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BLIND SPOTS" AND "TENTATIVES"- EVIDENCE OF THE DUNNING KRUGER EFFECT (DKE) IN FINANCIAL LITERACY IN WORKING AGE POPULATION COHORT IN INDIA

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Abstract
This study investigates the gap between perceived and actual financial literacy (FL) among working adults in India using the Dunning-Kruger Effect (DKE) framework. By examining both objective FL (OFL), measured through a 16-question test and subjective FL (SFL), assessed via a 5-point Likert scale, the research identifies patterns of overconfidence ("blind spots") and under-confidence ("tentatives") across socio-demographic groups. Data from an online survey of 447 participants reveal significant disparities in FL, particularly lower advanced knowledge relative to basic financial skills. Notably, men, older individuals and higher-income groups demonstrate higher FL, while the DKE manifests as overestimation in low-FL individuals and underestimation in those with high FL. This study uniquely integrates socio-economic variables in a rapidly developing market context, uncovering culturally specific financial cognition patterns that challenge Western-centric models. The findings have important implications for targeted policy and educational interventions aimed at improving financial decision-making and reducing socio-economic vulnerability in emerging economies.
Keywords Dunning Kruger effect; Financial literacy; Objective Financial literacy; Subjective financial literacy; Overconfidence; Under-confidence

1. INTRODUCTION

Financial literacy (FL) (Hastings et al., 2013) represents an essential set of knowledge, attitudes and behaviours required for effective personal and societal financial management. As financial products become increasingly complex and individuals assume greater responsibility for retirement and investment decisions, the need to understand both actual knowledge (objective financial literacy, OFL) (Chandra Das, 2016; Günther & Ghosh, 2018; Hastings et al., 2013; National Centre for Financial Education, 2019; NCFE, 2013; OECD, 2023; Sondra et al., 2003) and self-perceived competence (subjective financial literacy, SFL) (Allgood & Walstad, 2016; Dewi et al., 2020) has never been greater. Notably, gaps between perceived and actual financial ability can lead to decision-making errors, manifesting as overconfidence or undue caution, both of which carry significant economic repercussions for households and broader society .

This study leverages the Dunning-Kruger Effect (DKE) (Kruger & Dunning, 1999), eponymously named after the researchers who investigated and reported it their 1999 seminal paper, as a lens to examine discrepancies between OFL and SFL within India's working-age population. Thus, this study advances existing theory by integrating socio-demographic variables and real-world behavioural implications into the analysis of the OFL vs. SFL dynamic through the DKE framework in the Indian context, particularly about policy implications for personal finance, retirement planning and the consequent socioeconomic vulnerability arising out of it.

Unlike prior studies that primarily focus on demonstrating the presence of cognitive bias in financial knowledge assessment, this research explicitly models how overconfidence and under-confidence across distinct population segments. Moreover, through the inclusion of a comprehensive working-age cohort in a rapidly developing market, the study offers new insights into how socio-economic factors such as gender, income and education moderate the manifestation of the DKE.

This enriched understanding challenges the universality of calibration errors and highlights culturally specific patterns of financial cognition, thus extending the explanatory power of the DKE beyond Western-centric frameworks. Ultimately, the findings facilitate targeted policy interventions and educational programs tailored to mitigate cognitive distortions in emerging economies, contributing both theoretically and practically to the literature on behavioural finance and financial literacy.

This paper is structured as follows: the next Chapter 3 provides a Literature Review, followed by the Research Questions explored, in Chapter 4. Chapter 5 outlines the Methodology and Statistical Approach employed, while Chapter 6 presents a brief on the Descriptive Statistics of the survey study. The Results and Discussions are detailed in Chapter 7. Chapter 8 explores the Implications Of The Study On Personal Finance And Retirement Planning and Chapter 9 concludes with Future Research Directions and consequent Policy Interventions.

2. LITERATURE REVIEW

2.1. Financial literacy

FL, the ability to use knowledge and skills to manage one's financial resources effectively for lifetime financial security" (Hastings et al., 2013), has been used interchangeably with financial education, financial capability and financial knowledge (Goyal & Kumar, 2021). Post-2008, FL research expanded, highlighting its impact on retirement, investments, fraud prevention and financial well-being (Goyal & Kumar, 2021) highlighting its positive impact on areas like retirement planning, stock market participation, individual financial fraud prevention, proactive financial decision-making and overall financial well-being, as well as in promoting financial inclusion (Balasubramnian and Sargent 2020; Engels, Kumar and Philip 2020; Lusardi and Tufano 2009; Mitchell and Lusardi 2011; van Rooij, Lusardi and Alessie 2011; Morgan and Long 2020).

Prior research has aided in compilation of the following basic indicators of FL- knowledge, attitude, behaviour (Atkinson & Messy, 2012; Günther & Ghosh, 2018; Kiliyanni & Sivaraman, 2016; National Centre for Financial Education, 2019; OECD, 2023; Sondra et al., 2003); experience, awareness; skills, capability and goal (Dewi et al., 2020); interest rates, inflation and risk diversification (van Rooij et al., 2011); compounding (van Rooij et al., 2011) and debt literacy (Lusardi & Tufano, 2009; LUSARDI & TUFANO, 2015).

Most FL research focuses on objective cognitive assessments (MCQs, True/False) (Chandra Das, 2016; Günther & Ghosh, 2018; Hastings et al., 2013; National Centre for Financial Education, 2019; NCFE, 2013; OECD, 2023; Sondra et al., 2003) and such assessment has been linked to retirement planning, wealth accumulation, stock market participation, banking habits and inflation expectations (Lusardi & Mitchell, 2007; Mitchell & Lusardi, 2011; van Rooij et al., 2011; Van Rooij et al., 2024).

(Allgood & Walstad, 2016; Dewi et al., 2020) propose self-evaluation of own financial knowledge through SFL. Available evidence shows that individuals tend to over-rate their FL level when asked to self-report the same (Allgood & Walstad, 2016; Anderson et al., 2014; Balasubramnian & Sargent, 2020; Bucher-Koenen et al., 2016; Kiliyanni & Sivaraman, 2016; Lusardi & Mitchell, 2011).

Prior studies have shown that subjective financial knowledge positively correlates with financial well-being (Riitsalu & Murakas, 2019; Allgood & Walstad, 2013). (Allgood & Walstad, 2016) and (Balasubramnian & Sargent, 2020) note that SFL is a stronger predictor than OFL in explaining positive financial behaviours.

Global studies indicate low financial literacy (FL) (Atkinson & Messy, 2012; Klapper et al., 2014). Socio-economic factors like income, education and gender significantly influence FL (Bucher-Koenen et al., 2016; Van Rooij et al., 2024). India's FL is notably and persistently low (Chandra Das, 2016; Günther & Ghosh, 2018; National Centre for Financial Education, 2019; NCFE, 2013), even among BRICS nations (Klapper et al., 2014), with women, rural residents, less-educated, low-income and elderly individuals at higher risk (Günther & Ghosh, 2018; Jangili et al., 2023, 2023; National Centre for Financial Education, 2019). (Günther & Ghosh, 2018) (Agarwalla et al., 2015) (Kiliyanni & Sivaraman, 2016) note that state-level disparities exist, influenced by marital status, age, religion, occupation, family structure, gender, location, employment, education and technology access.

2.2. The Dunning Kruger Effect- Its relevance, understandings and implications

The Dunning-Kruger Effect (DKE) describes how low-ability individuals overestimate competence, while high-ability individuals underestimate it, due to metacognitive deficiencies. DKE remains relevant despite debates on its statistical validity (Gignac, 2022; Xin et al., 2024).

Various aspects of DKE have been studied over the years and the same are as follows-

Aspect	Description	Key References
Definition	Low-ability individuals overestimate competence; high-ability individuals underestimate it due to metacognitive deficiencies.	(Ehrlinger et al., 2008; Kruger & Dunning, 1999)
Dual burden	Poor performance coupled with inability to recognize one's own errors.	(Ehrlinger et al., 2008; Kruger & Dunning, 1999)
Domains of application	Validated across the diverse fields of	
	• Education	Bryan & Lindsay (2017),
	• Health	(Canady & Larzo, 2023; Hodges et al., 2001; Scheiber et al., 2023),
	• Finance	(Gignac, 2022; Ipatova & Merheb, 2023; Xin et al., 2024),
	• Social issues	(West & Eaton, 2019),

Financial Literacy	Overconfidence in low-OFL individuals, leading to risky financial decisions or under-utilization of resources	(Allgood & Walstad, 2016; Anderson et al., 2014; Balasubramnian & Sargent, 2020; Bucher-Koenen et al., 2016; Kiliyanni & Sivaraman, 2016; Lusardi & Mitchell, 2011)

3. Research Gap and Research questions

This study investigates "blind spots" (overconfidence) and "tentatives" (under-confidence) in working adults' financial literacy (FL) (Balasubramnian & Sargent, 2020; Ipatova & Merheb, 2023), analyzing their relationship with socio-demographics and the Dunning-Kruger Effect (DKE).

Research questions include-

- RQ1- What socio-demographic factors influence FL among individuals?
- RQ2: Is there a significant disparity between OFL and SFL levels among individuals?
- RQ3- Does the DKE manifest in FL, specifically, overestimation in low-FL and underestimation in high-FL groups?
- RQ4- What socio-demographic factors influence FL of over and/or under- confident individuals?

4. METHODOLOGY AND STATISTICAL APPROACH

This study replicated (Kruger & Dunning, 1999) method and was used to compare SFL and OFL. OFL was assessed using (van Rooij et al., 2011; Van Rooij et al., 2024) 16-question test, divided into Basic (5 questions) and Advanced (11 questions) literacy. SFL was measured using a 5-point Likert scale with responses ranging from “Very low or No competence” to “High level of competence”.

An online survey, distributed through author 1’s social media network and an online research firm (ThinkSurvey-https://thinksurvey.co/), yielded 447 participants (57% male, 43% Female). Socio-demographic covariates (age, gender, income, etc.) were controlled.

Participants were categorized into OFL quartiles of Lowest, Low, High and Highest ability. Paired t-tests assessed differences between actual and perceived FL, standardized using z-scores. Over/under-confidence was determined by subtracting standardized objective scores from perceived scores, further categorized into quartiles.

Following (Balasubramnian & Sargent, 2020) terminology, participants were classified as very/slightly over/under-confident, or well-calibrated. "Blind spots" (very overconfident) and "tentatives" (very under-confident) were analyzed, focusing on substantial deviations between perceived and objective FL.

5. Descriptive statistics

447 participants provided data on financial knowledge (16 questions) and socio-demographics (age, gender, income, etc.). The sample was primarily young adults (72% aged 18-40), with 58% males. Marital status was nearly even (single 47%, married 52%). Most participants held graduate or post-graduate degrees (93%). Amongst the respondents, salaried individuals were the largest occupational group (62%). Nearly half of the respondents reported high incomes (over Rs. 10 Lakh). The sample was predominantly general caste (75%) and Hindu (81%), with most households having four or more members (57%).

Table-I Descriptive statistics

Socio-demographic variable	Particulars	N	% of Total Sample
Age (D1)	18-30 years	177	39.6%
	31-40 years	145	32.4%
	41- 55 years	109	24.4%
	Above 55 years	16	3.6%
Gender (D2)	Female	189	42.3%
	Male	258	57.7%
Marital status (D3)	Single/ never married	209	46.8%
	Married	233	52.1%
	Divorced/ Separated	4	0.9%
	Widowed	1	0.2%
Education (D4)	Upto High School (+2 or equivalent)	31	6.9%
	Graduate/ Bachelor's degree or equivalent	184	41.2%

	Post-Graduate/ equivalent or Above PG	232	51.9%
Primary source of income/ Occupation (D7)	Salaried/ Pension- Govt/ PSU/ Private sector employee	275	61.5
	Business income/ Passive income/ Self-employed/ Freelancer	84	18.8
	Unemployed/ Student	88	19.7
Annual Household Income (may include spouse's income also) (D8)	Upto Rs.5 Lakh	75	16.8
	Between Rs. 5 Lakh and Rs.7.50 Lakh	69	15.4
	Between Rs.7.50 Lakh and Rs.10.00 Lakh	89	19.9
	Rs.10 Lakh or above	214	47.9
Caste (D9)	General category	334	74.7%
	Scheduled caste	17	3.8%
	Scheduled tribe	13	2.9%
	Others/OBC	75	16.8%
	Prefer not to state	8	1.8%
Religion (D10)	Hinduism	364	81.4%
	Islam	23	5.1%
	Christianity	28	6.3%
	Sikhism	5	1.1%
	Jainism	15	3.4%
	Other/ No religion	2	0.4%
	Prefer not to state	10	2.2%
Household size/ No. of dependents (D11)	1	37	8.3%
	2	47	10.5%
	3	108	24.2%
	4 or more than 4	255	57.0%

#- out of total sample of 447, in that particular category

6. RESULTS & DISCUSSIONS

6.1. Financial literacy w.r.t FL measurement concepts

Tables II, III and IV together present a comprehensive assessment of financial literacy (FL) among the surveyed Indian working-age population, capturing both the measurement framework and performance outcomes.

Table II lays out the specific questions used to measure FL, divided into basic and advanced literacy categories. Basic literacy encompasses fundamental concepts such as numeracy, inflation, time value of money, money illusion and interest compounding. Advanced literacy covers more complex topics like mutual funds, asset classes, equity, bonds and diversification.

Table III provides a summary of financial literacy scores within the sample. The overall mean score across all participants is 10 out of 16, with a standard deviation of 3.77, indicating a moderate level of financial literacy with some variation. When broken down, basic literacy questions, such as numeracy and understanding inflation, show high correct response rates, with over 70% answering correctly, suggesting fundamental financial concepts are generally understood.

In contrast, advanced literacy measures reveal more considerable gaps. Knowledge of stocks, mutual funds and bonds, for example, is correctly answered by only 62-69% of respondents, while understanding diversification and other complex investment topics is notably lower, with correct response rates dropping to about 10-37%. These figures underscore that core financial concepts are better grasped, but more sophisticated investment knowledge remains limited among most respondents.

Table IV elaborates on this by showing the percentage of individuals answering all questions correctly within each literacy domain. Basic literacy scores are relatively high, with over 84% correctly answering numeracy and interest compounding questions and about 72% understanding the time value of money and inflation concepts. However, for advanced literacy, the percentages drop sharply; only 37.6% of respondents correctly answered all bond-related questions and a meagre 9.6% answered all diversification questions correctly, highlighting a substantial gap in complex financial knowledge.

Tables III and IV reveal FL disparities, with higher scores in Basic (74%) than Advanced Literacy (57%). Basic Literacy (mean 3.72 out of 5) showed moderate variability, while Advanced Literacy (mean 6.28 out of 11) had greater variability. Basic concepts like numeracy and compounding were well-understood, but time value of money and money illusion showed gaps. Advanced concepts, crucial for wealth management, were poorly grasped, especially diversification (only 9.6% correct). Furthermore, the low FL in the unemployed/ student cohort is also a point of concern as it may lead to poor financial decisions, accelerated debt accumulation, making them vulnerable to financial scams, thus impacting their long-term financial security. The same is also observed from the Figure I.

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Table-II Questions & Answer options used to measure Financial Literacy
(options marked in bold are the correct answers)

	FL Question code	Measuring	Correct %	Incorrect %	Don't know/ Can't say %	Mean	SD
Basic Literacy questions	**FL2**	Numeracy Suppose you had Rs.100/- in a savings account and the interest rate was 2% per year. After 2 years, how much do you think you would have in the account if you left the money to grow? • **More than Rs.102/-** • Exactly Rs.102/- • Less than Rs.102/- • Don't know/ Can't say	84.6	14.3	1.1	0.85	0.362
	FL3	Inflation Imagine that the interest rate on your savings account was 1% per year and inflation was 2% per year. After 1 year, how much would you be able to buy with the money in this account? • More than today • Exactly the same • **Less than today** • Don't know/ Can't say	71.6	22.4	6.0	0.72	0.451
	FL4	Time value of money Assume a friend inherits Rs.1,00,000/- today and his/her sibling inherits Rs.1,00,000/- three years from now. Who is richer because of the inheritance? • **The friend** • His/her sibling • They are equally rich • Don't know/ Can't say	63.8	30.6	5.6	0.64	0.481
	FL5	Money illusion Suppose that in the year 2030, your income has doubled and prices of all goods have also doubled. In 2030, how much will you be able to buy with your income? • More than today • **The same** • Less than today • Don't know/ Can't say	67.6	29.3	3.1	0.68	0.469
	FL6	Interest compounding Suppose you had Rs.100 in a savings account and the interest rate is 20% per year and you never withdraw money or interest payments. After 5 years, how much would you have on this account in total? • **More than Rs.200/-** • Exactly Rs.200/- • Less than Rs.200/- • Don't know/ Can't say	84.3	9.2	6.5	0.84	0.364
Advanced literacy questions	**FL7**	Fundamentals of investing- Mutual funds Which of the following statements is correct?	69.1	23.0	7.8	0.69	0.462

		• Mutual funds provide a guaranteed rate of return which depends upon their past performance • When one invests in mutual funds, one can't withdraw money in the first year • **Mutual funds invest in several assets i.e. stocks & bonds** • None of the above • Don't know/ Can't say					
	FL8	Fundamentals of financial products, asset classes and investing Considering a long-time horizon, say 15-20 years, which of the following asset classes normally gives highest returns? • Savings account • Bonds • **Stocks/ Equity** • None of the above • Don't know/ Can't say	72.0	23.3	4.7	0.72	0.449
	FL9	Fundamentals of investing- Stocks/ equity Normally which asset class shows the highest fluctuation/ volatility over time? • Savings account • Bonds • **Stocks** • None of the above • Don't know/ Can't say	84.6	11.4	4.0	0.85	0.362
	FL10	Diversification When an investor spreads his/her money among different asset classes, the risk of his/her losing money – • Increases • Decreases • Stay the same • **None of the above/ It depends on types of assets** • Don't know/ Can't say	17.2	80.5	2.2	0.17	0.378
	FL11	Diversification Buying a single company stock usually provides a safer return than a stock mutual fund • True • **False** • Don't know/ Can't say	69.4	19.2	11.4	0.69	0.462
	FL12	Fundamentals of investing- Bonds If the interest rate falls, what would happen to bond prices? • **Rise** • Fall • Stay the same • None of the above • Don't know/ Can't say	37.6	50.3	12.1	0.38	0.485
	FL13	Fundamentals of investing- Stocks/ equity	65.8	24.2	10.1	0.66	0.475

		Which of the following statements describes the main function of the stock market? • The stock market helps to predict stock earnings • The stock market results in an increase in the price of stocks • **The stock market brings people who want to buy stocks together with those who want to sell stocks** • None of the above • Don't know/ Can't say					
	FL14	Fundamentals of investing- Stocks/ equity Which of the following statements is correct? If somebody buys the stock of firm B in the stock market. • **He owns a part of firm B** • He has lent money to firm B • He is liable for firm B's debts • None of the above • Do not know/ Can't say	69.8	28.2	2.0	0.70	0.460
	FL15	Fundamentals of investing- Bonds Which of the following statements is correct? If somebody buys a bond of firm B • He owns a part of firm B • **He has lent money to firm B** • He is liable for firm B's debts • None of the above • Do not know/ Can't say	37.8	51.9	10.3	0.38	0.485
	FL16	Fundamentals of investing- Bonds If you buy a 10-year bond, it means you cannot sell it after 5 years without incurring a major penalty. True or false? • True • **False** • Don't know/ Can't say	42.1	45.9	12.1	0.42	0.494
	FL17	Fundamentals of investing- Stocks/ equity Stocks are normally riskier than bonds. True or false? • **True** • False • Don't know/ Can't say	62.4	31.5	6.0	0.62	0.485

Table-III Financial Literacy scores- Statistics

	Max. score	**Mean**	**SD**
Basic Literacy	5	3.72	1.348
Advanced Literacy	11	6.28	3.007
Overall Financial Literacy	**16**	**10.0**	**3.767**

Table-IV Financial Literacy score break-up by Basic and Advanced Literacy

Financial literacy measures	**Individuals answered all correctly (%)**	
Basic Literacy	Numeracy (FL2)	84.6
	Inflation (FL3)	71.6
	Time value of money (FL4)	63.8
	Money illusion (FL5)	67.6
	Interest compounding (FL6)	84.3

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Advanced Literacy	Knowledge of equity/ stocks (FL9 + FL13 + FL14+ FL17)	62.0
	Fundamentals of financial products, asset classes and investing (FL7 + FL8)	55.7
	Knowledge of Bonds (FL12 + FL15 + FL16)	37.6
	Diversification (FL10 + F11)	9.6

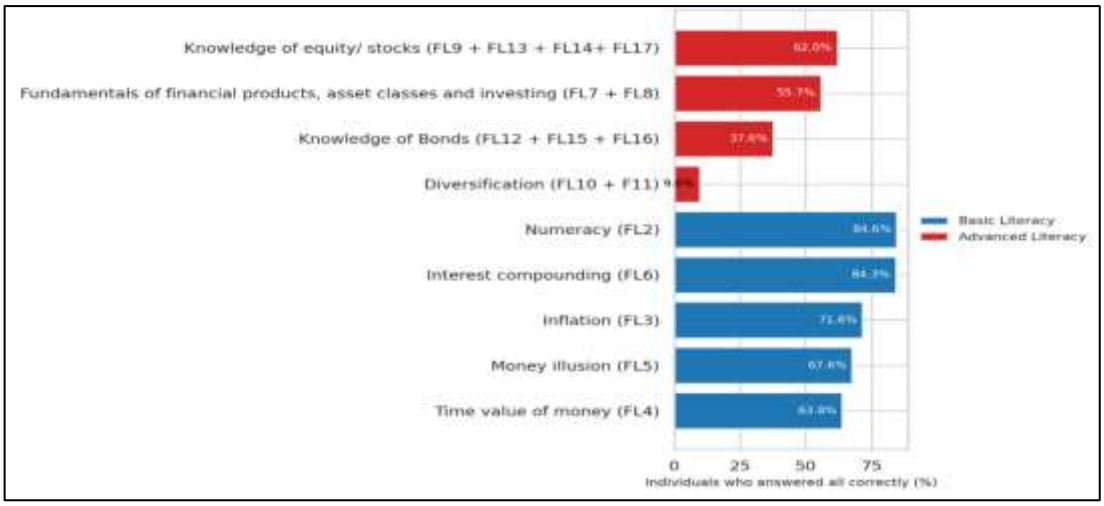


Figure-I Financial Literacy score break-up by Basic and Advanced Literacy

Figure II displays the percentage of "Don't know / Can't say" (DKCS) responses for each financial literacy question, distinguishing between basic and advanced literacy items. Responses to basic literacy questions, such as numeracy (1.1%), money illusion (3.1%), time value of money (5.6%), inflation (6.0%) and interest compounding (6.5%), show relatively low levels of uncertainty, suggesting foundational concepts are generally well understood by most respondents.

In contrast, advanced literacy questions elicit higher DKCS rates, reflecting greater gaps either in confidence or in understanding. For example, rates reach 12.1% for questions on bonds (rates vs prices and selling before maturity), 11.4% for diversification (single stock vs fund), around 10% for bonds (lending), stocks (function of stock market) and mutual funds (7.8%). Even relatively lower uncertainty in advanced topics, such as stocks (ownership at 2.0%) and diversification (risk reduction at 2.2%), remains higher than for many basic concepts.

The marked difference between basic and advanced literacy DKCS rates underscores that respondents are more likely to be unsure about investment, risk and market structure questions than about basic financial concepts. This pattern points to a key challenge, while base-level financial awareness exists, many lack clarity and/or confidence on complex topics essential for informed investing or managing sophisticated financial products. The above findings thus, signal a need to intensify educational efforts on advanced financial concepts to reduce uncertainty and foster better financial decision-making.

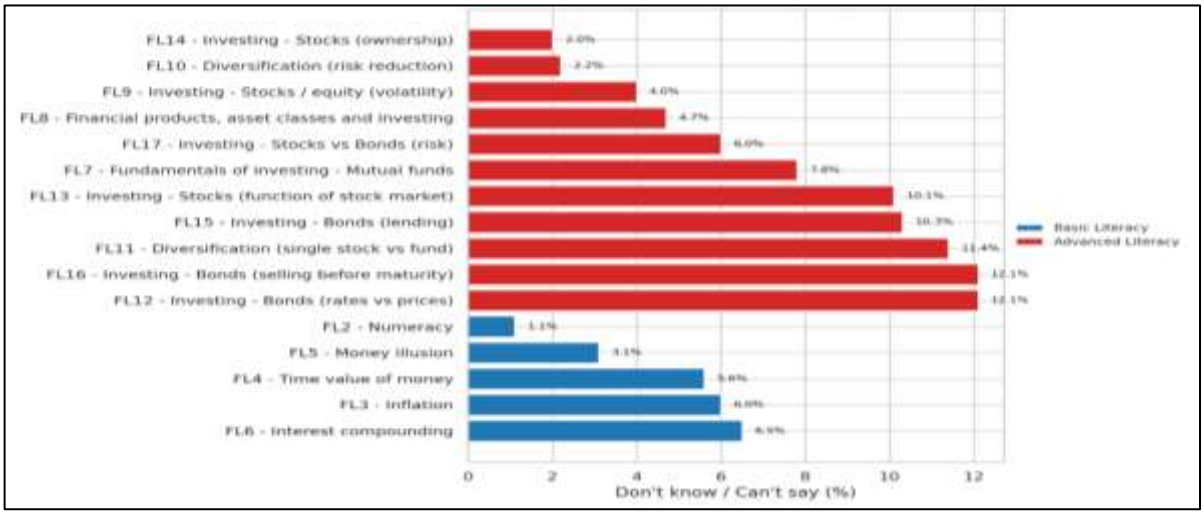


Figure-II Don’t Know and Can’t Say Responses

6.2. Financial literacy- Socio-demographic disparities

The findings from Table V(a) and Table V(b) highlight significant disparities in financial literacy across various socio-demographic groups within the Indian working-age population. The data shows that financial literacy improves with age, as the highest literacy quartile includes 50% of individuals aged above 55 years, while the lowest literacy quartile has

31% of those aged 18-30 years. There is a clear gender gap; males dominate the highest literacy group with 29.1%, compared to only 12.2% females, whereas females constitute 57.4% of the lowest literacy quartile. Educational attainment strongly correlates with financial literacy; over 29% of postgraduate respondents are in the highest literacy quartile, while 41.9% of individuals with only high school education or less fall into the lowest quartile.

Occupational status and income levels also matter deeply: salaried individuals account for 61.5% of the sample and are disproportionately represented in higher literacy groups, as are those with household incomes above Rs. 10 Lakh (47.9%). Marital status trends show married individuals are more likely to be in higher literacy quartiles, while singles predominantly fall in the lower quartiles. Further, general caste individuals (74.7%) and those practicing Hinduism (81.4%) cluster in higher financial literacy categories, indicating structural socioeconomic influences. Household size also plays a role, with 57% of respondents from larger households (4 or more members) in higher FL quartiles.

These statistics reveal a pronounced financial literacy divide, where younger adults, women, less educated, lower-income earners, singles and marginalized caste and religious groups face considerable literacy challenges. This underlines the critical need for focused financial education policies aimed specifically at these vulnerable populations to bridge the literacy gap and enable more inclusive financial empowerment.

Such targeted interventions align with India's broader financial inclusion efforts, where only about 27% of adults are considered financially literate as of 2025, well below the level needed for sustainable economic participation and growth. Addressing these disparities can significantly improve financial decision-making and overall socioeconomic outcomes in India. To assess socio-demographic impact on FL, ANOVA was used and the said results are presented hereafter.'

Table-V Quartile distribution of FL ability by Socio-demographic variables

Table-V(a) Inter quartile distribution

Socio-demographic factors		Lowest FL ability		Low FL ability		High FL ability		Highest FL ability	
		Count	Row%	Count	Row%	Count	Row%	Count	Row%
Age	18-30 years	55	31.1%	62	35.0%	32	18.1%	28	15.8%
	31-40 years	37	25.5%	51	35.2%	23	15.9%	34	23.4%
	41- 55 years	30	27.5%	33	30.3%	18	16.5%	28	25.7%
	Above 55 years	0	0.0%	5	31.3%	3	18.8%	8	50.0%
Gender	Female	70	37.0%	69	36.5%	27	14.3%	23	12.2%
	Male	52	20.2%	82	31.8%	49	19.0%	75	29.1%
	Others/ Prefer not to state	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Marital Status	Single/ never married	62	29.7%	72	34.4%	38	18.2%	37	17.7%
	Married	59	25.3%	77	33.0%	36	15.5%	61	26.2%
	Divorced/ Separated	1	25.0%	2	50.0%	1	25.0%	0	0.0%
	Widowed	0	0.0%	0	0.0%	1	100.0%	0	0.0%
Education	Upto High School (+2 or equivalent)	13	41.9%	13	41.9%	4	12.9%	1	3.2%
	Graduate/ Bachelor's degree or equivalent	48	26.1%	69	37.5%	38	20.7%	29	15.8%
	Postgraduate/ equivalent or Above PG	61	26.3%	69	29.7%	34	14.7%	68	29.3%
Primary source of income/ Occupation	Salaried/ Pension-Govt/ PSU/ Private sector employee	59	21.5%	90	32.7%	56	20.4%	70	25.5%
	Business income/ Passive income/ Self-employed/ Freelancer	26	31.0%	29	34.5%	12	14.3%	17	20.2%
	Unemployed/ Student	37	42.0%	32	36.4%	8	9.1%	11	12.5%
Annual Household Income (may include spouse's income also)	Upto Rs.5 Lakh	34	45.3%	25	33.3%	7	9.3%	9	12.0%
	Between Rs. 5 Lakh and Rs.7.50 Lakh	24	34.8%	25	36.2%	11	15.9%	9	13.0%
	Between Rs.7.50 Lakh and Rs.10.00 Lakh	19	21.3%	40	44.9%	15	16.9%	15	16.9%

	Rs.10 Lakh or above	45	21.0%	61	28.5%	43	20.1%	65	30.4%
Caste	**General category**	82	24.6%	113	33.8%	59	17.7%	80	24.0%
	Scheduled caste	6	35.3%	7	41.2%	2	11.8%	2	11.8%
	Scheduled tribe	6	46.2%	2	15.4%	2	15.4%	3	23.1%
	Others/OBC	26	34.7%	27	36.0%	12	16.0%	10	13.3%
	Prefer not to state	2	25.0%	2	25.0%	1	12.5%	3	37.5%
Religion	**Hinduism**	97	26.6%	122	33.5%	62	17.0%	83	22.8%
	Islam	6	26.1%	12	52.2%	4	17.4%	1	4.3%
	Christianity	10	35.7%	10	35.7%	2	7.1%	6	21.4%
	Sikhism	2	40.0%	1	20.0%	1	20.0%	1	20.0%
	Jainism	4	26.7%	3	20.0%	6	40.0%	2	13.3%
	Buddhism	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Other/ No religion	0	0.0%	1	50.0%	0	0.0%	1	50.0%
	Prefer not to state	3	30.0%	2	20.0%	1	10.0%	4	40.0%
Household size/ No. of dependents	**1**	55	31.1%	62	35.0%	32	18.1%	28	15.8%
	2	37	25.5%	51	35.2%	23	15.9%	34	23.4%
	3	30	27.5%	33	30.3%	18	16.5%	28	25.7%
	4 or more than 4	0	0.0%	5	31.3%	3	18.8%	8	50.0%
	Overall FL levels		**27.29%**		**33.78%**		**17.00%**		**21.92%**
	Counts		**122**		**151**		**76**		**98**

Table-V(b) Intra-quartile distribution

Socio-demographic factors		**Lowest FL ability**		**Low FL ability**		**High FL ability**		**Highest FL ability**	
		Count	**Column%**	**Count**	**Column%**	**Count**	**Column%**	**Count**	**Column%**
Age	**18-30 years**	55	45.1%	62	41.1%	32	42.1%	28	28.6%
	31-40 years	37	30.3%	51	33.8%	23	30.3%	34	34.7%
	41- 55 years	30	24.6%	33	21.9%	18	23.7%	28	28.6%
	Above 55 years	0	0.0%	5	3.3%	3	3.9%	8	8.2%
Gender	**Female**	70	57.4%	69	45.7%	27	35.5%	23	23.5%
	Male	52	42.6%	82	54.3%	49	64.5%	75	76.5%
	Others/ Prefer not to state	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Marital Status	**Single/ never married**	62	50.8%	72	47.7%	38	50.0%	37	37.8%
	Married	59	48.4%	77	51.0%	36	47.4%	61	62.2%
	Divorced/ Separated	1	0.8%	2	1.3%	1	1.3%	0	0.0%
	Widowed	0	0.0%	0	0.0%	1	1.3%	0	0.0%
Education	**Upto High School (+2 or equivalent)**	13	10.7%	13	8.6%	4	5.3%	1	1.0%
	Graduate/ Bachelor's degree or equivalent	48	39.3%	69	45.7%	38	50.0%	29	29.6%
	Postgraduate/ equivalent or Above PG	61	50.0%	69	45.7%	34	44.7%	68	69.4%
Primary source of income/ Occupation	**Salaried/ Pension-Govt/ PSU/ Private sector employee**	59	48.4%	90	59.6%	56	73.7%	70	71.4%
	Business income/ Passive income/ Self-employed/ Freelancer	26	21.3%	29	19.2%	12	15.8%	17	17.3%
	Unemployed/ Student	37	30.3%	32	21.2%	8	10.5%	11	11.2%
Annual Household Income (may	**Upto Rs.5 Lakh**	34	27.9%	25	16.6%	7	9.2%	9	9.2%
	Between Rs. 5 Lakh and Rs.7.50 Lakh	24	19.7%	25	16.6%	11	14.5%	9	9.2%

include spouse's income also)	**Between Rs.7.50 Lakh and Rs.10.00 Lakh**	19	15.6%	40	26.5%	15	19.7%	15	15.3%
	Rs.10 Lakh or above	45	36.9%	61	40.4%	43	56.6%	65	66.3%
Caste	**General category**	82	67.2%	113	74.8%	59	77.6%	80	81.6%
	Scheduled caste	6	4.9%	7	4.6%	2	2.6%	2	2.0%
	Scheduled tribe	6	4.9%	2	1.3%	2	2.6%	3	3.1%
	Others/OBC	26	21.3%	27	17.9%	12	15.8%	10	10.2%
	Prefer not to state	2	1.6%	2	1.3%	1	1.3%	3	3.1%
Religion	**Hinduism**	97	79.5%	122	80.8%	62	81.6%	83	84.7%
	Islam	6	4.9%	12	7.9%	4	5.3%	1	1.0%
	Christianity	10	8.2%	10	6.6%	2	2.6%	6	6.1%
	Sikhism	2	1.6%	1	0.7%	1	1.3%	1	1.0%
	Jainism	4	3.3%	3	2.0%	6	7.9%	2	2.0%
	Buddhism	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Other/ No religion	0	0.0%	1	0.7%	0	0.0%	1	1.0%
	Prefer not to state	3	2.5%	2	1.3%	1	1.3%	4	4.1%
Household size/ No. of dependents	**1**	55	45.1%	62	41.1%	32	42.1%	28	28.6%
	2	37	30.3%	51	33.8%	23	30.3%	34	34.7%
	3	30	24.6%	33	21.9%	18	23.7%	28	28.6%
	4 or more than 4	0	0.0%	5	3.3%	3	3.9%	8	8.2%
	Overall FL levels		**27.29%**		**33.78%**		**17.00%**		**21.92%**
	Counts		**122**		**151**		**76**		**98**

6.3. ANOVA- Socio-demographic variables on FL ability scores

A one-way ANOVA was conducted to examine the effect of socio-demographic variables on FL ability scores. The ANOVA results in Table VI examine how financial literacy (FL) ability scores vary by different socio-demographic variables for D1 (Age), D2 (Gender), D3 (Marital Status), D4 (Education), D7 (Primary Source of Income/Occupation), D8 (Annual Household Income) and D11 (Household Size/Dependents).

The analysis reveals that gender (D2), occupation/income source (D7), annual household income (D8) and household size (D11) all show statistically significant differences in FL ability scores. Gender has a highly significant effect ($p = 0.0000137$), indicating strong FL disparities between males and females in the sample. Similarly, occupation (D7, $p = 0.000105$) and income (D8, $p = 0.0000276$) are both highly significant, confirming that those with regular salaried jobs or higher income households have meaningfully higher FL. Household size (D11) also emerges as a significant factor ($p = 0.039$), albeit with a smaller effect, suggesting larger families may be associated with higher FL.

In contrast, age (D1, $p = 0.128$), marital status (D3, $p = 0.765$) and education (D4, $p = 0.122$) do not show statistically significant differences in FL in this model. This suggests that once other variables are accounted for, these factors may have less independent influence on FL scores, or that effects may overlap with those of other variables.

In summary, the table indicates that gender, occupation, income and household size are the main socio-demographic determinants of financial literacy in this sample, while age, marital status and education do not independently predict FL scores at statistically significant levels in the presence of these other variables

Table VI - ANOVA 1 - FL ability scores based on socio-demographic variables

Source	Df	S Sq	Mean S Sq	F value	Pr(>F)
D1	1	2.3	2.265	2.327	0.127869
D2	**1**	**18.8**	**18.83**	**19.346**	**0.0000137*** **
D3	1	0.1	0.087	0.09	0.764589
D4	1	2.3	2.331	2.395	0.122451
D7	**1**	**14.9**	**14.918**	**15.326**	**0.000105*** **
D8	**1**	**17.5**	**17.476**	**17.955**	**0.0000276*** **
D11	**1**	**4.1**	**4.142**	**4.255**	**0.039718***
Residual	439	427.3	0.973		

Note. *- p < .05 (), **- p < .01 () and ***- p < .001 () indicate increasing levels of statistical significance

6.4. Blind spots and Tentatives

Table VII(a) and VII(b) present a focused analysis of how financial literacy "blind spots" and "tentatives" are distributed across key socio-demographic groups in the sample. "Blind spots" refer to respondents who overestimate their financial literacy, while "tentatives" are those who underestimate their abilities relative to their actual scores.

Table VII(a) shows that blind spots are most prevalent among younger adults (18-30 years, 26.0%), males (31.2%) and those with graduate or postgraduate education. Specifically, among the 18-30 age group, 26% fall into the blind spot category, while in the 31-40 age group, the proportion is 31%. For gender, 31% of females and 24% of males display

blind spots, hinting at an overconfidence bias in both groups. Among educational categories, graduates are overrepresented, suggesting that even among those with higher education, overconfidence is a concern. With occupation, the salaried group shows a substantial percentage in blind spots compared to self-employed or unemployed.

Table VII(b) reveals that tentatives are distributed more homogeneously but are slightly more common among younger groups (26.6% for 18-30 years), females (21.2%) and those with up to high school education. The proportions for tentatives decrease as age, income and occupational status increase, implying that socioeconomic advancement is linked to greater self-assurance in financial knowledge.

Together, these tables demonstrate that overconfidence and under-confidence in financial literacy are both influenced by age, gender and education. Blind spots are more prevalent among the younger, educated and salaried, while tentatives are somewhat higher among younger, female and less educated groups. This pattern indicates that financial education interventions need to address both gaps in confidence and actual knowledge, especially for those starting their careers and women, ensuring that self-assessment is better matched to real abilities.

Table-VII Distribution of Blind spots and Tentatives

Table-VII(a) Inter-quartile distribution

		Blind spot		High		Low		Tentative	
		Count	Row N %	Count	Row N %	Count	Row N %	Count	Row N %
Age	**18-30 years**	46	26.0%	39	22.0%	45	25.4%	47	26.6%
	31-40 years	45	31.0%	44	30.3%	42	29.0%	14	9.7%
	41- 55 years	29	26.6%	32	29.4%	28	25.7%	20	18.3%
	Above 55 years	1	6.3%	6	37.5%	5	31.3%	4	25.0%
Gender	**Female**	59	31.2%	43	22.8%	47	24.9%	40	21.2%
	Male	62	24.0%	78	30.2%	73	28.3%	45	17.4%
	Others/ Prefer not to state	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Marital Status	**Single/ never married**	56	26.8%	48	23.0%	59	28.2%	46	22.0%
	Married	64	27.5%	73	31.3%	58	24.9%	38	16.3%
	Divorced/ Separated	1	25.0%	0	0.0%	2	50.0%	1	25.0%
	Widowed	0	0.0%	0	0.0%	1	100.0%	0	0.0%
Education	**Upto High School (+2 or equivalent)**	10	32.3%	6	19.4%	6	19.4%	9	29.0%
	Graduate/ Bachelor's degree or equivalent	54	29.3%	50	27.2%	41	22.3%	39	21.2%
	Post Graduate/ equivalent or Above PG	57	24.6%	65	28.0%	73	31.5%	37	15.9%
Primary source of income/ Occupation	**Salaried/ Pension- Govt/ PSU/ Private sector employee**	71	25.8%	70	25.5%	80	29.1%	54	19.6%
	Business income/ Passive income/ Self employed/ Freelancer	23	27.4%	24	28.6%	21	25.0%	16	19.0%
	Unemployed/ Student	27	30.7%	27	30.7%	19	21.6%	15	17.0%
Annual Household Income (may include spouse's income also)	**Upto Rs.5 Lakh**	24	32.0%	15	20.0%	15	20.0%	21	28.0%
	Between Rs. 5 Lakh and Rs.7.50 Lakh	15	21.7%	25	36.2%	21	30.4%	8	11.6%
	Between Rs.7.50 Lakh	31	34.8%	21	23.6%	20	22.5%	17	19.1%

	and Rs.10.00 Lakh								
	Rs.10 Lakh or above	51	23.8%	60	28.0%	64	29.9%	39	18.2%
Caste	**General category**	89	26.6%	95	28.4%	86	25.7%	64	19.2%
	Scheduled caste	7	41.2%	3	17.6%	3	17.6%	4	23.5%
	Scheduled tribe	4	30.8%	3	23.1%	2	15.4%	4	30.8%
	Others/OBC	20	26.7%	16	21.3%	26	34.7%	13	17.3%
	Prefer not to state	1	12.5%	4	50.0%	3	37.5%	0	0.0%
Religion	**Hinduism**	102	28.0%	93	25.5%	94	25.8%	75	20.6%
	Islam	5	21.7%	12	52.2%	5	21.7%	1	4.3%
	Christianity	8	28.6%	4	14.3%	11	39.3%	5	17.9%
	Sikhism	2	40.0%	1	20.0%	2	40.0%	0	0.0%
	Jainism	3	20.0%	6	40.0%	2	13.3%	4	26.7%
	Buddhism	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Other/ No religion	0	0.0%	2	100.0%	0	0.0%	0	0.0%
	Prefer not to state	1	10.0%	3	30.0%	6	60.0%	0	0.0%
Household size/ No. of dependents	**1**	3	8.1%	14	37.8%	13	35.1%	7	18.9%
	2	9	19.1%	11	23.4%	17	36.2%	10	21.3%
	3	27	25.0%	29	26.9%	30	27.8%	22	20.4%
	4 or more than 4	82	32.2%	67	26.3%	60	23.5%	46	18.0%
	Counts	**121**		**121**		**120**		**85**	

Table-VII(b) Intra- quartile distribution

		Blind spot		**High**		**Low**		**Tentative**	
		Count	**Column N %**	**Count**	**Column N %**	**Count**	**Column N %**	**Count**	**Column N %**
Age	**18-30 years**	46	38.0%	39	32.2%	45	37.5%	47	55.3%
	31-40 years	45	37.2%	44	36.4%	42	35.0%	14	16.5%
	41- 55 years	29	24.0%	32	26.4%	28	23.3%	20	23.5%
	Above 55 years	1	0.8%	6	5.0%	5	4.2%	4	4.7%
Gender	**Female**	59	48.8%	43	35.5%	47	39.2%	40	47.1%
	Male	62	51.2%	78	64.5%	73	60.8%	45	52.9%
	Others/ Prefer not to state	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Marital Status	**Single/ never married**	56	46.3%	48	39.7%	59	49.2%	46	54.1%
	Married	64	52.9%	73	60.3%	58	48.3%	38	44.7%
	Divorced/ Separated	1	0.8%	0	0.0%	2	1.7%	1	1.2%
	Widowed	0	0.0%	0	0.0%	1	0.8%	0	0.0%
Education	**Upto High School (+2 or equivalent)**	10	8.3%	6	5.0%	6	5.0%	9	10.6%
	Graduate/ Bachelor's degree or equivalent	54	44.6%	50	41.3%	41	34.2%	39	45.9%
	Post Graduate/ equivalent or Above PG	57	47.1%	65	53.7%	73	60.8%	37	43.5%

Primary source of income/ Occupation	**Salaried/ Pension-Govt/ PSU/ Private sector employee**	71	58.7%	70	57.9%	80	66.7%	54	63.5%
	Business income/ Passive income/ Self employed/ Freelancer	23	19.0%	24	19.8%	21	17.5%	16	18.8%
	Unemployed / Student	27	22.3%	27	22.3%	19	15.8%	15	17.6%
Annual Household Income (may include spouse's income also)	**Upto Rs.5 Lakh**	24	19.8%	15	12.4%	15	12.5%	21	24.7%
	Between Rs. 5 Lakh and Rs.7.50 Lakh	15	12.4%	25	20.7%	21	17.5%	8	9.4%
	Between Rs.7.50 Lakh and Rs.10.00 Lakh	31	25.6%	21	17.4%	20	16.7%	17	20.0%
	Rs.10 Lakh or above	51	42.1%	60	49.6%	64	53.3%	39	45.9%
Caste	**General category**	89	73.6%	95	78.5%	86	71.7%	64	75.3%
	Scheduled caste	7	5.8%	3	2.5%	3	2.5%	4	4.7%
	Scheduled tribe	4	3.3%	3	2.5%	2	1.7%	4	4.7%
	Others/OBC	20	16.5%	16	13.2%	26	21.7%	13	15.3%
	Prefer not to state	1	0.8%	4	3.3%	3	2.5%	0	0.0%
Religion	**Hinduism**	102	84.3%	93	76.9%	94	78.3%	75	88.2%
	Islam	5	4.1%	12	9.9%	5	4.2%	1	1.2%
	Christianity	8	6.6%	4	3.3%	11	9.2%	5	5.9%
	Sikhism	2	1.7%	1	0.8%	2	1.7%	0	0.0%
	Jainism	3	2.5%	6	5.0%	2	1.7%	4	4.7%
	Buddhism	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Other/ No religion	0	0.0%	2	1.7%	0	0.0%	0	0.0%
	Prefer not to state	1	0.8%	3	2.5%	6	5.0%	0	0.0%
Household size/ No. of dependents	**1**	3	2.5%	14	11.6%	13	10.8%	7	8.2%
	2	9	7.4%	11	9.1%	17	14.2%	10	11.8%
	3	27	22.3%	29	24.0%	30	25.0%	22	25.9%
	4 or more than 4	82	67.8%	67	55.4%	60	50.0%	46	54.1%
	Counts	**121**		**121**		**120**		**85**	

6.5. Evidence of Dunning Kruger effect

A weak but statistically significant positive correlation exists between objective and subjective financial literacy ($r = 0.278$, $p < .001$), consistent with prior research. Analysis of Tables VIII(a) and VIII(b) further reveals that significant miscalibration persists across ability quartiles.

In the lowest financial literacy quartile, respondents markedly overestimate their competence, with perceived scores exceeding actual ability nearly sixfold, exemplifying classic overconfidence. The low-FL group shows no significant difference between self-assessment and actual knowledge, indicating moderate calibration. However, respondents in the high and highest FL quartiles consistently underestimate their abilities, a moderate negative correlation, suggesting under-confidence despite objectively strong knowledge. These patterns exemplify the Dunning-Kruger Effect: overestimation in low-FL individuals, accurate self-assessment in the mid-FL group and underestimation among high-FL respondents (Kruger & Dunning, 1999).

Standardized score graphs by quartile and by socio-demographic characteristics (such as age, gender, education, occupation and income) consistently display this DKE pattern in the sample, visually and statistically confirming a pronounced disparity between self-perceived and actual financial literacy across the population.

Table-VIII Paired sample t-tests of Actual FL ability and Perceived FL ability (standardized scores) for Highest and Lowest quartile

VIII(a) Paired sample t-tests of Actual FL ability and Perceived FL ability (standardized scores) for Highest quartile

Highest FL Ability quartile	**Actual FL ability**	**Perceived FL ability**
Mean	1.250035171	0.555231745
Variance	0.019195669	0.577062438
Observations	98	98
Pearson Correlation	-0.141458379	
Hypothesized Mean Difference	0	
df	97	
t Stat	8.6931238	
P(T<=t) one-tail	4.42397E-14	
t Critical one-tail	1.66071461	
P(T<=t) two-tail	8.84795E-14	
t Critical two-tail	1.984723186	

VIII(b) Paired sample t-tests of Actual FL ability and Perceived FL ability (standardized scores) for Lowest quartile

Lowest FL Ability quartile	**Actual FL ability**	**Perceived FL ability**
Mean	-1.332748629	-0.268080815
Variance	0.251007421	1.165398509
Observations	122	122
Pearson Correlation	0.079455969	
Hypothesized Mean Difference	0	
df	121	
t Stat	-10.19514736	
P(T<=t) one-tail	2.69527E-18	
t Critical one-tail	1.657544319	
P(T<=t) two-tail	5.39053E-18	
t Critical two-tail	1.979763763	

Table-IX Means and standard deviations for each group's actual FL ability and Self-assessment (non-standardized scores)

	Lowest	**Low**	**High**	**Highest**
Self-perceived ability	3.27(1.04)	3.36(0.94)	3.58(0.85)	4.06(0.73)
Actual ability	4.98 (1.89)	9.82(1.12)	12.33(0.47)	14.70(0.52)
N (447)	**122**	**151**	**76**	**98**

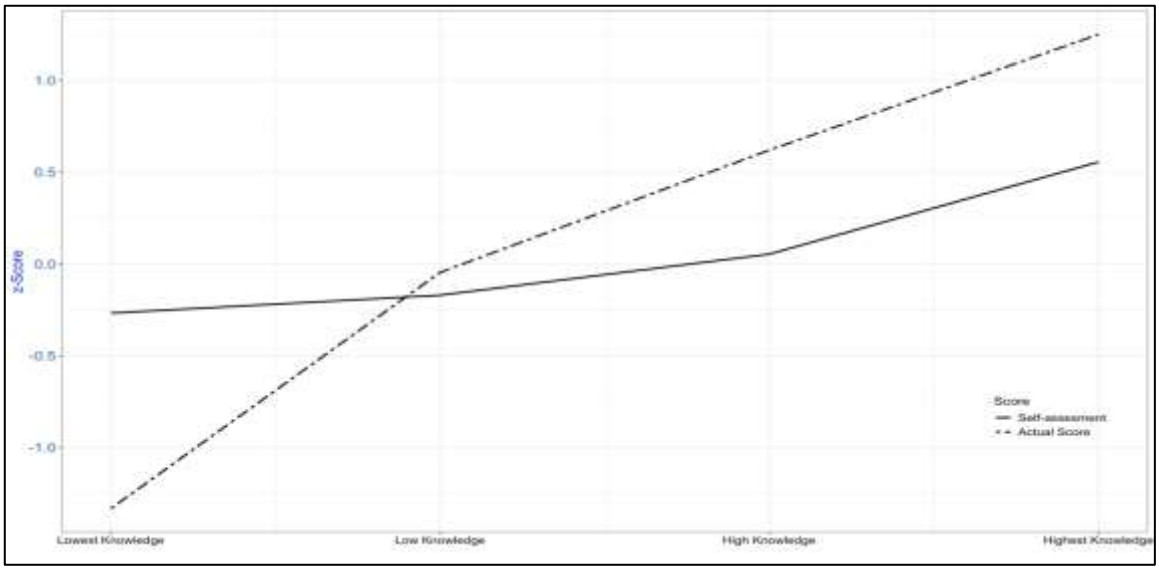
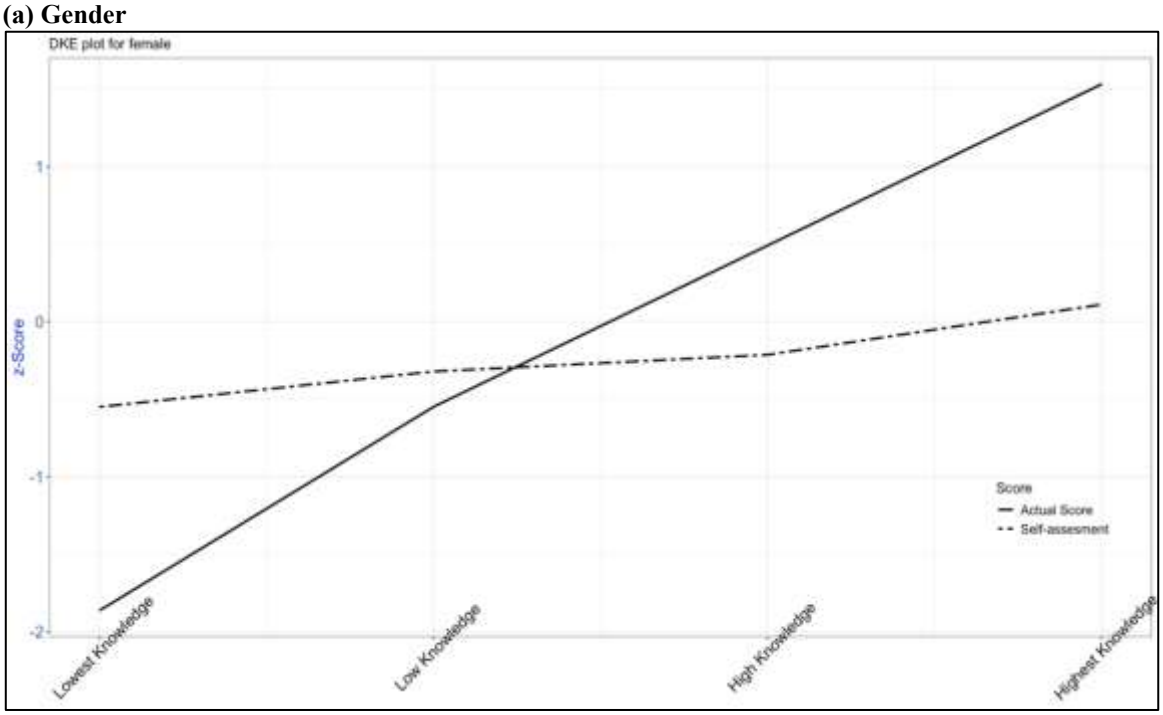


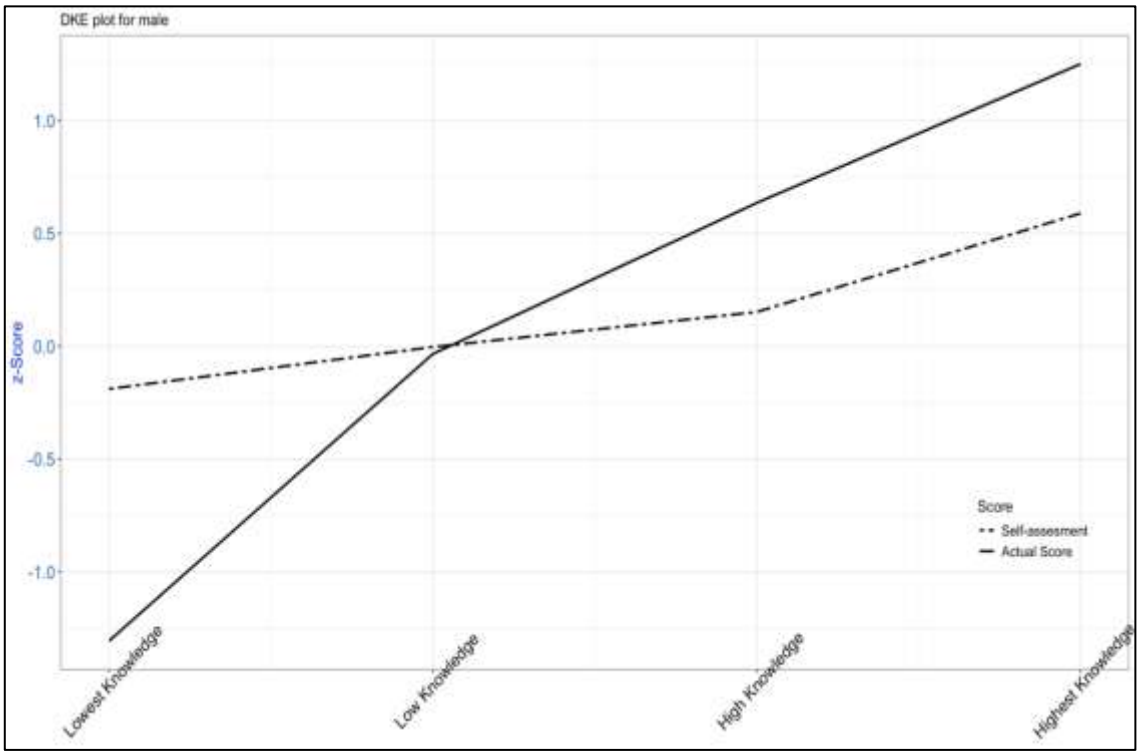
Figure-III Dunning Kruger Effect in Financial Literacy

A DKE graph, plotting standardized actual and perceived scores by quartile, visually confirmed these discrepancies. The plots for the other socio-demographic factors viz. age, gender, education, primary source of income/ occupation and annual household income are presented in Figures; they also portray a distinct DKE pattern (Figures IV).

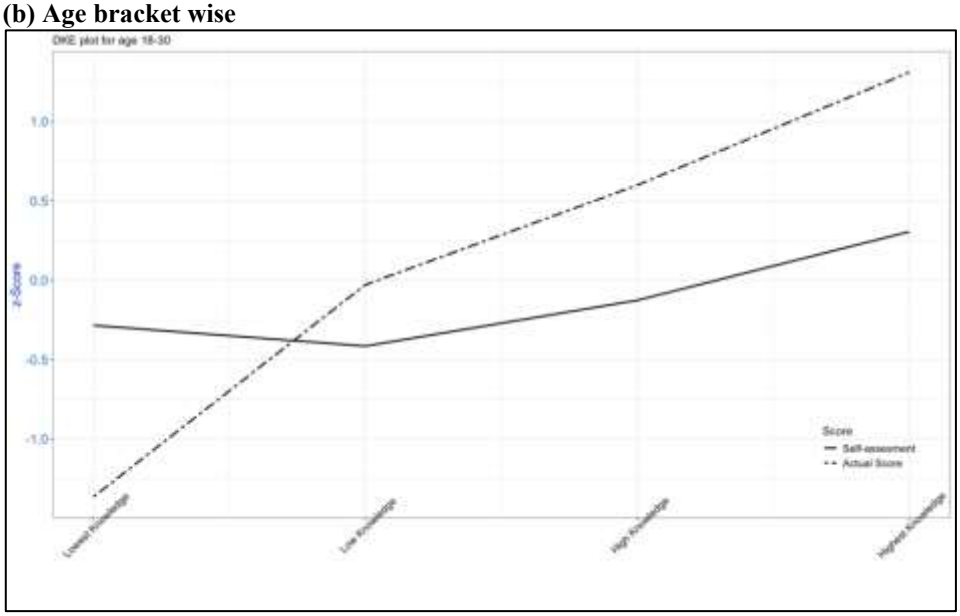
Figure-IV DKE and Socio-demographic variables

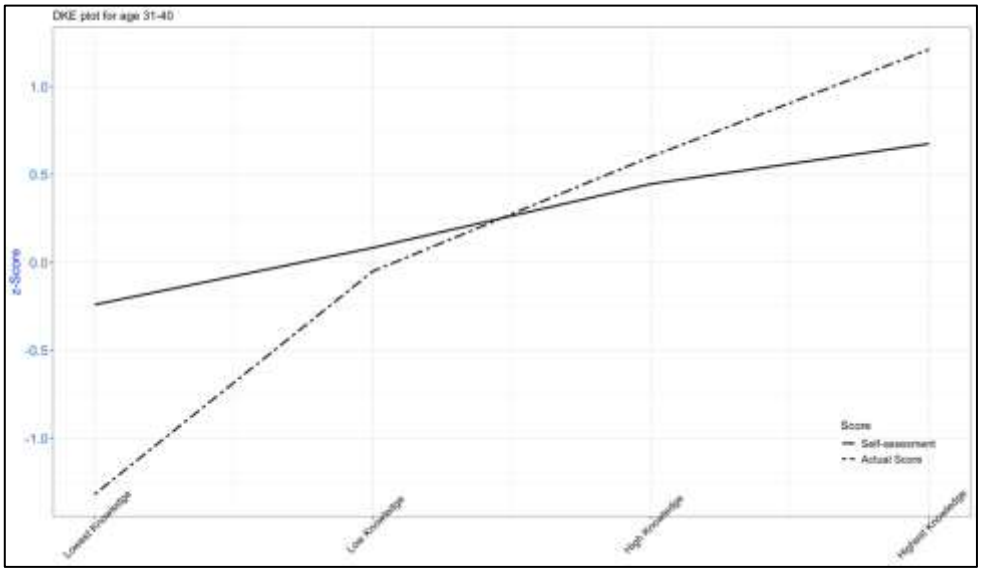
(a) Gender

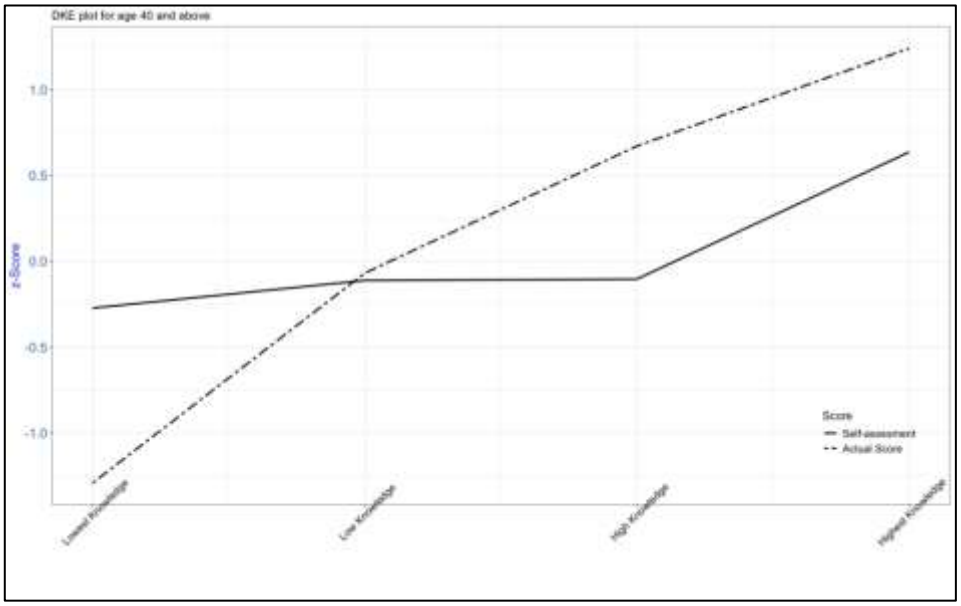




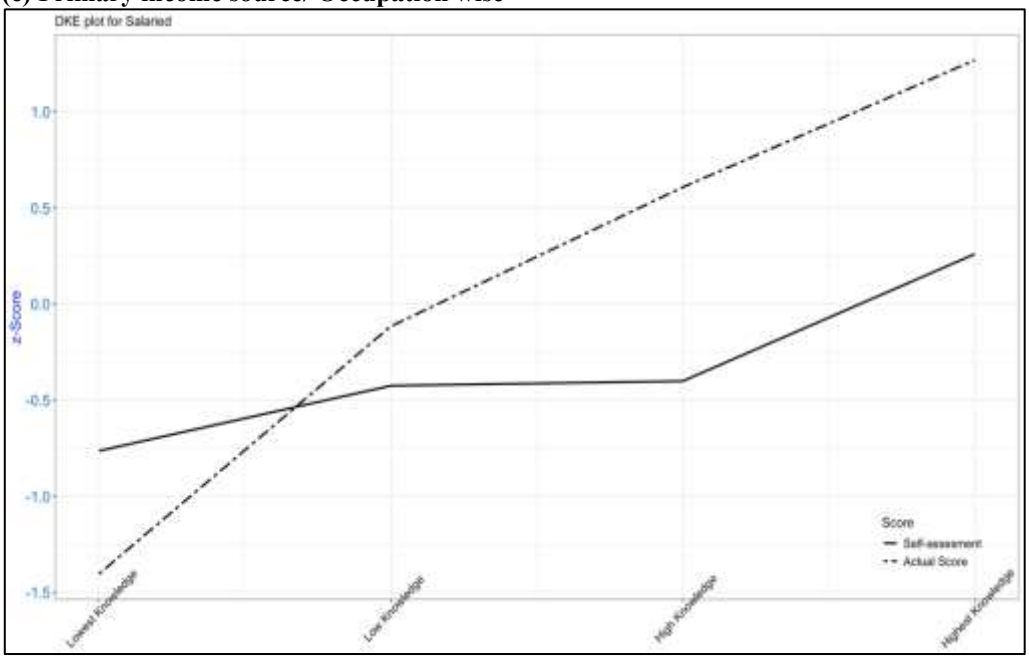
(b) Age bracket wise

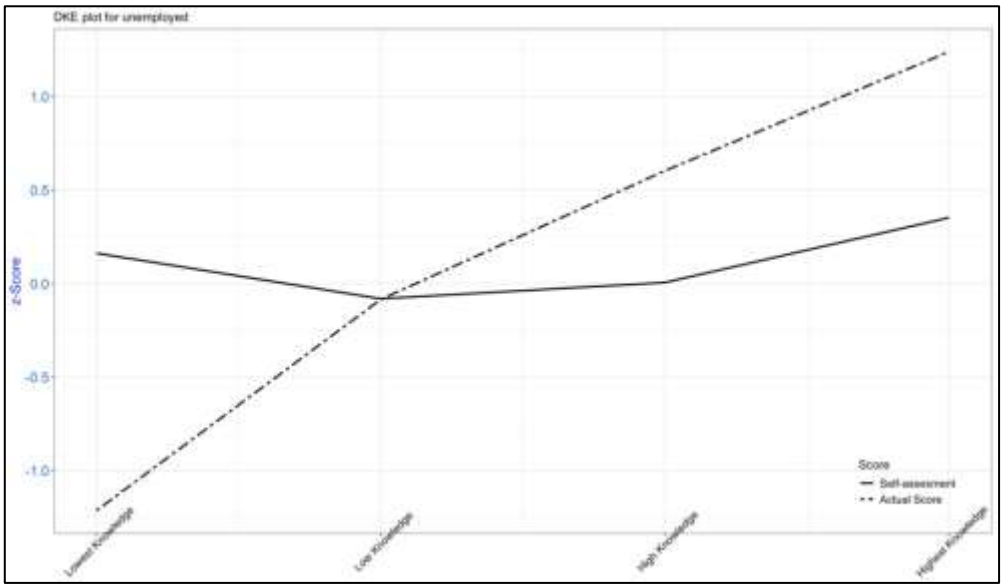


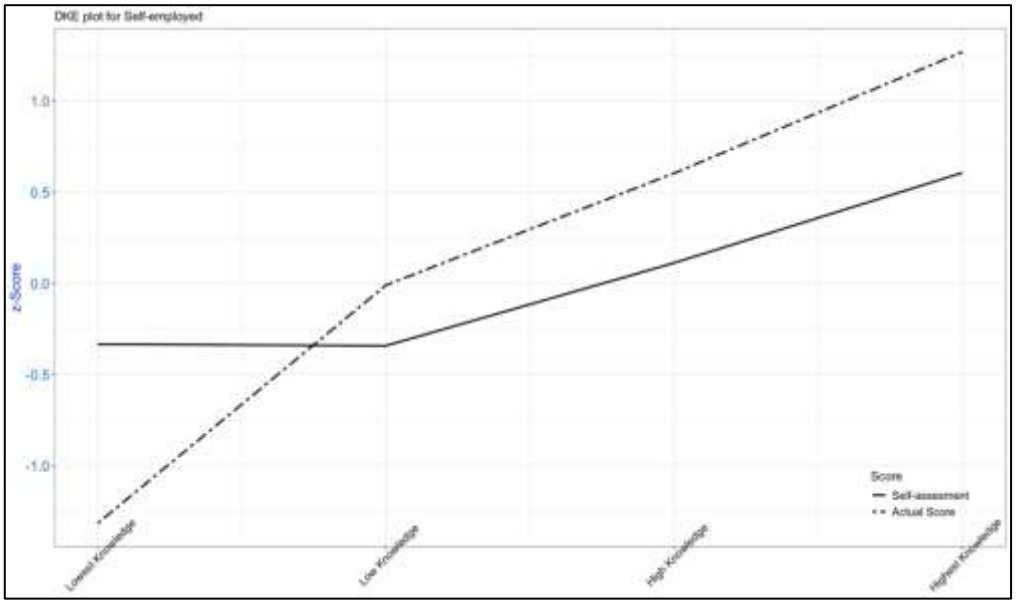




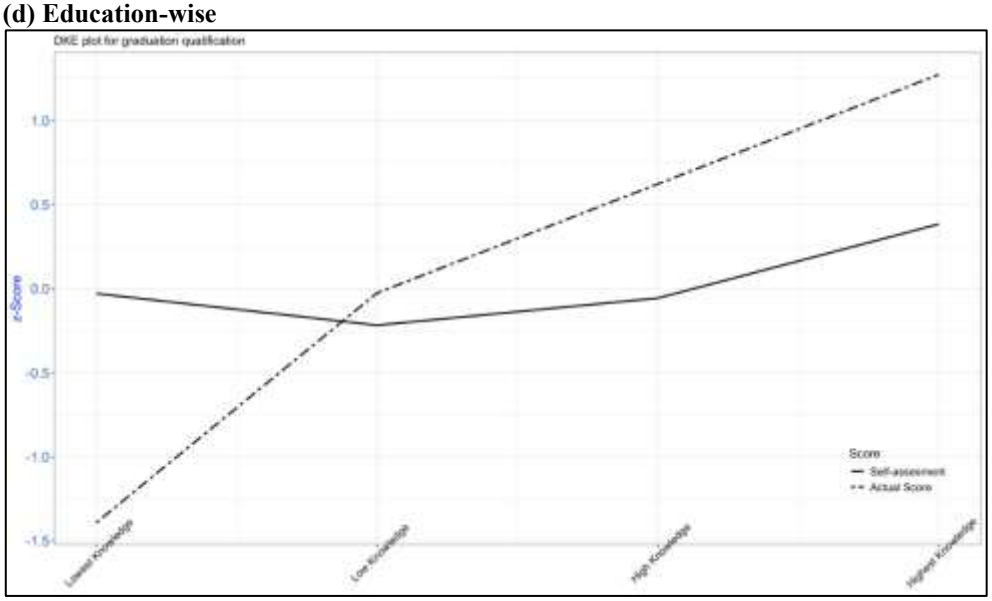
(c) Primary income source/ Occupation wise

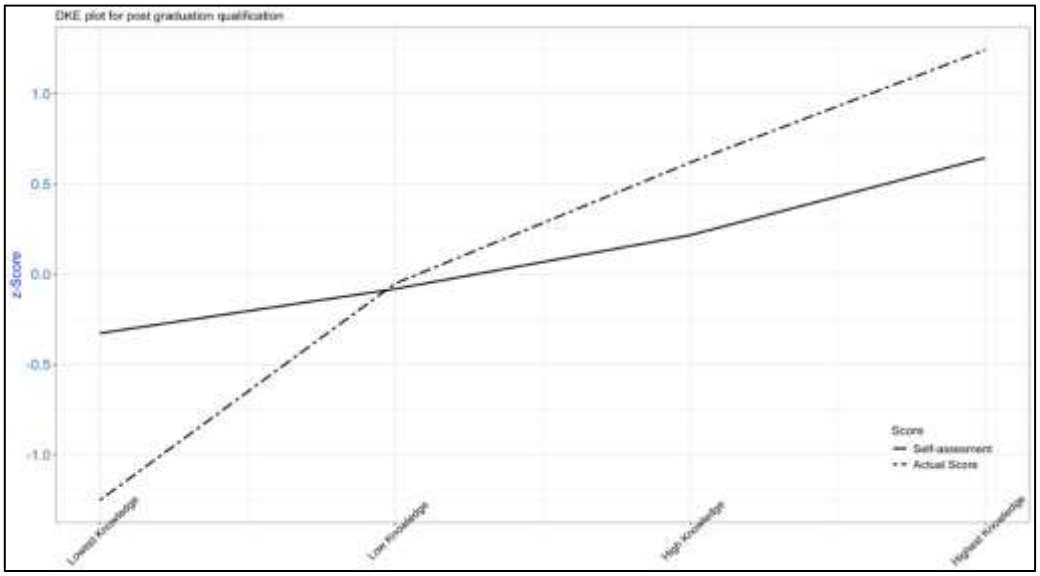




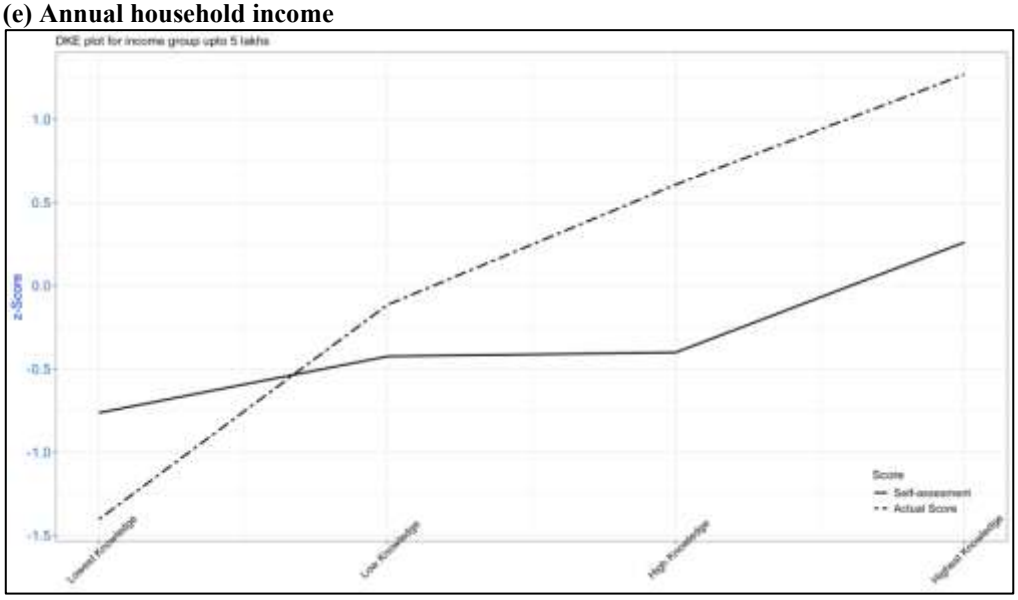


(d) Education-wise





(e) Annual household income



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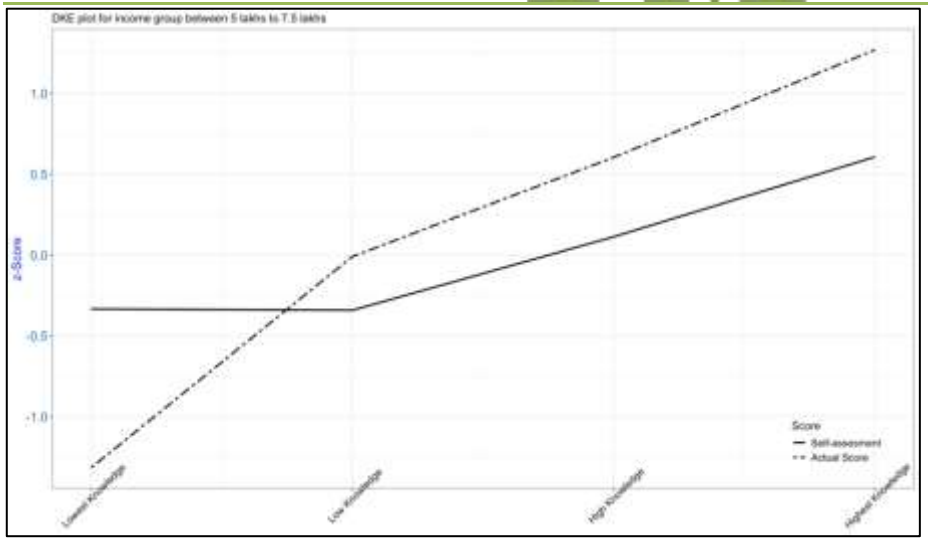

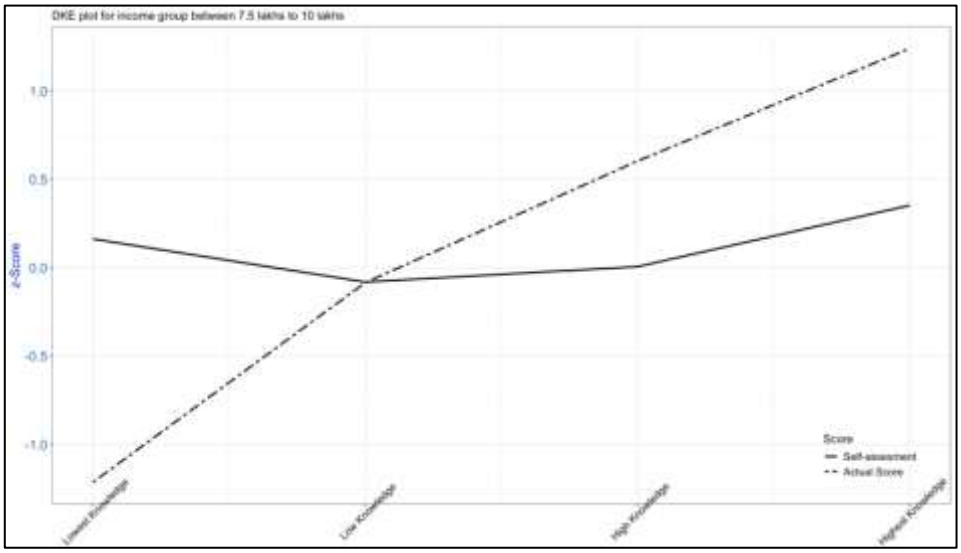

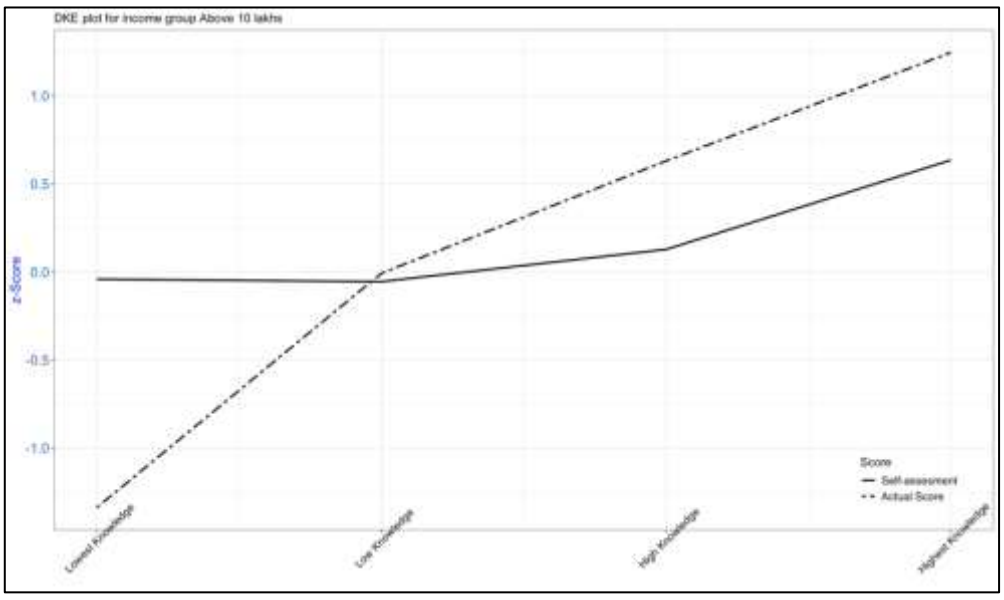

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6.6. Blind spots vs Tentatives- Where do they differ?

Tables X(a) and X(b) present independent sample t-tests comparing the mean correct answers of the blind spot and tentative groups across basic and advanced financial literacy questions.

In Table X(a), for basic literacy, blind spots and tentatives have very similar mean correct scores (0.199 and 0.203 respectively). The t-test reveals no significant difference between these groups ($t = -0.208$, $df = 5$, two-tailed $p = 0.844$), indicating comparable performance on basic financial literacy items regardless of self-assessment bias.

However, Table X(b) shows a marked difference for advanced literacy. Blind spots achieve a mean correct score of 0.161, while tentatives score higher at 0.227. This difference is statistically significant ($t = -3.69$, $df = 3$, two-tailed $p = 0.035$), suggesting that those who underestimate their financial literacy (tentatives) perform better on advanced questions compared to overconfident individuals (blind spots).

Overall, these results imply that while subjective misperceptions of financial literacy do not strongly differentiate basic knowledge levels, they are meaningful at the advanced literacy level. This underscores the importance of addressing overconfidence in complex financial knowledge domains to improve decision-making outcomes. The same results are visually depicted at Figure VI which shows distinct Basic and Advanced literacy approaches between blind spots and tentatives. This highlights a potential gap in advanced literacy skills between the two groups, where "Tentatives" may possess a better ability to analyse and interpret more complex information compared to "Blind spots."

Table-X Independent sample t-tests- Blind spot and Tentatives'- Correct answers

X(a) Blind spot vs Tentative- Correct answers across Basic Literacy

Basic literacy- Correct answers	Blind spot	Tentative
Mean	0.19907192	0.20258139
Variance	0.0012979	0.00013043
Observations	5	5
Hypothesized Mean Difference	0	
df	5	
t Stat	-0.2076406	
P(T<=t) one-tail	0.42185094	
t Critical one-tail	2.01504837	
P(T<=t) two-tail	0.84370189	
t Critical two-tail	2.57058184	

X(b) Blind spot vs Tentative- Correct answers across Advanced Literacy

Advanced literacy- Correct answers	Blind spot	Tentative
Mean	0.16115188	0.22684639
Variance	0.00124413	2.5501E-05
Observations	4	4
Hypothesized Mean Difference	0	
df	3	
t Stat	-3.6873981	
P(T<=t) one-tail	0.01728948	
t Critical one-tail	2.35336343	
P(T<=t) two-tail	0.03457897	

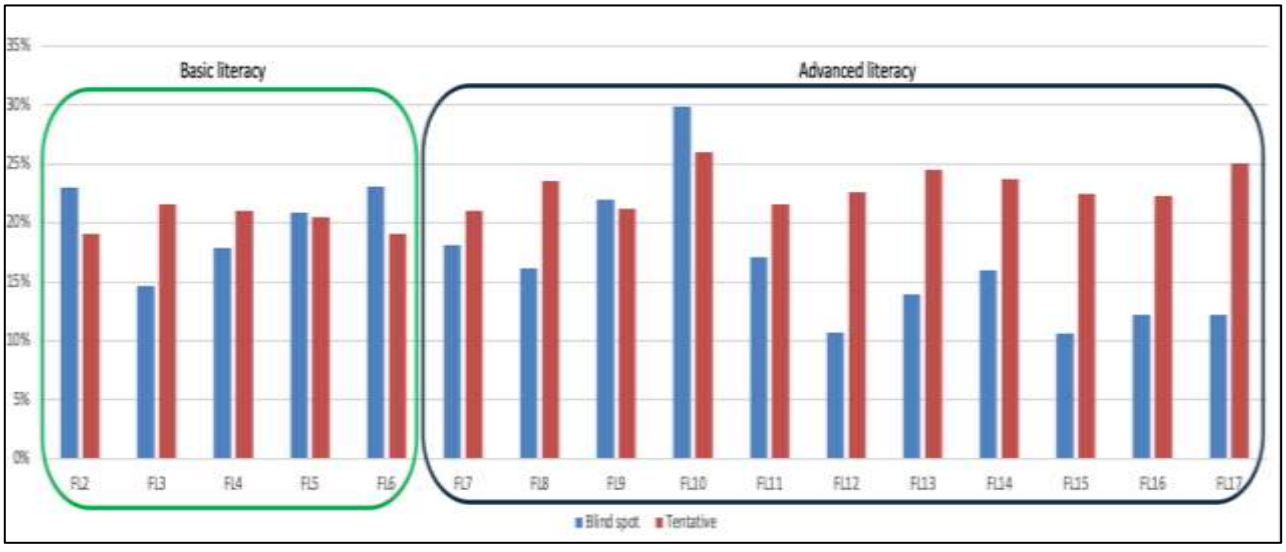

Figure-V Blind spot vs Tentative- Correct answer

6.7. ANOVA- Socio-demographic variables on FL ability of Blind spots and Tentatives

Tables XI(a) and XI(b) present ANOVA analyses examining differences in financial literacy ability scores based on socio-demographic variables, focusing on distinct population segments termed "Blind Spots" and "Tentatives."

Table XI(a) analyses the "Blind Spots" group (those overestimating their financial literacy). The results indicate statistically significant differences ($p < 0.05$) in financial literacy scores by gender ($F = 8.106$, $p = 0.00523$) and primary income source or occupation ($F = 10.259$, $p = 0.00176$). These findings suggest that men and salaried individuals tend to have significantly higher financial literacy scores even among overconfident individuals. Other factors such as age, marital status, education level, those with higher household incomes and household size do not show significant differences within this subgroup.

Table XI(b) examines the "Tentatives" group (those underestimating their financial literacy). Similar to the blind spots, gender ($F = 9.435$, $p = 0.0029$), primary income source or occupation ($F = 4.305$, $p = 0.0413$) and annual household income ($F = 9.364$, $p = 0.0030$) have significant effects on literacy scores among tentatives, indicating these demographics remain important predictors of financial literacy even when individuals underestimate their ability. Age and household size again do not significantly influence literacy within this group.

Together, these ANOVA results underscore that gender, occupation and income consistently explain variations in financial literacy across different confidence categories. This insight highlights the importance of socio-economic factors beyond mere financial knowledge, affecting both actual competence and self-assessment biases in financial literacy.

Table XI- ANOVA Test Results

XI(a)- ANOVA 2- FL ability scores based on socio-demographic variables of Blind spots

Source	Df	S Sq	Mean S Sq	F value	Pr(>F)
D1	1	4.9	4.85	0.601	0.43967
D2	**1**	**65.4**	**65.41**	**8.106**	**0.00523****
D7	**1**	**82.8**	**82.78**	**10.259**	**0.00176****
D8	1	1.3	1.25	0.155	0.69436
D11	1	22.0	22.02	2.728	0.10130
Residual	115	927.8	8.07	-	-

Note. *- p < .05 (), **- p < .01 () and ***- p < .001 () indicate increasing levels of statistical significance

XI(b)- ANOVA 3- FL ability scores based on socio-demographic variables of Tentatives

Source	Df	S Sq	Mean S Sq	F value	Pr(>F)
D1	1	0.1	0.09	0.103	0.91046
D2	**1**	**64.0**	**63.98**	**9.435**	**0.00292****
D7	**1**	**29.2**	**29.19**	**4.305**	**0.04127***
D8	**1**	**63.5**	**63.50**	**9.364**	**0.00302****
D11	1	0.7	0.75	0.110	0.74107
Residual	79	535.7	6.78		

Note. *- p < .05 (), **- p < .01 () and ***- p < .001 () indicate increasing levels of statistical significance

where, D1- Age; D2- Gender; D3- Marital status; D4- Education, D7- Primary source of income/ Occupation; D8- Annual HH income; D9- Caste, D10- Religion; D11- HH size

6.8. Mapping the Research Questions to Research findings

Research question	Findings
RQ1	Section 7.1, 7.2 and 7.3
RQ2	Section 7.4 and 7.5
RQ3	Section 7.5
RQ4	Section 7.7

7. Implications of the study on Personal Finance and Retirement Planning

Modern societal shifts—changing family structures (Agarwalla et al., 2015; CRISIL, 2017), falling birth rates and increasing dependency rates (Biswas, 2024; James & Kriti, 2024), rising costs (Dhoot, 2024; Motilal Oswal, 2022) and complex financial products (Agarwalla et al., 2015; Dash & Ranjan, 2023)- necessitate strong financial literacy.

The DKE, where low-literacy individuals overestimate and high-literacy individuals underestimate their abilities, may impact financial decisions. Overconfidence may lead to risky investments, debt and poor retirement planning, as seen in missed mortgage payments and vulnerability to fraud (Gamble et al., 2013, 2013).

(Anderson et al., 2014) state that investors with blind spots are more likely to veer towards blind advisor recommendations/suggestions and high-fee funds. Under confidence results in overly conservative choices and missed growth opportunities (Agnew & Szykman, 2005), hindering long-term savings and retirement security.

Considering that retirement planning involves long term financial saving and planning, excessive caution in adopting excessively conservative strategies, for eg. avoiding equity investments altogether, can result in lower retirement corpus

accumulation and may lead to missed opportunities for wealth growth, particularly in environments with rising inflation (Dhoot, 2024). Both biases underscore the need for accurate self-assessment and informed financial decision-making. \

The implications thus can be summarised in the following manner-

Feature	**Overconfidence (Low Financial Literacy)**	**Under-confidence (High Financial Literacy)**	**Overall Implications**
Self-Perception	Overestimates financial knowledge and skills.	Underestimates financial competence or capability.	Gap influences financial decisions.
Decision-Making	Leads to poor financial choices due to inflated confidence.	Procrastination or avoidance of financial decisions.	Impacts all stages of personal financial management.
Risk Assessment	Underestimates investment risks, ignores diversification, neglects emergency savings.	Exhibits excessive caution, avoiding potentially beneficial risks (e.g., equity investments).	Vulnerability to financial shocks.
Financial Behaviour	Higher likelihood of missed payments, debt accumulation, poor banking behaviour, excessive trading.	Sticks to default options, misses wealth growth opportunities, suboptimal long-term outcomes.	Impacts financial well-being and income security.
Investment Outcomes	Lower returns due to excessive trading, higher transaction costs.	Lower retirement corpus accumulation due to overly conservative strategies.	Potential for inadequate retirement savings.
Retirement Planning	Misjudges retirement needs, ignores inflation, overestimates plan sufficiency, vulnerable to longevity and medical risks.	Fails to maximize tax benefits, struggles to balance risk and return, may experience imposter syndrome.	Financial insecurity in retirement.
Fraud Susceptibility	More vulnerable to financial scams due to bypassing due diligence.	Less likely to be scammed, but may miss opportunities due to excessive caution.	Need for financial education to address cognitive biases.
Reliance on Advice	Increased likely-hood to rely on poor financial advice and high fee funds.	May still be cautious of advice, even good advice.	Need for objective and tailored financial guidance.
Long-Term Impact	Perpetuates cycles of poor financial management, debt and vulnerability.	Missed opportunities for wealth growth, suboptimal retirement outcomes.	Need for targeted interventions and education.

8. Future Research Direction & Policy Interventions

While low financial literacy and perception gaps in India are documented, this study uniquely applies the Dunning-Kruger Effect (DKE) to the working population. Future research could investigate the impact of these perception gaps on financial risk tolerance, decision-making and retirement product choices.

Notably, the study highlights potential status quo bias, with limited shifts from default investment patterns (of hardly 4%) in government employee retirement accounts (PFRDA, 2024).

This research also opens avenues to explore overconfidence in retail futures and options trading, as noted by (SEBI, 2023, 2024), drawing on (Barber & Odean, 1999) findings.

Further studies should examine the interplay between financial literacy, self-perception and financial behaviour across diverse demographics, informing targeted policy interventions to enhance financial decision-making and retirement savings.

9. Limitations

The research faces inherent limitations linked to its methodology. The authors understand that the primary limitations of a survey conducted through purposive sampling on approx. 450 respondents, while adequate for some analyses, could limit the generalizability due to non-random sampling. The sample may not represent the broader population and might not capture the full heterogeneity of financial behaviours across different socio-economic or cultural contexts.

Purposive sampling may have further lead to selection bias, as the sample is not randomly chosen and may overrepresent specific demographic or behavioural traits, limiting generalisability to the broader population. Subjective measures could suffer from self-perception bias, where respondents misjudge their financial skills, influenced by confidence or cultural norms. Objective measures may lack contextual relevance, overlooking region-specific financial knowledge.

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