strategies. It recognizes the importance of tailoring interventions and policies to the specific socio-economic and cultural factors prevalent in India, ultimately aiming to improve the financial well-being and retirement outcomes of individuals in the nation.

### **2.5.3 Methodological gap**

The literature review reveals that most of the previous studies on Financial Literacy, Financial Knowledge and RP have utilized either convenience sampling or random sampling methods. Some studies have relied on large-scale data collected by agencies in the US or specific countries. However, studies that collected firsthand information through primary research tended to have smaller sample sizes, typically ranging from approximately 110 to 580 participants.

The inconsistency and lack of uniformity in methodological considerations across studies have contributed to the emergence of disparate results in different contexts. This highlights the need for a study that defines a methodology specific to the context being examined. By developing a context-specific methodology, this study aims to address the limitations of previous research and provide more reliable and comparable findings.

By adopting a rigorous and standardized methodology tailored to the Indian context, this study can contribute to the existing body of knowledge on Financial Literacy and RP. It seeks to provide a more comprehensive and accurate knowledge on the factors influencing RP behaviors in India, taking into account the specific socio-cultural, economic, and demographic factors relevant to the Indian population.

By ensuring methodological consistency and robustness, this study aims to enhance the credibility and generalizability of its findings, thus offering valuable insights for policymakers, financial institutions, and individuals involved in RP in the Indian context.

#### **2.5.4 Population gap**

The literature review highlights that previous studies on Financial Literacy, Financial Knowledge and RP have targeted diverse populations, including pre-retirees, post-retirees, and adults of different age groups in various contexts. However, in highlighting the importance of focusing on a context-specific population when studying Financial Literacy, Financial Knowledge and retirement preparedness. Given the changing demographics, growing aged population, and evolving social security schemes, it becomes essential to tailor research to address the specific criteria and characteristics of the population under study.

By considering the specific context and criteria outlined in the methodology section, researchers can ensure that their findings are relevant and applicable to the target population. This may involve selecting participants based on age, income level, occupation, or other relevant demographic factors that align with the research objectives.

Studying a population that is context-specific allows researchers to capture the unique challenges, needs, and behaviors related to Financial Literacy and retirement preparedness within that particular context. This can provide valuable insights for policymakers, practitioners, and individuals themselves to develop targeted interventions, programs, and policies that address the specific requirements of the population.

Furthermore, focusing on a specific population enables researchers to control for confounding factors and better understand the relationship between Financial Literacy, retirement preparedness, and the evolving social and

economic landscape. This approach allows for a more nuanced understanding of the components that influence financial decision-making and retirement outcomes within a given context.

In summary, considering the current scenario and specific criteria in the methodology section is crucial for conducting research that aligns with the unique needs and challenges of a context-specific population. This approach enhances the relevance and applicability of the findings, to the development of strategies to improve Financial Literacy and retirement preparedness in light of changing demographics and social security schemes. By defining a specific population for the study, researchers can ensure that the findings are more applicable and relevant to the particular context being investigated. This allows for a more targeted analysis of the factors influencing Financial Literacy, RT, and future orientation toward long-term financial planning in the specific population under consideration.

Considering the unique characteristics, needs, and challenges of the selected population, the study can provide valuable insights and recommendations that are tailored to their specific circumstances. This population-specific approach enhances the practical relevance and applicability of the study's findings, enabling policymakers, financial institutions, and individuals to make informed decisions and develop targeted interventions to improve RP outcomes.



## **Chapter-3**

### **Research Methodology**

#### **3.1 Introduction:**

Research Methods in Social Sciences outlines the research procedure with a focus on formulating a research topic, citing relevant recent literature, using appropriate research designs, and producing and assessing research reports. This chapter explains the study's design, the method the researcher used to choose the sample, the variables employed, the created and used tool, and the statistical method in the current study.

#### **3.2 Variables**

##### **3.2.1 Perceived Financial Preparedness for Retirement (PFPR)**

The dependent variable is the Perceived Financial Preparedness for Retirement for retirement. To measure an association between the DV and IV, the researcher employ a measurement tool consisting of four items. Each item is scored on a seven-point Likert scale. This measurement instrument has its origins in the work of Douglas A. Hershey and John C. Mowen (2000), Its primary function is to quantify individuals' perceptions of their financial readiness for retirement.

##### **3.2.2 Future time perspective (FTP)**

This study considers Future Time Perspective an independent variable. To explore the relationship between the Future Time Perspective and Perceived Financial Preparedness for Retirement , a ten-item Likert scale with seven response options is employed. The scale used to measure Future Time Perspective was developed by Carstensen, L.L., and Lang.

##### **3.2.3 Financial risk tolerance (FRT)**

In our research framework, Financial Risk Tolerance (FRT) is positioned as an independent variable. To investigate its relationship with the study's dependent

variable, the researcher employ a measurement instrument comprising six items. Each item is evaluated using a seven-point Likert scale, providing a spectrum of response options. This Financial Risk Tolerance assessment tool was originally conceived by Joy M. Jacobs-Lawson and Douglas A. Hershey (2005). By adopting this established scale, the researcher aim to leverage a validated method for gauging individuals' attitudes towards financial risk in the context of post-retirement life planning.

### **3.2.4 Financial knowledge**

Financial Knowledge (FK) is designated as an independent variable. To explore its association with the study's dependent variable, the researcher utilize a measurement tool consisting of six distinct items. Each of these items is assessed using a seven-point Likert scale, offering participants a range of response options. This Financial Knowledge measurement instrument has its roots in the work of Douglas A. Hershey and John C. Mowen (2000). By adopting this established scale, the researcher aim to employ a validated method for assessing individuals' financial knowledge, particularly as it relates to retirement planning.

### **3.3 Research Objectives**

The primary aim of the present research is to examine “Financial Behavior and its influence on Perceived Financial Preparedness for Retirement” in the context of the Technical teachers in Andhra Pradesh.” A total of five objectives were formulated for this study.

1. To study the influence of socio-demographic and health factors on PFP for retirement.
2. To determine the influence of the Future Time Perspective on Perceived Financial Preparedness for Retirement.
3. To investigate the influence of Financial Knowledge on Perceived Financial Preparedness for Retirement

4. To examine the influence of Financial Risk Tolerance on Perceived Financial Preparedness for Retirement

5. To determine the mediating role of Financial Knowledge and Financial Risk Tolerance between Future Time Perspective and Perceived Financial Preparedness for Retirement.

### **3.4 Research Questions**

The following research questions are focused on and addressed:

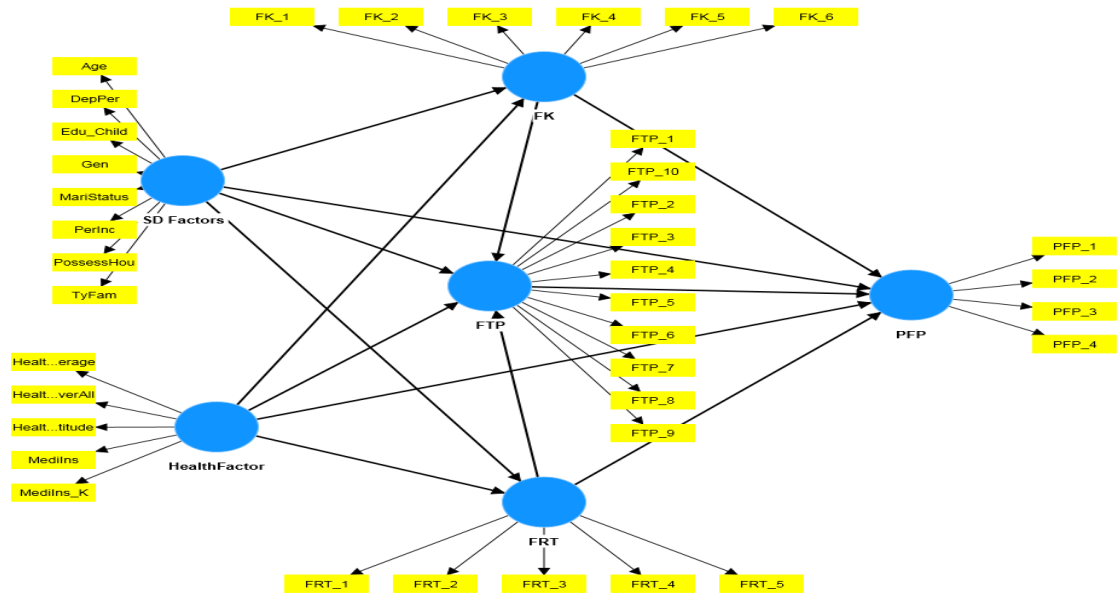
- a) How do demographic variables in pre-retirement influence technical teachers' financial preparedness for retirement?
- b) How well are technical teachers planning for their post-retirement lives?
- c) What factors influence technical teachers' FPR, and how are they related?

### **3.5 Background of the proposed model:**

The interrelationships between future time perspective, financial risk tolerance, financial knowledge and perceived financial preparedness, in the context of retirement planning is a complex phenomenon. Drawing upon time perspective theory, an individual's orientation towards the future plays an important role in financial decision making. Individuals with strong future time perspective prioritize long term goals and more likely engage in financial planning. Their strong sense of future security leads to perceived financial preparedness. Furthermore, when the individuals have willingness to accept the risk, in an anticipation of more returns, they are more inclined to invest in risky assets. This is in line with prospect theory, where individuals may be more risk - seeking when anticipate more losses and more risk averse with potential gains. Hence, financial knowledge assists the individuals to assess their risk tolerance and make informed decisions. Financial Knowledge empowers individuals for financial preparedness for future. Therefore, individuals with strong future time perspective and high financial risk tolerance seek to invest in risky financial assets with a long-term

perspective, and their financial knowledge can mitigate the risks associated with long term and risky investments.

**Figure: 3.1 The Proposed Model:**



**Source: Author's own compilation**

### 3.6 Formulation of research Hypothesis:

After reviewing the literature extensively, it has been found that there is an influence of all the selected variables of financial behavior on the preparedness of retirement in the context of Technical education teachers in Andhra Pradesh. The data has been collected from different geographical locations of Andhra Pradesh. The following hypotheses have been framed to study the problem during the present research:

Hypothesis (1H1): Health factors significantly influence Perceived Financial Preparedness for Retirement.

Hypotheses(2H1): Socio-demographic factors have a significant effect on PFP for retirement

Hypothesis 3H1: Financial Risk Tolerance significantly positively influences Perceived Financial Preparedness for Retirement.

Hypothesis 4H1: Financial Knowledge significantly positively influences perceived financial preparedness

Hypothesis 5H1: Future Time Perspective significantly positively influences Perceived Financial Preparedness for Retirement.

Hypothesis 6H1: Future Time Perspective significantly positively influences Financial Knowledge.

Hypothesis 7H1: Future Time Perspective significantly positively influences Financial Risk Tolerance.

8a) Alternative Hypothesis (8<sub>a</sub>H1): There is a significant mediating role of Financial Knowledge between Future Time Perspective and Perceived Financial Preparedness for Retirement

8b) Alternative Hypothesis (8<sub>b</sub>H1): There is a significant mediating role of Financial Risk Tolerance between Future Time Perspective and Perceived Financial Preparedness for Retirement

### **3.7 Research Design**

According to Creswell (2003), research design can be classified into exploratory, descriptive, and explanatory methods.

Exploratory research happens when issues are at a preparatory level. Experimental analysis is utilized when the subject or matter is fresh, and information is hard to gather. Experimental analysis is adaptable and can address inquiries of numerous types (what, why, how). Experimental analysis is regularly used to produce formal speculations. Consequently, the Experimental analysis is comprehensive in the center and infrequently gives positive responses to particular analytical matters.

Descriptive research can be either quantitative or qualitative. It can contain collections of numeric data that can be categorized laterally a permanence in measurable numerical shape, for example, test scores or the amount of time a man spends utilizing a specific factor of a multimedia programme. Research that serves as

an example entails obtaining data that describes events and separates, organises, delineates, and illustrates the information accumulation (Ethan, 2012).

Explanatory studies search for explanations of the idea of exact acquaintances. Theory testing gives a understanding of the influences that exist between factors. Zikmund (1984) proposes that the level of weakness regarding the exploration issue decides the inspection philosophy.

### **3.7.1 Selected design:**

This research employs a Descriptive research approach, which involves both Qualitative and Quantitative research. Descriptive research is made up of three parts: questionnaires, surveys, and observations. In addition, the researcher who was interviewed gained a thorough awareness of the problem, which is an important component of exploratory research. Due to the study's focus on consumer impression, a large sample size was necessary. Using descriptive research, the researcher could generalize the concept using statistical interpretation (Shields & Rangarajan, 2013). Descriptive research design has therefore been utilized in this study because a common goal of descriptive research is to map the landscape of a certain phenomenon.

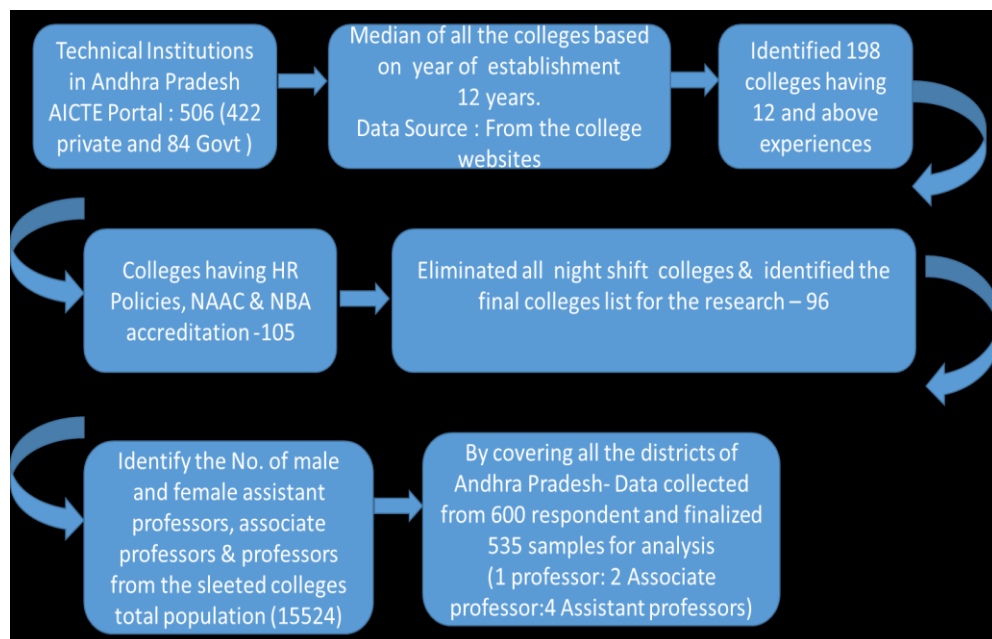
### **3.8 Sampling Procedure:**

Sampling can be defined as the portion of an aggregate population from which inferences about the aggregate can be drawn. A population is a group of people sharing similar traits or characteristics. Finding a suitable sample that can represent the entire population is among the most crucial components of performing the research. Apart from this, identifying the target group, sampling technique and sample size also play an important role in a research study (Zikmund et al., 2013). The following points explain the sampling procedure of the current study.

### 3.8.1 Targeted Population

Numerous elements must be considered for deciding the target population. It plays a major role to achieve the objectives of the study. In the present study, the technical teachers of technical colleges in Andhra Pradesh shall constitute the universe for the study. According to the definition of technical institutions given on the AICTE website, there are 506 technical colleges in Andhra Pradesh, of which 422 are private engineering colleges, and 84 are public and government-owned colleges. The researcher identified 96 colleges in 422 using systematic sampling (Sampling flow chart) that are accredited with any of the quality inspection bodies viz. NBA, NAAC, autonomous & deemed universities. In this study, the researcher excluded all government-owned colleges because their well-being is taken care of by the state and federal governments in the form of provident funds, pensions, and medical facilities, whereas the majority of private engineering colleges do not. Finally, the study's total population size is approximately 15524 technical teachers. In this study the researcher covered all the districts of Andhra Pradesh. Shown in figure 3.2

**Figure 3.2 Flow diagram: Sample scheme**



Source: Authors compilation

### **3.8.2 Sample Design and Techniques:**

The probability of any particular sample being drawn is the sampling design. It is broadly classified into two categories: probability sampling and non-probability sampling. The sampling technique assists the researcher in choosing the sample elements for the study. For the present study, the sampling technique utilized was a combination of convenience and random sampling to reach the target respondent. Based on convenience and availability, the researcher selected one to two professor, two to three associate professors, and four to six assistant professors from each college to participate in the study. The proposed sample size was 535. The study employed a structured online survey that participants were required to complete on their own. Emails, in-person interviews, WhatsApp, and other online platforms were used to distribute the poll.

### **3.8.3 Sample size:**

Selecting the number of observations to be taken from the population to carry out the research is referred to as sample size. The nature of the investigation affects the size of the sample. Small sample size is required for experimental and qualitative studies, but a larger sample is recommended for confirmatory and conclusive studies. Sample size also differs according to the nature of the software package. Because of the latter's estimation methodology, it is widely accepted that partial least squares structural equation modeling (PLS-SEM) programs like Smart-PLS work perfectly with small sample size, whereas covariance-based structural equation modeling (CB-SEM) programs like AMOS works best with large sample size (Hair *et al.*, 2017a; Ringle *et al.*, 2020; Ryan, 2020). The ten times rule suggested by Barclay *et al.* (1995) is the most popular technique to choose sample size when using PLS

(Hair *et al.*, 2017a). However, this technique is criticized by several researchers (Marcoulides and Chin, 2013; Ringle *et al.*, 2020). 'Inverse-square root' and 'Gamma-exponential methods' were proposed by Kock and Hadaya (2018) as two new methods for determining the minimal sample size required for PLS-SEM path models. Based on



the inverse square root, the minimal sample size would be 160. This sample size is reduced to 146 if researchers use the gamma exponential approach.

The present study is on the highly organised education sector and therefore, the exact number of exact technical educational institutes in the given geographical location remains known. Many of these Institutes are using social media and monitored by the educational agencies like AICTE & UGC. With the help of source like AICTE web site provide an exact number of technical education Institutes of Andhra Pradesh. Due to the nature of research and statistical analysis tools, it is found appropriate to collect data from 500 to 600 technical teachers. A descriptive formula has been used to check the requirement of an average sample size to conduct research. The formula given by Cochran (1977) has been used for this purpose:

$$n = Z^2 (p q) / e^2$$

Considering a case when the researcher need to establish the sample size for a larger population with unknown levels of variation. Taking a presumption of 50% maximum variability ( $p = 0.5$ ) and a 95% level of confidence with a 5% accuracy, the necessary sample size can be determined as follows:  $p = 0.5$ ,  $q = 1 - 0.5 = 0.5$ ;  $e = 0.05$ ;  $z = 1.96$ . Where  $n$  is the representative sample,  $z$  is the intended confidence level's determined significant level,  $p$  is the general populations estimate the percentage of a characteristic,  $q = 1 - p$ , for desired accuracy level. So,  $n = (1.96)^2 \times (0.5) \times (0.5) / (0.05)^2 = 384.16$ , therefore,  $n = 384$ . The sample size of the present study is 1000 which is sufficient for the generalization of findings.

### **3.9 Data Collection:**

The primary data was collected with the help structure questionnaire to be filled by the Technical teachers of Andhra Pradesh. The questionnaires were distributed randomly to the selected Professors, Associate professors & Assistant professors of selected educational institutes in printed form as well as google form, which was circulated via WhatsApp and social media platforms. Overall, 600 responses were received, out of which 65 were either pattern response, incomplete, and carelessly filled. Thus, 535 responses were considered for final analysis. For primary data, accurately filled responses of 89.16 % is a healthy response rate. Common sources for

secondary data include the internet, magazines, newspapers, online databases, journals, dissertations, and government statistics, etc.

### 3.10 Data collection Instruments:

Well-structured questionnaire was prepared and distributed to the technical teachers of selected colleges in Andhra Pradesh. The information about the personal details of respondents' in Section-A. It includes demographical profiles of the respondent (a) Name (b) type of family (c) Gender (d) Age (e) Marital Status (f) Education (g) Annual Income (h) Geographical Location. This demographical information of the customers is required to reach the first objective of the study i.e to study the influence with the dependent variable i.e Perceived Financial Preparedness for Retirement. Section-B provides information about how the behavioural variables Financial Knowledge, Future Time Perspective & Financial Risk Tolerance examines the relations between Perceived Financial Preparedness for Retirement.

**Table 3.1: Questionnaire adoption sources**

Sl.No	Variable	Name of the Journal	Name of the author
1	Financial Knowledge	Financial Services Review	Joy M. Jacobs-Lawsona, Douglas A. Hersheyb
2		The Gerontologists of American Society	Douglas A. Hershey and John C. Mowen,
3		Journal of Adult Development (Springer)	Douglas A. Hershey Æ Joy M. Jacobs-Lawson Æ John J. McArdle Æ Fumiaki Hamagami
4	Demographic and	Journal of Psychology and Aging	Jasmina Petkoska and Joanne K. Earl, University of New South Wales

	psychological variables		
	Financial Risk Tolerance	Financial Services Review	Joy M. Jacobs-Lawsona, Douglas A. Hersheyb
5		Journal of Business Research (Elsevier)	Sweta Tomar, H. Kent Baker b, Satish Kumar, Arvid O.I. Hoffmann.
6	Future Time Perspective	Journal of Psychology & Aging	Carstensen.L.L.& Lang
7	Perceived Financial Preparedness for retirement	The Gerontologist	Douglas A. Hershey and John C. Mowen,

### 3.11 Scale description:

Technical education teachers are invited to mark their level of perception for each item on a 7 point Likert-type scale (1= Strongly Disagree, and 7= Strongly Agree). The responses are collected across the state of Andhra Pradesh in India by using Google Forms, Mail & and Post/Courier. The perception of the technical teachers in each item is captured in a similar fashion, as the PFP for retirement is measured by using the financial behavioral traits proposed by Hershey and Mowen (2000). A total of 600 responses using a questionnaire instrument were collected across 96 accredited colleges in different districts of Andhra Pradesh. Finally, 535 individual responses were vetted and considered for future analysis based on totality, rational scoring, and adherence to scale.

**Table 3.2: Description of Scale Items**

Variables	Indicators	Item
PFP	PFP1	Have determined how much money will be saved for retirement.
	PFP2	Have a good idea of how much money will be required so that we can retire comfortably.
	PFP3	Aware of the amount that has to be saved each month in order to retire comfortably.
	PFP4	We are able to retire comfortably because we are saving enough money every month.
Financial Knowledge	FK1	Skilled in retirement financial planning
	FK2	we are well-versed in retirement planning
	FK3	Am capable of competently preparing for retirement
	FK4	Know where to get information
	FK5	Knowledgeable about retirement schemes
	FK6	Knowledgeable about private investment plans
Future Time Perspective	FTP1	In the future, we will have opportunities.
	FTP2	In the future, we are likely to have a long list of objectives.
	FTP3	A world of opportunities awaits me in the future.
	FTP4	The best is yet to come
	FTP5	The future appears boundless
	FTP6	In the future, we will be free to do as we like.
	FTP7	Lots of time to come up with fresh strategies
	FTP8	Since time is of the essence

	FTP9	Our future has few options.
	FTP10	Time is running out for us as we get older.
Financial Risk Toleranc e	FRT1	Willing to take financial risk
	FRT2	Prefer high returns
	FRT3	The importance of retirement outweighs that of risk.
	FRT4	Willing to make a risky investment
	FRT5	I would never choose the safety investment when planning for Retirement

### 3.12 Reliability and Validity of Instruments

It is essential to ensure that established scales are utilized effectively to measure the variables. Thus, the questionnaire is subjected to professional scrutiny and pilot testing (Sekaran, 2003). Sixteen experts were involved for doing content validity of the questionnaire who had a good understanding of the constructs used in this research. For face validity, the researcher visited two professors, five Associate professors & ten Assistant professors to ensure that the language and content are easy to understand by the target audience. Composition of expert details for content validity are shown in the table 3.3

<b>Table 3.3 COMPOSITION OF EXPERTS</b>		
<b>Sl.No</b>	<b>Industry/Field</b>	<b>No. of experts</b>
1	Finance	11
2	Marketing	03
3	Economics	01
4	Analytics	01

As a part of pilot testing, 50 responses were obtained from the technical teachers for scale reliability. The Cronbach alpha, which is the widely used method to check internal consistency, was used, and according to Nunnally (1978), a threshold value of 0.70 and well above is the permissible limit. However, it should not be greater than 0.80. Cronbach alpha values for each scale are above the prescribed standard values shown in Table 3.4, indicating the suitability of the questionnaire for final data collection.

**Table 3.4 Reliability for data analysis**

<b>Construct</b>	<b>Reliability</b>
Perceived Financial Preparedness	0.897
Financial Risk Tolerance	0.841
Financial Knowledge	0.942
Future Time Perspective	0.831

Source: Primary data

The highest reliability score is 0.942 for Financial Knowledge and the lowest reliability is 0.831 for Future Time Perspective. There was no need to eliminate any items from the questionnaire because the Cronbach alpha values were above the acceptable value of 0.70.

### **3.13 Data Analysis**

This present study was conducted to examine the relation between Financial Knowledge, Financial Risk Tolerance, Future Time Perspective on Perceived Financial Preparedness for Retirement of technical education teachers in Andhra Pradesh. This relationship among the variables was identified through literature review and tested through the survey. The survey was conducted from March 2022 to July 2022. The data analysis was done using statistical software such as SPSS and PLS-SEM.

### **3.14 Statistical Tools and Techniques**

For the current research, following inferential statistics tools and techniques have been used:

### **3.14.1: Frequency tables:**

A frequency table is a table that summarizes a data set by showing how often each value or category appears in the data. It's a useful tool in statistics for quickly assessing the distribution of variables in a sample

### **3.14.2 Analysis of Variance (ANOVA):**

Analysis of Variance (ANOVA) is a statistical formula used to compare variances across the means (or average) of different groups. ANOVA interprets the interaction between two categorical independent variables on the dependent variable. ANOVA table includes F value and significant value, which aids in researching significance levels and decision rules. The p-value should be less than 0.05 for a significant relationship. It means the independent variable is significant of the predictor of the dependent variable. Thus, the ANOVA is used to study the influence of demographic and health factors on Perceived Financial Preparedness for Retirement.

### **3.14.3 Structural Equation Modeling (SEM)**

SEM is a statistical methodology which has two components: regression and factor analysis, both of which are diagrammatically represented to aid in theory conceptualization. Covariance-based SEM (CB-SEM) and Partial least squares SEM (PLS-SEM) are widely used approaches to predict complicated models with a large number of constructs, measurement items, and structural routes. CB-SEM is best suited for estimating the observed covariance matrix, whereas PLS-SEM is used to explain variations in endogenous constructs (Hair *et al.*, 2014). Hair *et al.* (2018) suggested using the PLS-SEM technique when the sample size is small (business-related research). It also works well with a large sample size (customer-based studies). For a complex structural model where the number of constructs and indicators is more, it is recommended to use PLS-SEM. It supports both reflective as well as formative models. Further, it provides latent variable estimates which are required for follow-up studies in research, especially when working with control variables. In the present study, PLS-SEM is used using Smart-PLS software version 3.3.3 (Ringle *et al.*, 2015).

### **3.14.4 Assumptions of PLS-SEM**

The three major concerns related to the application of PLS-SEM are “Data requirement, Model properties, Model evaluation” (Hair et al., 2017a; 2019).

#### **(1) Data Requirements:**

- (a) Number of samples
- (b) Normality without assumptions
- (c) Extremely good for missing values
- (d) Work with Interval, Ordinal and Binary coded variables with certain limitations if DV is a categorical variable.

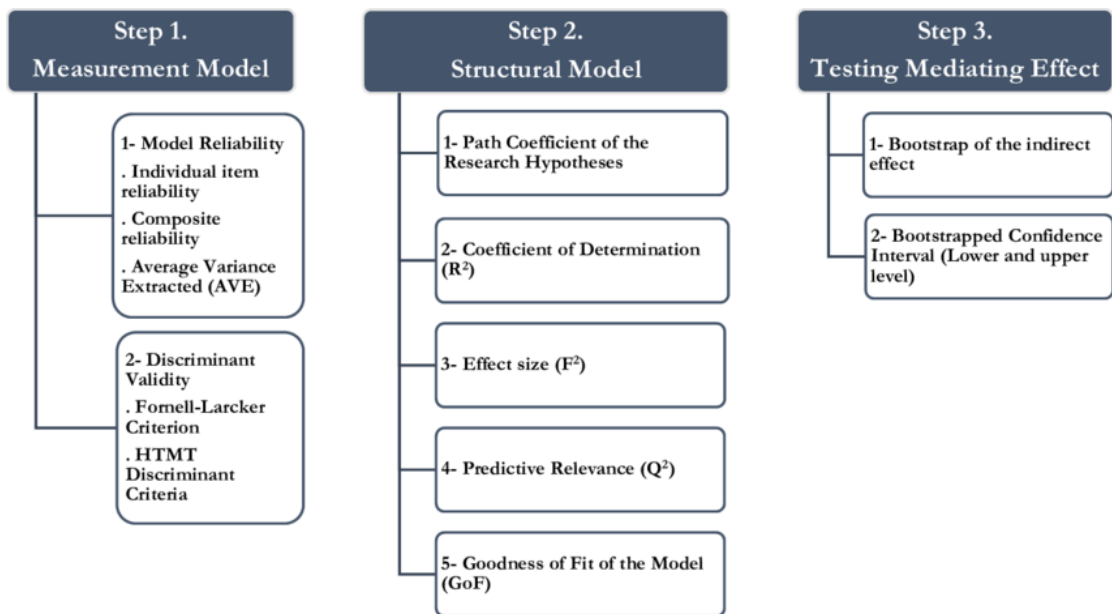
#### **(2) Model Properties:**

- (a) Fit for Reflective & Formative models
- (b) Fit for Single statement element
- (c) Fit for Recursive models only (No feedback loop)
- (d) Cannot work on measurement model alone.
- (e) It always fits for Structural Models i.e., models with certain IDVs and DVs.

#### **(3) Model Evaluation:**

**Figure: 3.3 Model evaluation Flow chart**





**Source:** Fehan, H., & Aigbogun, O. (2021).

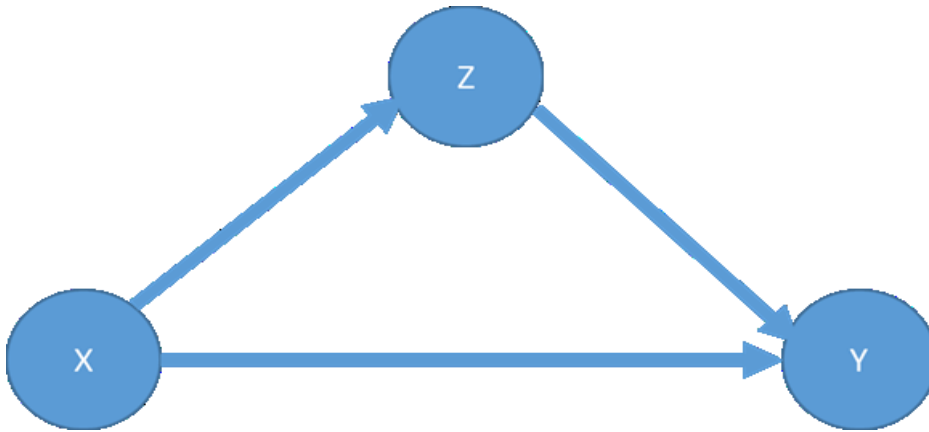
### 3.14.5 Mediation:

Mediation is a situation in which the influence of the exogenous variable on the endogenous variable is intermediated by a third variable called the mediator (Zhao et al., 2010; Nitzl et al., 2016). This third variable has the power to modify the relationship between independent and dependent variables. In technical terms, “the effect of the independent variable (X) on the dependent variable (Y) is mediated by a third variable (M) which is referred to as the mediator” (see Figure 3.4 and 3.5). The mediating effect (also known as an indirect effect or mediation) can be of three types: Full Mediation, Partial Mediation, and No Mediation. Partial mediation can be Complementary (Consistent) or Competitive (Inconsistent).

**Figure 3.4: Direct Effect**



**Figure 3.5 Indirect effect Mediation:**



## Chapter-4

### Data Analysis and Interpretation

#### 4.1 Structural Equation Modelling (SEM) a theoretical discussion:

Structural equation modelling is a multivariate statistical technique used to investigate both direct and indirect relationships between one or more independent latent variables and one or more dependent latent variables (Gefen et al., 2000). A few multivariate statistical analyses that may be performed using SEM are regression analysis, route analysis, factor analysis, canonical correlation analysis, and growth curve modelling (Gefen et al., 2000; Urbach & Ahlemann, 2010). Using structural equation modelling, researchers can assess a model's overall fit and test it as a whole (Chin, 1998; Gefen et al., 2000). SEM evaluates structural relationships between constructs, both real and imagined, and the relationships between a construct and its related measurements.

When appropriately applied SEM has advantages over the earlier generation of analytical techniques. SEM allows researchers to assess how well theory and reality align (Chin 1998). Structural Equation Modeling (SEM) provides several advantages for researchers. Firstly, it allows for the modeling of interactions between different predictor and criterion variables, making it possible to analyze complex relationships. Secondly, SEM enables the creation of unobservable latent variables, which represent underlying constructs that cannot be directly measured. Thirdly, it accounts for measurement errors in observed variables, improving the accuracy of the analysis. Lastly, SEM allows for the statistical testing of theoretical and measurement assumptions against empirical data, ensuring that the proposed models are consistent with observed patterns. These capabilities make SEM a powerful tool for conducting comprehensive and robust analyses in various fields of research.

The Partial Least Squares (PLS) method overcomes many of the restrictive assumptions required by Maximum Likelihood (ML) approaches. It also safeguards against issues such as inappropriate solutions and factor indeterminacy, making it a more flexible option for structural equation modeling (Fornell and Bookstein 1982).

## **4.2 Rules of Thumb for Selecting CB-SEM or PLS-SEM**

For a researcher to select which statistical method to use, one must be aware of the underlying assumptions of both statistical approaches. The choice between CB-SEM and PLS-SEM can be made based on a number of factors, such as the study purpose, methods of measurement models specified, modelling of the structural model, data features, and model evaluation (Hair et al., 2011). According to Hair et al. (2011), a few broad rules can be followed when deciding between PLS-SEM and CB-SEM.

On the other hand, PLS-SEM is suitable when the study's objective is to develop hypotheses and make predictions. By finding the best predictions of linkages between variables and maximizing the covariance between latent variables, this type of modelling aims to maximize the model's interpretability (Sosik et al., 2009).

Second, only research models with reflecting structures can be employed using CB-SEM. Identification issues frequently occur despite the use of the structural model as a formative measure in prior studies (Henseler et al., 2009). For instance, if formative ideas were included in CB-SEM, it would be impossible to explain the covariance of all measures (Chin, 1998b). There is also a considerable level of heterogeneity when using CB-SEM to address both reflecting and formative components (Urbach & Ahlemann, 2010). By contrast, PLS-SEM can be utilized to investigate a study model that includes formative and reflective components (Chin, 1998b). PLS gives researchers the option of using formative, reflective, or a combination of formative and reflective components simultaneously

Third, many conditions for CB-SEM must be met before conducting additional analyses. Some of these assumptions include The assessment process involves several key steps to ensure the quality of the data. First, it is important to check for multivariate normality to determine whether the data conforms to a normal distribution when considering multiple variables simultaneously. Second, the independence of observations must be verified to ensure that each data point is not influenced by others, maintaining the integrity of the analysis. Third, the uniformity of variable metrics should be confirmed to ensure consistency in the measurement scales used for different

variables, allowing for meaningful comparisons and accurate interpretations. (Sosik et al., 2009). CB-SEM needs both a normal data distribution and a big sample size. Any underlying assumptions that are compromised lead to inaccurate CB-SEM results (Hair et al., 2011). In contrast, PLS-SEM is a more reliable approach, particularly when dealing with data that do not follow a normal distribution. Additionally, data normality is not a requirement for PLS-SEM, as it employs standardization procedures that convert non-normal data into a form that aligns with the central limit theorem. This flexibility makes PLS-SEM suitable for various types of data analysis. (Beebe et al., 1998).

Finally, The primary objective of PLS-SEM is to evaluate and predict the proposed theoretical model based on the existing literature, rather than to determine which alternative model provides a better fit for the data. (Sosik et al., 2009). Due to the correlation between variables, PLS can "estimate" the residuals for both manifest and latent variables. (Falk & Miller, 1992).

#### **4.3 Partial Least Square (PLS)**

Partial least squares (PLS) were created in the 1970s by econometrician Herman Wold (Chin, 1998). Henseler et al. (2009) state that principal component analysis, alternate least squares, and canonical correlation analysis are all expanded upon by PLS. According to Henseler et al. (2009), PLS models are often utilized to analyze two types of linear equations: structural models and measurement models. The structural model, also known as the inner model, specifies the relationships among latent variables and their corresponding manifest variables. Meanwhile, the measurement model, or outer model, focuses on the relationships between latent (unobserved) variables and their indicators. This dual approach allows researchers to comprehensively assess both the theoretical constructs and the observable data in their analysis (items).

According to Henseler et al. (2009), the PLS algorithm may be reduced to a sequence of regressions using weight vectors, and its core approach entails the following steps:

1: A four-step approach is used to iteratively estimate latent variable scores until convergence is reached.

Scores for the latent variable's outer approximation; inner weight estimations; latent variable inner approximation scores; and outer weight estimation.

2. The path coefficients and outer weights/loading are calculated in the second stage.

The third stage is the estimation of the location parameters.

PLS-SEM is being utilized more frequently in business-related fields such as marketing (Henseler et al., 2009). Academics claim that the structural Model can be estimated more accurately using the PLS-SEM technique (Henseler et al., 2009). A partial least square (PLS-SEM) is utilized in this dissertation as the statistical method to assess the research model. It is an established analytical standard.

#### **4.4 Evaluating Measurement and Structural Models Using Partial Least Square**

The evaluation of the research model in this dissertation is conducted in two steps: first, the structural model is assessed, followed by the evaluation of the measurement model. According to Urbach and Ahlemann (2010), the primary objective of model validation is to determine whether both the measurement model and the structural model meet the standards for high-quality empirical research. The following subsections provide a detailed explanation of the criteria used in this dissertation to evaluate the measurement model and the structural model.

##### **4.4.1 Model for Measurement**

If a reflective measurement model has been validated through previous studies, its validity can be assessed by examining internal consistency, indicator reliability, convergent validity, and discriminant validity (Lewis et al., 2005; Straub et al., 2004).

##### **4.4.2 Internal Consistency**

A measurement model's internal consistency is commonly assessed using Cronbach's alpha (CA). High Cronbach's alpha values indicate that the items within a construct are consistent in their range and interpretation (Cronbach, 1971). Cronbach's alpha provides a measure of reliability based on the inter correlations among the indicators.

PLS also uses composite reliability to measure internal consistency (Chin, 1998). Both Cronbach's alpha and composite reliability account for the different loadings of indicators when assessing internal consistency. However, Cronbach's alpha may overestimate internal consistency reliability because it assumes that all indicators are equally weighted and that all measures are equal (Werts et al., 1974). Internal consistency reliability is considered adequate when the value is at least 0.7 in the early stages of research and above 0.8 or 0.9 in later stages. Values below 0.6 are considered unreliable (Nunnally & Bernstein, 1994).

#### **4.4.3 Indicator Reliability**

To identify how well a variable or combination of variables correlates with the desired measurement, an indicator's dependability must be evaluated. Unlike other constructs, a construct's reliability is calculated and examined independently. Indicator loadings should have a minimum significance value of 0.5 to 0.7 (Chin, 1998). Some research imply that a 0.5 threshold is appropriate, while others say that factor loadings should be more than 0.5 for more accurate results (Truong and McColl, 2011; Hulland, 1999). Hair et al. (2010) suggest that factor loading estimates should fall between 0.5 and 0.7.

To determine the importance of indicator loadings, resampling methods such as bootstrapping or jackknifing can be employed. Given the consistency properties of PLS, caution is advised when deciding whether to remove an indicator. Hensler et al. (2009) recommend removing an indicator only if it exhibits low reliability and if its removal significantly increases the composite reliability.

#### **4.4.4 Validity Converging**

Convergent validity, according to Urbach and Ahlemann (2010), refers to the degree to which a specific item accurately represents a construct when contrasted to another item measuring a different construct. It can be evaluated using the AVE value. Convergent validity is deemed sufficient when a construct has an AVE value of at least 0.5 (Fornell & Larcker, 1981).

#### 4.4.5 Discriminant Validity

Urbach and Ahlemann (2010) define discriminant validity as the ability to distinguish between diverse measures of a construct. It also measures how unrelated overlapping notions are to one another (Hair et al., 2014). It looks at whether the items accidentally measure ideas other than the one for which they were designed. Cross-loading (Chin, 1998) and the Fornell-Larcker criterion (Fornell and Larcker, 1981) are widely used metrics for determining discriminant validity in PLS.

Cross-loading is calculated by comparing the component scores of each latent variable to all other items. If each indicator's loading is larger for its designated construct than for any other construct, it can be concluded that indicators for distinct constructions are not interchangeable (Chin, 1998).

To meet the Fornell-Larcker criterion, a latent variable must have more variance explained by the indicators to which it is allocated than any other latent variable. This includes comparing the square root of a construct's average variance extracted (AVE) to the correlations between latent constructs. A latent construct should be able to explain the variation of its own indicators better than other latent constructs. Therefore, correlations with other latent constructs should be less than the square root of each construct's AVE (Hair et al., 2014).

In this thesis, the following criteria must be met for the measurement model to be considered valid:

- 1) Composite reliability should be higher than 0.8.
- 2) Each item must have a loading greater than 0.5 and be significant at least at the 0.05 level.
- 3) The AVE value for every construct must be greater than 0.5.
- 4) Each item's loading should be highest on the construct for which it is designed.
- 5) A construct's correlations with other constructs in the model must be lower than the square root of its AVE.



#### **4.4.6 Statistical Model (quality Criteria)**

The evaluation of the structural model can only proceed after successful validation of the measurement model. A systematic assessment of its validity helps to determine if the data supports the model's hypotheses (Urbach & Ahlemann, 2010). In PLS analysis, the structural model is evaluated primarily using path coefficients and the coefficient of determination ( $R^2$ ).

##### **Coefficient of Determination ( $R^2$ )**

The  $R^2$  value is a crucial criterion for assessing the structural model. It quantifies the relationship between a latent variable's explained variance and its total variance. Chin (1998) provides guidelines for interpreting  $R^2$  values:

- Approximately 0.67: Considered strong
- Around 0.333: Viewed as moderate
- 0.19 and below: Regarded as weak

##### **Path Coefficients**

The second key criterion for evaluating the structural model is the examination of path coefficient values. These coefficients predict the strength of relationships between latent variables. Researchers should analyze the path coefficients' algebraic sign, magnitude, and significance. For a path to be considered influential within the model, its coefficient should exceed 0.100 and be significant at the 0.05 level (Huber et al., 2007).

##### **Criteria for Model Adequacy**

In this study, the structural model is considered adequate if it meets the following criteria:

1. The coefficient of determination ( $R^2$ ) is greater than 0.19.
2. Path coefficients between latent variables:
  - Are at least 0.1 in magnitude
  - Have the appropriate algebraic sign (positive or negative)
  - Are statistically significant (at least at the 0.05 level)

These criteria ensure that the model demonstrates sufficient explanatory power and that the relationships between variables are substantive and statistically meaningful.

#### **4.4.7 Verifying Data Characteristics**

The analyses performed to validate the collected data. This phase is essential to ensure the validity and completeness of the data used in more advanced studies. Several analyses are conducted to confirm data normality, ensure there are no missing values, and check for any possible common method bias.

#### **4.4.8 Missing Data**

In this thesis, a study of missing values is not required because the online survey design mandates responses. The researcher only accepts complete responses.

#### **4.4.9 Data Regularity**

The Shapiro-Wilk test and analysis of skewness and kurtosis were used to assess data normality. The Shapiro-Wilk test results indicated that all variables had significant values of 0.00, suggesting that the data were non-normal. To advance investigate this, skewness and kurtosis values were calculated. The results show that the data were not normally distributed, with nearly 80% of the data exhibiting skewness and kurtosis values outside the suggested range of -3 to +3. This indicates that the assumption of a normal data distribution was not met, further justifying the use of PLS-SEM.

### **4.5 Data Analysis**

This section of the chapter focuses on data analysis and interpretation. The first part discusses the demographic and health profile of the respondents, followed by an interpretation of the SEM results obtained using Smart PLS software.

#### **4.5.1 Demographic Profile of the respondents**

For a better understanding of the analysis and results, it is necessary to explain the respondents' profile using frequency distribution. The demographic profile of the respondents who were part of the survey is depicted in Table 4.1. The details regarding gender, age, marital status, education qualification, income, type of family, earning members, financial decision makers, and no of dependents are presented in a tabular form along with a brief description. The final sample contains 535 responses, out of

which the gender composition shows a stronger inclination towards males, with men making up 73.1% and women 26.9%. Marital status is another key demographic factor. The data shows that most respondents (91%) are married, 7.7% are single, and 1.3% are widowed or divorced. This indicates that married persons are more likely to engage in discussions about post retirement life preparation. Among the respondents, 55.7% come from nuclear families, while the rest are from joint families. In joint families, the data reveals that 32.7% have two earning members, 38% have one earning member, and 29.2% have three or more earning members. This indicates that most joint families have two working members. In nuclear families, 57.57% of respondents are the primary decision-makers, meaning they typically handle financial decisions without relying on their spouses.

For joint families, the major decision-maker is the respondent in 52.30% of cases, their spouse in 24.26%, and both together in 23.43% of cases.

Age is a significant demographic factor. the majority of respondents are between 36 and 45 years old (54.2%). Another 23.9% are aged 26 to 35 years, and 19.1% are between 46 and 55 years. This shows that the study sample is predominantly in the active 36-45 age range, which is particularly concerned about retirement planning and Financial Knowledge.

The number of dependents. In most cases (55.5%), respondents have more than two dependents. There are two dependents in 32.9% of cases, and only one dependent in 11.6% of cases. This indicates that many respondents have multiple dependents, making it crucial for them to plan thoroughly for retirement with proper Financial Knowledge and risk management.

Among respondents, 67.9% have children currently attending school. Similarly, 50% of the children of some respondents are in school, while 12.9% of respondents have no children in school at present. This suggests that most respondents are likely in the 35-46 age range, with children who are of school age, while younger or older respondents may have children who are not in school.

Income levels among respondents are categorized into four ranges. The largest group, 47.1%, has an income between Rs 30,001 and Rs 60,000, indicating a predominance of lower middle-class income levels. Additionally, 21.1% of respondents earn less than Rs 30,000 per month, while 14.6% belong to the higher income group, earning more than Rs 60,000.

**Table:4.1 Demographic profile of the Technical Teachers**

<b>Demographics</b>	<b>Indicators</b>	<b>Frequency</b>	<b>Percent</b>	<b>Valid Percent</b>	<b>Cumulative Percent</b>
Gender	Male	391	73.1	73.1	73.1
	Female	144	26.9	26.9	100
	<b>Total</b>	<b>535</b>	<b>100</b>	<b>100</b>	
Marital Status	Married	487	91	91	91
	Unmarried	41	7.7	7.7	98.7
	Widow	3	0.6	0.6	99.3
	Divorced	4	0.7	0.7	100
	<b>Total</b>	<b>535</b>	<b>100</b>	<b>100</b>	
Age	16-25	7	1.3	1.3	1.3
	26-35	128	23.9	23.9	25.2
	36-45	290	54.2	54.2	79.4
	46-55	102	19.1	19.1	98.5
	above55	8	1.5	1.5	100
	<b>Total</b>	<b>535</b>	<b>100</b>	<b>100</b>	
Personal Income	Rs 0 – Rs 30000	113	21.1	21.1	21.1
	Rs 30001- Rs 60000	252	47.1	47.1	68.2

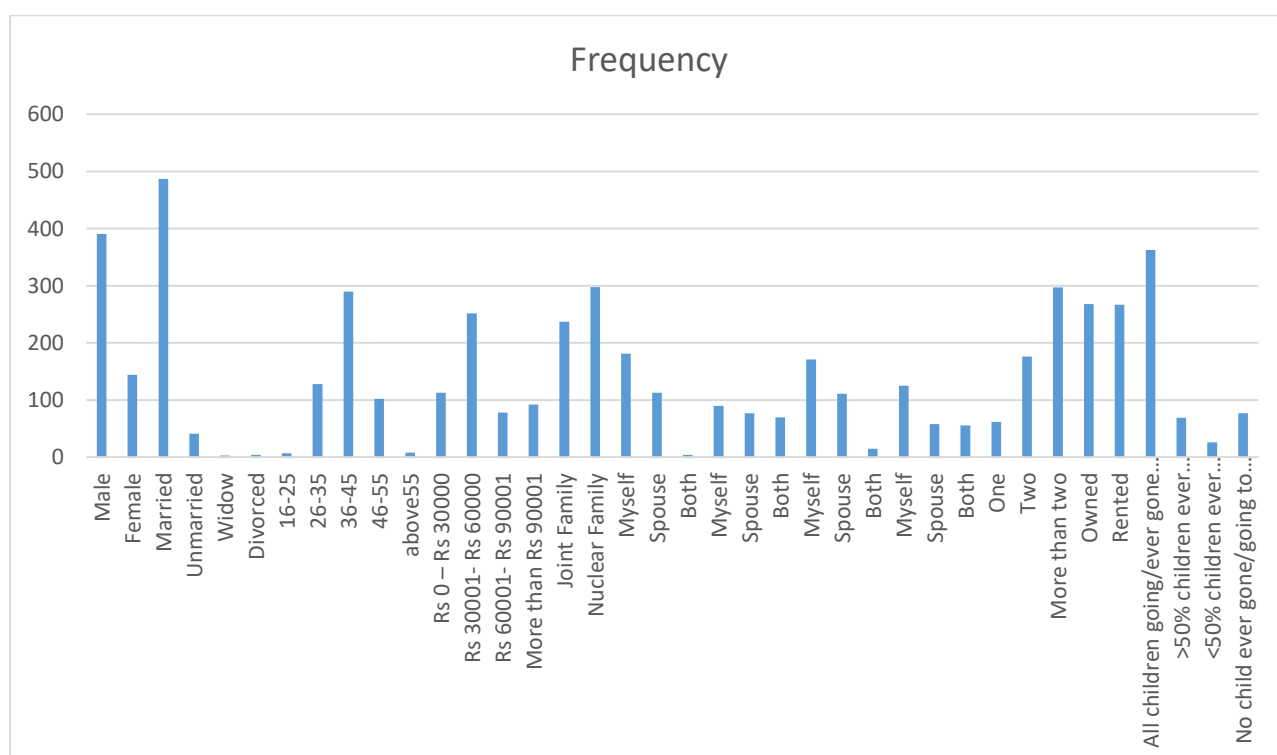
	Rs 60001- Rs 90001	78	14.6	14.6	82.8
	More than Rs 90001	92	17.2	17.2	100
	<b>Total</b>	<b>535</b>	<b>100</b>	<b>100</b>	
Type of Family	Joint Family	237	44.3	44.3	44.3
	Nuclear Family	298	55.7	55.7	100
	<b>Total</b>	<b>535</b>	<b>100</b>	<b>100</b>	
Earning members of the family (Nuclear)	Myself	181	61.14	61.14	61.14
	Spouse	113	37.5	37.5	98.64
	Both	4	1.35	1.35	100
	<b>Total</b>	<b>298</b>	<b>100</b>	<b>100</b>	
Earning member of family (Joint)	Myself	90	37.65	37.65	37.65
	Spouse	77	32.21	32.21	69.86
	Both	70	30.12	30.12	100
	<b>Total</b>	<b>237</b>	<b>100</b>	<b>100</b>	
Financial Decision maker of the nuclear Family respondents	Myself	171	57.57	57.57	57.57
	Spouse	111	37.37	37.37	94.94
	Both	15	5.05	5.05	100
	<b>Total</b>	<b>296</b>	<b>100</b>	<b>100</b>	
Financial Decision maker of the Joint Family respondents	Myself	125	52.3	52.3	52.3
	Spouse	58	24.26	24.26	76.56
	Both	56	23.43	23.43	100
	<b>Total</b>	<b>239</b>	<b>100</b>	<b>100</b>	
No of dependent Person of the respondents	One	62	11.6	11.6	11.6
	Two	176	32.9	32.9	44.5
	More than two	297	55.5	55.5	100
	<b>Total</b>	<b>535</b>	<b>100</b>	<b>100</b>	

Type of house	Owned	268	50.1	50.1	50.1
	Rented	267	49.9	49.9	100
	<b>Total</b>	<b>535</b>	<b>100</b>	<b>100</b>	
Education of children	All children currently attending or who have ever attended school or college.	363	67.9	67.9	67.9
	More than 50% of the children have either attended or are currently attending school or college.	69	12.9	12.9	80.7
	Less than 50% of the children have either attended or are currently attending school or college.	26	4.9	4.9	85.6
	No child has ever attended or is currently	77	14.4	14.4	100

	attending school or college.				
<b>Total</b>		<b>535</b>	<b>100</b>	<b>100</b>	

Source: Primary data

**Figure:4.1 Demographic Profile of Technical teachers**



Source: Designed by researcher

#### 4.5.2 Health profile of the respondents:

Among the 535 respondents, a significant proportion reports being in good or excellent health. Specifically, 39.1% are in good health, and 36.1% are in excellent health. Conversely, 1% are in poor health, while 9% describe their health as fair. The

remaining 15.5% chose not to disclose their health status. Overall, it can be concluded that most respondents are in good health.

Understanding the level of concern respondents have about their health is also important. 51.6% of respondents prioritize their health highly, 30.8% consider it of minor importance, and 17.5% do not prioritize their health significantly.

Respondents' attitudes towards maintaining their health. Most respondents (61.3%) prefer to eat healthily to stay well, 12.3% engage in regular exercise, 13.6% believe that avoiding harmful behaviors is key to good health, 5.4% focus on long-term health goals, and 3.6% get regular health check-ups.

Regarding health insurance, 66.5% of respondents have health insurance, while 33.5% do not. Among those with health insurance, 23.7% have individual policies, and 76.3% have group insurance. Table:4.2 depicts the Health profile of the Technical Teachers.

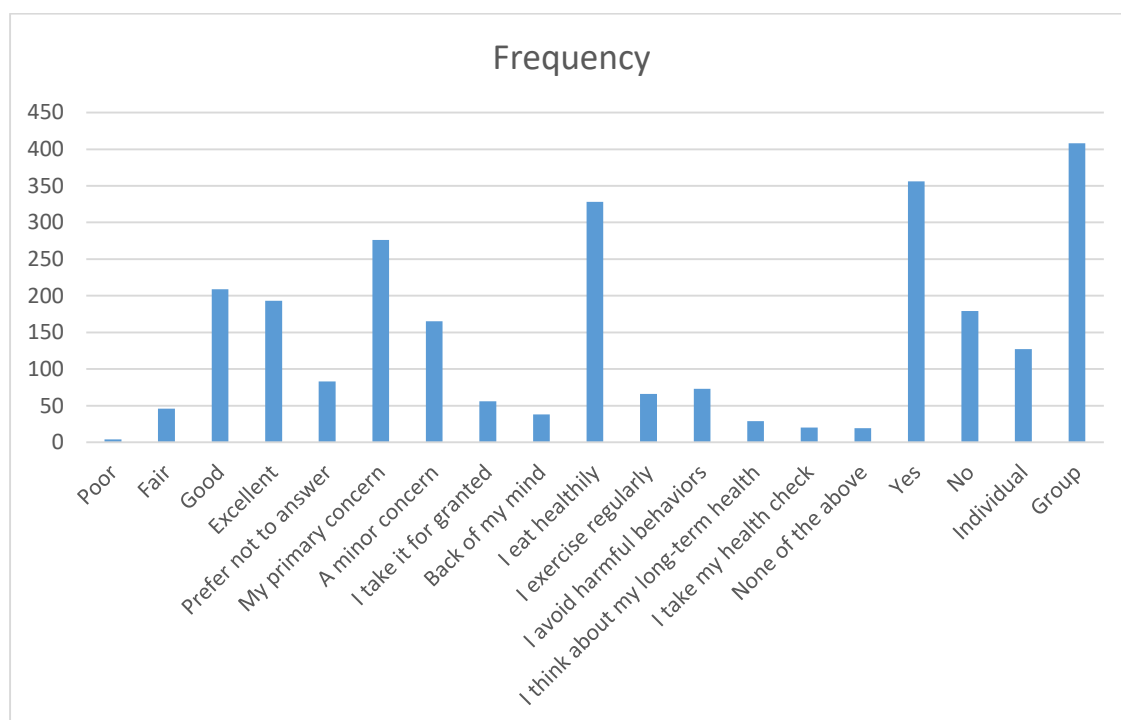
**Table: 4.2 Health profile of the Technical Teachers**

<b>Health factors</b>	<b>Indicators</b>	<b>Frequency</b>	<b>Percent</b>	<b>Valid Percent</b>	<b>Cumulative Percent</b>
Overall Health Condition	Poor	4	0.7	0.7	0.7
	Fair	46	8.6	8.6	9.3
	Good	209	39.1	39.1	48.4
	Excellent	193	36.1	36.1	84.5
	Prefer not to answer	83	15.5	15.5	100
	<b>Total</b>	<b>535</b>	<b>100</b>	<b>100</b>	
Old age health concern	My primary concern	276	51.6	51.6	51.6
	A minor concern	165	30.8	30.8	82.4



	I take it for granted	56	10.5	10.5	92.9
	Back of my mind	38	7.1	7.1	100
	<b>Total</b>	<b>535</b>	<b>100</b>	<b>100</b>	
Health attitude	I eat healthily	328	61.3	61.3	61.3
	I exercise regularly	66	12.3	12.3	73.6
	I avoid harmful behaviors	73	13.6	13.6	87.3
	I think about my long-term health	29	5.4	5.4	92.7
	I take my health check	20	3.7	3.7	96.4
	None of the above	19	3.6	3.6	100
	<b>Total</b>	<b>535</b>	<b>100</b>	<b>100</b>	
Medical Insurance	Yes	356	66.5	66.5	66.5
	No	179	33.5	33.5	100
	<b>Total</b>	<b>535</b>	<b>100</b>	<b>100</b>	
Kind of medical Insurance	Individual	127	23.7	23.7	23.7
	Group	408	76.3	76.3	100
	<b>Total</b>	<b>535</b>	<b>100</b>	<b>100</b>	

**Figure :4.2 Health Profile of Technical teachers**



Source: Designed by researcher

**One way Anova results**

**Table:4.3 Financial preparedness and socio-demographic variables**

BETWEEN GROUPS	Sum of squares	Df	Mean square	F	sign	Decision
Age						
Money is to be saved for retirement *	222.665	4	55.666	16.457	.000	<b>Significant</b>
Monthly savings to retire at comfortable *	170.274	4	42.569	13.139	.000	<b>Significant</b>
Saving enough money *	189.492	4	47.373	14.174	.000	<b>Significant</b>

<b>Gender</b>						
Money is to be saved for retirement	1.685	1	1.685	.446	.504	<b>Insignificant</b>
Money required for comfortably retire	12.987	1	12.987	3.723	.054	<b>Insignificant</b>
Monthly savings to retire at comfortable *	27.168	1	27.168	7.784	.005	<b>Significant</b>
Saving enough money	1.434	1	1.434	.390	.533	<b>Insignificant</b>
<b>Marital status</b>						
Money is to be saved for retirement *	71.815	3	23.938	6.540	.000	<b>Significant</b>
Money required for comfortably retire *	83.107	3	27.702	8.220	.000	<b>Significant</b>
Monthly savings to retire at comfortable *	83.815	3	27.938	8.225	.000	<b>Significant</b>
Saving enough money *	78.263	3	26.088	7.358	.000	<b>Significant</b>
<b>Personal Income</b>						
Money is to be saved for retirement	11.040	3	3.680	.975	.404	<b>Insignificant</b>

Money required for comfortably retire	5.442	3	1.814	.516	.671	<b>Insignificant</b>
Monthly savings to retire at comfortable	3.870	3	1.290	.364	.779	<b>Insignificant</b>
Saving enough money	2.691	3	.897	.243	.866	<b>Insignificant</b>
<b>Type of Family</b>						
Money is to be saved for retirement *	46.065	1	46.065	12.468	.000	<b>Significant</b>
Money required for comfortably retire *	45.245	1	45.245	13.197	.000	<b>Significant</b>
Monthly savings to retire at comfortable *	38.753	1	38.753	11.173	.001	<b>Significant</b>
Saving enough money	26.639	1	26.639	7.340	.007	<b>Insignificant</b>

**Source:** Primary Data

The above table: 4.3 clearly indicates that the dependent variable, perceived financial preparation, is framed with a total of four statements. Gender, age, marital status, personal income, and family type are the demographic characteristics taken into account for the study to show the socio demographic influence on Perceived Financial Preparedness for Retirement. The above table-5.18 reveals that the association between some of the claims, denoted by the asterisk symbol, are significant (i.e.,  $p < 0.05$ ), while others are not significant (i.e.,  $p > 0.05$ ). Hence it is concluded that the age and type of family are more significant that which influences the PFP for retirement.

**Table: 4.4 Financial preparedness and Health factors**

<b>BETWEEN GROUPS</b>	<b>Sum of squares</b>	<b>Df</b>	<b>Mean square</b>	<b>F</b>	<b>sign</b>	<b>Decision</b>
<b>Medical Insurance</b>						
Money is to be saved for retirement	14.223	1	14.223	3.788	.052	<b>Insignificant</b>
Money required for comfortably retire	1.585	1	1.585	.431	.512	<b>Insignificant</b>
Monthly savings to retire at comfortable	2.671	1	2.671	.755	.385	<b>Insignificant</b>
Saving enough money	1.585	1	1.585	.431	.512	<b>Insignificant</b>
<b>Type of Medical Insurance</b>						
Money is to be saved for retirement	.343	1	.343	.091	.763	<b>Insignificant</b>
Money required for comfortably retire	.078	1	.078	.022	.881	<b>Insignificant</b>
Monthly savings to retire at comfortable	1.928	1	1.928	.545	.461	<b>Insignificant</b>
Saving enough money	8.601	1	8.601	2.348	.126	<b>Insignificant</b>
<b>Overall Health</b>						
Money is to be saved for retirement *	415.355	4	103.839	34.396	.000	<b>Significant</b>
Money required for comfortably retire *	393.332	4	98.333	35.233	.000	<b>Significant</b>

Monthly savings to retire at comfortable *	312.088	4	78.022	26.249	.000	<b>Significant</b>
Saving enough money *	322.974	4	80.743	26.127	.000	<b>Significant</b>
<b>Health-related behaviour</b>						
Money is to be saved for retirement *	56.565	3	18.855	5.111	.002	<b>Significant</b>
Money required for comfortably retire *	49.218	3	16.406	4.778	.003	<b>Significant</b>
Monthly savings to retire at comfortable *	60.583	3	20.194	5.870	.001	<b>Significant</b>
Money required for comfortably retire	25.838	3	8.613	2.363	.070	<b>Insignificant</b>
<b>Health Attitude</b>						
Money is to be saved for retirement *	106.434	5	21.287	5.899	.000	<b>Significant</b>
Money required for comfortably retire *	52.806	5	10.561	3.070	.010	<b>Significant</b>
Monthly savings to retire at comfortable *	75.902	5	15.180	4.433	.001	<b>Significant</b>
Saving enough money *	85.778	5	17.156	4.840	.000	<b>Significant</b>

The above table: 4.4 clearly indicates that the dependent variable, perceived financial preparation, is framed with a total of four statements. Medical insurance, type

of medical insurance, overall health condition of the respondent, Health conscious behaviour and Health Attitude are the Health factors taken into account for the study to show how the health factors influence on PFP. The above table-5.19 reveals that the association between some of the claims, denoted by the asterisk symbol, are significant (i.e.,  $P < 0.05$ ), while others are not significant (i.e.,  $P > 0.05$ ). Hence it is concluded that overall health condition of the respondent, Health conscious behaviour and Health Attitude are the more significant health factors that which influences the PFP for retirement.

#### **4.6 Discussion on results of the Structural Equation Modelling**

As discussed in the research methodology chapter the present study has been developed on the Six latent variables measured by collecting primary data from the sample respondents, namely:

- a. The demographic characteristics
- b. The health factors
- c. The risk tolerance characteristics
- d. The Financial Knowledge
- e. The Future Time Perspective
- f. The PFP for retirement.

Based on the above latent variable the proposed model has been developed and the following hypothesis has been developed.

##### **4.6.1 Hypotheses Testing:**

Hypothesis (1H1): Health factors have significant influence on Perceived Financial Preparedness for Retirement s.

Hypotheses(2H1): Socio demographic factors have significant effect on PFP for retirement

Hypothesis 3H1: Financial Risk Tolerance significantly positively influences Perceived Financial Preparedness for Retirement.

Hypothesis 4H1: Financial Knowledge significantly positively influence perceived financial preparedness

Hypothesis 5H1: Future Time Perspective significantly positively influences Perceived Financial Preparedness for Retirement.

Hypothesis 6H1: Future Time Perspective significantly positively influences Financial Knowledge.

Hypothesis 7H1: Future Time Perspective significantly positively influences Financial Risk Tolerance.

8a) Alternative Hypothesis (8<sub>a</sub>H1): There is a significant mediating role of Financial Knowledge between Future Time Perspective and PFP for retirement

8b) Alternative Hypothesis (8<sub>b</sub>H1): There is a significant mediating role of Financial Risk Tolerance between Future Time Perspective and PFP for retirement

In the process of testing the internal consistency of the primary data collected the Cronbach alpha and the rho a, rho c and the AVE has been calculated by using the Smart PLS 4 software. The result of the Model has been presented in table – 4.5 below.

**Table: -4.5 The Reliability test of Model**

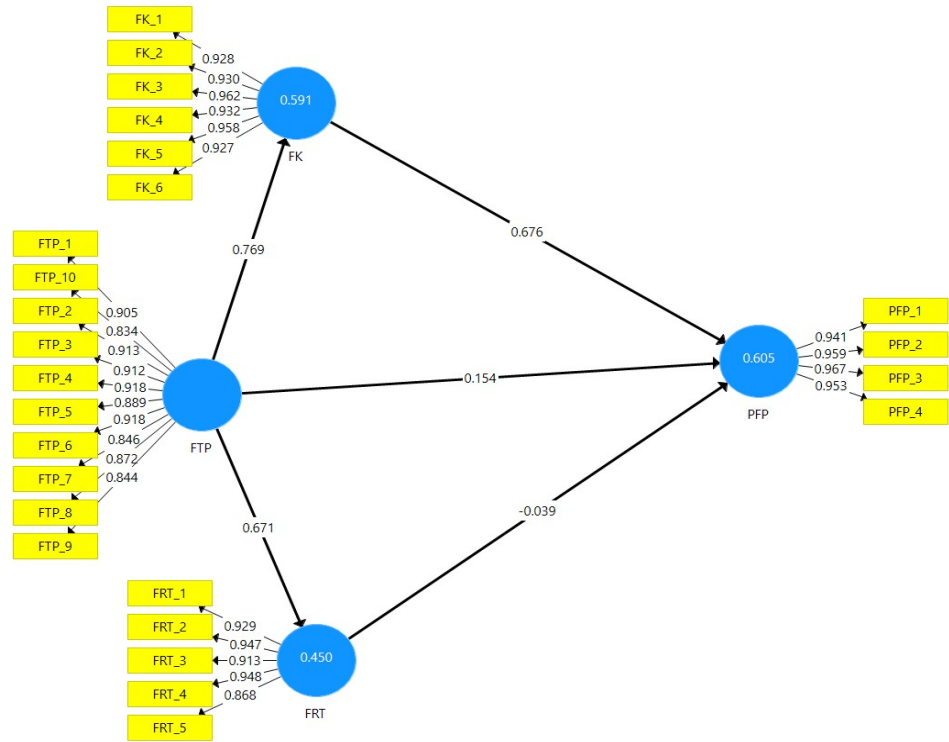
	Cronbach's Alpha	Composite Reliability rho_A	Composite Reliability rho_C	AVE
FK	0.942	0.942	0.942	0.883
FRT	0.841	0.845	0.866	0.849
FTP	0.831	0.836	0.873	0.785
PFP	0.897	0.868	0.876	0.912

Source: Author's Calculations

The above table reflects that all the four latent variables meet the limits of Chornbach’s Alpha (0.7 at least) therefore, the final Model has been presented in the figure -4.3 below.



**Figure – 4.3: The Conceptual Model**



Source: Author's Calculations

**Table: -4.6: Descriptive of the Items forming the Latent Variables**

MV descriptive	Mean	Median	Standard deviation	Excess kurtosis	Skewness	Number of observations used	Cramé r-von Mises test statistic	Cramé r-von Mises p value
FK_1	4.490	5	1.966	-1.212	-0.367	535	3.292	0.000

FK_2	4.346	5	1.943	-1.25	-0.281	535	2.854	0.000
FK_3	4.493	5	1.938	-1.258	-0.376	535	3.868	0.000
FK_4	4.679	5	1.932	-0.975	-0.539	535	3.494	0.000
FK_5	4.643	5	1.944	-0.986	-0.601	535	4.741	0.000
FK_6	4.525	5	1.96	-1.164	-0.393	535	3.112	0.000
FRT_1	3.910	4	1.892	-1.304	0.000	535	2.887	0.000
FRT_2	3.936	4	1.909	-1.31	-0.053	535	2.505	0.000
FRT_3	4.166	5	1.808	-1.176	-0.307	535	3.318	0.000
FRT_4	3.854	4	1.933	-1.265	-0.011	535	2.215	0.000
FRT_5	3.994	4	1.817	-1.242	-0.003	535	2.545	0.000
FRT_5	3.994	4	1.817	-1.242	-0.003	535	2.545	0.000
FTP_1	4.518	5	1.829	-0.896	-0.540	535	3.524	0.000
FTP_10	4.622	5	1.853	-0.923	-0.572	535	4.08	0.000
FTP_2	4.849	5	1.651	-0.686	-0.689	535	5.497	0.000
FTP_3	4.798	6	1.788	-0.555	-0.800	535	5.919	0.000
FTP_4	4.699	5	1.709	-0.774	-0.573	535	3.886	0.000
FTP_5	4.413	5	1.757	-1.052	-0.389	535	3.018	0.000
FTP_6	4.523	5	1.798	-1.063	-0.365	535	2.886	0.000
FTP_7	4.323	5	1.911	-1.294	-0.231	535	3.058	0.000
FTP_8	4.757	5	1.735	-0.768	-0.577	535	3.686	0.000

FTP_9	4.557	5	1.715	-0.731	-0.533	535	2.945	0.000
PFP_1	4.738	6	1.941	-0.938	-0.649	535	5.516	0.000
PFP_2	4.778	5	1.871	-0.972	-0.604	535	4.864	0.000
PFP_3	4.753	5	1.878	-0.716	-0.697	535	4.639	0.000
PFP_4	4.613	5	1.914	-1.028	-0.535	535	4.384	0.000

Source: Author's Calculations

There are 25 measured variables or items that constitute the four latent variables. As reflected in the table - 4.6 All of the items have a skewness that is higher than or less than zero, suggesting that the data are not typical. This is supported by the p values of all the Cramers-Von Misels statistics. The non-normal characteristics of the data becomes one of the valid reasons for selecting PLS – SEM model. Again, the mean value of the items all range between 4 to five indicating that the respondents have shown slight inclination towards strongly agree point in all the questions.

### **The detail Analysis of the Measurement model**

The measurement model represents the outer part of the total Model which establishes the relation between the individual items and their corresponding construct of the latent variables. In this measurement model assessment, the first step is to access the internal consistency and reliability test.

**Table: -4.7: Internal consistency test results**

	Cronbach's Alpha	Composite Reliability rho_A	Composite Reliability rho_C	Average Variance Extracted (AVE)
FK	0.942	0.942	0.942	0.883

FRT	0.841	0.845	0.866	0.849
FTP	0.831	0.836	0.873	0.785
PFP	0.897	0.868	0.876	0.912

Source: Author's Calculations

The results of the internal consistency show that the data of the composite reliability (rho a) is well between Cronbach Alpha and composite reliability (rho c) data this reflects a very good consistency and the best part is that the values of the Cronbach alpha is more than 0.80 in case of all construct indicating that all the construct are highly reliable. The AVE data of all construct are more than 0.5 representing each construct is independently representing its own existence.

**Table: -4.8: Heterotrait- monotrait ratio (HTMT) - Matrix**

	FK	FRT	FTP	PFP
FK				
FRT	0.598			
FTP	0.790	0.694		
PFP	0.795	0.473	0.667	

Source: Author's Calculations

**Discriminant Validity of the Construct:**

The purpose of the discriminate validity is to ensure that the construct under study is distinct from each other. Various tests have been performed for this purpose. As revealed from table – 4.8 representing the most suitable measure of discriminate validity the HTMT matrix, it is clear that all the constructs have data less than 0.85 indicating that all the constructs are empirically distinct from each other.

Another measure of the discriminant validity is the Fornel-Larker criterion as presented in table – 4.9 As per this criterion the loading of the one construct has to be highest on the same construct itself. As revealed from table- 4.9 it is clear that the loading is highest on individual construct only.

**Table: -4.9: Fornell-Larcker criterion**

	FK	FRT	FTP	PFP
FK	0.940			
FRT	0.577	0.921		
FTP	0.769	0.671	0.886	
PFP	0.772	0.455	0.648	0.955

Source: Author's Calculations

Another measure of the discriminant validity is the testing of cross loading of individual items forming one construct with the other constructs simultaneously. The data of the cross loadings of all the four constructs have been presented in table – 4.10 below.

**Table: -4.10 Cross Loadings of each Construct**

	FK	FRT	FTP	PFP
FK_1	0.928	0.473	0.680	0.771
FK_2	0.930	0.511	0.713	0.733
FK_3	0.962	0.572	0.733	0.763
FK_4	0.932	0.523	0.738	0.713
FK_5	0.958	0.601	0.747	0.717
FK_6	0.927	0.575	0.723	0.652
FRT_1	0.565	0.929	0.648	0.424
FRT_2	0.544	0.947	0.651	0.418
FRT_3	0.537	0.913	0.648	0.458

<b>FRT_4</b>	0.524	0.948	0.619	0.401
<b>FRT_5</b>	0.484	0.868	0.508	0.391
<b>FTP_1</b>	0.718	0.606	0.905	0.606
<b>FTP_10</b>	0.657	0.706	0.834	0.503
<b>FTP_2</b>	0.748	0.537	0.913	0.655
<b>FTP_3</b>	0.733	0.554	0.912	0.645
<b>FTP_4</b>	0.679	0.573	0.918	0.586
<b>FTP_5</b>	0.661	0.519	0.889	0.524
<b>FTP_6</b>	0.694	0.590	0.918	0.563
<b>FTP_7</b>	0.611	0.592	0.846	0.472
<b>FTP_8</b>	0.635	0.619	0.872	0.583
<b>FTP_9</b>	0.658	0.645	0.844	0.580
<b>PFP_1</b>	0.725	0.421	0.594	0.941
<b>PFP_2</b>	0.744	0.471	0.617	0.959
<b>PFP_3</b>	0.733	0.440	0.638	0.967
<b>PFP_4</b>	0.748	0.406	0.625	0.953

Source: Author's Calculations

As revealed from the table- 4.10 the cross loading of all the independent items are higher than any other construct. This establishes the fact that all the constructs in this research are empirically distinct from each other.

The next important criteria are to test the collinearity among the constructs. This is tested by observing the VIF (variance inflation factor) value. Table –4.11 represents the VIF value of all the interrelated constructs.

**Table: -4.11: VIF (test of Collinearity)**

	VIF (variance inflation factor)
FK -> PFP	2.486
FRT -> PFP	1.851
FTP -> FK	1.000
FTP -> FRT	1.000
FTP -> PFP	2.75

Source: Author's Calculations

As it is observed from table- 4.11 that the VIF value of all the inter related constructs have value less than the threshold limit of 3. This data indicates that there is no collinearity among the constructs in this research.

**Table: -4.12: Model Fit Summary**

	Saturated Model	Estimated Model
SRMR	0.050	0.054
d_ ULS	0.824	0.935
d_ G	1.344	1.352
Chi-Square	3688.115	3715.645
NFI	0.924	0.822

Source: Author's Calculations

The Model fit summary as presented in table – 4.12 reflects the SRMR value to be 0.05 which is well within the limits of 0.8 and the NFI value of 0.924 which well above the recommended value of 0.9. these two values of the Model fit summary indicates that the Model satisfies all its preliminary requirements to be called as a reliable model.

**Table: -4.13: The path co-efficient values**

	Path coefficients
FTP -> FK	0.769
FK -> PFP	0.676
FTP -> FRT	0.671
FRT -> PFP	-0.039
FTP -> PFP	0.154

Source: Author's Calculations

Path coefficients can be understood as standardized beta coefficients, similar to those calculated in ordinary least squares regression. To assess the path coefficients' significance, t-statistics and p-values are employed in conjunction with the bootstrapping technique. The path coefficient values are provided in Table 4.13. These coefficients indicate the percentage change in the dependent variable resulting from a one-unit change in the independent variables. The table shows that four relationships have a positive impact except FRT to PFP.

**Table: -4.14: The Path Coefficient significance**

	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics ( O/STDEV )	P values
FK-> PFP	0.676	0.677	0.042	16.045	0.000
FRT-> PFP	-0.039	-0.040	0.043	0.906	0.365

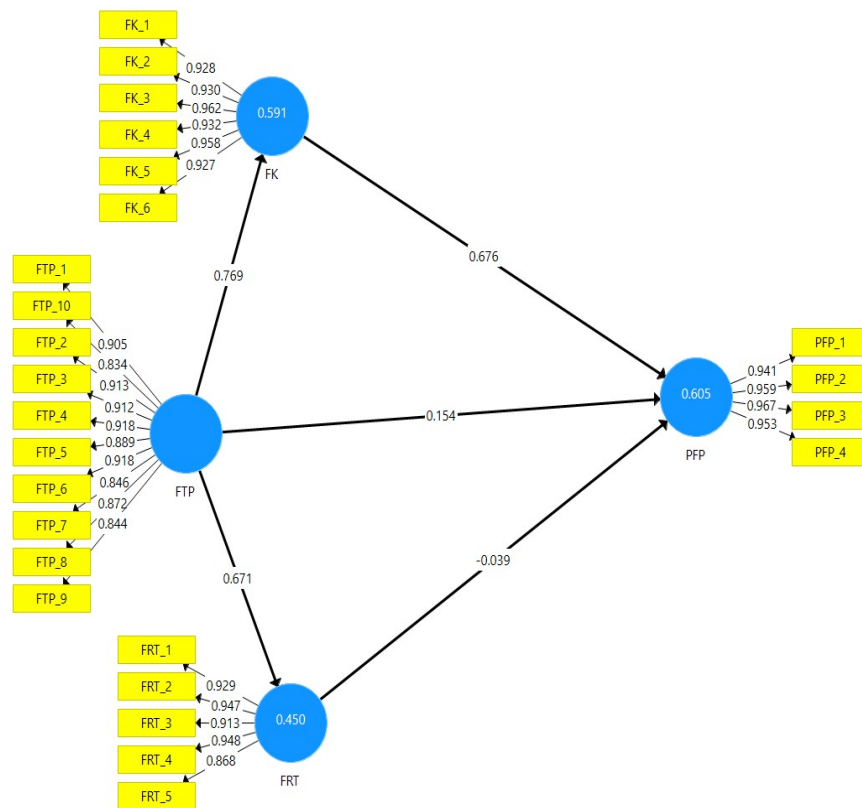


FTP-> FK	0.769	0.769	0.024	32.13	0.000
FTP-> FRT	0.671	0.671	0.031	21.651	0.000
FTP-> PFP	0.154	0.154	0.053	3.063	0.002

Source: Author's Calculations

Table 4.14 represents the results of the test of hypothesis more specifically the boot strapping results. It is observed that expect the p-value of FRT to PFP all other hypothesis or the interrelationship between the constructs are less than 0.05. Hence, it is clear that except FRT to PFP all the other relations (i.e FK to PFP, FTP to FK, FTP to FRT & FTP to PFP) are significant. **Is shown in the Smart PLS bootstrap model: Figure 4.4**

**Figure:4.4 Hypothesis testing results of construct direct relations**



**Table: - 4.15: Significance of total effect**

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics ( O/STDEV )	P Values
FK -> PFP	0.676	0.678	0.041	16.609	0.000
FRT-> PFP	-0.039	-0.04	0.043	0.906	0.365
FTP -> FK	0.769	0.769	0.023	32.828	0.000
FTP-> FRT	0.671	0.671	0.030	22.014	0.000
FTP -> PFP	0.648	0.649	0.035	18.432	0.000

Source: Author's Calculations

As revealed from table -4.15 that Except the P value of Financial Risk Tolerance to Perceived Financial Preparedness, the p- values of the all other construct relationships are less than 0.05. This means that all the four constructs have significant relationship among them except FRT to PFP.

**Table: -4.16: Specific Indirect Effect**

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	TStatistics ( O/STDEV )	P Values
FTP -> FK -> PFP	0.520	0.521	0.038	13.817	0.000

FTP->	-0.026	-0.027	0.029	0.897	0.370
FRT ->					
PFP					

Source: Author's Calculations

The table 4.16 represents the specific indirect effect of Financial Knowledge & Financial Risk Tolerance on Perceived Financial Preparedness through Future Time Perspective, to ensure the existence of mediating effect we have to compare the significance of direct effect. The direct impact of Future Time Perspectives on Perceived Financial Preparedness & Financial Knowledge on Perceived Financial Preparedness is significant and Financial Risk Tolerance on Perceived Financial Preparedness is insignificant. The specific indirect effects of FTP -> FK -> PFP is significant & FTP -> FRT -> PFP is insignificant. Hence it can be concluded that there is a mediating role Financial Knowledge between Future Time Perspective and Perceived Financial Preparedness for retirement but not Financial Risk Tolerance.

### Quality criteria

**Table: -4.17: R-square of the dependent Construct**

	R-square	R-square adjusted
FK	0.591	0.590
FRT	0.450	0.449
PFP	0.605	0.602

Source: Author's Calculations

There are three dependent constructs in our Model i.e. Financial Knowledge, Financial Risk Tolerance and the PFP for retirement. For Financial Knowledge, Financial Risk Tolerance & PFP the independent construct is Future Time Perspective. From table-4.17 it is clear that the variation in Future Time Perspective of

an individual is affected by Financial Knowledge, Financial Risk Tolerance and PFP to the extent of 59%, 45% & 60.5% respectively (as R-square is 0.591, 0.450 & 0.605). the adjusted r-square values are also very close to the r-square values; this indicates that the addition or deletion of any new variables are not going to affect the r-square value too much. Therefore, it is confirmed that the Model of this research is a qualitatively excellent. The literature recommended that R<sup>2</sup> values of 0.67 as substantial while 0.33 was a moderate (Chin, 1998).

**Table: -4.18: F-square values of the relations.**

	FK	FRT	FTP	PFP
FK				0.465
FRT				0.002
FTP	1.444	0.82		0.020
PFP				

Source: Author's Calculations

The size effect reflects the quality of the constructs i.e.; the relationship is independent of the sample size. Here the value of the relations will be unchanged if the sample size varies. The minimum value of the f-square is to be 0.02. As presented in the table 4.18 the value of the f-square is higher than 0.02 in all the case of relationship and all the Paths have better and higher effect size except Financial Risk Tolerance to PFP as it is having 0.002 which less than 0.02. The model demonstrates a good quality of effect size.

### **Predictive quality of the Model**

Once the qualitative aspect of the Model is established the researcher can assure that the Model is reliable. The next part of the analysis is to establish the predictive power of the Model. For this the researcher calculated the Q<sup>2</sup> value by running the PLS predict option available in the Smart PLS software. The results of the output have been presented in the following tables both for the constructs as well as for the indicators.

**Table: -4.19: Construct cross-validated redundancy (Q<sup>2</sup>)**

	SSO	SSE	Q <sup>2</sup> (=1-SSE/SSO)
FK	3210.000	1546.470	0.518
FRT	2675.000	1665.703	0.377
FTP	5350.000	5350.000	
PFP	2140.000	967.896	0.548

Source: Author's Calculations

Cross validated redundancy is a data resampling technique that measures the predictive relevance of an inner model. By using the Blindfolding procedure in SmartPLS, Q<sup>2</sup> values are calculated.

Table- 4.19 shows the predictive power of the final constructs only not the independent constructs. The Q<sup>2</sup> values of the final constructs i.e., Financial Knowledge and PFP are more than 0.5. this indicates that these constructs have high degree of predictive power.

The results of hypothesis testing presented in the table below, particularly through bootstrapping, confirm that the p-values for all hypotheses, except the relationship between Financial Risk Tolerance and Perceived Financial Preparedness for Retirement, are less than 0.05. Therefore, it can be concluded that all alternative hypotheses are accepted, indicating that there are significant relationships between the constructs, except in the case of Financial Risk Tolerance and Perceived Financial Preparedness for Retirement.

**Table 4.20 Hypothesis Testing Results & Discussions**

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T statistics ((O/STDEV)	P Values	Accepted or rejected

FRT -> PFP	-0.039	-0.040	0.043	0.906	0.365	Insignificant- Reject 3H1
FK -> PFP	0.676	0.678	0.041	16.609	0.000	Significant- Accept 4H1
FTP -> PFP	0.154	0.154	0.050	3.063	0.002	Significant- Accept 5H1
FTP -> FK	0.769	0.769	0.023	32.828	0.000	Significant- Accept 6H1
FTP -> FRT	0.671	0.671	0.030	22.014	0.000	Significant- Accept 7H1
FTP -> FK -> PFP	0.520	0.521	0.038	13.817	0.000	Significant- Accept-8 <sub>a</sub> H1
FTP -> FRT -> PFP	-0.026	-0.027	0.029	0.897	0.370	insignificant- Reject 8 <sub>b</sub> H1

Source: Author's Calculations

The original sample estimate is the parameter from estimating the model on original dataset. The sample mean estimate is the average of the estimates from all the subsamples of dataset drawn during the bootstrapping procedure.

If the two deviate strongly it is likely that there is a data problem in sample or a model problem that causes large outliers in the sampling distribution of parameter estimates. In the above table:20 it is clear that there is no much deviation among Original sample and Sample Mean hence the data and model does not have any problem.

The studies conducted by Young et al. (2017), Lissington (2018), Angrisani & Casanova (2021), Noone et al. (2012), and Ali et al. (2015) collectively suggest that

increased Financial Knowledge has a substantial influence on individuals' Perceived Financial Preparedness for Retirement. The present study depicts that the Significant Value  $P = 0.00$ , which is less than the ideal  $p$  value of  $0.05$ . Hence, Financial Knowledge has a substantial influence on Perceived Financial Preparedness for Retirement. Therefore, the  $p$ -value of the mediating effect of Financial Knowledge between Future Time Perspective and preparedness for retirement is  $0.00$ , which is less than the significant value ( $p=0.05$ ); hence, the hypothesis is accepted.

The research studies conducted by Grable (2016), Xiao, et al, (2001), Sung & Hanna (1998), Grima & Pavia (2019), Mayer, et al (2011), Adami, Carosi, & Sharma (2018), Leon & Pringganingrum (2018), Wang (2009), Fisher & Yao (2017), and Kumar et al. (2019) collectively indicate that a higher RT significantly influences individuals' Perceived Financial Preparedness for Retirement. The present study depicts that the  $p$ -value for Financial Risk Tolerance to Perceived Financial Preparedness for Retirement is  $0.365$ , which is greater than  $0.05$ . Hence, the findings strongly said that there is no significant influence between Financial Risk Tolerance and Perceived Financial Preparedness for Retirement. Therefore, the  $p$ -value of the mediating effect of FRT between Future Time Perspective and preparedness for retirement is  $0.370$ , which is greater than the significant value ( $p=0.05$ ); hence, the hypothesis is rejected. Future Time Perspective, also referred to as future orientation, is a psychological factor that has garnered significant attention within the financial planning literature Jacobs-Lawson & Hershey, (2005). It is essentially a cognitive process that divides temporal references into the past, present, and future (D'Alessio et al., 2003).

The research studies carried out by Denton et al. (2004), Jacobs-Lawson et al. (2004), Kadoya & Khan (2019), Yang & Devaney (2011), Hershey and Mowen (2000), Kock & Yoong (2011), and L., Ray, A., & Ma (2023) collectively highlight a significant impact of Future Time Perspective on Perceived Financial Preparedness for Retirement (5H1).

The present study depicts that the Significant Value  $P = 0.002$ , which is less than the ideal  $p$  value of  $0.05$ . Hence, Future Time Perspective has a substantial influence on Perceived Financial Preparedness for Retirement.

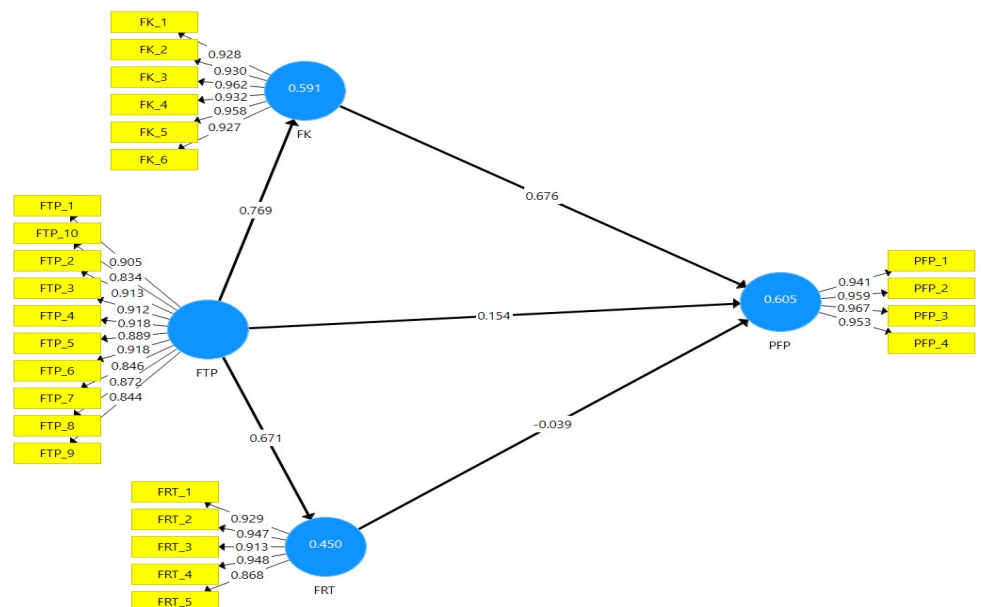
## Chapter-5

### Findings, Implications, and Future Research

The most awaited part of every engagement is the outcome of that activity. Also, in this research, the most important part is the chapter of findings and conclusions. It has been established in the literature that there has been a positively significant relationship between Financial Knowledge, Financial Risk Tolerance, Future Time Perspective, and financial preparedness for retirement.

In this research, the results of Partial least square structural equation modeling reveal that there is no significant relationship between Financial Risk Tolerance and Perceived Financial Preparedness for Retirement, which is quit contrary to the results of an extensive literature. Therefore, the mediating role of Financial Risk Tolerance between Future Time Perspective and Perceived Financial Preparedness for Retirement is also insignificant. It is also shown in below (Figure 5.1)

**Figure: 5.1 Results of PLS-SEM with path significance**



**Note:** Path significance,  $p < 0.05$



## **5.1 Major findings:**

### **5.1.1 Findings of the descriptive statistics:**

- a. It was observed that the male members (73.1%) are more conscious of preparedness for their retired lives than their female counterparts (26.9%).
- b. It was found that a majority of the respondents (91%) are married; this reflects that married persons participated in the survey to the maximum extent, representing their interest in retirement preparedness and related aspects.
- c. The majority of respondents (55.7%) belong to the nuclear family, and the rest belong to the joint family. It is clear that the members of the nuclear family are more concerned about retirement preparedness and related aspects.
- d. The respondents themselves are the major earning members of the family.
- e. The earning members in the joint family are two in 30.12% of cases, a spouse in 32.21% of cases, and alone in 37.65% of cases. This reveals that most of the joint families' respondents are earning.
- f. In the nuclear family, the respondents make most of the decisions regarding financial matters (57.57%).
- g. In the case of joint families, the respondent is the major decision maker (52.30% of cases), followed by the spouse (24.26% of cases), and in the rest of the cases (23.4%), both of them make the financial decisions together.
- h. The respondents' age is more concentrated in the age group of 36 to 45 years (54.2%). This age group is more concerned about RP and Financial Knowledge accumulation. 23.9% of the respondents are within the age group of 26. To 35 years, 19.1% of the respondents are under the age group of 46 to 55 years.

i. I found that a maximum number of respondents (55.5%) have a higher number of dependents. Therefore, it is essential for them to be highly prepared for their retirement with proper Financial Knowledge and appropriate risk strategies.

j. The highest number of respondents having income levels ranging from Rs 30001 to Rs 60000 is 47%. This shows that most of the respondents belong to the lower middle-class income level. 21.1% of the respondents have a monthly income of below Rs 30000. The higher income group, i.e., respondents having a monthly income of more than Rs 60000, constitutes 14.6% of the total sample.

k. Most of the respondents have good or excellent health conditions. 39.1% are in good health, and 36.1% are in excellent health.

l. 51.6% of the respondents have mentioned that they give primary importance to their health conditions. Again, 30.8% of the respondents say that they give minor importance to their health condition. 7.1 percent of the persons are of the opinion that they don't give that importance to their health conditions.

m. It reveals that to remain healthy, most of the respondents (61.3%) prefer to eat healthily to maintain good health. The 12.3% of the respondents prefer to do exercise. 13.6% of the respondents believe that avoiding harmful behavior has helped them to remain healthy. 5.4% of respondents plan for their long-term health goals. 3.7% of the people go for regular health check-ups.

n. It is revealed that 66.5% of the respondents have health insurance, and the rest, 33.5% of the respondents do not have health insurance. Out of the total 535 respondents, 23.7% have individual health insurance, and 76.3% have their group insurance.

### 5.1.2 Findings of the Structural Equation Modelling

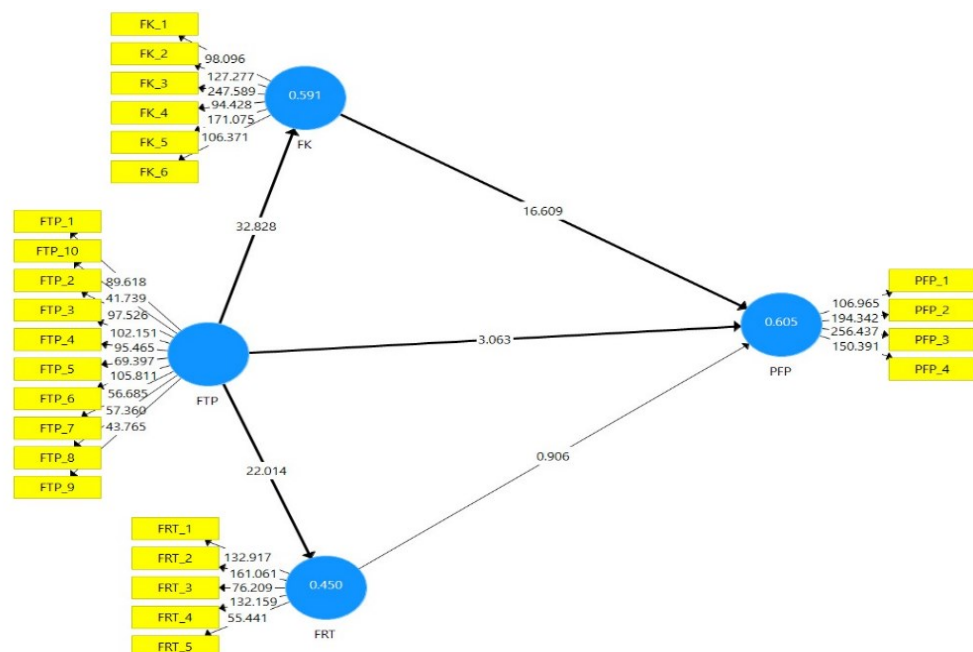
- a. The descriptive analysis of the indicator data indicates that the data does not follow a normal distribution, which is one of the valid reasons for choosing the Partial Least Squares Structural Equation Modeling (PLS-SEM) model. Additionally, it's noteworthy that the mean values of the items consistently range between 4 to 5, suggesting that respondents tend to strongly agree with the statements presented in the questions.
- b. The internal consistency analysis shows that the data's composite reliability (rho a) falls within the range of both Cronbach's Alpha and composite reliability (rho c). This indicates a very high level of consistency in the data. Importantly, the Cronbach's Alpha values for all constructs exceed 0.7, signaling that all constructs are highly reliable.
- c. The AVE values for all paradigms are above 0.5, indicating that each construct adequately represents its own existence. The Heterotrait-Monotrait (HTMT) values for all constructs are less than 0.85, confirming that the constructs are empirically distinct. The Fornell-Larcker criterion further supports the discriminant validity of the constructs.
- d. Collinearity among constructs is a crucial consideration, and the VIF values for all constructs being less than 3 indicate that there is no collinearity issue among the variables.
- e. Regarding model fit, the above table clearly says that the SRMR value is 0.050, which falls well within the recommended limits of 0.08, and the NFI value is 0.924, surpassing the recommended threshold of 0.9. These values suggest that the model meets the preliminary requirements for reliability.
- f. The results of hypothesis testing presented in the table below, mainly through bootstrapping, confirm that the p-values for all hypotheses, except the relationship between Financial Risk Tolerance and Perceived Financial Preparedness for Retirement, are less than 0.05. Therefore, it can be concluded that all alternative hypotheses are accepted, indicating that there are significant relationships between

the constructs, except in the case of Financial Risk Tolerance and Perceived Financial Preparedness for Retirement.

- g. The studies conducted by Young et al. (2017), Lissington (2018), Angrisani & Casanova (2021), Noone et al. (2012), and Ali et al. (2015) collectively suggest that increased Financial Knowledge has a substantial influence on individuals' Perceived Financial Preparedness for Retirement. The present study depicts the Significant Value  $P = 0.00$ , which is less than the ideal p-value of 0.05. Hence, Financial Knowledge substantially influences Perceived Financial Preparedness for Retirement. Therefore, the p-value of the mediating effect of Financial Knowledge between Future Time Perspective and preparedness for retirement is 0.00, which is less than the significant value ( $p=0.05$ ); hence, the hypothesis is accepted.
- i. The research studies conducted by Grable (2016), Xiao et al. (2001), Sung & Hanna (1998), Grima & Pavia (2019), Mayer et al. (2011), Adami, Carosi, & Sharma (2018), Leon & Pringganingrum (2018), Wang (2009), Fisher & Yao (2017), and Kumar et al. (2019) collectively indicate that a higher RT significantly influences individuals' Perceived Financial Preparedness for Retirement. The present study depicts that the p-value for Financial Risk Tolerance to Perceived Financial Preparedness for Retirement is -0.365, more significant than 0.05. Hence, the findings firmly said there is no significant influence between Financial Risk Tolerance and Perceived Financial Preparedness for Retirement. Therefore, the p-value of the mediating effect of RFT between Future Time Perspective and preparedness for retirement is 0.370, which is greater than the significant value ( $p=0.05$ ); hence, the hypothesis is rejected.
- j. Future Time Perspective, also referred to as future orientation, is a psychological factor that has garnered significant attention within the financial planning literature Jacobs-Lawson & Hershey, (2005). It is essentially a cognitive process that divides temporal references into the past, present, and future (D'Alessio et al., 2003). The research studies carried out by Denton et al. (2004), Jacobs-Lawson et al. (2004), Kadoya & Khan (2019), Yang & Devaney (2011),

Hershey and Mowen (2000), Kock & Yoong (2011), and L., Ray, A., & Ma (2023) collectively highlight a significant impact of Future Time Perspective on Perceived Financial Preparedness for Retirement (5H1). The present study depicts that the Significant Value  $P = 0.002$ , which is less than the ideal  $p$  value of 0.05. Hence, Future Time Perspective has a substantial influence on Perceived Financial Preparedness for Retirement.

**Figure:5.2 Hypothesis testing results of mediating variables**



### Quality criteria

Our model has three dependent constructs, i.e., Financial Knowledge, Financial Risk Tolerance, and the PFP for retirement. For Financial Knowledge, Financial Risk Tolerance, and PFP, the independent construct is Future Time Perspective. From table-4.17, it is clear that the variation in Future Time Perspective of an individual is affected by Financial Knowledge, Financial Risk Tolerance, and PFP to the extent of 59%, 45% & 60.5%, respectively (as R-square is 0.591, 0.450, 0.605). The adjusted r-square values are also very close to the r-square values; this indicates that the addition or deletion of any new variables is not going to affect the r-square value too much.

Therefore, it is confirmed that the model of this research is a qualitatively excellent model. The literature suggested that  $R^2$  values of 0.67 were substantial, while 0.33 was moderate (Chin, 1998).

The size effect reflects the quality of the constructs, i.e., the relationship is independent of the sample size. Here, the value of the relations will be unchanged if the sample size varies. The minimum value of the f-square is to be 0.02. As presented in Table 4.18 (data analysis chapter), the value of the f-square is higher than 0.02 in all the cases of the relationship between FRT-> PFP. This indicates that FRT-> PFP has a very poor effect size. Other paths have better and higher effect sizes. Overall, it can be concluded that the model has a good quality of effect size.

Table 4.19 (data analysis chapter) shows the predictive power of the final constructs only, not the independent constructs. The  $Q^2$  values of the final constructs, Future Time Perspective and Perceived Financial Preparedness are more than 0.5, which indicates that these constructs have a high degree of predictive power.

## **5.2 Implications**

### **5.2.1 Theoretical Implication:**

This research uses a combination of theories to study significant relationships between variables such as demographic factors, health factors, Financial Knowledge, Financial Risk Tolerance, Future Time Perspective, and financial preparedness for retirement. The Behavioral Finance theory proposes that saving behavior is influenced by factors beyond an individual's judgment. Savings typically increase with income and age and have a positive correlation with education and total wealth. In the Theory of planned behavior, Griffin, B., Loe, D., & Hesketh, B.'s study conducted in 2012 discovered gender differences in predicting RP. These differences hold significant implications for designing programs and interventions aimed at promoting RP. Additionally, factors like Future Time Perspective and health status play roles in retirement preparedness. The life cycle hypothesis is an economic theory that centers

on how individuals allocate money for spending and saving throughout their lives. It encourages people to save for retirement during their earning years rather than spending all their income.

Prospect theory proposes that Financial risk and an individual's capacity to fund retirement are determined by their level of Financial Risk Tolerance.

The heuristic Theory elucidates how investors make financial decisions when facing uncertain circumstances.

The review of previous studies stresses more on FL and RP. Socio-demographic and psychosomatic factors control the results pertaining to the relationships between FL and RP. The variables such as Financial Risk Tolerance, Future Time Perspective, and Financial Knowledge were independent to a more significant level. The combination of Financial Risk Tolerance, Future Time Perspective, and Financial Knowledge that influence the Perceived Financial Preparedness for Retirement was conducted to a marginal extent. All three variables' integration increases the theoretical influence given the contextual factors prevailing in the state of Andhra Pradesh, India.

### **5.2.2 Practical Implications:**

The studies conducted by Young et al. (2017), Lissington (2018), Angrisani & Casanova (2021), Noone et al. (2012), and Ali et al. (2015) collectively suggest that increased Financial Knowledge has a substantial influence on individuals' Perceived Financial Preparedness for Retirement. The research studies conducted by Grable (2016), Xiao et al. (2001), Sung & Hanna (1998), Grima & Pavia (2019), Mayer et al (2011), Adami, Carosi, & Sharma (2018), Leon & Pringganingrum (2018), Wang (2009), Fisher & Yao (2017), and Kumar et al. (2019) collectively indicate that a higher risk tolerance significantly influences individuals' Perceived Financial Preparedness for Retirement. The research studies carried out by Denton et al. (2004), Jacobs-Lawson et

al. (2004), Kadoya & Khan (2020), Yang & Devaney (2011), Hershey and Mowen (2000), Kock & Yoong (2011), and L., Ray, A., & Ma (2023) collectively highlight a significant impact of Future Time Perspective on Perceived Financial Preparedness for Retirement. This study provides insights to the community of technical teachers on how psychological traits influence post-RP.

### **5.2.3 Social Implications:**

Our study will help the state and central governments formulate a structured plan for retirement policies. It also suggests that the management and governing body of the institution include retirement benefits in HR policies. It suggests to the community of technical teachers how the psychological traits work on your post-RP.

### **5.3 Limitations and Future Directions:**

This study's respondents are from Andhra Pradesh, India. Extrapolating the findings to other Indian states can be challenging. Primary and secondary education teachers are out of this study's scope. The Variables of Financial Knowledge, Financial Risk Tolerance, Future Time Perspective, and Perceived Financial Preparedness for Retirement were derived from existing literature. There may be other unexplored variables that affect Perceived Financial Preparedness for Retirement. Despite multiple relationships, present interventions create both direct and indirect impacts on the perceived financial preparedness, and this study examined only the direct effects of simplifying the implementation process.



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# Perceived Financial Preparedness for Retirement of Technical Teachers : An Empirical Study in Andhra Pradesh, India

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## Abstract

**Purpose :** Technical teachers are relatively more financially vulnerable due to local government intervention in determining the fee structure in technical colleges. This research set out to answer the question, "How financially prepared are these teachers in Andhra Pradesh, India, for retirement?" by examining the variables and their correlations.

**Methodology :** A self-administered, online, structured survey was conducted among technical education teachers. The survey was distributed through various online platforms, and 384 usable responses were obtained. The questionnaire used in the study was adopted based on the content analysis of issues in the relevant literature. Structural equation modeling was employed for the analysis.

**Findings :** Financial knowledge and future time perspective were found to have a significant impact on perceived financial preparedness. Financial risk tolerance, a commonly identified factor in literature, was not statistically significant for this study.

**Practical Implications :** The findings of this study were not just insightful but also urgent. They provided a clear roadmap for policymakers and researchers to develop targeted interventions and strategies. These interventions enhanced retirement planning and financial well-being among technical education teachers. By understanding the factors that influence financial preparedness, we could design effective retirement planning programs tailored to the needs of this specific population.

**Originality :** This study is a unique and novel contribution to the literature. It focused on the financial preparedness for retirement, specifically among technical education teachers in Andhra Pradesh, India. This study significantly enhanced our understanding of retirement planning behaviors in diverse socio-cultural settings by addressing a gap in the existing literature and examining retirement concerns and preparedness in a non-Western context.

**Keywords :** retirement planning, financial preparedness, technical education teachers, structural equation modeling, India

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Aging is a phenomenon, and it is clear that several developed and developing countries are facing unprecedented concerns due to aging, such as higher healthcare costs, potential problems with old-age income security, and post-retirement financial stability. By 2050, 20% of India's population may be 60 or older, far more than previous projections. According to the "India Ageing Report 2017," published by the United Nations Population Fund (UNFPA), the percentage of Indians aged 60 and more increased from 8% in 2015 to an expected 19% by 2050. World Health Organization data shows that between 2000 and 2015, life expectancy in India increased by six years. That trend is likely to continue due to the country's growing access to healthcare (Rao, 2018). According to the HSBC Future of Retirement research (2019), only 33% of working-age respondents worldwide save for their later years, compared to only 33% of respondents in India who consistently save for retirement. It is essential to plan for financial preparedness, as considerable ranges of financial literacy are needed in the human life cycle.

According to research done in 1998 by Warshawsky and Ameriks, proper financial preparation is crucial for ensuring an active and enjoyable retirement. Numerous studies (Agabalinda & Isoh, 2020; Boisclair et al., 2017; Hui et al., 2016; Nolan & Doorley, 2019; Segel-Karpas & Werner, 2014) have been conducted to comprehend the significance of financial readiness in different cultural contexts. Only a few researchers have examined how Millennials consider retirement savings necessary (Young et al., 2017). Extensive literature evaluations show that demographic indicators (Stawski et al., 2007) and psychological factors that underpin financial planning for retirement (Hershey & Mowen, 2000) are used in financial planning and investment. A later study (Segel-Karpas & Werner, 2014) examined how financial literacy, social support, and institutional backing influenced retirement plans. Further research is needed to identify the precise psychological components impacting financial well-being. According to a study by Shobha and Chakraborty (2017), psychological factors significantly influence financial well-being more than an individual's demographic, social, and economic characteristics.

The influence of retirees' socioeconomic position on their views of financial sufficiency was examined in a recent study by León (2023). It came to light that the teacher retirement fund could not cover essential expenses or prevent reliance on the government in the future. Amani et al. (2023) highlighted seven obstacles to retirement planning in their study of academics in higher education. Not knowing enough about retirement planning, not having the necessary skills to manage investments, not setting spending priorities, having the wrong attitude toward retirement, having to deal with financial restrictions caused by extended family needs, retirement policies, and changes in the law, and not having enough time to oversee investments are all factors to consider.

According to research by Tandon and Singh (2021), the factors influencing respondents' thoughts were their financial attitude, financial knowledge, and financial activity. Financially literate people tend to have more favorable views toward money, leading to better money habits (Vaghela et al., 2023). According to a recent study by Amani and Fussy (2022), several factors make it difficult for teacher retirees to transition smoothly from working to retirement. These include not saving enough money, accumulating debt at a high rate, starting a family later in life, not keeping good records, and not taking advantage of opportunities for professional growth.

Since then, several studies have examined and investigated the impact of financial literacy on retirement readiness (Agabalinda & Isoh, 2020; Akben-Selcuk & Aydin, 2021). Financial risk tolerance (Park & Martin, 2022; Noviarini et al., 2021), financial knowledge (Ademola et al., 2019), and future time perspective (Clark et al., 2019; Noone et al., 2012) are all factors that have been found to affect how financially prepared people feel for retirement.

According to a comprehensive literature analysis, research on retirement savings has been conducted. It is also clear that numerous research has used cross-sectional and cross-cultural approaches. In India, there has been a rise in the number of technical institutions, thereby increasing the recruitment of technical teachers. The All India Council for Technical Education (AICTE) estimated that 30,000 technical teachers are recruited annually. It is also evident that technical teachers from central and state universities were provided attractive pension plans after

retirement. However, many technical teachers from private institutions invest in the National Pension Scheme (NPS), Public Provident Funds (PPF), mutual funds, and medical insurance. Hence, the current study aims to identify primary determinants affecting technical educators' Financial Preparedness for Retirement (FFP) while also analyzing the interconnections among the underlying variables. It introduces a theoretical structure to deepen the understanding of technical teachers' FFP. This conceptual model identifies "FTP" (Financial Planning Training), "FK" (Financial Knowledge), and "FRT" (Financial Resources and Tools) as pivotal elements influencing FFP.

The current study focuses on Andhra Pradesh, an Indian state. In Andhra Pradesh, the government has implemented a fee reimbursement scheme for higher education students, mainly targeting those enrolled in technical institutes recognized by the AICTE. The government determines a college's fee based on infrastructure, faculty quality, ranking, and accreditation. The most common fee structure lies within the range of ₹60,000 to ₹1,50,000.

However, a pertinent question arises regarding how institutes can provide annual increments to their employees if the fees are capped. With inflation and the rising cost of living, it becomes challenging for management and employees to sustain financially. This situation raises concerns about how technical teachers can effectively maintain their current standard of living and plan for retirement. The psychological aspects influence technical teachers' financial preparedness for retirement. Factors such as attitudes toward savings, risk-taking behavior, perceptions of financial security, financial knowledge, and future orientation significantly impact their retirement planning.

#### **Research Questions**

- (a) How well are technical teachers planning for their post-retirement lives?
- (b) What factors influence technical teachers' FFP, and how are they related?

#### **Review of Literature**

When one retires, they stop working altogether. Leaving one's profession is sometimes known as retirement (Atchley, 1982). According to a study by Denton and Spencer (2009), retirement is depicted as an age-related withdrawal from paid working life without commitment to labor. Hershey et al. (2010) defined financial readiness as the confidence that one's present savings would be sufficient to support oneself during retirement and beyond. Possessing assets and practicing good financial judgment are also definitions of retirement readiness.

However, a study in Israel (Segel-Karpas & Werner, 2014) indicated that many Israelis needed more financial support for retirement. However, it is easier to educate solitary Millennials with a full-time affiliation about financial literacy (Young et al., 2017) despite being expected to have superior retirement planning than other groups. The ability to save for retirement positively correlates with financial literacy (Nolan & Doorley, 2019). Hui et al. (2016) found that financial literacy can be improved with proper budgeting and saving for the future. In a study conducted on older workers, they were shown to have greater financial awareness and readiness for retirement (Righter, 2017). Gender may play a significant role in both financial literacy and general readiness. Noone et al. (2010) discovered that women had substantially lower expectations for retirement and economic living standards than men regarding financial stability. There is a strong relationship between financial literacy and retirement planning (Boisclair et al., 2017).

Extensive literature evaluations show that demographic factors (such as age, gender, and income) have been used to predict individual savings differences in several financial planning and investing research (Stawski et al., 2007). Household income (Bassett et al., 1998; Poterba et al., 1996), education (Yuh & Olson, 1997), and



gender and marital status (Glass Jr. & Kilpatrick, 1998) were all found to be positively connected to retirement savings behaviors. Nyoro & Otieno (2016) conducted thorough research to identify factors contributing to retirement readiness among public sector workers in Mombasa County, Kenya.

To determine the mental factors that influence retirement savings and preparation, Hershey and Mowen (2000) surveyed 230 households in Arkansas. Segel-Karpas and Werner (2014) surveyed 227 working-age Israelis about their level of "perceived financial retirement preparedness." Moray et al. (2019) discovered the demographic determinants and behavioral biases influencing millennials' financial planning. Agabalinda and Isoh (2020) used a sample size of 380 from Uganda's small and medium-sized businesses to examine the moderating role of age on the relationship between financial literacy and retirement readiness. Akben-Selcuk & Aydin (2021) conducted a study to construct and evaluate the model on predictors of financial preparation for retirement. Financial behavior was the strongest predictor of financial well-being in an analysis of private and public sector employees' perceived financial well-being (FWB), financial habits, and financial literacy (Schrawat & Vij, 2020).

### **Factors Affecting Perceived Financial Preparedness for Retirement**

#### ***Future Time Perspective***

According to Hershey and Mowen (2000), the future time perspective is a measurement scale based on the future rather than historical information (Cate & John, 2007; Noone et al., 2012). They found a positive correlation between future time perspective and retirement savings, and Hershey and Mowen (2000) found that emotional stability and conscientiousness are the two constructs that were significantly associated with future time perspective.

#### ***Financial Risk Tolerance***

According to research by Park and Martin (2022), the correlation between retirement planning and savings dropped as risk tolerance rose. Arora and Mishra (2022) discovered that investors over 65 have a high-risk tolerance during both bull and bear markets. Fisher and Yao (2017) discovered that income uncertainty and net worth attenuate the association between gender and high-risk tolerance. According to research by Ryack and Sheikh (2016), financial risk tolerance varies widely depending on one's view of the future.

Higher risk tolerance correlates with a more proactive approach to saving (Jacobs-Lawson & Hershey, 2005). Intriguingly, when variables are held constant, a person's resilience to danger increases with age. It has been found that family units headed by women are more cautious than those headed by men or married couples and also suggested that people's resiliency in the face of threats is most likely a universal trait rather than a localized attitude (Grable & Rabbani, 2014). In 2019, Bhattacharya and Dutta published a study that found gender and occupation were the most influential demographic parameters affecting retail investors' FRT, while income and dependents had little effect.

#### ***Financial Knowledge***

As per research conducted by Ademola et al. (2019), adequate financial knowledge is imperative in financial investment. According to research presented by Huston (2010), financial education must also involve the ability to put learned concepts into practice. Character growth and financial knowledge were essential indicators of pre-retirement planning in the first model of financial models (Hershey & Mowen, 2000). Ademola et al. (2019) found that financial knowledge, risk perception, and investment decisions are positively and significantly related, while financial competence and speculating decisions are positively and less consequentially related. In addition,

children often look up to their parents when it comes to handling money, which can significantly impact their financial development and FPR preferences. The total effect of these variables increases the observed distinction in FPR (Palaci et al., 2017).

Vaghela et al. (2023) investigated how college students' financial literacy affected their behavior through their attitude toward money. They found that students who scored higher on financial literacy tests tended to have more positive attitudes toward money, translating into better action.

## **Relationship Between the Factors**

### ***Relationship Between FK and PFPR***

Young et al. (2017) stated that younger groups lacked attention for retirement in spite of significant benefits. The gender gap in retirement savings planning was observed by the New Zealand Health, Work, and Retirement Study (Lissington, 2018). Although estimated retirement age was unrelated to financial readiness, it was correlated negatively with retirement planning (Noone et al., 2010). To help people save for the future, Stawski et al. (2007) backed the idea of creating age-based planning models. According to research by Angrisani and Casanova (2021), people who are either overconfident or underconfident are similar in terms of their level of financial readiness. Educating people on the need to save for the future and the state of the economy could be a good first step (Noone et al., 2010). Planning for retirement requires a solid grasp of personal finance. Ali et al. (2015) conducted research in Australia and indicated that young Australians knew nothing about the government's superannuation plan.

### ***Relationship Between FK and FRT***

Additional research is needed to evaluate the factors influencing retirement investment decisions, such as financial literacy and risk aversion (Larson et al., 2015). Zhu (2019) found a favorable correlation between financial risk tolerance and factors like family income, focus on the future, and self-reported financial awareness among Hong Kong teenagers. This study considered how family risk tolerance, financial literacy, and goal-based saving habits are related.

### ***Relationship Between FRT and PFPR***

People's willingness to take on financial risk might affect their ability to save for immediate and distant goals, such as a home down payment or retirement (Grable, 2016). Xiao et al. (2001) identified risk tolerance as essential in economics and finance. Individuals' willingness to take risks when saving for retirement can be constrained by the belief that their risk tolerance is a personal matter (Grima & Pavia, 2019). Mayer et al. (2011) noted that risk tolerance is widely used by professionals and researchers in investment strategy and retirement planning. A qualitative study by Mayer et al. (2011) found risk tolerance relevant and rational when evaluating retirement planning decisions. Knowing how to plan for retirement is linked to factors including future orientation, financial literacy, and risk aversion (Leon & Pringganingrum, 2018). Individuals' willingness to take risks when saving for retirement is influenced by various factors, viz., their age, level of education, income, and wealth (Wang, 2009).

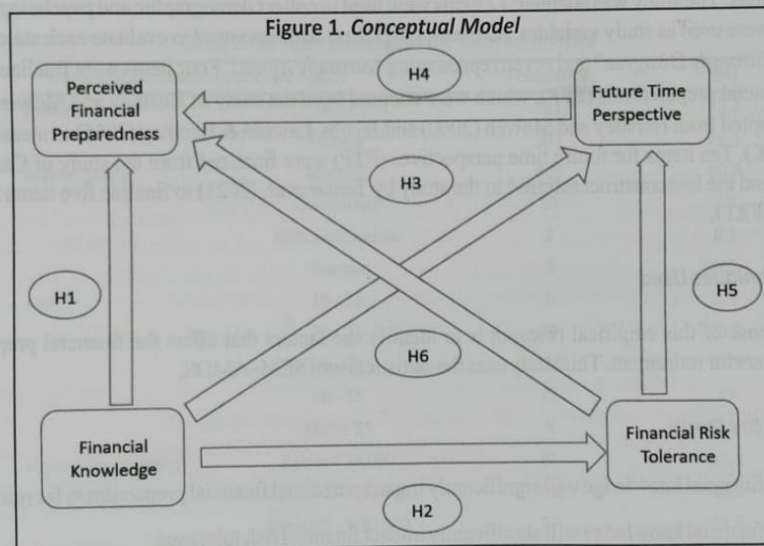
A thorough understanding of the potential financial hazards and risk tolerance is crucial for making prudent investment decisions (Yao & Curl, 2011). Essential considerations in retirement planning include one's perspective on the future, sense of control over one's financial situation, level of comfort with financial risk, and specificity of one's objectives for retirement. A person's perspective influences their actions in this area and their degree of financial literacy, which is a significant predictor of their financial behaviors and risk tolerance when it comes to retirement planning (Fisher & Yao, 2017; Kumar et al., 2019).

### Relationship Between FTP and PFPR

The concept of future time perspective, also known as future orientation, has been studied extensively in financial planning (Jacobs-Lawson & Hershey, 2005). D'Alessio et al. (2003) argued that time perspective was a mental operation that separated past, present, and future references. Many studies, including Jacobs-Lawson and Hershey (2005), refer to a future temporal viewpoint. According to a review of the literature, those who can look forward and predict how their FP will turn out are more financially literate (Kadoya & Khan, 2020). According to studies on the correlation between FTP and planning behavior, people who think the future is nearer will be more prepared (Yang & Devaney, 2011). The amount of relevant data utilized in financial planning and individuals' capacity to save for retirement are affected by how well people can see into the future (Hershey & Mowen, 2000). Proof of this can be found in the work of Manturuk et al. (2012).

### Relationship Between FTP, FRT, and FK

According to research by Ryack and Sheikh (2016) for the Central Consolidated School Districts (CCSD) participants' willingness to take financial risks depends significantly on their outlook on the future. Zhu (2019) found that if young people had more faith in their financial knowledge and sense of the future, it might encourage them to live economically and take financial risks. Bapat (2020) discovered that financial knowledge and responsible financial management behavior were influenced by locus of control, with financial attitude as a full mediator of this relationship. However, research has shown that the quality and type of retirement planning outcomes—precisely, financial knowledge—are associated with age-related changes in future time perspective (Hershey & Mowen, 2000). Figure 1 depicts the conceptual model of the study.



## Research Methodology

### Sampling and Data Collection

The study employed a descriptive research approach involving qualitative and quantitative research. Descriptive research comprises three parts: questionnaires, surveys, face-to-face interviews and observations. In Andhra Pradesh, there are 406 technical colleges; after excluding the public and government-owned and non-accredited colleges, the study identified 68 colleges possessing either any of the following accreditation bodies, viz—National Board of Accreditation (NBA) or National Assessment and Accreditation Council (NAAC) or autonomous. Finally, the study's total population was approximately 11,049 technical teachers. There were 8,263 assistant professors, 1,622 associate professors, and 1,164 professors. The sampling technique was a combination of convenience and random sampling to reach the target respondent. Based on convenience and availability, we selected one professor, one to two associate professors, and three to four assistant professors from each college to participate in the study. The study employed a structured online survey that participants were required to complete independently. Emails, in-person interviews, WhatsApp, and other online platforms were used to distribute the poll.

This study pulled in 515 responses in total. After screening, 384 responses were considered for further study, while 131 were deleted. Brown (2006) suggested that each item should have ten observations for a sample size to be deemed acceptable. The study used a sample size of 384, which was higher than the recommended size of 250 as there were 25 items in it. Therefore, the sample size was acceptable. This data was collected from primary sources from August 2023 to December 2023.

### Construct Operationalization

The research instrument was developed by reviewing previous works in the field. The final poll consisted of 33 separate questions. The study was adapted; 17 items were used to collect demographic and psychological data; the remaining 25 were used as study variables. A seven-point Likert scale was used to evaluate each statement, with 1 representing “*Strongly Disagree*” and seven representing “*Strongly Agree*.” Four items were finalized to measure perceived financial preparedness (PFP), which were adopted from the study of Hershey and Mowen (2000). Six items were adopted from Hershey and Mowen (2000) and Jacobs-Lawson & Hershey (2005) to measure financial knowledge (FK). Ten items for future time perspectives (FTP) were finalized from the study of Carstensen and Lang (1996), and the last construct referred to the study by Tomar et al. (2021) to finalize five items for financial risk tolerance (FRT).

### Tools and Techniques Used

The basic purpose of this empirical research is to identify the factors that affect the financial preparedness of technical teachers for retirement. This study uses the statistical tool SEM-AMOS.

### Hypothesis of the Study

- ☞ H1 : Higher financial knowledge will significantly impact perceived financial preparedness for retirement.
- ☞ H2 : Higher financial knowledge will significantly impact financial risk tolerance.
- ☞ H3 : Higher financial risk tolerance will significantly impact PFPR.

- ☞ **H4** : Higher FTP will significantly impact perceived financial preparedness for retirement.
- ☞ **H5** : Higher financial risk tolerance will significantly impact future time perspective.
- ☞ **H6** : Higher financial knowledge will significantly impact future time perspectives.

## Data Analysis and Results

### Sample Characteristics

A total of 384 responses are used for statistical analysis, and the results are shown here. Gender breakdown: 281 men (73.2% of the total) and 103 women (26.8% of the total) filled out the survey. Three hundred and forty-nine (90.9%) are married, whereas 7.85% are never married, 0.8% are divorced, and 0.5% are widowed or divorced. The most significant proportion of participants (54.49%) is between the ages of 36 and 45, followed by those between the ages of 26 and 35 (23.2%) and those between the ages of 46 and 55 (19%). There are fewer responses from people aged 65 and above (1.6%) and those aged 16–25 (1.3%). When asked about their level of education, the vast majority of respondents (63.54%) reported having completed at least a college degree. Twenty-seven people in the sample (7.03%) have doctoral degrees. Most respondents (46.9%) have annual incomes between ₹300,001 and ₹600,000, followed by those with incomes of less than ₹30,000 (21.1%), more than ₹90,000 (17.2%), and between ₹600,001 and ₹90,000 (14.8%). Table 1 displays the sample characteristics in great detail.

### Preliminary Analysis

The normality of the sample data has been confirmed before the study continued. Kurtosis values for all of the variables ranged from 0.563 to 3.49. All the numbers are less than 7, considered within a normal range

**Table 1. Sample Demographic Characteristics**

Demographic characteristics (N = 384)		Frequency	(%)
Gender	Male	281	73.2
	Female	103	26.8
Marital Status	Married	349	90.9
	Unmarried	30	7.8
	Widower/widow	2	0.5
	Divorced	3	0.8
Age	16–25	5	1.3
	26–35	89	23.2
	36–45	211	54.9
	46–55	73	19
	Above 55	6	1.6
Income (per month)	Below ₹ 30,000	81	21.1
	₹ 30,001 – ₹ 60,000	180	46.9
	₹ 60,001 – ₹ 90,000	57	14.8
	above ₹ 90,000	66	17.2

**Table 2. Construct Inter-Correlation**

Construct	Mean	SD	PFP	FK	FTP	FRT
PFP	4.84	1.75	1			
FK	4.73	1.80	0.951**	1		
FTP	4.81	1.66	0.938**	0.957**	1	
FRT	4.71	1.70	0.926**	0.946**	0.961**	1

**Note.** PFP-Perceived Financial Preparedness ; FK-Financial Knowledge ; FTP-Future Time Perspective ; FRT-Financial Risk Tolerance.

\*\*\* Indicates significance at 0.001 level (two-tailed).

(Hair Jr. et al., 2009). The data have been further checked for normality using the skewness values, which are determined to have an absolute value of less than 3 (Kline, 2011). The inter-correlation of the constructs has been examined to learn more about the connection between them. Correlations between the constructs are statistically significant, as shown in Table 2.

**Measurement Model Testing**

To test the hypothesis, we used Confirmatory Factor Analysis (CFA) with maximum likelihood estimation to determine the reliability and validity of the scale items. AMOS version 26 is used for model analysis. A total of 25 elements are tested, along with four first-order structures. The findings of the CFA indicated that the data are a good fit for the model. CFI = 0.987, TLI = 0.985, SRMR = 0.0068, and RMSEA = 0.051 with these numbers: Chi-Square ( $\chi^2$ ) = 541.26, *df* = 269, *p* = 0.00,  $\chi^2/df$  = 2.012. Goodness-of-fit tests revealed that the model is accurate (Hu & Bentler, 1999).

**Reliability and Validity Measurement**

Analysis of composite reliability and discriminant validity followed the discovery of the outstanding model-fit result. For this data, we relied on Cronbach's Alpha and excluded items with Alphas below 0.7 from further consideration. This allowed us to assess the constructs' reliability (Hair Jr. et al., 2009). The Cronbach's Alpha values in the current investigation are high enough to be considered reliable. All standardized factor loadings are

**Table 3. Instrument Items and CFA Results**

Variables	Indicators	Items	Standardized Factor Loading	Cronbach's Alpha ( $\alpha$ )
PFP	PFP1	Have determined how much money will be saved for retirement.	0.959***	0.979
	PFP2	Have a good idea of how much money will be required so that we can retire comfortably.	0.96***	
	PFP3	Aware of the amount that must be saved each month to retire comfortably.	0.96***	
	PFP4	We can comfortably retire because we save enough money every month.	0.963***	
FK	FK1	Skilled in retirement financial planning.	0.953***	0.987
	FK2	We are well-versed in retirement planning.	0.954***	
	FK3	I am capable of competently preparing for retirement.	0.969***	
	FK4	Know where to get information.	0.968***	
	FK5	Knowledgeable about retirement schemes.	0.974***	

	FK6	Knowledgeable about private investment plans.	0.966***	
FTP	FTP1	In the future, we will have opportunities.	0.957***	0.991
	FTP2	We will likely have a long list of objectives in the future.	0.96***	
	FTP3	A world of opportunities awaits me in the future.	0.96***	
	FTP4	The best is yet to come.	0.96***	
	FTP5	The future appears boundless.	0.963***	
	FTP6	In the future, we will be free to do as we like.	0.953***	
	FTP7	Lots of time to come up with fresh strategies.	0.941***	
	FTP8	I have the sense that time is running out.	0.955***	
	FTP9	Our future has few options.	0.957***	
	FTP10	Time is running out for us as we get older.	0.949***	
FRT	FRT1	Willing to take financial risk.	0.955***	0.982
	FRT2	Prefer high returns.	0.96***	
	FRT3	The importance of retirement outweighs that of risk.	0.962***	
	FRT4	Willing to make a risky investment.	0.961***	
	FRT5	I would never choose the safety investment when planning for retirement.	0.946***	

Note. 7-point Likert scale: 1 = "Strongly disagree," and 7 = "Strongly agree" (N = 308).

\*\*\* represents significance at the 0.001 level (two-tailed).

Table 4. CR and AVE Values

Constructs	CR	AVE	PFP	FK	FRT	FTP
PFP	0.968	0.883	0.94			
FK	0.975	0.867	0.820***	0.931		
FRT	0.965	0.847	0.828***	0.559***	0.92	
FTP	0.973	0.781	0.721***	0.670***	0.748***	0.884

Note. \*\*\* indicates significance at the 0.001 level (two-tailed).

more than 0.5, as shown in Table 3. Therefore, everything must be kept from the list. All four constructs' composite dependability (CR; Table 4) is within the allowable range, sufficient for acceptance. CR and Average Variance Extraction (AVE) are employed to test for convergent and discriminant validity. AVE is also acceptable, as seen in Table 4. Therefore, it is demonstrated that AVE in this setting has high convergent validity (Kant & Jaiswal, 2017). The squared correlation between every set of measures is also shown in Table 4. Metrics for each construct's variance extraction are shown along the diagonal. All squared correlations between constructs are smaller than the variance-extracted measures when compared to these correlations (Fornell & Larcker, 1981). As a result, the psychometric testing established the reliability and validity of the measures.

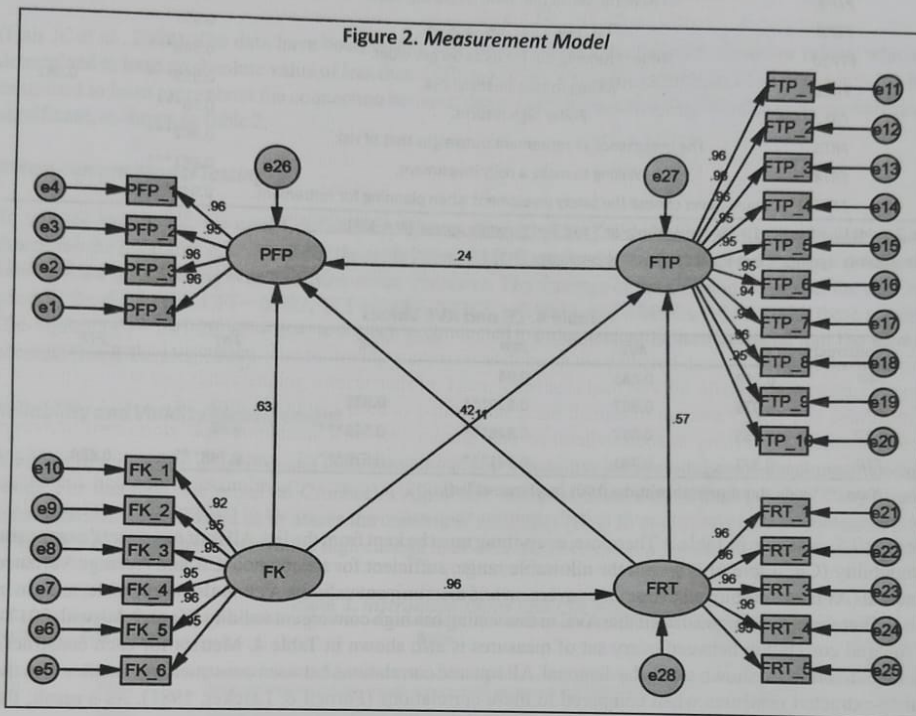
### Structural Model Testing

After the measurement model fit is checked, structural equation modeling (SEM) and maximum likelihood estimation are used for hypothesis testing. The test reported a good model fit ( $\chi^2 = 568.234$ ,  $df = 273$ ,  $p = 0.00$ ,  $\chi^2/df = 2.08$ , CFI = 0.985, TLI = 0.983, SRMR = 0.0077, RMSEA = 0.054). In order to test if the hypotheses are statistically significant, path estimates have been performed later. According to the route estimations, study constructs have a positive and statistically significant influence ( $FK \rightarrow PFP$ :  $\beta = 0.631$ ,  $p = 0.000$ ;  $FK \rightarrow FRT$ :

Table 5. Path Analysis

Part Analysis	Hypothesis	Path Estimate	S. E.	Beta value ( $\beta$ )	p-value	Remark	
PFP	<--- FK	H1	0.614	0.078	0.631	***	Accepted
FRT	<--- FK	H2	0.905	0.025	0.951	***	Accepted
PFP	<--- FRT	H3	0.112	0.095	0.109	0.237	Rejected
PFP	<--- FTP	H4	0.242	0.111	0.237	0.029***	Accepted
FTP	<--- FRT	H5	0.58	0.051	0.573	***	Accepted
FTP	<--- FK	H6	0.401	0.048	0.421	***	Accepted

Note. \*\*\* indicates significance at the 0.05 level.



$\beta = 0.951, p = 0.000$ ;  $FTP \rightarrow PFP: \beta = 0.237, p = 0.000$ ;  $FRT \rightarrow FTP: \beta = 0.573, p = 0.000$ ;  $FK \rightarrow FTP: \beta = 0.421, p = 0.000$ ). Additionally, the route estimations indicated that FRT has a small but beneficial effect on PFP ( $\beta = 0.109, p = 0.237$ ). Therefore, the analysis validated all hypotheses—H1, H2, H4, H5, and H6—except H3 (refer to Table 5).

Figure 2 represents the measurement model that establishes the relationship between perceived financial preparedness with the variables: future time perspectives, financial knowledge, and financial risk tolerance. It is observed from Figure 2 that no relationship exists between perceived financial preparedness and financial risk tolerance. For more clarification between the variables, please refer to Table 5.



## Findings

Kurtosis values—from 0.563 to 3.49—have been used to evaluate the data's normality. These numbers are under 7, indicating that the data is relatively typical (Hair Jr. et al., 2009). The data have been further checked for normality by looking at the skewness values. Finding skewness values below 3 in absolute terms indicates the data is normally distributed (Kline, 2011).

The results of the CFA showed that the data and model are well-aligned. Using a chi-square test with 269 degrees of freedom, we find a statistically significant match ( $p = 0.00$ ). An acceptable range for the chi-square to degrees-of-freedom ( $\chi^2/df$ ) ratio is 2.012. A battery of goodness-of-fit tests has been used to evaluate the model's accuracy. At 0.051, the SRMR stood at 0.068, the CFI at 0.987, and the RMSEA, or Root Mean Square Error of Approximation, at 0.051. According to Hu and Bentler (1999), these values provide a good fit for the data. The investigation utilized items having Cronbach's Alpha values of 0.7 or higher to guarantee the constructs' reliability (Hair Jr. et al., 2009). This study's Cronbach's Alpha scores are all sufficiently high to be considered reliable. Furthermore, all standardized factor loadings are higher than 0.5, as demonstrated in Table 3. It follows that nothing should be deleted as everything is adequately related to its appropriate construction.

The composite reliability (CR) for all four constructs (Table 4) falls within the acceptable range, ensuring their suitability. Both CR and average variance extracted (AVE) were used to assess convergent and discriminant validity. As indicated in Table 4, the AVE values are acceptable, confirming high convergent validity in this context (Kant & Jaiswal, 2017). Table 4 also presents the squared correlations between each set of measures, with the variance extraction metrics for each construct displayed along the diagonal. The squared correlations between constructs are all lower than the variance-extracted measures, in line with Fornell and Larcker's (1981) criteria. Consequently, the psychometric evaluation confirms the reliability and validity of the measures.

## Conclusion

Research into whether technical educators feel financially prepared for retirement is in its early stages of development in terms of rigor and usefulness. Over the last decade, it has dominated discussions about retirement preparation. Researchers have looked at one's financial preparation from many different perspectives since many factors affect it. Several studies showed that future time perspective (Clark et al., 2019; Noone et al., 2012), financial risk tolerance (Noviarini et al., 2021), and financial knowledge (Ademola et al., 2019; Heraty & McCarthy, 2015) influenced how financially prepared people felt for retirement. Furthermore, the research has discovered the relationship between the components based on a survey of the current literature.

This research sought to understand better how technical school instructors in Andhra Pradesh, India, rate their financial readiness for retirement. A new conceptual framework and measuring model have been presented to understand better how technical teachers in Andhra Pradesh, India, feel about their financial stability. According to the proposed model, "future time perspective" and "financial knowledge" are the most critical aspects in technical educators' reports of their financial readiness for retirement.

## Theoretical Contribution

Behavioral finance theory proposes that saving behavior is influenced by factors beyond an individual's judgment. Savings typically increase with income and age, positively correlated with education and total wealth. In the theory of planned behavior, Griffin et al. (2012) discovered gender differences in predicting retirement planning. These differences hold significant implications for designing programs and interventions promoting retirement planning. Factors such as future time perspective and health status also affect retirement preparedness.

The life cycle hypothesis is an economic theory that centers on how individuals allocate money for spending and saving throughout their lives. It encourages people to save for retirement during their earning years rather than spend all their income. Prospect theory proposes that financial risk and the capacity to fund retirement are determined by an individual's level of risk tolerance. The heuristic theory elucidates how investors make financial decisions when facing uncertain circumstances.

### **Practical Implications and Social Implications**

This study will help the state formulate a structured retirement policy plan. It suggests the following:

- ✦ HR policies should include retirement benefits.
- ✦ Technical teachers who have good financial knowledge and future predictions are better at planning for retirement.
- ✦ Since financial literacy includes financial knowledge, including the literacy topics in the primary and secondary curriculum would benefit future generations.
- ✦ Workshops and training for college faculty members on financial literacy, financial behavior, and its impact on retirement planning are also needed.

### **Limitations of the Study and Scope for Future Research**

This study's respondents are from Andhra Pradesh, India. Extrapolating the findings to other Indian states can be challenging. Primary and secondary education teachers are out of this study's scope. The variables of financial knowledge, financial risk tolerance, future time perspective, and perceived financial preparedness for retirement were derived from existing literature. There may be other unexplored variables that affect perceived financial preparedness for retirement. Despite multiple relationships, present interventions create direct and indirect impacts on the perceived financial preparedness, and this study examined only the direct effects of simplifying the implementation process.

### **Authors' Contribution**

Kiran Kumar Voleti conceived the idea and developed a methodology for the empirical study. Dr. Bikash Ranjan Debata extracted research papers with high reputations, filtered these based on keywords, and generated an extensive literature review. Dr. Sudhansu Sekhar Nanda verified the analytical methods and conducted the numerical computations by using the AMOS, and Dr. Pawan Kumar finally improvised the content and gave final shape to the research paper.

### **Conflict of Interest**

The authors certify that they have no affiliations with or involvement in any organization or entity with any financial interest or non-financial interest in the subject matter or materials discussed in this manuscript.

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## A STUDY ON FACTORS INFLUENCING THE PERCEIVED FINANCIAL PREPAREDNESS FOR RETIREMENT OF TEACHERS

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### ABSTRACT

**Purpose:** Economists predict that the coming decades an unprecedented number of Indians will enter retirement lacking adequate resources. The present study was done to identify the major factors influencing perceived financial preparedness of the retirement of teachers. **Scope of the study:** Researcher has focused on theoretical, empirical and methodological papers to identify the factors influencing perceived financial preparedness of the retirement of teachers. **Design /Methodology /Approach:** Researcher taken 231 articles for his study. Majority of the papers have focused on factors namely financial literacy, financial knowledge, future time perspective, financial risk tolerance and perceived financial preparedness for retirement. **Expected outcomes:** The current study may help in understanding the dire need of major factors which influences perceived financial preparedness for retirement, across India as aging population is expected to raise rapidly during the next decade.

**Keywords:** Future Time Perspective, Financial Knowledge, Financial Risk Tolerance and Retirement Planning.

### Introduction

The expectancy of the lives of human beings is seeing tremendous growth due to the healthcare services, hygiene, sufficient food and proper access to life-saving medicines. People aged above 80 almost tripled in the last 3 decades with the total being 143 million in the year 2019. This number is estimated to reach 426 million in the year 2050 which should go to 881 million in 2100.

As we near the end of the century, there would be at least 1 in 12 people whose life expectancy will be above 80 years. When people plan to retire, they estimate their lives to be around 70 to 75 years. Average life expectancy at birth in our country is 69 years. For the urban people in the good income class, this expectancy increases to 76 years.

RBI's Indian Household expenditure report 2017 says that 44 per cent of Indian household are not expecting retirement from work. Whereas, 33 per cent are having no planning at all for retirement. On the other hand, 10 per cent of the people are planning for retirement and 13 per cent are actively planning for retirement. For majority households' children are the source of funds in retirement, followed by bank deposits, own business, provident fund, gold, wealth, financial sources, movable assets and real estate. ("Reserve Bank of India—Press Releases," n.d.)

Age of India is increasing at a comparatively faster rate than estimated which might be around 20% population aged above 60 years by the year 2050. "India Ageing Report 2017" by the United Nations Population Fund (UNFPA) mentions that the population above 60 years can grow from 8% in 2015 to 19% in 2050 ("India's ageing crisis needs attention," 2019). It is seen from the numbers that there might be a decrease in the demographic dividend of India where the occurrence may arrive of a major part of population being reliant, comprising old age, widowed, highly reliant women. In the period between 2000 to 2050, the general population of our country is estimated to increase by 56% whereas people aged above 60 will increase by 326% and there will be a 700% increase for people above 80.

As per statistics of the World Health Organisation, life expectancy in India has risen by 6 years from 2000 to 2015 and with the increasing medical assistance it's expected to rise further. This is just one factor highlighting the importance of retirement planning.

The survey also came up with the results which say that 77% of people in our country do not have post-retirement savings as the majority of them rely on their kids to support them (Vivek, 2017). The Economic Survey 2018-19 mentioned about the growing retirement age amidst increasing life expectancy rate of our country. There will be a decrease in population

growth of our country in the upcoming 20 years as the growth will be less than 0.5% between 2031 and 2041 because of the decrease in fertility rate and increase in life expectancy. Currently, the retirement age of government workers is 60 years in India.

HSBC study announced that 76% of working-age individuals in India anticipate an agreeable retirement, just 33% are setting aside cash to subsidize it, discovers the HSBC Future of Retirement study. Failure to expect future monetary necessities is the primary barricade to arranging, 45% of the respondents felt that it's smarter to consume cash on getting a charge out of time now than putting something aside for retirement, 53% put something aside for transient objectives instead of longer-term plans, then again, 56% live on an everyday premise monetarily, making way for issues later. Monetary Time in September 2018 articles referenced that however 66% of working individuals have a monetary arrangement as a primary concern, just shy of three-fifths of savers looked for monetary counsel to help them plan for retirement (PTI, 2018) ET, Sep 17, 2018.

#### Purpose of the Paper

The paper aims to review the factors that are majorly affecting the Perceived financial preparedness for retirement of teachers.

#### Review of Literature:

##### A. Future time perspective

As per (Hershey & Mowen, 2000), Future time viewpoint is a mental measurement that is suspected to tap the degree to which people center around the future, instead of on the present and past (Cate and John, 2007). Future time perspective is an individual belief about how much time is left in his personal life cycle. Future time perspective is an independent predictor of financial planning for retirement and statistically this two are positively associated ((Noone, O'Loughlin, & Kendig, 2012), Conscientiousness and emotional stability both cardinal constructs were significantly associated with central trait measure (Hershey & Mowen, 2000). Research says among 35-88 years of age group people, the future time perspective has been associated in a positive way to self-reported financial

preparedness for retirement (Hershey & Mowen, 2000). The higher level of future time perspective has a link to aggressive saving profiles (Jacobs-Lawson & Hershey, 2005a). Individuals discount future consumption is significantly associated with the level of their retirement planning and preparedness (Clark, Hammond, & Khalaf, 2019) Demographic variables (age, sex & education) complex interplay is more responsible for the declaration of individual the personality traits for future orientation). HR Professionals need to elevate the representatives who track down the high inherent compensation of work to get ready for their retirement and remind worker's retirement may be nearer than they expect (Yang and Devaney, 2011).

##### B. Financial risk tolerance

According to Carducci & Wong, (1998) Financial Risk Tolerance is portrayed as the most drastic action of weakness that someone will recognize when making a money-related decision, and wanders into essentially all parts of monetary and public action. "The risks that one can afford to take depend on the total financial situation, including the types and sources of your income exclusive of investment income" Malkiel, (1999).

Risk tolerance and Future time perspective interact with one another. This interaction shows an impact on retirement savings. The higher level of risk tolerance is related more to an aggressive saving profile. (Jacobs-Lawson & Hershey, 2005a). Previous researchers concluded that male was high risk-tolerant in comparison to females, older respondents were high risk-tolerant than youthful respondents, married respondents were more danger lenient than single respondent, experts were more serious risk-tolerant than the lower-pay respondents, higher-pay respondents were more risk-tolerant than the lower-pay respondent, advanced education respondents were more danger lenient than others, more elevated level of monetary information respondents was more risk-tolerant than the lower level of monetary information respondents and higher financial assumptions respondents were more risk-tolerant than lower monetary respondents (Grable, 2000). Curiously hazard resistance will increment

with age when different factors are controlled. (Wang and Hanna, 1997). Female-headed families are less risk-tolerant than with a male head family or a wedded couple. (Sung and Hanna, 1996). Discoveries from the investigation propose that hazard resilience is in all probability a summed up disposition, not an area subordinate demeanour, held by people (Grable & Rabbani, 2014)

### C. Financial knowledge

Knowledge has a positive relation with retirement planning activities and financial saving practices (Jacobs-Lawson & Hershey, 2005a). Financial knowledge is described as a skill to utilize financial resources for investment purposes (Ademola, Musa, & Innocent, 2019). Financial literacy should also include application of financial knowledge Huston (2010). The primary model of monetary models uncovered that character development and monetary information were critical indicators of pre-retirement arranging (Hershey and Mowen, 2000). The discoveries uncover that there is a positive and critical impact between monetary information, hazard insight, and venture choices, while a positive yet inconsequential impact was found between monetary proficiency and speculation choices (Ademola et al, 2019). More established laborers with more sure convictions about their capacity to control parts of maturing are bound to monetarily get ready for retirement; the individuals who have a discontinuous, instead of a steady, attention to the maturing interaction are more averse to make such monetary arrangements (Heraty and McCarthy, 2015). The outcomes show that parental monetary socialization, straightforwardly and by implication, impacts FPR. Besides, parental monetary conduct goes about as a positive model for the advancement of monetary proficiency and abilities and for choices about FPR. Every one of the factors expanded the clarified difference of FPR (Palaci, Jiménez, and Topa, 2017).

### D. Perceived financial preparedness

Financial preparedness for retirement expresses whether a person is ready for maintaining financial reliance in their post-retirement and also looks into the type of lifestyle one was

enjoying during active employment time and also focuses on whether it is achievable even after stoppage of active formal employment (Warshawsky & Ameriks, 2000). Financial preparedness can be described as a belief of current savings being enough for the post-retirement period (Hershey, Henkens, & Van Dalen, 2010). Definition of retirement preparedness utilized in this study included questions related to the possession of assets and the exercising of financial decision-making. (Lusardi & Mitchell, 2011). Retirement preparedness as the possession of specific financial assets. (Womack, 2015). In the context of the large proportion of Israeli population feel that they were unprepared for retirement (Segel-Karpas & Werner, 2014). Compared with other age groups Millennials will have a better retirement planning, single and those who are not working full time were not prepared for retirement. (Young, Hudson, & Davis, 2017). Those who are good in financial literacy are more likely to have various forms of retirement savings (Nolan & Doorley, 2019). The substantial supporting role of psychological factors is needed in retirement planning (Hershey, Jacobs-Lawson, McArdle, & Hamagami, 2007). Various studies revealed college-educated families to have sufficient funds for retirement in comparison to the ones with high-school education families (Kyoung Tae Kim & Hanna, 2015). Respondents more confident in financial literacy proved themselves to have sufficient skills in planning for the future (Hui et al, 2016). Interestingly various surveys identified that self employed and employees save & invest remarkably, respondents good in financial literacy are also holding better diversified portfolios over the life cycle (Koh & Mitchell, 2019). Perceptions of retirement and economic living standards are very poor in females when compared to the man and this were associated with financial preparedness. (Noone, Alpass, & Stephens, 2010). Older employees had higher degrees of financial literacy and respondents who are much aware of their financial literacy are better prepared for retirement. (Righter, 2017). Higher-income, future time perspective & financial planning knowledge can predict independently the levels of retirement planning (Noone et al., 2012). A

lot of families do not know of primary economic concepts that are helpful in investment decisions (Lusardi & Mitchell, 2007). Financially shrewdness participants are good in their future planning and mostly depend on the techniques like retirement's calculators & seminars, and financial experts rather than family, co-workers, and relatives (Lusardi & Mitchell, 2011). Having a clear aim is a considerable estimation of a working employee's retirement trust and preparedness (Shanmugam & Zainal Abidin, 2013). The way individuals discount future consumption is more associated with the range of their retirement planning and preparedness (Clark, Hammond, Morrill, & Khalaf, 2017). Pre-retirees are less prepared financially for retirement than current retirees (Lissington, 2018). Retirement planning is strongly associated with financial literacy (Boisclair, Lusardi, & Michaud, 2017).

#### **E. Relationship between Financial Knowledge and Perceived Financial Preparedness for Retirement**

Retirement planning and retirement preparedness are closely related to financial knowledge. Numerous studies explored the relation between financial knowledge and retirement preparedness in various contexts. For instance, in the context of African-Americans, financially literate or financially educated African-Americans are more probably prepared for retirement. Relationship between financial literacy and retirement preparedness found to be positive and significant. The other factors that affect the significant relationship between financial literacy and retirement preparedness in the context of African-Americans were age (positive), employment (negative). The findings of the study suggest the need for financial literacy courses across all disciplines as a supplement to the formal education to provide adequate financial capabilities. The findings of the study also suggested giving orientation among the younger groups who do not possess focus on preparing for retirement, even though greater benefits accrue for the early starters (Young et al, 2017). With regards to Israel, the indicator of monetary readiness was monetary information and association in monetary

exercises. The examination discoveries investigated that the individuals who see having a significant degree of monetary information are less inclined to feel underprepared, whereas the Israelis chose for the investigation see themselves as readied monetarily for retirement. The financial preparedness for retirement was significantly influenced by age (positive), marriage and number of children (negative), social variables (spousal support, support from friends, support from parents, trust in employer and trust in Government) (positive). Gender ethnicity and educational level are insignificant. Findings suggest that future studies have to evaluate the relation between actual savings and perceived financial preparedness.

Economic living standards and retirement are very much associated with financial preparedness. New Zealand Health, Work and Retirement Study conducted among the sample of 55 to 70 years old who witnessed a transition from work to retirement estimated gender difference in financial planning for retirement. These outcomes show how work involvement can indirectly affect retirement but not financial preparedness. Expected retirement adjustment and anticipated finances had a positive connection but negative thinking on retirement. The economic living standards can impact the financial preparedness, estimated finances and estimated retirement adjustment. Estimated retirement time had a negative relation to retirement thoughts though it was not related to financial preparedness (Noone et al., 2010). In addition, (Lissington, 2018) found significant differences among passive retirees and active retirees towards Government-funded New Zealanders' retirement income tend to influence retirement adequacy, to cover the basic needs and avoid them to fall in debt trap. However, the degree of certainty is susceptible to change due to the changes in employment policies, income, and health factors. Furthermore, objective lucidity is the critical indicator of preparation practices and arranging, thusly, predicts investment funds propensities. Pay is found to have a critical impact on reserve funds commitment as opposed to an effect on commitments interceded through objective lucidity, as initially anticipated. Two segment factors, pay,

and age were likewise uncovered to be significant components of the model, with pay representing generally 50% of the clarified fluctuation in investment commitments. The findings of the study support the viewpoint of developing age-based models of planning that also assist them in designing long-term saving strategies (Stawski, Hershey, & Jacobs-Lawson, 2007).

Increased financial knowledge enhances confidence among individuals for informed decisions towards financial preparedness for retirement. The survey results from UASCF (Understanding America Study (UAS)) using Health and Retirement Study (HRS) questionnaire that comprises of different demographics along with the data of financial literacy, retirement preparedness and awareness of social security rules found that there is no much difference in the financial preparedness among over and under-confident individuals. The study suggested that accompanying more financial literacy campaigns will increase the awareness of individual's actual knowledge which leads to increased financial competence among the overconfident and will prove that the under confident are having sufficient skills to start their financial future (Angrisani & Casanova, 2019). Also, the study among Australian Ageing Baby Boomers revealed that financial planning is significantly influenced by socioeconomic status, future time perspective and financial knowledge. The impacts of future time point of view and monetary information on monetary arranging were reliable across levels of financial variables of Australian Aging Baby Boomers. While comparable issues in monetary arranging showed up across financial status, a 'one size fits all' way to deal with retirement strategy may not be successful. All things being equal, arrangement ought to be focused on the assorted necessities of various gatherings. Raising public consciousness of future time viewpoint and monetary information may give a valuable booster as a start. (Noone et al, 2012). Retirement planning has a strong link to financial literacy. The study conducted in Australia (Ali, Anderson, Clark, Ramsay, & Shekhar, 2015) reported the young Australians demonstrated poor knowledge towards

superannuation plan offered by the Australian Government. As opined by (Ali et al, 2015), young people lack understanding of operational ties of superannuation plan and do not many expectations from the retirement plan. It was also found from the study that the Australians in long-term relationships, married and repaying mortgages showed a positive relationship with the retirement plan knowledge and overall retirement plan. In addition, those people who are aware of social security benefits were productive in making informed decisions in retirement preparedness. Those individuals whose social security benefits were inadequate in terms of replacement income, they were more likely to save their incomes towards retirement plans. Therefore, the hypothesis is

#### **F.Relationship between Financial Knowledge and Risk Tolerance**

Financial risk tolerance is an important predictor of retirement savings at various levels of financial knowledge. Pertaining to the research in retirement investment planning, more study is required for evaluation of the factors affecting the retirement investment decisions like financial knowledge and risk tolerance (Larson, Eastman, & Bock, 2016). Empirical studies in the past revealed the significant association between financial risk tolerance and financial knowledge. The research of Hong Kong adolescents reveals that the family income, future orientation, and subjective financial knowledge had a positive relation to financial risk tolerance. Further, the study established that improving financial knowledge motivates adolescents to take financial risks when making important decisions (Zhu, 2019). Retirement Confidence Survey conducted in the US in 1999 explored that the working young men compared to women with higher levels of education and income, positive financial attitudes and risk aversion, also who received employer financial education were highly confident for their retirement preparedness (Joo & Pauwels, 2002). Using the data 2012 wave of the Financial Industry Regulatory Authority (FINRA) Investor Education Foundation National Financial Capability Study (NFCS), the study examined the relation between risk

tolerance, financial literacy, and goal-based saving behaviors of families. The study indicated that they have not calculated how much money is required during retirement. Both monetary education and risk tolerance are related with objectives based investment funds conduct, like putting something aside for crises and making arrangements for retirement among families (Chatterjee, Fan, Jacobs, & Haas, 2017). The increased ages among the baby boomers in the US, there is a need for risk management in retirement. RAND American Life Panel 2012 Well Being 186 and 193 reviews investigated the relationship between monetary information, monetary danger resilience and the vulnerability with respect to the requirement for long haul care protection among gen

X-ers. The study explored the fact that the financial knowledge is associated with the long term care insurance, further, uncertainty regarding the future needs also indicated a positive association with long term care insurance (Anderson, 2019). In a multi-method investigation study conducted among millennials (students), three set of results were explored such as a) a decrease in risk-taking for those with low trust in their monetary information b) low monetary education improves powerlessness to the impact of "sentiments as data" when settling on retirement choices c) recent college grads retirement venture decisions depended on stock riskiness, absence of monetary information, great dynamic, financial vulnerability and downturn history (Larson et al, 2016). The information from the 2012 National Financial Capability Survey in the USA showed that higher objective and subjective financial knowledge and higher risk tolerance are related to the low-interest mortgage in retirement. The findings of the study offer the multi-fold suggestions such as a) financial planners shall understand the customers' beliefs about debt while evaluating the debt-related financial strategies at the time of retirement b) increased financial risk associated with the leveraging assets, financial planners shall understand the client's willingness to take the risks c) financial professionals seek an opportunity to deliver objective financial education to the clients based on mortgage-related strategy (Seay et al,

2015). The previous studies highlighted the significant association between financial knowledge and risk tolerance, this association has been widely promoted across many empirical studies. Contrarily to the previous studies, the discoveries of an overview among 2300 retirement investment fund members in Australia, the families' self-announced perspectives, emotional standards and impression of conduct control represent a high extent of the difference in social aim and the families' danger resistance adds little to the forecast of conduct aim towards retirement plans (Croy, Gerrans, & Speelman, 2010).

#### **G. Relationship between Financial Risk Tolerance and Perceived Financial Preparedness**

Financial risk tolerance can impact the investment of people for short-term and long-term objectives like saving for a big purchase and retirement as well (Grable, 2016). Risk tolerance is a major concept of economics and finance disciplines (Xiao, Alhabeeb, Hong, & Haynes, 2001). Risk tolerance and the estimated time horizon till retirement are significant aspects of investment decision for retirement preparedness (Sung & Hanna, 1998). Risk tolerance can be perceived to be a personal issue, which detracts the risk-taking of the individuals in retirement planning contribution (Grima & Pavia, 2019). Risk tolerance is a measure which is utilized broadly by practitioners and academics on investment strategies and retirement planning (Mayer, Zick, & Marsden, 2011). In addition, a qualitative study conducted by (Mayer, Zick, & Marsden, 2011), it was examined that the risk tolerance has relevance and rationale in assessing the retirement preparedness decisions (Adami, Carosi, & Sharma, 2018). The results from the previous studies evidence the role of investors risks tolerance level on the portfolio decision in retirement funds. It was also evident that the long-run potential of stocks deems fit for retirement planning. Earlier, psychological determinants like future perspective, financial knowledge, and financial risk tolerance are associated with the knowledge of retirement planning (Leon & Pringganingrum, 2018). Furthermore, determinants like age, education, income and



wealth also significantly influences the risk tolerance of individuals towards retirement planning (Wang, 2009). It is also pertinent to understand insufficient retirement planning is quite severe, both economically as well as individually (Cravo, França, & Amorim, 2019). With less argument, there needs a substantial place for selection of appropriate investments understanding the financial risks and their perceived risk tolerance in a realistic manner (Yao, Sharpe, & Wang, 2011). Future perspective, locus of control, financial risk tolerance and retirement goal clarity are observed as the determinants of retirement planning. Besides financial knowledge is a significant predictor in explaining the financial behaviors and risk tolerance towards retirement planning (Fisher & Yao, 2017), an attitude of individuals outlook that also influences retirement planning behavior (Kumar, Tomar, & Verma, 2019). To make the individuals oriented towards long term objectives such as retirement planning, financial planners have a significant role in highlighting the significance or retirement planning. The attitudes of individuals are also reflected in how individuals seek help from professionals. Those individuals who are also risk tolerant were more likely to seek assistance and guidance towards retirement planning decisions from professionals. Among the other factors, income has a significant impact on the pre- and post-retirement planning. It is also assumed that the retired people who possess very less income could be more conservative and takes less risk with lower risk tolerance during retirement.

#### **H. Relationship between Future Time Perspective and Perceived Financial Preparedness for retirement**

Future time perspective, alternative also termed as future orientation is considered as a psychological variable that received considerable attention in the financial planning literature (Jacobs-Lawson & Hershey, 2005b). Time perspective is also considered as cognitive process that splits the past, present and future temporal references (D'Alessio, Guarino, De Pascalis, & Zimbardo, 2003). Future time perspective is referred to in many

researches (Denton et al, 2004; ; Jacobs-Lawson, Hershey, & Neukam, 2004). The future time perspective, financial awareness and financial risk tolerance have significant importance with regards to comprehension of people's retirement saving practices. Future time perspective influences a person's behavior because of anticipating to have more outcome from the activity due to time spent on that particular activity. Future orientation measures to what extent the people look forward to the future in comparison to past and present. Review of past studies reveals that the future orientation is significant suggesting that the people who think about the future and anticipate the future outcomes from their financial planning are more financially literate and vice-versa (Kadoya & Khan, 2019). Researches of relationship between future time perspective and savings or planning behavior also proved how the people who consider the future to be nearer will be very ready (Yang & Devaney, 2011). Seminal works done by Hershey and Mowen (2000) observed solid future direction decidedly affected both information and inclusion in monetary arranging just as retirement readiness. (Manturuk, Dorrance, & Riley, 2012). Despite the fact that the financial knowledge and its involvement in financial planning have significant role, studies pertaining to retirement planning or preparedness assume people will retire at a fixed age with a presumption that they retire with an enrollment in any social security or pension system or changing attitudes towards retirement and less emphasis on future orientation (Kock & Yoong, 2011). "Why is the public so underprepared for retirement? To answer this question, large cross section data of adults in UK was examined to investigate the age differences into understand what motivates the adults to save across adulthood. The study findings reveal that future orientation added with adequate financial knowledge necessitates the younger adults to save for their post-retirement (Rolison, Hanoch, & Wood, 2017). Furthermore, due to lack of retirement preparedness among the individuals in American context, the studies in American context concluded that perceived financial awareness had a link with perceived financial

preparedness along with future orientation (Davis & Chen, 2008)

### Conclusion

1. **Theoretical Gap:** The review of past studies emphasizes more on financial literacy and retirement planning. The findings related with the relationships between financial literacy and retirement planning are controlled by socio-demographic and psychological factors. For example, the findings from the studies conducted in the US and UK as well as Australia are not similar due to the varying controlling variables. Furthermore, the variables like financial risk tolerance, future time perspective and financial knowledge were independent to a larger extent, the combination of financial risk tolerance, future time perspective and financial knowledge that influence the perceived financial preparedness for retirement were conducted to a marginal extent. Integration of the variables like financial risk tolerance, future time perspective and financial knowledge adds to the theoretical contribution given the contextual factors prevailing in India.
2. **Empirical Gap:** The extensive research evinces that a lot of researches were conducted in Western context. Few studies were explored in Malaysian and Japan context. In addition, few studies were also conducted to study the impact of psycho-bio-socio context and health indicators on retirement planning. Considering the growing ageing population in India which triggered panic button on the escalating social security budgets, this study addresses the gaps pertaining to the financial knowledge, risk tolerance for retirement planning and future orientation towards long term financial plan.
3. **Methodological gap:** From their view of past studies, the majority of the studies adapted either convenience sampling method or random sampling method. Few studies adopted the data collected by US Agencies on a large scale or the country-specific agencies data. Those studies that are dependent on the first-hand information collected by the researchers follow smaller sample sizes ranging from 110- 580 approximately. Inconsistency and non-uniformity in methodological considerations lead to dissimilar results in various contexts and this forms the basis of this study to define methodology context-specific.
4. **Population gap:** The review of literature also points out that the population for the studies are pre-retirees or post-retirees and adults (youth) in various contexts. Given the scenario of growing aged population and changing demographics with varied occupational and revised budgets by the Governments for social security schemes, it is pertinent to consider the population of the study to be context-specific. Therefore, this study considered the population which satisfies the specific criteria as mentioned in the methodology section.

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## Questionnaire

### Financial Behaviour & Perceived Financial Preparedness for retirement of Technical Education Teachers of Andhra Pradesh

Variable	Q.NO			
Socio Demographic & Health Factors data	1	Name of the respondent (optional):		
	2	Name of District:		
	3	City/Town/Block		
	4	Location:		
	5	Gender:		
		a) Male	b) Female	c) Transgender
	6	Marital Status		
		a) Married [    ]	b) Unmarried[    ]	c) Widower/Widow [    ]
		d) Divorced [    ]	e) Separated [    ]	f) Any other [    ]
	7	Type of family: a) Joint Family                      b) Nuclear Family		
	8	Earning member of the family (Nuclear)		
		a) I [    ]	b) My Spouse [    ]	c) Both [    ]
	9	No. of earning members in the family (Joint)		

	a) One	b) 2	3 or more members earning and income pooled
10	Who is taking financial decisions? (Nuclear)		
	a) I [ ]	b) My Spouse [ ]	c) Both [ ]
11	Who is taking financial decisions? (Joint)		
	a) I	b) My Spouse [ ]	c) Others Specify -- -----
12	Age :		
	16- 25 [ ]	26 – 35 [ ]	36- 45 [ ]
	46- 55 [ ]	Above 55[ ]	
13	No. of dependent persons		
	a) 1[ ]	b) 2 [ ]	f) More than 2 [ ]
14	Possession of the House		
	a) Owned [ ]	Rented [ ]	
15	Education of children (in relation to head of the family) Note : Exclude under children below five years of age for this item.		
	a) All children going/ever gone to school/college		
	b) >50% children ever gone/going to school/college		

	c)	< 50% children ever gone/going to school/college	
	d)	No child ever gone/going to school/college	
16	Indicate your total personal income (after – tax and deductions) per month		
	1) Rs 0 – Rs 30000	2) Rs 30001- Rs 60000	
	3)Rs 60001- Rs 90001	4) More than Rs 90001	
Health Factor Questions			
17	How would you describe your health overall?		
	Poor	Fair	Good
	Excellent	Prefer not to answer	
18	How concerned about your health in older age are you?		
	My primary concern – My health in older age is something I consider regularly and am actively working toward prolonging		
	A minor concern – My health in older age is something I sometimes consider but I would prioritize other things, like having enough income to live on when I retire		
	I take it for granted – I just assume that my health will be ok when I retire. It's not something I need to worry about		
	Back of my mind – I haven't really given it any thought		

	19	Which of the following health-related attitudes and behaviors (UK – behaviours) apply to you?		
		I eat healthily (e.g., five- a-day portions of fruit and vegetables)		
		I exercise regularly (e.g., meditation/Yoga/relaxation)		
		I avoid harmful behaviors (e.g., drinking too much alcohol or smoking tobacco)		
		I think about my long-term health when making lifestyle choices. For example, I try to avoid stress		
		I take my health check- ups in a regular intervals)		
		None of the above		
	20	Which of the following health-related attitudes and behaviours apply to you? From the above question no. 19		
		Engage in 1 behavior		
		Engage in 2 behavior		
		Engage in 3 behavior		
		Engage in 4 behavior		
		Engage in 5 behavior		
	21	Do you have medical insurance		
		Yes	No	
	22	If Yes, what kind of medical insurance do you have?		

	Individual	Group	
Perceived financial preparedness for retirement	<b>Please rate the following statement using the given scale</b>		
	<b>Key:1= Strongly Disagree, 2=Disagree, 3=somewhat disagree, 4=Neither Agree nor disagree, 5= Somewhat agree, 6= Agree and 7= Strongly Agree</b>		
	<b>S.No.</b>		<b>Response/Rating</b>
	1	The calculation have been made to estimate how much money I(WE) will have saved for retirement	
	2	I know how much money I (WE)will need to comfortably retire	
	3	I know how much money I (we) must save each month in order to retire at a comfortable level	
	4	I am ( we are) saving enough each month to retire comfortable	
Financial Knowledge of planning for retirement	<b>Knowledge of financial planning for retirement</b>		
	<b>Please rate the following statement using the given scale</b>		
	<b>Key:1= Strongly Disagree, 2=Disagree, 3=somewhat disagree, 4=Neither Agree nor disagree, 5= Somewhat agree, 6= Agree and 7= Strongly Agree</b>		
	<b>S.No.</b>		<b>Response/Rating</b>

	1	I am very knowledgeable about financial planning for retirement	
	2	I know more than the most people about retirement planning	
	3	I am very confident in my ability to do retirement planning	
	4	When I have a need for financial advice, I know exactly where to obtain information./Approach	
	5	I am knowledgeable about how retirement schemes work	
	6	I am knowledgeable about how private investment plans work	
Future time perspective	<b>Please rate the following statement using the given scale</b>		
	<b>Key:1= Strongly Disagree, 2=Disagree, 3=somewhat disagree, 4=Neither Agree nor disagree, 5= Somewhat agree, 6= Agree and 7= Strongly Agree</b>		
	<b>Sr.No.</b>		<b>Response/Rating</b>
	1	Many opportunities await me in the future	
2	I expect that I will set many new goals in the future		



	3	My future is filled with possibilities	
	4	Most of my life lies ahead of me	
	5	My future seems infinite to me	
	6	I could do anything I want in the future	
	7	There is plenty of time left in my life to make new plans	
	8	I have the sense that time is running out	
	9	There are only limited possibilities in my future	
	10	As I get older, I begin to experience time as limited	
Financial risk tolerance	<b>Please rate the following statement using the given scale</b>		
	<b>Key:1= Strongly Disagree, 2=Disagree, 3=somewhat disagree, 4=Neither Agree nor disagree, 5= Somewhat agree, 6= Agree and 7= Strongly Agree</b>		
	<b>Sr.No.</b>		<b>Response/Rating</b>
	1	I am willing to take financial risk /losses	
	2	I Prefer investments that have higher returns even though they are riskier	
3	The overall growth potential of a retirement investment is more		

		important than the level of risk of the investment	
	4	I am very much willing to make risky investments to ensure financial stability in retirement	
	5	As a rule, I would never choose the safest investment when planning for retirement	

## Publications

<b>Name of the Journal</b>	<b>Title of the paper submitted</b>	<b>Status of the paper</b>
Vidya Bharati International Interdisciplinary Research Journal	A Study on factors influencing the perceived financial preparedness for retirement of teachers.	Conference proceedings Published -ISSN 2319-4979
Prabandhan Indian Journal of Management	Perceived Financial Preparedness for Retirement of Technical Teachers: An empirical study in Andhra Pradesh, India.	Published in Scopus

### Conferences Attended

Name of the Conference & Institute	Title of the paper presented	Date of the Conference
International conference on Innovation & Management – Kirloskar Institute of Management Harihar –Offline	Effects of Financial planning towards retirement	29 <sup>th</sup> & 30 <sup>th</sup> Sep 2022
International conference on Innovation & Management – Kirloskar Institute of Management Harihar -Offline	Evolution of Perceived financial preparedness for retirement of technical education teachers in India- A Conceptual Model	29 <sup>th</sup> & 30 <sup>th</sup> Sep 2022
International conference on Innovation & Management – Kirloskar Institute of Management Harihar -Offline	Development of an Instrument for measuring perceived financial preparedness for retirement amongst technical teacher's.	29 <sup>th</sup> & 30 <sup>th</sup> Sep 2022
International Marketing e-conference held by SDMIMD- Mysore- Online	Literature review on factors influencing the financial preparedness for retirement of technical education teachers	27 <sup>th</sup> January 2022
International conference-business in the turbulent world: keeping connections alive organized by Lovely Professional University- Punjab in collaboration with Curtin university.- Online	Mediating role of financial knowledge and financial risk tolerance between future time perspective and perceived financial preparedness for retirement of Technical Education Teachers in India”	21st November, 2022
International conference-business in the turbulent world: keeping connections alive organized by Lovely Professional University- Punjab in collaboration with Curtin university.- Online	Examine the Influence of future time perspective on perceived financial preparedness of technical teachers in Andhra Pradesh	21st November, 2022

### Doctoral Conferences Attended

Name of the Conference & Institute	Title of the paper presented	Date of the Conference
Doctoral Conclave - 2019 MNIT-Jaipur – Offline	Financial Literacy and retirement planning of Millennial – A study with special reference to coastal Andhra Pradesh	8 <sup>th</sup> & 9 <sup>th</sup> March 2019
12 <sup>th</sup> Doctoral Thesis conference – IBS Hyderabad – Offline	Financial Literacy and retirement planning of Academicians a study with special reference to Coastal Andhra Pradesh	18 <sup>th</sup> & 19 <sup>th</sup> April 2019

### FDP/Workshop/MDP Attended

<b>Name of the Institute</b>	<b>FDP on</b>	<b>Dates /Duration</b>	<b>Resource person</b>
Sharda University	Faculty development program on “ Structural Equation Modelling”	One week online- 28 <sup>th</sup> Nov 2020 to 2 <sup>nd</sup> Dec 2020	Dr.Vishal Gupta IIM-A
N.L Dalimia Institute of Management Studies and Research	Psychometric and scale construction in social sciences.	Five days online- 4 <sup>th</sup> April 2022 to 8 <sup>th</sup> April 2022	Dr.Vishal Gupta IIM-A
EdMaestro Imparting Expertise	Structural Equation Modelling using SmartPLS 4 with support from SmartPLS GmbH, Germany	Five days work shop- 17 <sup>TH</sup> July 2023 to 21 <sup>st</sup> July 2023	Dr. Anubuthi Dwivedi
IBS Hyderabad	Academic writing	Two days – 2 <sup>nd</sup> & 3 <sup>rd</sup> Nove 2019	Dr.Manish Gupta