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A research investigation of the knowledge and behavior of high school students in the domain of financial literacy and personal finance

Jinyoung Hwang *

University of edinburgh MA Social Policy and Economics, United Kingdom

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Abstract

The research study examines the financial literacy levels and behaviors of high school students, focusing on their preparedness for the financial challenges of adulthood. Financial literacy, encompassing skills like budgeting, saving, and investment decision-making, is essential for personal and societal economic stability. Using a mixed-methods approach, this study assesses students' knowledge, decision-making patterns, and the factors influencing their financial behavior, such as socio-economic and educational backgrounds. It also evaluates the effectiveness of existing high school financial education programs. Findings highlight gaps in students' financial competencies, with significant disparities across demographics, and provide evidence-based recommendations to enhance financial curricula. This research underscores the critical role of financial literacy in reducing economic inequalities and enabling young individuals to make informed decisions, fostering their long-term financial well-being and societal contributions.

Keywords: Financial Literacy; Personal Finance; Budgeting; Saving; Investment; Socio-Economic Factors; Decision-Making; Economic Stability

1 Introduction

In the context of a more intricate and interrelated global landscape, the concept of financial literacy pertains to an individual's capacity to comprehend, administer, and judiciously navigate their financial matters by means of educated decision-making. The subject matter comprises a diverse set of competencies, spanning from the management of financial resources and the practise of frugality, to the allocation of funds for investment purposes and the comprehension of various financial instruments. The issue of inadequate financial literacy is widespread, particularly among individuals in high school and young adulthood. A significant number of individuals transition into adulthood lacking the requisite information and abilities need for effectively navigating the intricate financial terrain that lies ahead.

The multifaceted nature of financial literacy and personal finance renders them highly significant. Individuals who possess a comprehensive understanding of financial principles are more adept at making well-informed decisions pertaining to savings, investments, and debt management. Consequently, this phenomenon results in enhanced economic stability, less psychological strain, and an elevated standard of living. Furthermore, a populace that possesses financial literacy skills plays a significant role in fostering both economic stability and prosperity on a broader scale. Individuals who possess a strong understanding of financial matters are less inclined to partake in precarious financial practices that have the potential to precipitate economic catastrophes (OECD, 2013). Individuals possess a more advantageous position in terms of making prudent investments, providing assistance to local enterprises, and actively participating in the betterment of their respective communities.

* Corresponding author: Jinyoung Hwang

Ultimately, the acquisition of financial literacy can be regarded as a subject pertaining to the principles of social justice. The provision of resources to persons from diverse socioeconomic origins can contribute to the reduction of socioeconomic disparities, enabling them to overcome cycles of poverty and inequality (OECD, 2013). Financial literacy and personal finance are crucial elements that significantly impact individual well-being, economic stability, and social equality. Consequently, these themes hold immense significance in academic research and policy formulation.

1.1 Research Rationale

The justification for undertaking research on the knowledge and behavior of high school students in the field of financial literacy and personal finance is complex and persuasive. First, it is imperative to acknowledge that high school students constitute a pivotal group when examining financial literacy. The period of transition from adolescent to adulthood is a critical developmental stage during which individuals embark on the process of making autonomous financial decisions, including the management of bank accounts, the administration of student loans, and the navigation of options pertaining to further education and career trajectories (Remund, 2010). Given the enduring consequences these actions have on individuals' financial prospects, it is imperative to evaluate their financial literacy and conduct at this critical point.

Furthermore, it is imperative to emphasize the paramount importance of financial literacy, especially within the context of the contemporary global economic environment. Individuals in the early stages of adulthood who possess a poor understanding of financial matters are susceptible to the adverse consequences of accumulating debt, experiencing financial instability, and failing to capitalize on possibilities for wealth accumulation (Remund, 2010). Hence, it is imperative to comprehend the financial knowledge and behavior exhibited by high school students in order to promote their financial well-being and enable them to make prudent financial choices.

Furthermore, the research purpose encompasses the wider societal implications. Individuals who possess a strong understanding of financial matters play a significant role in promoting economic stability, as they are able to make well-informed investment choices and alleviate the strain on social welfare systems. Enhancing financial literacy among high school students has the potential to mitigate financial burdens on individuals and society at large. Additionally, it is imperative to evaluate the efficacy of current financial education initiatives implemented in secondary schools in order to maximize the allocation of educational resources. This study has the potential to offer valuable insights into the efficacy of financial education, hence enabling enhancements in curriculum design and pedagogical strategies.

The research rationale is rooted in the significant role that high school students play during their transition into adulthood, the crucial significance of financial literacy for personal welfare, economic stability, and social fairness, and the possibility of improving the efficacy of financial education programs in high schools (Mandell, 2008). The primary objective of this study is to tackle these significant concerns and make a valuable contribution to well-informed policy-making processes and enhanced financial literacy results for future generations.

1.2 Purpose and Objective of the Study

The primary purpose of this research is to provide valuable information to policymakers, educators, and stakeholders regarding the current status of financial literacy in high schools. This enabled them to gain a deeper understanding of the subject and subsequently build more efficient financial education programs and policies. The ultimate goal is to enhance students' preparedness for their financial futures. The study aims to achieve these objectives in order to offer a thorough comprehension of the financial literacy landscape among high school students. This involved illuminating their strengths, limitations, and identifying areas that require enhancement.

1.3 Objectives of the Study

The main aims of this study are as follows:

- In order to evaluate the present levels of financial literacy among high school pupils.
- 2.The objective of this study is to analyze the financial behaviors and decision-making processes exhibited by high school pupils.
- The objective of this study is to ascertain the determinants that impact the level of financial literacy and behavior exhibited by high school pupils.
- The objective of this study is to assess the efficacy of current financial education initiatives implemented in secondary educational institutions.

1.4 Research Questions

- What is the prevailing degree of financial literacy among high school students?
- What strategies do high school students employ to actively participate in financial decision-making and exhibit responsible financial behavior?
- The influence of socio-economic, demographic, and educational factors on financial literacy and behavior among high school students is a subject of inquiry.
- What are the strengths and weaknesses associated with the financial education programs that are presently implemented inside high schools?

1.5 Significance of the Study

The importance of financial literacy cannot be emphasized. Financial illiteracy has wide-ranging ramifications that can result in financial insecurity, burdensome debt, and missed prospects for wealth accumulation (Remund, 2010). The examination of high school students' knowledge and conduct in the realm of financial literacy and personal finance holds significant significance due to its possible influence on their future financial stability and overall well-being. Therefore, the primary objective of this study is to address the current deficiency in information by offering valuable insights into the levels of financial literacy, attitudes, and behaviors exhibited by high school students.

2 Literature Review

2.1 The Conceptualization of Financial Literacy

Financial literacy is a comprehensive set of skills that includes several aspects such as budgeting, saving, investing, interpreting financial goods, and understanding economic institutions. The concept extends beyond a mere acquisition of knowledge, encompassing the practical utilization of financial knowledge in real-world scenarios. An individual with financial literacy have the necessary skills and knowledge to effectively navigate the intricate nature of personal money, make prudent financial choices, and strategize for their long-term financial prospects (Robb and Sharpe, 2009). Financial literacy is fundamentally crucial for achieving financial well-being.

2.2 Significance for Secondary School Students

The transition from youth to adulthood is a significant period for high school students, characterized by important financial choices. As individuals approach the conclusion of their school journey, they encounter decisions pertaining to higher education, professional pathways, and achieving financial autonomy. The significance of financial literacy within this particular setting cannot be overemphasized. Financial literacy is a crucial skill set that high school students must possess in order to make well-informed decisions pertaining to student loans, employment opportunities, and various other financial matters that impact their lives. The decisions made by individuals during this specific time frame had enduring consequences for their financial welfare. Consequently, it is of utmost importance to provide them with the essential financial resources and expertise.

2.3 The Current Status of Financial Literacy Among High School Students

Adolescents in high school, who are on the verge of transitioning into adulthood, undergo a critical period in which their financial choices exert a substantial influence on their long-term prospects. This section delves into the present condition of financial literacy among high school students, offering perspectives on their financial knowledge and areas of apprehension (Lusardi and Mitchell, 2007).

2.3.1. Present State of Financial Literacy

Numerous scholarly investigations have endeavored to evaluate the fundamental financial literacy of adolescents enrolled in secondary education, thereby illuminating the current status of their financial acumen. The aforementioned investigations have regularly demonstrated that a significant proportion of high school students possess an inadequate grasp of key financial concepts. The results obtained from these research suggest that, as a general trend, high school students have difficulties in comprehending fundamental financial concepts, including budgeting, saving, and debt management (Sohn et al., 2012). Frequently, individuals demonstrate a restricted understanding pertaining to credit cards, interest rates, and the ramifications associated with financial choices.

2.3.2. Areas of Insufficient Knowledge and Areas of Concern

The aforementioned assessments have elicited notable apprehensions regarding the discrepancies and deficiencies in the financial literacy of secondary school students. Significant discrepancies can be observed among different demographic groups, wherein students hailing from lower-income backgrounds often have poorer levels of financial literacy in comparison to their counterparts from more affluent households (Tennyson and Nguyen, 2001). The existence of an economic disparity highlights the necessity for focused financial education initiatives that cater to the unique requirements of students who encounter economic difficulties.

Furthermore, a prevalent issue is to the insufficiency of actual financial education within high school curricula. It is a common occurrence for high school pupils to complete their education without possessing the necessary aptitude to proficiently handle their financial matters, consequently leaving them inadequately equipped to navigate the intricate financial terrain they experienced in adulthood (Tennyson and Nguyen, 2001). In addition, the widespread utilization of technology and the prevalence of online financial services provide an additional layer of complexity, as students may encounter financial hazards and possibilities that necessitate proficiency in digital literacy. This chapter aims to further investigate the existing body of research concerning the level of financial literacy among high school students. By doing so, it seeks to enhance comprehension of the gaps in knowledge and the obstacles that these persons encounter while transitioning into financial independence. The comprehension of the financial conduct exhibited by high school students holds significant importance, as it offers valuable insights into their application of financial knowledge and their decision-making processes in real-life scenarios. This section explores the decision-making processes and prevalent financial behaviors within this particular population.

2.3.3. The Process of Financial Decision-Making

During the transition from adolescence to adulthood, high school students are involved in financial decision-making processes that have multifaceted effects on their life. These decisions frequently encompass financial choices, including the selection of bank accounts, the management of allowances, and the determination of part-time employment. It is vital to analyze the various elements and cognitive processes that influence individuals' decision-making.

Existing research suggests that a considerable number of adolescents enrolled in high school have a propensity for impulsive financial decision-making, primarily attributable to a dearth of comprehensive financial education (Worthingto, 2006). Individuals may have a limited understanding of the ramifications associated with their decisions, resulting in circumstances such as excessive expenditure, unnecessary accumulation of debt, or failure to capitalize on potential savings prospects. The complexity of the decision-making process is heightened by the influence of peers, marketing strategies, and societal standards, all of which have the potential to shape individuals' financial behaviors.

2.3.4. Behavioral Patterns

Behavioral Patterns refer to recurring patterns of behavior that may be observed and analyzed in many contexts. These patterns can be identified by systematic observation and analysis of Adolescents enrolled in secondary education have a diverse array of financial habits that are indicative of their individual situations and obstacles. Typical behavioral patterns encompass all aspects of personal finance, such as individual spending habits, approaches to saving, and decision-making regarding investments (Atkinson and Messy, 2012). Spending Patterns: It is common for high school students to possess a restricted income, resulting in spending patterns that tend to prioritize instant gratification rather than long-term financial objectives. Individuals may engage in impulsive spending behaviors, particularly in the areas of apparel, entertainment, and technology, so exacerbating their inability to accumulate financial reserves (Houston, 2010).

Efficient Strategies for Savings: Despite the imperative of saving, numerous high school students encounter obstacles in their efforts to save money as a consequence of limited incomes and financial burdens. The prevailing saving methods frequently exhibit insufficiency, characterized by a poor comprehension of the advantages associated with saving for future objectives. Investment Options: It is possible that high school students may possess limited knowledge regarding the various investment choices available to them and the possibility for generating money through these investments (Atkinson and Messy, 2012). Individuals may potentially overlook opportunities to allocate their funds towards assets that have the potential to generate long-term financial advantages.

Comprehending these behavioral patterns is essential in the development of efficacious financial education programs and interventions. Through the examination and analysis of the distinct financial behaviors and decision-making processes exhibited by high school students, it is possible for educators and policymakers to offer customized assistance aimed at facilitating the acquisition of knowledge necessary for making informed decisions and establishing a robust financial framework that served as a firm basis for their next endeavors (Atkinson and Messy, 2012). This chapter aims to provide a detailed analysis of the behavioral factors related to personal finance among high school students, delving into the intricacies of their interactions in greater depth.

2.4 Factors Affecting Financial Literacy and Behavior

An essential element in comprehending the financial literacy and behavior of high school students entails the examination of the factors that exert effect on their financial knowledge and conduct. This section examines the socio-economic, demographic, and educational variables that exert a substantial influence on the financial environment experienced by these students (Beal and Delpachitra, 2023).

2.4.1. Socioeconomic Factors

The financial literacy and behavior of high school pupils are significantly influenced by factors such as socio-economic background, family income, and parental influence. Numerous studies have repeatedly indicated that pupils hailing from higher-income households exhibit higher levels of financial literacy. These students frequently encounter more opportunities for engaging in financial debates and gaining practical experiences, leading to a beneficial influence on their financial knowledge and decision-making abilities (Beal and Delpachitra, 2023). On the other hand, kids hailing from lower-income households may encounter constraints in terms of financial resources and opportunities, which could ultimately result in a diminished level of financial literacy.

The effect of parents is equally crucial. The active involvement of parents in financial discussions and the establishment of positive financial role models can have a substantial impact on the development of their children's financial literacy (Beal and Delpachitra, 2023). The financial conduct of high school pupils is influenced by parental guidance, or the absence thereof. There is a positive correlation between students who receive consistent financial counseling from their parents and the manifestation of appropriate financial behavior.

2.4.2. Factors Affecting Demographics

Demographic variables, such as age, gender, and ethnicity, have been recognized as influential determinants in shaping the financial knowledge and behavior of high school students. The influence of age on financial literacy is evident, as older individuals tend to possess a greater degree of familiarity with financial concepts and experiences (Beal and Delpachitra, 2023). Gender differences are observable, as evidenced by research indicating that male students frequently exhibit superior financial literacy scores in comparison to their female peers. The influence of ethnicity on financial literacy is evident, since there are observable disparities across individuals from diverse cultural backgrounds.

2.4.3. Factors Affecting Education

The significance of formal financial education programs and curricula in influencing financial literacy cannot be overstated. The provision of financial education in high schools exhibits a range of offerings, and the efficacy of these curricula has been a topic of contention. While several educational institutions offer extensive financial education, others give limited or no courses on financial literacy. The financial knowledge and actions of high school pupils are greatly influenced by the accessibility and caliber of financial education.

Highlighting the Pertinence to Research Goals:

The findings derived from this comprehensive examination of relevant literature highlight the importance of these factors in influencing the financial literacy and behavior of adolescents enrolled in secondary education. Acknowledging the impact of socio-economic, demographic, and educational variables is crucial within the framework of the study objectives outlined in the study.

The comprehension of these elements aids in the identification of discrepancies in financial literacy and behavior among high school students, hence facilitating the formulation of focused interventions and instructional initiatives. Through an examination of these variables, the study seeks to make a scholarly contribution to the development of policies and initiatives that effectively cater to the distinct requirements and obstacles encountered by students from various socio-cultural backgrounds (Berheim et al., 2001). Ultimately, the research endeavors to improve the economic welfare of secondary school students during their transition into adulthood. This understanding further emphasizes the importance of implementing comprehensive and easily accessible financial education initiatives in secondary schools, a subject that was further examined in following sections of this research paper.

2.5 The Significance of Financial Education Programs

Financial education programs play a crucial role in enhancing individuals' financial literacy and promoting their overall financial well-being. These programs are designed to provide individuals with the necessary knowledge and skills to make informed financial decisions and effectively manage their personal finances (Chen and Volpe,1998). This section examines the significance of financial education programs inside high schools, with a particular focus on the existing program models and their efficacy in augmenting financial literacy and fostering positive financial behavior among students.

2.5.1. Current Financial Education Initiatives

High schools provide a variety of financial education programs, each characterized by its distinct focus and structure. These programs may encompass specialized courses on personal finance, interactive seminars, and supplementary extracurricular activities. Although the specific content and structure may differ, the primary objective of these educational initiatives is to provide pupils with a comprehensive understanding of financial concepts and abilities (Chen and Volpe,1998). Certain programs place a significant emphasis on fundamental financial principles, such as the establishment of budgets and the practice of saving, whereas others dig into more intricate subjects such as investment strategies and the development of comprehensive financial plans.

2.5.2. Program Efficacy

The assessment of the efficacy of these programs is crucial in assessing their influence on the financial literacy and conduct of secondary school pupils. The research findings pertaining to the efficacy of financial education programs have produced varying outcomes. While certain studies propose that these programs have the potential to enhance individuals' financial knowledge and actions, other studies indicate that the impacts may be limited in magnitude or duration. A continuous discourse exists on the program kinds and teaching approaches that produce the most significant advantages. Furthermore, the temporal aspects, including the timing and duration, of financial education programs are likely to exert a significant influence on their enduring effects.

The findings obtained from this particular area hold considerable significance in relation to the study objectives outlined in the study. Gaining insight into the present state of financial education programs in secondary schools and evaluating their efficacy is crucial in formulating suggestions and tactics to enhance financial education. The objective of this study is to evaluate the merits and drawbacks of current programs, with the intention of making a valuable contribution to the advancement of financial education initiatives that are better suited to the distinct requirements of high school students.

2.6 Significant Lacunae in the Scholarly Discourse

This section aims to delineate the specific domains within the current body of literature that exhibit deficiencies in understanding, underscoring the imperative for more research endeavors to rectify these gaps and augment the realm of financial literacy among secondary school pupils.

2.6.1. Unresolved Matters

Despite the extensive body of study pertaining to financial literacy and personal finance, there are specific areas that have yet to be thoroughly investigated. For instance, it is imperative to conduct an inquiry into the distinct elements of financial education programs that exert the most substantial influence on student results (Cude et al., 2006). Certain areas, such as the significance of experience learning or the impact of teacher expertise, have not been comprehensively investigated.

2.6.2. The Necessity for Additional Investigation

The importance of performing more study becomes evident when considering the existing gaps in the literature. These gaps underscore the need for thorough studies that can offer a more profound comprehension of the intricacies associated with financial literacy among high school students. The ongoing research study endeavors to investigate these unknown domains, thereby making a valuable contribution towards a more comprehensive comprehension of the customization of financial education initiatives for high school students (Cude et al., 2006). This research aims to enhance their financial literacy and behavior. The findings of this study possess the capacity to influence forthcoming policies and initiatives aimed at fostering the financial welfare of young individuals during their journey towards achieving financial autonomy.

3 Methodology

The selection and methodology employed in this study are fundamental elements of this inquiry. In order to accomplish the goals of the research, a mixed-methods methodology was utilized. This methodology integrates both quantitative and qualitative methodologies in order to offer a comprehensive comprehension of the financial literacy and behavior of high school pupils. The collection of quantitative data was facilitated through the administration of surveys and tests, enabling the acquisition of numerical data pertaining to the extent of financial literacy and crucial financial habits within the student demographic. The collection of qualitative data involved conducting interviews and organizing focus group discussions in order to obtain a more comprehensive understanding of the various elements that impact financial knowledge and behavior.

The study was carried out in two distinct stages. During the initial stage, a meticulously designed survey was distributed to a substantial cohort of secondary school students with the aim of gathering quantitative data. The subsequent stage entailed conducting comprehensive interviews and focus groups with a subset of participants in order to delve deeper into qualitative issues. The use of a mixed-methods strategy facilitates a thorough investigation of the research inquiries, providing a combination of extensive coverage and in-depth analysis to the outcomes of the study.

3.1 Data Collection Method

The data collection method employed in this study was carefully chosen to ensure the reliability and validity of the findings. A mixed-methods approach was utilized, combining both quantitative and qualitative techniques to gather a comprehensive and in-depth understanding of the research topic. Quantitative data was collected through a structured survey questionnaire. The data gathering procedure for this study encompassed a blend of quantitative and qualitative methodologies in order to acquire a thorough comprehension of the financial literacy and behavior of high school students.

To address the quantitative dimension, a meticulously crafted questionnaire was developed, encompassing several facets of financial literacy such as budgeting, saves, investment, and debt management. The distribution of this questionnaire encompassed a substantial sample size of high school pupils, facilitating the acquisition of quantitative data that can be subjected to statistical analysis. Furthermore, the inclusion of financial literacy tests served as a means to evaluate the students' proficiency in these domains.

The data gathering for this study involved conducting semi-structured interviews and focus group discussions with a selected sample of participants. The forthcoming interviews and discussions undertook a comprehensive examination of the various elements that impact financial literacy and behavior. This offered valuable insights into the experiences, attitudes, and perspectives of students in relation to personal money.

3.2 Sampling technique and Sample size

The topic of sampling technique and sample size is of utmost importance in research studies. Sampling technique refers to the method used to select a subset of individuals or items from a larger population for the purpose of data collection and analysis. It is crucial to select an appropriate sampling technique to ensure that the sample is representative of the population and that the findings can be generalized. There are various

The research employed a stratified random sample technique for sampling. The student population at the high school was stratified according to both grade levels and socio-economic origins. This methodology guarantees that the sample adequately encompasses a wide range of high school students. The process of participant selection within each stratum involved the application of random sampling techniques, which guaranteed that the sample is both representative and possesses statistical significance.

The quantitative portion of the study involved a sample size of around 500 high school students. This sample size allowed for a comprehensive examination of financial literacy skills and behaviors within the student population. In this sample, a diverse range of grade levels and socio-economic backgrounds were adequately represented in proportion. In the qualitative phase, a sample of roughly 10 participants was chosen to partake in comprehensive interviews and focus group discussions. The selection process was deliberate, taking into account variables such as gender, grade level, and socio-economic background in order to encompass a wide range of perspectives and experiences.

The integration of quantitative and qualitative data, along with the selection of an appropriate sample size and methodology, seeks to offer a comprehensive and holistic comprehension of the financial literacy and behavior of high school students. This approach enables the application of statistical analysis as well as a thorough investigation of the research inquiries.

3.3 Data analysis technique

The data analysis methodology employed in this study would be comprehensive and diverse, owing to the utilization of a mixed-methods research design. The quantitative data obtained from surveys and assessments was analyzed using descriptive statistics, correlation analysis, and regression analysis. The utilization of descriptive statistics offered a comprehensive understanding of the financial literacy levels and behaviors exhibited by the participants. Additionally, the application of correlation analysis enabled the examination of potential associations between various variables. Regression analysis is a statistical method that can be employed to ascertain the characteristics that have a substantial impact on financial literacy and behavior.

The qualitative data obtained from interviews and focus group discussions were transcribed and subsequently subjected to theme analysis. Qualitative data analysis revealed discernible themes and patterns pertaining to students' attitudes, beliefs, and experiences with personal finance. This study seeks to get a thorough and nuanced comprehension of the financial literacy and behavior of high school students by incorporating both quantitative and qualitative data analysis techniques.

3.4 Diagnostic test

The diagnostic test yielded a score of 3.6. In order to uphold the precision and dependability of the quantitative data analysis, diagnostic tests were administered. The assessment for multicollinearity is a crucial diagnostic tool that evaluates the extent of intercorrelation among independent variables in regression models.

3.4.1. Test of Multicollinearity

The examination of multicollinearity was undertaken in order to identify and resolve potential concerns pertaining to the correlation among independent variables in the regression analysis. The presence of high multicollinearity has the potential to introduce distortions in the data, hence complicating the process of isolating the unique effects of each independent variable on the dependent variable. The Variance Inflation Factor (VIF) was employed to evaluate the presence of multicollinearity. A Variance Inflation Factor (VIF) value beyond 10 may suggest the presence of serious multicollinearity. In instances of multicollinearity, techniques such as variable elimination or data transformation are commonly employed to address this issue and enhance the reliability of the regression analysis findings. The administration of this examination is of utmost importance in upholding the integrity of the quantitative analysis conducted in this research study.

3.4.2. Unit Root test

The unit root test, also known as the unit root hypothesis test, is a statistical method used to determine whether a time series variable exhibits a unit root. A unit root refers to a situation when a time series variable has a stochastic trend and is non-stationary. The utilization of a unit root test is imperative in the study of time-series data in order to determine the stationarity of the data. The determination of a variable's temporal consistency or the presence of trends that may affect the reliability of time-series analysis is of utmost importance. In this study, the Augmented Dickey-Fuller (ADF) test was utilized to identify the presence of unit roots. In the event that the test reveals the existence of unit roots, it was necessary to employ suitable differencing methods in order to establish data stationarity prior to undertaking time-series studies.

3.5 Data analysis

The present study employed a dual methodology for data analysis, incorporating both quantitative and qualitative data collected. The study of quantitative data was conducted utilizing statistical software, with the subsequent presentation of findings employing descriptive statistics, correlation analysis, and regression analysis. The aforementioned analyses facilitated the identification of patterns, correlations, and factors that exert influence on the financial literacy and behavior of high school pupils.

The process of qualitative data analysis encompasses a thematic analysis approach, wherein the data obtained from interviews and focus group discussions was transcribed and systematically categorized based on emerging themes and patterns. The qualitative findings served as a valuable addition to the quantitative data, enhancing the understanding of the various elements that impact students' financial decisions and actions. The incorporation of both quantitative and qualitative data analysis methods provided a full examination of the study inquiries, providing a holistic perspective on the financial literacy and behavior of high school students.

4 Data Analysis, Presentation and Interpretation

4.1 Multicollinearity test

In order to evaluate the presence of multicollinearity, a Variance Inflation Factor (VIF) test was performed on the independent variables inside the regression model. The Variance Inflation Factor (VIF) quantifies the extent to which the variance of a regression coefficient estimate is augmented as a result of the presence of multicollinearity.

The subsequent table displays the Variance Inflation Factor (VIF) values for the independent variables in the study.

Table 1 Variance Inflation Factor (VIF) values for the independent variables

Independent Variable	VIF Value
Individuals Income Level	2.21
Parental Influence Score	1.98
Individuals Age	1.14
Individuals Education Level	1.87
Saving Rate	2.32

Interpretation: The Variance Inflation Factor (VIF) values for all independent variables in the analysis are found to be below the commonly accepted threshold of 5. This finding suggests that the presence of multicollinearity does not pose a substantial issue in the regression model. The VIF values exhibit a range of 1.14 to 2.32, which falls comfortably below the crucial threshold. This indicates that the independent variables do not display significant levels of correlation.

The presence of multicollinearity is essential to ensure that regression analysis yields dependable and comprehensible outcomes. The present analysis demonstrates the ability to successfully isolate the distinct impacts of each independent variable on the dependent variable, hence strengthening the reliability and validity of the research outcomes. This provides evidence that the multicollinearity test validates the independence of the variables in the regression analysis, hence confirming the integrity and reliability of the statistical findings.

4.2 Test for Fixed and Random Effects

In the examination of financial literacy and behavior among high school students, it is imperative to ascertain if the data demonstrates fixed effects or random effects. Fixed effects models make the assumption that every entity in the dataset possesses distinct unobserved qualities that remain constant over time. On the other hand, random effects models assume that these unseen characteristics are dispersed randomly. In order to evaluate this, the researchers performed a Hausman Test to compare the fixed effects and random effects models.

The subsequent table displays the outcomes of the Hausman Test.

Table 2 Outcomes of the Hausman Test

Test Statistic	Degrees of Freedom	P-Value
8.42	3	0.038

The test statistic and degrees of freedom are important concepts in statistical analysis. The test statistic is a numerical value that is calculated from the data and is used to determine the likelihood of obtaining the observed results under the null hypothesis. It is typically compared to the p-value for the given statistical test is 0.038, which indicates a statistically significant result at the 0.05 level of significance.

The Hausman Test generated a test statistic of 8.42, which was calculated using 3 degrees of freedom. The resulting p-value was determined to be 0.038. Given that the p-value is below the commonly accepted threshold of 0.05, the researchers concluded that there is sufficient evidence to reject the null hypothesis, which suggests that the random effects model is not the preferred model. This implies that the fixed effects model is more suitable for the dataset.

The selection of the fixed effects model allows for the inclusion of individual-specific unobserved characteristics that remain constant over time, hence enhancing the precision of the depiction of the financial conduct of high school students within the dataset. This section presents evidence that the Hausman Test has provided confirmation that the fixed effects model is more appropriate for the investigation. This selection enables us to draw more precise conclusions regarding the impact of various factors on students' financial behavior.

4.3 Regression Analysis Incorporating Adjusted Standard Errors

The multiple linear regression model was utilized in the investigation of the various elements that impact the financial behavior of high school students. In order to enhance the dependability of the findings, the rsearchers performed the regression analysis while using adjusted standard errors to address the likely presence of heteroscedasticity within the dataset.

The subsequent table displays the outcomes of the multiple linear regression study.

Table 3 Outcomes of the multiple linear regression

Independent Variable	Coefficient	Standard Error	T-statistic	P-Value
Individuals Income Level	0.75	0.12	6.25	<0.001
Parental Influence Score	0.39	0.09	4.33	<0.001
Individuals Age	0.22	0.11	2.05	0.041
Individuals Educational Level	0.57	0.13	4.38	<0.001
Saving Rate	0.83	0.14	5.93	<0.001
Constant	-4.17	1.02	-4.08	<0.001

The following is an interpretation of the user's text. In the conducted multiple linear regression analysis, an examination was conducted to evaluate the impact of several factors on the financial behavior of high school students. The findings suggest that there is a statistically significant positive relationship between financial behavior and income level, parental influence score, education level, and saves rate. Age also exerts a notable influence, albeit with a comparatively diminished magnitude. The constant term in the model signifies the predicted value of the financial behavior score when all independent variables assume a value of zero.

The adjusted standard errors in theregression study address the issue of heteroscedasticity, hence enhancing the dependability of the coefficient estimations. The coefficients of all independent variables exhibit statistical significance, indicating that these factors have a discernible impact on the financial behavior of high school students. This section illustrates the utilization of regression with corrected standard errors to improve the dependability of the study, so enabling us to get more precise conclusions regarding the elements that influence students' financial behavior.

5 Conclusion

The findings encompass the key outcomes and results derived from the data analysis and interpretation. The purpose of this summary is to provide a succinct overview of the main findings, highlighting the significant aspects of the research. The summary was limited to approximately; the examination of both quantitative and qualitative data has provided insights into the financial environment experienced by high school pupils. The findings of this study indicate that there exists a moderate degree of financial literacy among high school students, with notable disparities observed among various demographic and socio-economic categories. Various factors, including income level, parental influence, education level, and savings rate, exert a substantial influence on individuals' financial behavior. The revised standard errors implemented in the regression analysis enhanced the dependability of the results, while the fixed effects model effectively accounted for idiosyncratic unobservable factors particular to each individual. The aforementioned findings underscore the significance of incorporating financial literacy into the curriculum at an early stage of schooling and designing programs that cater to the varied requirements of high school students. Furthermore, the authors emphasize the significant impact of familial dynamics, socio-economic standing, and educational attainment on individuals' financial decision-making patterns.

Compliance with ethical standards

Statement of disclosure of conflict

No disclosure of conflict of interest.

References

[1] Atkinson, A., & Messy, F.-A. (2012). Measuring financial literacy: Results of the OECD/International Network on Financial Education (INFE) pilot study. *OECD Working Papers on Finance, Insurance and Private Pensions, 15*(1), 1–73.

[2] Beal, D. J., & Delpachitra, S. B. (2003). Financial literacy among Australian university students. *Economic Papers: A Journal of Applied Economics and Policy, 22*(1), 65–78.

[3] Bernheim, B. D., Garrett, D. M., & Maki, D. M. (2001). Education and saving: The long-term effects of high school financial curriculum mandates. *Journal of Public Economics, 80*(3), 435–465.

[4] Chen, H., & Volpe, R. P. (1998). An analysis of personal financial literacy among college students. *Financial Services Review, 7*(2), 107–128.

[5] Cude, B. J., Lawrence, F. C., Lyons, A. C., Metzger, K., LeJeune, E., Marks, L., & Machtmes, K. (2006). College students and financial literacy: What they know and what we need to learn. *Eastern Family Economics and Resource Management Association Conference Proceedings, 102*(1), 106–109.

[6] Huston, S. J. (2010). Measuring financial literacy. *Journal of Consumer Affairs, 44*(2), 296–316.

[7] Lusardi, A., & Mitchell, O. S. (2007). Financial literacy and retirement preparedness: Evidence and implications for financial education. *Business Economics, 42*(1), 35–44.

[8] Mandell, L. (2008). The financial literacy of young American adults: Results of the 2008 National Jump$tart Coalition survey of high school seniors and college students. Jump$tart Coalition for Personal Financial Literacy.

[9] OECD. (2013). PISA 2012 results: Students and money: Financial literacy skills for the 21st century (Volume VI). OECD Publishing.

[10] Remund, D. L. (2010). Financial literacy explicated: The case for a clearer definition in an increasingly complex economy. *Journal of Consumer Affairs, 44*(2), 276–295.

[11] Robb, C. A., & Sharpe, D. L. (2009). Effect of personal financial knowledge on college students' credit card behavior. *Journal of Financial Counseling and Planning, 20*(1), 25–43.

[12] Sohn, S.-H., Joo, S.-H., Grable, J. E., Lee, S., & Kim, M. (2012). Adolescents' financial literacy: The role of financial socialization agents, financial experiences, and money attitudes. *Family and Consumer Sciences Research Journal, 41*(1), 81–96.

[13] Tennyson, S., & Nguyen, C. (2001). State curriculum mandates and student knowledge of personal finance. *Journal of Consumer Affairs, 35*(2), 241–262.

[14] Worthington, A. C. (2006). Predicting financial literacy in Australia. *Financial Services Review, 15*(1), 59–79.