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FINANCIAL EDUCATION OVER FINANCIAL LITERACY: ITS DETERMINANTS AND MEASURES

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Abstract

To identify the association among financial education and Financial Literacy, Financial education initiatives generally produce a constructive behavioral impact on financial knowledge and subsequent behaviors. The results are of significant economic importance, identical to those seen in the mediation of education in other areas, Financial Literacy is a blend of Knowledge, Behaviour, and Attitude.

Researchers and finance professionals agree on the significance of explaining financial literacy (FL) measures, and their impact on financial behavior and financial decisions. This article examines different types of Financial Literacy measurement approaches and provides standard measures. Additionally, addresses the different methods of measuring Financial Literacy. This article serves as a resource for researchers and professionals seeking guidance in Financial Literacy measurement.

Key Words: *Financial Education and Financial Literacy*

Introduction

As per the latest studies increased interest in evaluating financial education programs, financial literacy around the world exposure to economic results. Research on financial literacy is fast and rapidly evolving. Leading countries of the OECD including India and China implemented financial education programs for enhancing financial educational programs to promote financial inclusiveness and financial stability (OECD 2015). The Objectives of these financial education programs would be to influence around five billion individuals across sixty nations.

As per OECD (2013), financial literacy means people's knowledge, skills, attitudes, and preferences in financial decisions. Financial literacy involves empowering individuals with financial knowledge. It aims to increase their competence in handling financial matters through the acquisition of skills, techniques, and concepts. Research has consistently demonstrated the significance of financial literacy, particularly for individuals with limited financial understanding or those struggling to manage their money or debt. Financial Literacy is a crucial area of study in today's globalized marketplace. Consumers face complex financial environments, making it essential for them to understand how to manage their money wisely.

In today's economy, financial literacy is essential for personal and national economic growth. Enhancing financial literacy improves skills and empowers each one to understand informed economic and financial decisions.

This study's objective is to identify the correlation between financial education and financial literacy (Knowledge, Behaviour, and attitudes), which can guide individuals to save, finances for immediate and long-term financial requirements in early stages of Income.

Additionally, it includes references to research studies and highlights differences in ethnicity, measurable factors, and scales used to assess financial literacy. These variations may impact individuals' ability to make financial decisions.

Theoretical Background:

Financial literacy first-order construct financial behavior succeeds financial knowledge and perceptive attitude. Hayhoe (2005) advocated that significant change in financial behavior is succeded by a change in financial knowledge and attitude.

Lusardi and Mitchell (2014), in their studies, advocated that financial educational programs should target specific financial literacy outcomes that would differ based on heterogeneity among individuals.

2. Literature Review:

2.1 Financial Education:

Financial education is training to know the available money tools and services with proper training to make use with greater awareness and skills by avoiding the probability of risk and fraud for financial decisions to improve financial wellbeing.

Financial education is a process of providing individuals with information about money tools, products, and services as well as operational risks and responsibilities to build selfconfidence to make better choices in financial decisions to influence over individual's financial well-being.

Financial education is a cycle of financial planning, financial savings financial investments through formal financial educational programs such as training to make sound financial decisions.

Financial education become crucial for individuals navigating today's intricate financial world. Governments globally are recognizing its importance and developing national financial literacy strategies for continuous learning to tap the opportunities to improve financial knowledge and skills through the life cycle.

Financial education covers essential skills and knowledge for life: * Familiarity with common money tools * Basic financial concepts like budgeting and debt. * Identifying and managing financial risks and opportunities wisely. * Making informed decisions about savings, expenses, insurance, and investments. * Planning for debt management throughout the lifetime. While the specific needs of financially vulnerable populations may vary across countries, the fundamental principles of financial education remain largely consistent regardless of the level of financial inclusion within both included and excluded.

2.2 Financial Literacy:

Financial literacy possesses a fundamental understanding of essential financial ideas and financial knowledge of individuals. These concepts are straightforward and do not necessitate specialized knowledge and individual financial behaviors are important to achieve financial well-being hence it is essential evidence for assessing financial literacy also financial Attitudes, Financial beliefs, and preferences play a crucial role in financial literacy.

Financial literacy relates to four variables knowledge, attitude, behavior, and ability to influence each other in finance are correlated with one each other, and financial knowledge coordinates the attitudes that influence financial decision behavior and also views and proposes conceptual items specifying financial literacy as the ''knowledge of basic economic and financial concepts, as well as the ability to use that knowledge and other financial skills to manage financial resources effectively which includes actual and perceived understanding of financial concepts for a financial wellbeing.

As per earlier studies, financial literacy is one of the leading forces that influences to access financial services in rural areas, financial education training leads to making better financial decisions for financial choices.

2.3. The impacts of financial education on financial literacy

Earlier research advocates that financial education programs enhance financial literacy in both emerging and advanced countries. As per Berg and Zia (2017) et al specific measures of financial literacy and the factors of the educational programs (e.g., individual or group, training, and the income levels of the participants) may differ in a specific measure based on the criteria of a financial educational program, Researchers conducted random sampling survey in a control group study of South African soap opera viewers tracked for two months and four months, results found that noticeably better knowledge on the topics covered in the storyline also didn't identify improvement in full financial knowledge.

Financial education is to identify the financial behavior of individuals in terms of financial literacy to achieve financial goals in the short and long term. Individuals need financial knowledge to be successful and capable of handling financial needs and they should not only focus on understanding financial concepts.

Another study conducted by Asarta, Hill, and Meszaros (2014) utilized the Keys to Financial Success curriculum with high school students. The implementation of this curriculum led to a notable rise in the financial knowledge of the students, with a 61% difference between their before-test and after-test scores, integrating financial education in school curricula aims to enhance students' comprehension of personal finance and financial literacy.

Danes and Haberman (2007) studied the effects of a personal finance course increasing a teenager's financial literacy and found that almost half of the students gained their financial knowledge, results in both studies found that financial education improves financial behavior. Earlier research studies justified the positive effect on financial literacy through financial education in educational institutes at the school and college levels.

A Listed below few studies show that Financial Education's association relationship with Financial Literacy in different contexts.
APPENDIX - Table 1: Earlier study results shown in the table relationship among Financial Education, Financial Literacy

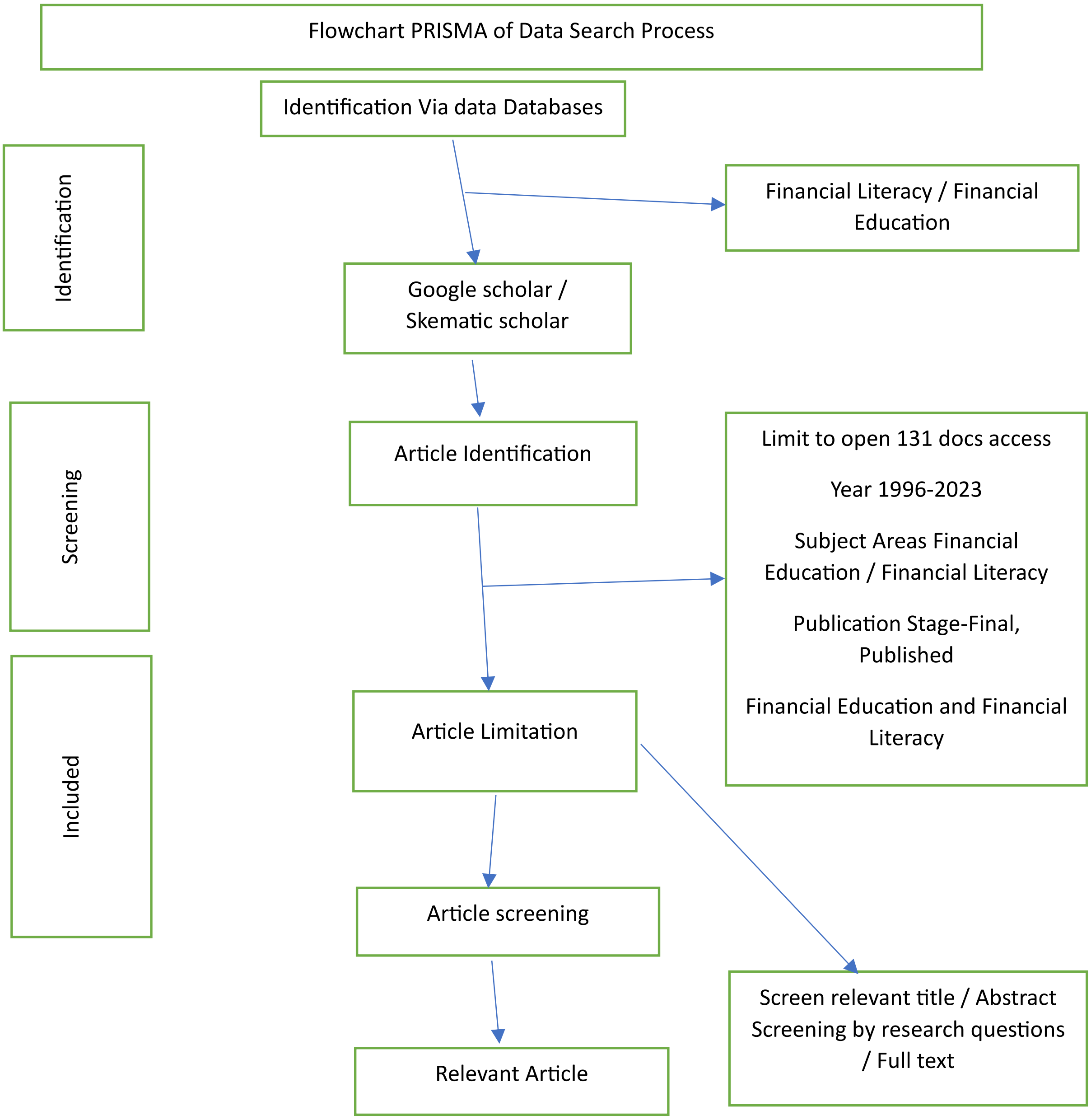
Sl No	**Citation**	**Financial education indicator(s)**	**Financial-literacy indicator(s)**	**Country considered**	**Developing country?**	**Developed country ?**	**Impact or association found? ***
1	Agarwal (2010)	A two-year program of classes and counseling on money-management practices		United States		X	Y

2	Bernheim, Garrett and Maki (2001)	Exposure to financial education in high school		United States		X	Y
3	Cole, Sampson and Zia (2011)	Education program on bank accounts	Financial literacy measures based on several questions upon compounding, interest rates, and risk diversification	Indonesia and India	X		I
4	Cole, Paulson and Shastry (2016)	Exposure to financial education in high schools		United States	X		N
6	Drexler, Fischer and Schear (2014)?	Standard and rule-of-thumb training on financial practices		Dominican Republic	X		I
7	Fernandes, Lunch, and Netemeyer (2014)?	Several financial education mediations	Financial literacy measured over psychometric scales	Metaanalyses of 168 papers	X	x	Y
8	Kalwij et al. (2019)	45 - minute financial education program		The Netherlands		X	I
10	Lusardi and Tufano (2015)		Knowledge about loans and Own - assessed financial knowledge	United States		X	Y
12	Miller et al. (2014)	Several mediations aim to enhance individuals' financial knowledge, skills, attitudes/behavior		Metaanalyses of 188 papers	X	X	I
13	Van Ooijen and Van Rooij (2016)		Knowledge of financial and debt-related concepts	Netherlands		X	Y

Note: Y - yes, N - no, I - it depends
Adopted source : by Nicole Jonker1 and Anneke Kosse2 2020

Research Methodology:

We examined publications that mentioned financial education, "financial literacy" or "financial knowledge" in their titles. We found a significant rise in publications on this topic reflects the importance of the studies particularly for the period from 2002 to 2023 in a broad array of business disciplines including economics, business administration, accounting, economics, economic psychology, finance, and marketing to provide an assessment on financial education, financial literacy measurement and its determinants based several literature reviews.



After exploring the determinants of financial literacy and its distribution across different countries, we now investigate whether there are common factors that influence individuals' financial literacy levels.

The questionnaire revolves around financial literacy, exploring knowledge, perspectives, and actions that influence an individual's understanding of personal finances. It delves into various real-life scenarios, including using financial services-, and managing current expenses, and future expenses. Financial literacy questions provide more insights about the person completing the financial literacy questionnaire.

Lusardi and Mitchell (2008) framed questions are most popular in the United States and other countries called “The Big Three”, on calculating the interest rates, understanding Inflation, and awareness of fraud to do over risk diversification. The first question in this simplified series focuses on Individuals’ ability to understand and perform basic math calculations,

Individuals who struggle to answer basic financial questions, such as the first two mentioned, tend to face challenges when making even simple financial decisions that involve investing with future returns. The ability to answer the third question demonstrates an understanding of stocks, mutual funds, and risk diversification, suggesting the respondent's competence in managing their financial resources effectively.

The Study majorly focuses on four key areas for financial decision-making: Risk Diversification (Managing risk by spreading investments across different assets). Inflation (The impact of rising prices on purchasing power and investment returns). Numeracy (Understanding and using numerical data to make informed financial choices). Compound Interest (The effect of interest earning interest over time, which affects the growth of investments).

OECD adopted the financial literacy measurement scale for the PISA assessment by inclusive of a diverse team of experts, including government officials, educators, and professionals, who collaborated to develop questions for a survey. These questions covered three key areas: Content (Students' knowledge and comprehension) Processes:(Their approaches and thinking strategies) Contexts:(The financial situations they encounter) The questions were designed to mirror actual experiences faced by 15-year-young students in different countries, financial literacy test includes 40 questions related to finance, math, and reading. students analyze graphs, calculate interest rates, and review checks and invoices. This assessment detailed evaluation of financial knowledge and skills and differs from previous "Big

Three" tests in both the breadth of topics covered a wider range of financial topics by including a comprehensive set of questions of real-world tasks.

While Caveats of test-based financial literacy measures; like the "Big Three" are widely accepted as the global standard for assessing financial literacy, Contextual factors in financial literacy tests may distort the observed effects of financial knowledge on financial choices. Additionally, test-based measurements of financial literacy can vary significantly based on the framing of the questions. Individual answers differ widely based on the framing of the questionnaire.

Changing the wording of the third "Big Three" question (making it "buying company stock usually provides a safer return than a stock mutual fund" instead of "buying a stock mutual fund usually provides a safer return than a company stock") gives better results.

Financial Literacy Measures and Methods:

Method 1: Financial Literacy measured over Score Method.,

According to Atkinson, A., and F. Messy in 2012, the questionnaire framed by OECD to possess financial knowledge comprises 8 questions. This questionnaire was utilized to gauge the financial literacy level within different countries and the results none of the countries exhibited financial knowledge achieving more than 70% of its population (defined as providing six or more correct answers).

Atkinson and Messy (2012) used three "attitude statements" in their financial literacy survey to assess how people feel about money and long-term planning. These questions ask people to agree or disagree with certain statements to determine their choices. An overall attitude indicator is calculated by averaging the responses to these three statements. A score above 3 is considered "high," indicating a tendency towards long-term thinking. Attitudes vary widely across different countries.

Method 2. Financial Literacy measured on the Likert Scale.,

A survey with 20 questions was conducted using a 5-point Likert scale (where 1 represents "never" and 5 represents "always") to assess university students' financial management habits terms such as usage of savings, credit, and spending habits. Higher scores on the scale reflect positive financial behaviors preceded by Knowledge and Attitude.

Rooji (2011) constructed multiple-choice questions to measure the academic level of financial literacy by considering the degree of difficulty to answer for validating the instrument, The first set of three questions related to basic knowledge intended to assess fundamental financial skills through queries on inflation, tax rates, and money's time-based value. The second set of questions (advanced knowledge) comprises five questions that examine expertise in intricate financial instruments, including stocks, government bonds, and risk diversification.

After finding the accuracy of the measures given 1 point each for basic knowledge questions, while correct answers from the advanced knowledge questions were 2 points each higher-level scores indicate a better level of financial literacy.

It measures how people view their financial management. A higher score indicates a more positive attitude towards personal finance. The scale has been adapted and validated for the Brazilian context, making it suitable for assessing financial attitudes in this population.

Method 3: Financial Literacy measured over score methods.,

Financial literacy (understanding money and finances) is seen as crucial for making people more financially secure and included. Practitioners use it to figure out how much individuals know and what they need to know to make better financial plans, counseling, and education programs. Researchers look at how financial literacy affects how people make financial decisions and behave. They create models to understand these connections and predict how people behave in the present and future.

The growth of the financial system and the creation of new financial products and services to individuals by many ways to manage their money, such as savings, investments, making payments, and managing risk. personnel need to have a good understanding of financial matters and be able to use properly available options. As a result, a key part of financial literacy involves being aware of and knowing about products and services and how to make use of available tools and methods.

A popular and widely acknowledged indicator of financial literacy (FL) consists of a survey where participants answer 3 -to 5 questions about four key concepts: numeracy (interest in financial matters), compound interest, inflation, and risk diversification. (Lusardi, & Van Oudheusden):

Researchers use two main methods to determine a Financial Literacy (FL) score: Method 1: Summing Responses, Researchers count the number of correct answers given by participants. FL scores range from 0 (no correct answers) to the full number of questions asked. Method 2: Percentage of Correct Responses, Researchers evaluate FL scores scale from 0% to 100%.

These assessments offer the benefit of providing an easy-to-use, impartial, and straightforward way to assess a person's financial thinking skills., They also provide a “benchmark” for comparisons between sociodemographic factors.

It's challenging to understand the accuracy and reliability of these tests because few have fully assessed their validity, consistency, and reliability. Additionally, interpreting these scores requires standardization. For instance, the meaning of a respondent answering 3 out of 5 questions correctly (a score of 60%) is unclear. Furthermore, to start a good relationship between financial literacy (FL) and a financial outcome, it's difficult to determine the practical implications identified in economic and financial terms.

To resolve concerns about financial literacy (FL) tests, some researchers have expanded them to include a wider range of limitations. Others have instead used subjective measures, asking individuals to value their financial knowledge and skills on a Likert scale. They may also ask about their familiarity with their household's finances or their confidence in their financial abilities.

Researchers have also assessed financial literacy (FL) based on participation in structured FL programs (such as courses, training, or workshops). These programs provide knowledge in a controlled environment over time. These experiments compare the effects of using FL (the "treatment") to not using FL (the "control") (as seen in Fernandes, Lynch, & Netemeyer, 2014; Kaiser & Menkhoff, 2016).

Recent research suggests that financial literacy learning (FL) involves multiple dimensions. However, previous studies have not explicitly analyzed FL within a structured framework that acknowledges these dimensions. Recently, research has emerged that directly examines the multidimensionality of FL by creating comprehensive indices that combine objective knowledge metrics, subjective knowledge assessments, and experience indicators.

To create the indices, researchers added together the count of right answers to knowledge-based objective questions and extra indicators for personal financial knowledge and experience. These indicators designed binary measures where each answer was either 0 (false) or 1 (true).

Findings:

Research Studies suggest that financial education significantly improves financial literacy. However, its effectiveness diminishes among individuals with low incomes and those living in economically disadvantaged (low- and lower-middle-income economies). However, the same experimental method study had some effect on Insurance behavior the same found a weaker impact in comparison with financial Savings, budgeting, or borrowing additionally other experimental studies conducted based on five-week educational programs based on goals setting or counseling had an impact on opening a saving account or writing budgets.

Conducted a study of two days of counseling for businesswomen in India by Filed et al (2016) Participants were randomly assigned to three groups: 1) women who attended training alone, 2) Women who invited a friend to attend with them, and a control group. Four months after the training, 3) Women who brought a friend reported making significantly more sales than the control group.

An early education study conducted on higher primary graders students undergone financial education programs found positive attitudes toward savings behavior. A follow-up test conducted a year after the educational program indicated that the positive results observed initially had persisted. However, although noticeable, these effects were comparatively smaller than those related to improved financial literacy. It remains uncertain whether financial education provided to students during school years has a lasting impact on their financial decision-making later in life. Therefore, financial educational programs majorly depend targeted audience, time, and intensity as well as the outcome of the financial behavior targeted.

Financial education relies on the extent to which people have direct control over the subject matter. It's more effective for topics like savings and record-keeping because people can take action right away after learning about them. On the other hand, topics like loan defaults reflect long-term behavior patterns and may not be as immediately influenced by education.

Conclusions:

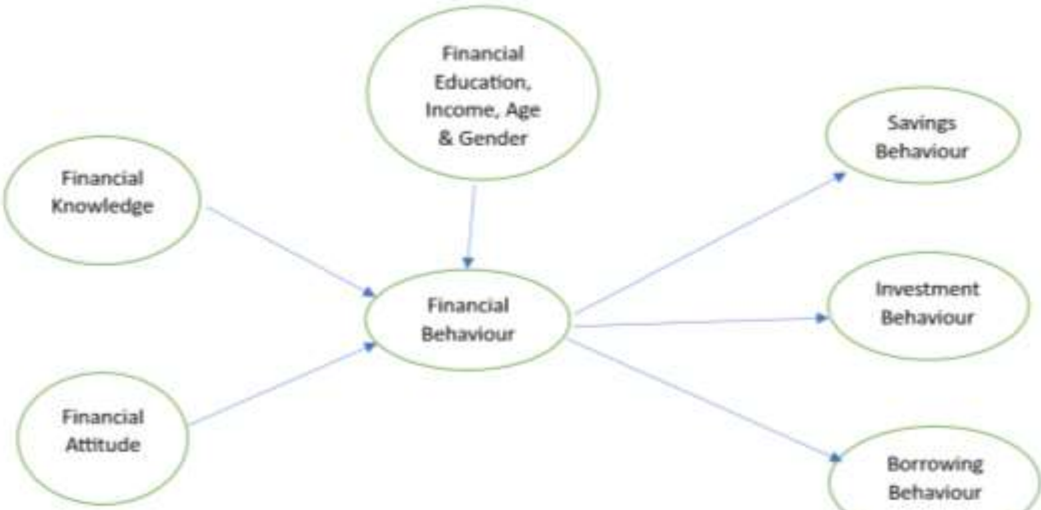
There are mixed opinions on whether financial education influences financial literacy, studies suggest that financial education may encourage positive changes in how people use finance in both emerging and advanced countries. However, the effect on financial literacy is modest. The effectiveness of financial education depends heavily upon factors such as the audience type and time of the intervention, as well as behaviors.

This paper’s objective is to provide a thorough review of research that examines the effectiveness of approaches to improving financial results by empowering consumers through financial education initiatives.

In addition, different methods of financial literacy measurable sources to identify the consumer behavioral patterns provided contribute to the study of financial literacy. Specifically, we explain various techniques for estimating individuals' financial abilities. when a direct measure of financial literacy is unavailable.

Conceptual Tools: As per earlier studies there is no such perfect financial literacy measurement model, We proposed the conceptual model to identify the impact of external factors such as Financial Education, Age, Income, and Gender over financial literacy measures influence on behavioral outcomes succeeded by Knowledge and Attitude typically to measure the individual banking behavior stands on four items such as **Savings Behaviour** (In terms of deposits and Safekeeping – Short-term in nature), **Investments Behaviour** (Risk Diversification over unknown incidents, building Income against inflation (Stock, Bonds, and Insurance for long term perspective), **Payments & receipts, and Borrowings Behaviour** (Purpose is the most criteria on behavioral impact over financial Short term and Long term requirements) on these items provided the multidimensional framework over financial literacy to measure over dependent variables.

Conceptual Model:



Conceptual Model: Source, Authors.

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