

# **Navigating Finance: Exploring Student Financial Literacy and Decision-Making in 2023**

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*Abstract: Financial literacy has emerged as a critical skill for students in the modern world. This study investigates the financial knowledge, behavior, and attitudes of students across various countries in 2023. The research employs a quantitative approach to analyze students' financial awareness, attitudes, and knowledge regardless of the source of their financial resources. Additionally, demographic information like social status and academic achievements is considered. The findings reveal a positive association between financial literacy and active financial behavior and decision-making. Students who acknowledge their*

*limitations in financial knowledge (e.g. lack of confidence in managing their finances) demonstrate a willingness to seek guidance from financial advisors or pursue financial education opportunities. Furthermore, students with access to financial assistance exhibit higher levels of financial literacy, as evidenced by their proclivity towards saving, emergency fund creation, and retirement planning. This study highlights the need to address identified weaknesses in students' financial literacy. The results underscore the significance of both general financial literacy and personal financial education, particularly in higher education settings. Ultimately, the research emphasizes the importance of implementing initiatives to enhance financial literacy education for students globally.*

*Keywords:* Financial literacy, Finance, Financial Awareness, Financial education

## 1 Introduction

Financial literacy is an important component of personal financial management, and it is critical that individuals understand financial concepts in order to make informed financial decisions. As young adults, college students are at the stage of making important financial decisions that will affect their future [1]. Therefore, it is essential that they have good financial literacy in order to effectively manage their finances. The research contributes to existing knowledge by building upon previous findings, such as those presented in the PISA 2022 Results report [2] and the OECD/INFE 2023 international survey [3], which highlight the global importance of financial literacy education.

This study examines the level of financial literacy among students in different countries.

To make wise financial decisions and protect their financial future, students need to be financially literate. As society and technology develop, financial issues are becoming more complex, making financial literacy more important than ever. Rising debt levels, stagnant earnings, and declining savings rates are all signs of lack of financial literacy among students [4]. According to this theory, financial literacy is essential for students to graduate with a solid understanding of finance and be able to cope with any future financial challenges. Students can secure a secure financial future by making financial education a priority and learning the knowledge and skills necessary to manage their money wisely, make wise financial decisions, and prepare for long-term investments. Previous studies have shown that students are not as financially literate as they should be. For example, Chen and Volpe [5] found that college students had a limited understanding of basic financial concepts such as interest rate, inflation, and savings.

Financial literacy has been found to have a significant impact on financial behavior and decision-making. Ciszárik-Kocsir and Varga [6] have found that those students who participated in financial studies and gained financial knowledge had more

decisive financial plans in their savings and financial matters an achieved higher level of financial literacy. Fernandes, Jr., and Netemeyer [7] discovered that individuals with high financial literacy were more likely to engage in positive financial behaviors, such as saving money and investing in retirement accounts. However, as found by Csiszárík and Varga [6] around 50% of students in higher education do not have basic financial knowledge. To improve financial literacy among students, efforts have been made through financial education programs.

The purpose of this study is to extend prior research by examining university students' levels of financial literacy, identifying gaps in their knowledge, and exploring how financial literacy affects financial behavior and decision making. Understanding the impact of financial knowledge on financial behavior will contribute to the development of effective financial education programs for young adults [8]. The structure of this paper is as follows: after a literature review, the research design and data collection methods are presented, followed by the research hypotheses, findings and results. The paper closes with a discussion and conclusion section.

## 2 Literature review

According to a study by Ahumada-Maldonado and Sanchez-Lujan [9], students in higher education exclude money management, even if they are majoring in finances, business administration or accountancy. It also found that they spend more than what they earn and are not accustomed to budgeting for themselves.

When it comes to investments among Millennials and Generation Z, a recent survey [10] found that time deposits, savings accounts, and insurance are popular, with about 40% of respondents investing in shares and mutual funds. The findings indicate that the Internet and television are the most effective sources of financial literacy for Millennials and Generation Z.

Through in survey conducted in 2019, Aydin [11] found that financial knowledge, attitude, and behavior scores were low but increased significantly each year from freshman year to master's program. Additionally, students who were financially influenced by their parents had higher financial knowledge, attitude, and behavior scores [6]. Finally, students with higher financial knowledge also had higher financial attitude and behavior scores.

Baseline data collected prior to financial invention [12] revealed that parental financial socialization had a positive impact on adolescent financial behavior, mediated by financial learning outcomes and psychological transformation, in sequence.

Data from a recent study [13] on the financial skills and the economic strength of students in different regions shows, that there is a considerable association between

employment and study, with an average of 39% of students working across the participant countries. Furthermore, the study found that working and studying together helps young people develop the skills they need for their current jobs and makes the transition from school to work easier and faster. The study also found that the association between employment and schooling varied by educational background and major. One study [14] that examined gender differences in personal finance knowledge found that, on average, women were less knowledgeable about personal finance than men.

A recent study [15] reveals the interrelationships among the dimensions of financial literacy, money ethics, and time preference in an emerging economy with relatively little experience with the formal financial system and unstable macroeconomic conditions.

Furthermore, according to a recent study conducted by Lisardi [16], financial literacy affects everything from day-to-day financial dimensions to long-term financial decisions, which affects both individuals and society. Low levels of financial literacy in countries correlate with ineffective spending and financial planning, high borrowing and debt management, especially among student groups. As Maslov states [17], financially literate individuals are no longer dependent on external factors or the decisions of others. They have the freedom to independently choose their life path and build a financially successful future.

However, Norvilities et al. [18], who investigated student debt behavior, found that lack of financial knowledge, age, number of credit cards, delay of satisfaction, and attitude toward credit card use were associated with debt. Sensation seeking, materialism, Student Attitude toward Debt scale, gender, and grade point average were not unique predictors of debt. Students in the European region who reported greater debt reported greater stress and lower financial well-being. A study on student financial literacy [19] also found the likelihood of male and female students working was on average about the same and the same in most countries. Students whose fields of study are health and social work, teacher training and educational sciences, and humanities, languages, and arts are most likely to be employed. One of the papers by Sherbakova [20] discusses interactive teaching strategies that increase the content and delivery options of the discipline of "financial literacy" and enhance the effectiveness of the educational process. The study by Zhu [21] explores the relationship between school financial education and parental financial socialization among adolescents in Hong Kong. The research findings suggest that both school financial education and parental financial socialization are positively associated with financial literacy and financial behavior among Hong Kong adolescents. The study also highlights the importance of school-parent collaboration in providing effective financial education to young people.

Mataeva et al. [22] analyzed the financial literacy of students at Chechen State Pedagogical University. Suggestions were made regarding how to divide time to

help students become financially literate. They also advised the use of various management types when assessing learning outcomes.

While much of the previous research focused on the importance of financial education and the role of schools and the families, few studies examined personal characteristics such as self-confidence or the role of outside financial consultant when examining students' financial literacy and financially awareness behavior. As a result of our literature review, we were able to identify the research gaps described above, develop a research design, and formulate research questions and hypotheses, which will be presented in the Research method section.

### **3 Research Design and Methods**

The present study aims to examine the level of financial literacy among university students, identify knowledge gaps, and examine the relationship between financial awareness, financial behavior, and decision-making. Since financial literacy has been found to significantly influence financial behavior and decision-making, it is important to develop effective financial education programs for young people. Based on previous research results the present study aims to explore the following research questions:

- 1) What is the level of financial literacy among university students?
- 2) What are the gaps in their financial knowledge?
- 3) How does financial awareness affect financial behavior and decision-making among university students?

This research aims to contribute to the development of effective financial education programs for young people by gaining insight into college students' financial awareness levels and identifying knowledge gaps. In addition, the study examines the impact of financial awareness on college students' financial behavior and decision-making, which may influence the development of tailored financial education programs. The study may have limitations, such as the use of convenient sampling methods, which may affect the generalizability of the results. Additionally, the study will rely on self-reported data, which may be subject to response bias. Finally, the study focused on university undergraduates, which limits the generalizability of the results to other settings.

Based on the literature review and the research questions, the following research model on financial literacy and behavior was developed (Figure 1).

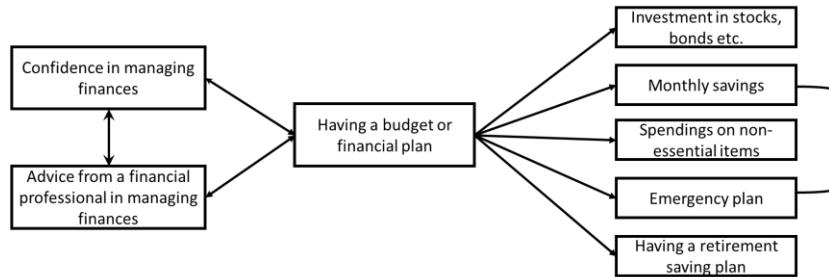


Figure 1.  
Research design on financial literacy and financial behavior

Apart from the factors included in the above research model (Figure 1), the influence of credit card ownership, or the fact of having received a large sum as a gift from a family member on having a loan was also examined (Figure 2).

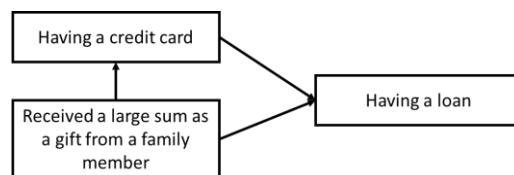


Figure 2.  
Relationship between having the existence of a credit card, reception of gift money and having a loan.

Furthermore, the influence of some demographic characteristics was analyzed in the case of various statements related to financial awareness and literacy, as for example in the case of having a budget or financial plan, or having some savings, retirement plan etc. [23]. To address the research objectives, the following hypotheses are tested:

- H1<sub>1</sub> As students get older, they start to save more money.
- H2<sub>1</sub> Students with higher degrees of education save more money (monthly savings, emergency fund and retirement savings plan).
- H3<sub>1</sub> Having a financial budget or financial help among students, i.e. being financial literate, has a significant impact on financial behavior, that is having investment in stocks, bonds, having monthly savings, emergency plan and retirement plan.
- H4<sub>1</sub> Regular savings lead to the existence of an emergency fund.
- H5<sub>1</sub> Financially literate students (having a financial budget or plan) tend not to spend on non-essential items.
- H6<sub>1</sub> Students with less confidence in managing their finances seek advice from a financial professional while they do not have a financial budget or financial plan.
- H7<sub>1</sub> Student who turn to financial professionals tend to have a financial budget.

H8<sub>1</sub> Credit card ownership increases the probability of taking loans.  
H9<sub>1</sub> Gift money from a family member to pay off debts reduces the probability of taking loan and having a credit card.

This research adopts survey research design and quantitative analysis method. Data was collected via a self-developed, self-administered, two-part questionnaire: demographic information and questions about financial literacy, behavior and decision-making. All participants were informed about the study prior to participation and received an online informed consent form. Due to the online distribution of the questionnaire, convenient type sample was employed. Based on the topic of the research quantitative type research was conducted which included voluntary anonymous convenient sampling method to select students aged 16 and over. To ensure confidentiality, all data collected are treated confidentially, and participants' identities are kept anonymous throughout the study.

In the survey, financial knowledge was measured by a series of questions covering basic financial concepts. To measure financial behavior and decision-making, participants were asked to respond to statements related to their financial habits and attitudes. The questionnaire consisted of two parts: the first part gathered some demographic information, while the second part included questions related to financial knowledge, behavior, and decision-making. Likert scale type questions and statement were mostly used, next to Yes/No questions. Statistical analyses were used to analyze the data collected from the questionnaires, including a descriptive approach to the sample's demographic characteristics and financial literacy levels. Correlation analysis and independence testing (Chi2, Cramer's V and Fisher's Exact test) were conducted using MS Excel and SPSSv25. All the data are treated confidentially, ensuring participants' anonymity throughout the study.

### **3.1 Demographic profile**

The study collected a total of 95 responses from various countries. Table 1 displays the demographic profile of the respondents.

	Column n %	Country	n
<b>Gender</b>			
Female	67.4%	Russia	29
Male	32.6%	Kyrgyzstan	26
<b>Total</b>	<b>100.0%</b>	Mexico	13
<b>Age groups</b>		Hungary	7
17-21	31.6%	Kazakhstan	5
22-26	48.4%	Brazil	2
27-31	12.6%	Jordan	2
32-36	7.4%	Laos	2
<b>Total</b>	<b>100.0%</b>	Belarus	1
<b>Education level</b>		China	1
Bachelor	38.9%	Ecuador	1
Master	33.7%	Indonesia	1
PHD	2.1%	Nigeria	1
Undergraduate	25.3%	Serbia	1
<b>Total</b>	<b>100.0%</b>	South Africa	1
		Turkmenistan	1
		United States of America (USA)	1
		<b>Total</b>	<b>95</b>

Table 1.  
Demographic profile of the respondents

Russia had the highest representation with 30.53%, followed by Kyrgyzstan accounting for 27.37% of the respondents, and Mexico representing 13.68%. While Hungary accounted for 7.37% of the respondents, Kazakhstan comprised 5.26%, and Ecuador, Brazil, South Africa, Laos, Turkmenistan, China, Nigeria, Jordan, and the United States, each constituted 1.05% of the sample.

More than two thirds (67.24%) of the respondents identified as female and 32.76% as male. The sample population consisted of individuals within the age range of 22–26, comprising the largest proportion at 48.69%. The age group of 27–31 accounted for 12.57% of the participants, while those aged 32–36 represented 8.38% of the total sample. These demographic findings demonstrate the gender distribution and age composition of the participants involved in the research on financial awareness among students.

The study encompassed a diverse group of participants, providing a comprehensive perspective on financial literacy in relation to different demographics. Regarding the participants' educational background, the majority of the respondents held a Bachelor's degree, representing 38.94% of the total sample. Those with a Master's degree accounted for 33.68% of the participants, while individuals with a Ph.D. comprised 2.11%. Respondents who were currently pursuing an undergraduate degree represented 25.26% of the sample. These percentages indicate the

distribution of educational levels among the participants, providing insights into the academic qualifications of the respondents involved in the study.

## 4 Results

In the following sections the results on financial awareness, financial behavior and financial literacy of students are analyzed and presented. The responses on the above-mentioned aspects are related to various demographic factors as age, gender and education level, then the interrelationship between the various aspects of financial literacy is analyzed and presented. Finally, it is explored whether the possession of a credit card or some gift money would have an impact on having a loan.

### 4.1 Financial awareness of young adults

In terms of financial awareness students were asked about their financial budgeting, plans and savings for the future. Figure 3 below shows the existence or non-existence of financial plans of the respondents by age.

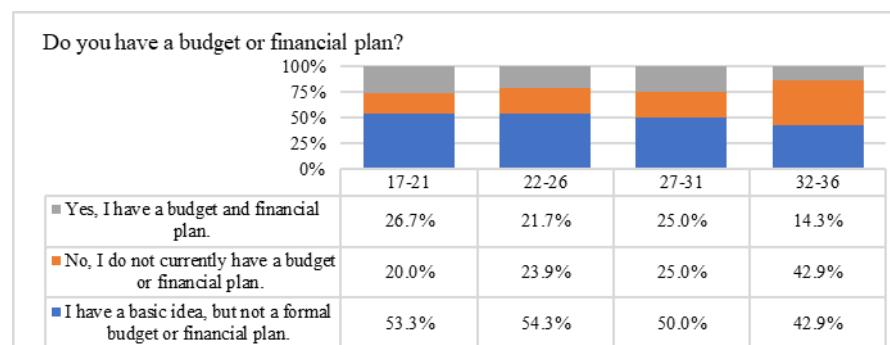


Figure 3.  
Distribution of the existence of financial plan by age groups.

Based on the results, in general regardless of age the respondents only have “a basic idea of their monthly expenses and have saving goals”, however, they do not have a formal budget or financial plan”. The small proportion of the respondents has a fixed budget. No statistically significance could be detected between the age groups ( $p=0.937$ ), which assumes that despite aging financial literacy does not really improve. Despite the existence of conscious budgeting or financial plan, respondents are assumed to save a portion of their income. Figure 4 displays the frequency of savings from regular income by age.

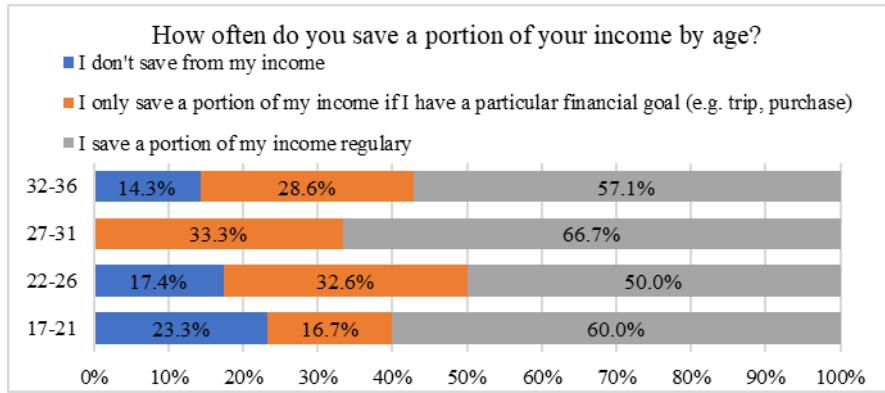


Figure 4.  
Distribution of monthly savings from income by age

According to the findings, around three quarters of the respondents of all ages save from their income. Moreover, half of those polled said they save on a regular basis. In particular, across all age categories, at least 50% of respondents regularly save a portion of their income. The biggest number (67%) of respondents aged 27–31 reported steady savings, whereas the rest respondents save when they have specified financial goals. 60% of participants in the age group of 17–21 indicated regular income savings. The results do not show statistically significant differences by age groups ( $p=0.465$ ), however, the existence of regular savings means that the respondents care about their financial possibilities and strive to accumulate a lump sum for their future spending. Similarly, no statistically significant differences could be detected by education level ( $p=0.480$ ) either, despite the positive results that savings are made on a regular basis, they are independent from the educational level, thus not supporting the part of the H2 hypothesis stating that there is a relationship between education level and regular savings (Table 2).

How often do you save a portion of your income?	What is your current educational level? (%)				
	Under-graduate	Bachelor	Master	PhD	Total (%)
I don't save from my income	25.0	13.5	12.5	50	16.8
I only save a portion of my income if I have a particular financial goal (e.g. trip, purchase)	20.8	29.7	28.1	50	27.4
I save a portion of my income regularly	54.2	56.8	59.4		55.8
Total	100%	100	100	100	100

Table 2  
Distribution of responses about regular savings by education level

Despite that the age group with the largest proportion of stable savings falls within the older age range, the results do not support the first hypothesis ( $H1_1$ ) that older

students tend to save more money, because no significant differences could be detected. The remaining respondents only save when they have clear financial objectives. This suggests a proactive approach to financial planning and goal-setting since some people, regardless of age, save with specific goals in mind.

Analyzing further the financially conscious behavior of the respondents a significant relationship was detected between having a financial plan and saving a certain amount monthly ( $p=0.000$  based on Fisher's exact test and Cramer's  $V=0.307$ ) thus supporting the part of H4 referring to the relationship between a financial budget or plan and regular savings.

When students were asked about some emergency fund set aside for unexpected expenses, 43.2% of the respondents agreed that they had an emergency fund and that they add some money to it regularly. 18.9% of them said that they used to have an emergency fund but they had to use it for unexpected expenses and 37.9% of the respondents do not have an emergency fund. The results correspond with the previous question as 55.8% of the respondents save a portion of their income regularly, 27.4% save some money for a particular goal and 16.8% do not save any from their income. The correspondence is statistically significant between regular savings and the existence of an emergency fund with  $p=0.000$  using the Fisher's exact test, and the Cramer's V shows also a significant relationship ( $V=0.373$ ). The relationship supports H4<sub>1</sub>.

In the 17–21 age group, 40% of people reported having an emergency reserve for unforeseen expenses. 47.6% of the females and 22.2% of the males in this age group Moving on to the 22–26 age group, 43.50% of people said they had an emergency reserve for unforeseen expenses. The percentage is higher in the 27–31 age range, equaling 58.3%, while a lower 28.6% of those aged 32–36 reported having an emergency fund set up for unforeseen expenses.

When education levels were considered, respondents with a bachelor's or master's degree had an emergency fund set up at a rate of 43.2% and 53.1%, respectively. Undergraduates have an emergency fund in 29.2% being the smallest group compared to those not having an emergency fund (54.2%) or have already used it for unexpected expenses (16.7%). This shows that students with lower level of education rather not have an emergency fund, which could be linked to age categories as well. Furthermore, no significant relationship could be detected between the existence of an emergency fund and either age ( $p=0.264$ ), gender ( $p=0.154$ ) or education level ( $p=0.313$ ), thus the part of H2<sub>1</sub> related to the relationship between having an emergency fund and education level could not be supported.

Additionally, when it comes to having a retirement saving plan, both bachelor and master degree holders report a similar proportion (32.4% and 34.4% respectively). Undergraduate degree holders have a retirement plan in 16.7%, which also means that 83.3% of the respondents in this group does not have a retirement plan. Looking at the relationship with age, females rather not have a retirement plan (78.1%) while

the corresponding proportion is 54.8% within males, resulting in a significant difference between males and females concerning the retirement plan ( $p=0,02$ ). The results do not support the relevant part of  $H2_1$  hypothesis, as the relationships did not prove to be significant between having a retirement plan and the education level ( $p=0,347$ ). Furthermore, no significant difference was detected in relation to age ( $p=0,274$ ).

Apart from asking about financial plans and saving, respondents were asked about their investment habits and plans. On average, respondents stated that they didn't invest and are not interested in investing in to the stock market. Meanwhile, comparing genders, on average, male bachelors at the age of 17–26, and male masters at the age of 22–31 seem to have interest in the stock market, while in the case of female undergraduates in the age of 17–26, and masters in the age of 22–26 on average have investments in the stock market. The response gives the hint that the younger generation is more interested in the stock market. Significant differences could not be tracked, the  $p$  values were higher than 5% in each case of comparison.

The results on the respondents' interest in investments can be justified by their individual confidence in handling their own finance. Figure 5 displays that the majority of respondents are not confident or indecisive in this question since 41.1% of the respondents responded with the option of 'not at all confident' or 'somewhat not confident' and almost one third of the respondents could not decide whether they were confident or not.

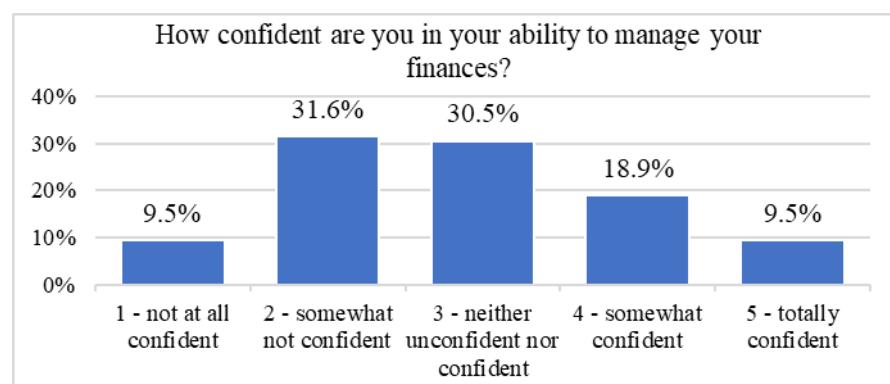


Figure 5  
Distribution of responses regarding confidence in managing own finances.

Consequently, half of the respondents are not confident ( $Me=3$ ), that is, a sizable proportion of respondents is confident in their abilities to handle their finances. At the same time the most frequent response was "somewhat not confident" ( $Mo=2$ ), i.e. a sizable proportion of respondents had a low level of trust in their financial management abilities. The standard deviation equaled 1.1227, which suggests a

relatively low degree of diversity in the respondents' level of confidence. The responses are generally close to the mean (2.87), indicating that there is some agreement on individuals' confidence in handling their finances.

According to the findings, while a large percentage of respondents expressed moderate trust in their money management abilities, a significant proportion also showed poor confidence. The median and mode values both suggest a degree of uncertainty or lack of confidence, although the standard deviation indicates a very small amount of variation in the responses.

Despite the fact that respondent feel relatively low trust in managing their own finances they tend not to ask financial advice from a professional. Figure 6 shows that over 50% of the respondents have never asked advice, however, they consider doing so in the future. The 12.6% of respondents who are not even interested in asking advice could give a good starting point for financial literacy education. One fifth of the respondents have asked advise so far, however, there is still 12.7% of them who have not completed the deal with the financial professional.

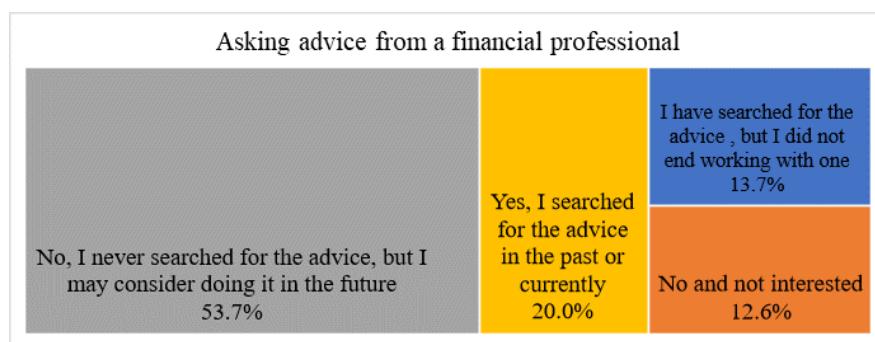


Figure 6.  
Distribution of responses related to asking financial advice from a professional.

In the group of 17–21, only the females in masters have never searched for the advice of a professional in this field, however, they may consider it in the future. It is also the group of females aged 27–31 in Bachelors' and Masters studies who have not looked for financial advice. Only males with masters aged 22–26 have not searched for financial advice within the male group. Similarly to previous results no significant differences could be detected by gender, age group or educational level as the p values came higher than 5% in each comparison. In summary, young people up to the age of 36 are either not familiar with the possibility of asking financial consultancy or are not interested in conscious financial behavior. Both behavior type could be improved by increasing financial literacy.

Despite of assuming that people who are not confident in managing their finances would ask for some consultancy, no significant relationship was detected as p equaled 0.940 using the Fisher's exact test, which does not support the part of H6<sub>1</sub>

related to the relationship between lack of confidence and turning to a financial advisor. As Table 3 shows in the group of people who are not confident or are indecisive, the largest proportion are considering to ask for financial consultancy.

	How confident are you in your ability to manage your finances?			Total
	Not confident	Neither confident nor unconfident	Confident	
Have you ever searched the advice of a financial professional, such as a financial advisor or accountant?				
I have searched for the advice, but I did not end working with one	7	4	2	13
No and not interested	5	3	4	12
No, I never searched for the advice, but I may consider doing it in the future	19	16	16	51
Yes, I searched for the advice in the past or currently	8	6	5	19
Total	39	29	27	95

Response options for financial confidence were recoded to three groups due to a small number of responses for certain combination of responses.

Table 3.  
Relationship between confidence in financial management and financial consultancy

As a long-term consequence of lower financial literacy people might spend extra on non-essential goods. Figure 7 provides information regarding the amounts spent on non-essential items.

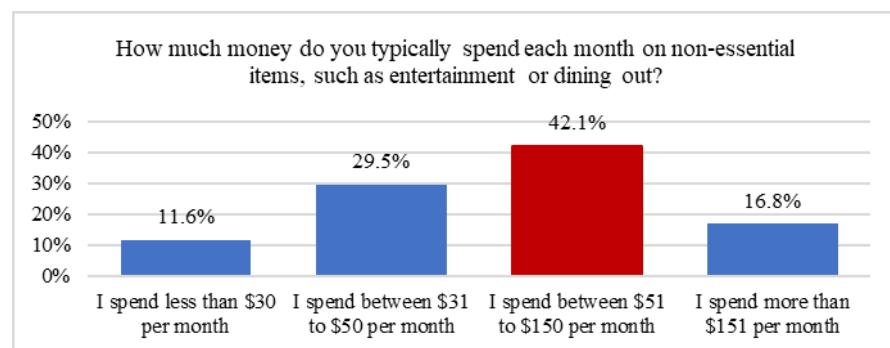


Figure 7.  
The amount spent on non-essential goods per month.

On average, respondents spend between \$51–\$151 per month, which means that a substantial percentage of people spend this amount of money on non-essential products. These results, however, are not representative, since the respondents did not give information about their monthly income.

Financial literacy and conscious behavior includes the existence of a retirement plan as well. Figure 8 displays the distribution of people by age showing whether they have a retirement plan. As expected younger generation have a retirement plan in a smaller percentage (24-26%), while older generations start saving for retirement.

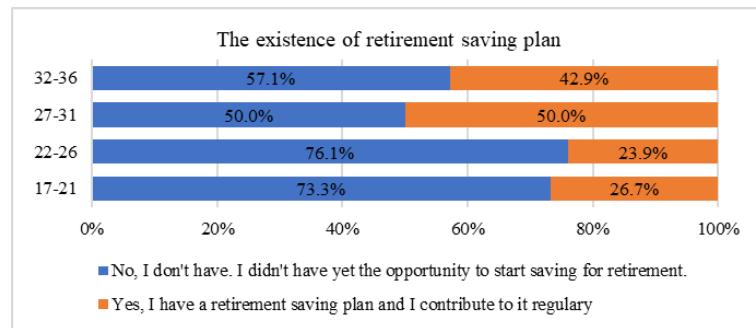


Figure 8.  
Distribution of respondents with and without a retirement plan by age.

In order to reveal financial literacy and some conscious behavior in personal financial matters the relations in the research model 1 was checked. Figure 9. display the interrelationships between the included aspects of financial behavior and financial literacy.

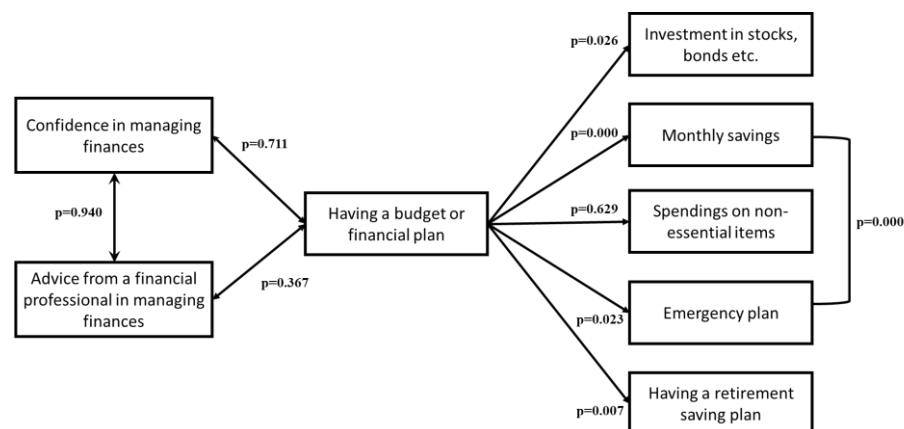


Figure 9.  
Evaluation of the research model financial literacy

Despite the assumptions that confidence in managing finances is relation with seeking financial advice from a professional and with the existence of financial budget, the model reveals these factors have no significant relationship with each other, since the Chi2 and the Fisher's exact test could not detect significant relation between them ( $p>0,005$  in each case). This shows that an individual's confidence in

their money management ability has no effect on the presence of a budget or financial plan. It indicates that people may adopt budgeting strategies regardless of their perceived financial confidence. Therefore, H6<sub>1</sub> and H7<sub>1</sub> could not be supported which assumed relationship between these factors.

However, the existence of a financial budget or financial plan proved to be significant in the financial literacy and financial behavior of students, as except the case on spending on non-essential items ( $p=0.629$ ), significant relationships were detected between the existence of budget and financial help and investments in stocks and bonds, regular savings, existence of an emergency fund, and a retirement saving plan.

Furthermore, a significant relationship could be detected between monthly savings and the existence of an emergency fund. The results support H3<sub>1</sub>, H4<sub>1</sub>. The H5<sub>1</sub> cannot be unambiguously supported since the non-significant relationship only state that there is no relationship between these two statements, spending on non-essential items might be influenced by impulse shopping or by commercial, marketing tools. In addition, significant relationship could be detected directly between confidence in personal financial management and monthly savings ( $p=0.007$ ), and there was a significant relationship between the advice of a financial professional and investments in stocks and bonds ( $p=0.003$ ) and the existence of emergency plan ( $p=0.002$ ). This implies that those who are more confident in their money management skills are more likely to engage in investing activities.

Financial literacy includes handling credits and loans as well. The findings reveal that credit card ownership differs by age, gender, and degree of education. While 49.5% of the respondents who not have a credit card with the group credit card owners the age group 27–31 owns a credit card in the largest percentage (58%), while females (58.1%) have a higher ownership compared to males (41.9%). Credit card ownership is similarly influenced by education level, with a larger proportion among those with bachelor's degrees (44.2%) and master degree (30.2%). Figure 10 below shows the ownership rates of credit card per age.

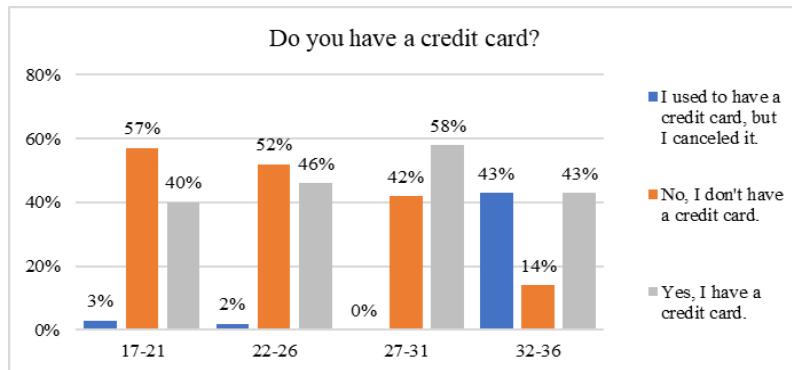


Figure 10.  
Percentage of credit card owner by age.

A very small percentage of the respondents have a loan (14.7%) and almost two thirds of the respondents (64.2%) are not interested in taking some loan, loan taking. No significant relationship could be detected between credit card ownership and possessing a loan ( $p=0.057$ ) using the Fisher's exact test, however, a larger sample size could detect a significant relationship since both the Cramer's V (0.266) and the Chi2 test showed significant relationship ( $p=0.036$ ). Concerning this sample H8<sub>1</sub> could not be supported.

Responses show that people who have credit cards use them "very frequently (more than 10 times per month)" (41.9%), however, the second largest group uses it rarely (1-2 times per month) (20.9%). We can imply from these results that, individuals are relying on their credit cards as a primary payment method for a wide range of purchases. On the other hand, people who are not currently holding a credit card are not considering getting one in the future (71.2%).

As expected responses on the probability to pay off debts using gift money from a family member is high. As Figure 11 shows the largest group of respondents would use the money to pay off debts (42.1%) and only one person responded that they would use it for something else. Based on the distribution of the responses we can accept one part of H9<sub>1</sub> stating that students who receive a large sum of money from family member would rather use it for paying off their debts.

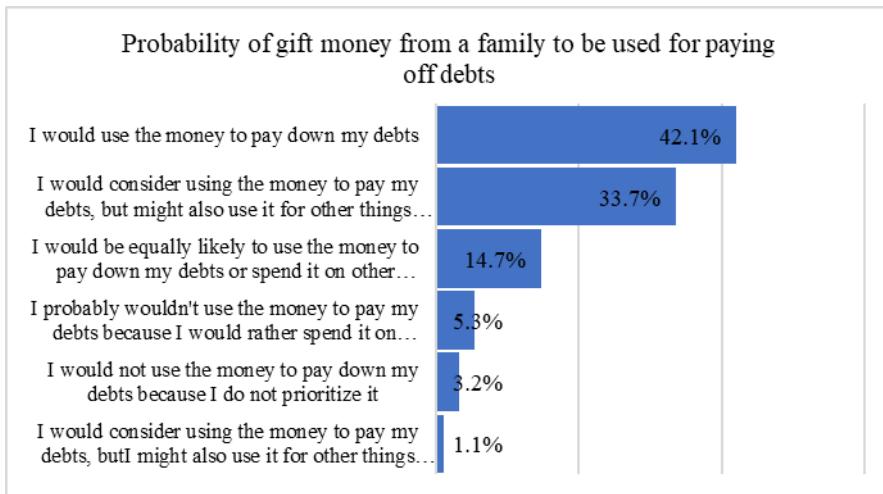


Figure 11.  
Likeliness of gift money used for paying off debts by the respondents.

Furthermore, as assumed gift money received from a family member to pay off debts would not lead to taking out loans ( $p=0.192$  using Fisher's exact test) and would not likely to have a credit card ( $p=0.226$  using the Fisher's exact test) as no significant relationship was detected thus  $H9_1$  cannot be fully supported. Regardless of having or not having a credit card or loan, students would rather use the gift money to pay off their debts and no significant relationship could be detected.

According to the findings, a significant number of respondents are likely to use a substantial sum of money received as a present from a family member to pay off any obligations they may have. The median (3.36) and mode (4) values both imply a modest likelihood, however, the standard deviation (1.688) indicates the degree of variation in the replies.

In summary the relationships between these three aspects (credit card, having a loan and gift money) was also evaluated. As Figure 12 shows no direct and significant relationships could be detected between these aspects. However, as mentioned as the  $p$  value is very close to 0.05 in finding a relationship between credit card ownership and having a loan, a larger sample could change the significance of the relationship.

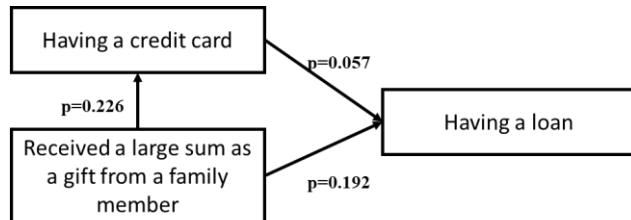


Figure 12.

Model evaluation on credit card ownership, having a loan and some gift money received

## 5 Discussion

According to data found in the study, financial knowledge, attitude, and behavior ratings among students are initially poor but considerably improve with time. It is worth emphasizing that young people who receive financial assistance from their parents have greater levels of financial knowledge, attitude, and behavior. This data lends support to the idea that parental financial socialization has a significant impact on young people's financial ability [24].

The results showed that a significant proportion of respondents, regardless of their age and educational level, had a basic understanding of their monthly expenses and savings goals but lacked a formal budget or financial plan. This suggests that individuals may engage in budgeting practices regardless of their perceived financial confidence. This research result is consistent with earlier research, which indicates that young people frequently mismanage their funds [25]. The results of this study have the potential to inform the creation of focused interventions and educational initiatives aimed at improving financial literacy and fostering positive financial habits among students and young adults.

The presence of a retirement saving plan was also analyzed. The results demonstrated a significant relationship with gender however, age and educational level did not show differences with the presence of a retirement savings plan, however older people with higher education level had higher retirement savings. The results align with previous research findings on retirement planning and financial behavior as a study conducted by Johnson and Johnson [26] found similar results regarding age and retirement savings plans. They discovered that older individuals were more likely to have retirement savings plans in place compared to younger individuals. This suggests that as individuals progress through their careers and approach retirement age, they become more aware of the need to save for their post-work years.

Regarding educational level, a study by Adams et al. [27] demonstrated that higher educational qualifications were positively associated with the presence of

retirement savings plans. The researchers hypothesized that individuals with higher education may possess greater financial knowledge and awareness, leading to increased retirement planning and savings behaviors.

By linking the results of the current study to existing research, we can draw stronger conclusions and reinforce the understanding that demographic factors such as age, gender, and educational level might play crucial roles in shaping individuals' retirement planning behaviors. These findings have implications for financial educators, policymakers, and employers who can target interventions and initiatives to improve retirement preparedness among specific demographic groups.

The significant relationships between the existence of the financial plan and budget and the actual financial activities proves that, on the one hand, students with higher financial literacy behave more consciously in their personal financial management, even the non-significant relationship with spending on non-essential items might indicate financial awareness. On the other hand, the significant relationships detected support that students with less financial literacy are not highly conscious in their financial matters. Individuals who feel more adept of managing their finances may be more prepared to take risks and investigate investment possibilities to increase their wealth.

However, the research also revealed students are not prepared for conscious financial behavior, and their financial literacy needs to be improved – through education and training – since confidence and trust as well as seeking financial advice had no significant relationship with the existence of financial budget and plan. Student need to financially literate in order to increase their confidence in personal financial matters and need to recognize that financial advice from a professional could help them increase their personal financial matters.

The significant relationship between confidence and regular monthly savings shows that those who are more confident in their money management abilities are more likely to save on a regular basis. It suggests that confidence has a role in encouraging positive saving behavior, as people who feel more capable of managing their finances are more likely to prioritize saving and commit a percentage of their income to future financial objectives.

The current study aimed to explore the debt behavior of students, taking into account factors such as financial knowledge, age, number of credit cards, delay of gratification, and attitudes toward credit-card use. While Norvilitis et al. [18] found associations between these variables and debt, it is important to acknowledge the limitations of our study that prevent us from making definitive conclusions. Despite observing an increased frequency of credit card usage among students in our findings, the available information is insufficient to fully support or refute the statement made by Norvilitis et al. [18]. Therefore, caution should be exercised in generalizing our results and further research is needed to obtain a comprehensive understanding of the complex relationship between these factors and student debt behavior. Further research is needed to explore the long-term impact of financial

education, parental influence, budgeting practices, and factors influencing retirement planning and student debt behavior.

### **Conclusions**

The significance of financial literacy among students and its influence on their financial actions and outcomes have been highlighted by this research. The results repeatedly emphasize the need for better financial literacy instruction and interventions aimed at this particular group. The findings show that a sizeable percentage of college students lack fundamental financial knowledge, which has an adverse effect on their ability to make sound financial decisions and adds to problems with money management and debt accumulation. The findings reveal specific weaknesses, emphasizing the need for targeted interventions, as supported by initiatives like Global Money Week [28].

The study also highlights the impact of a number of variables on financial literacy, such as gender, socioeconomic status, and past exposure to financial education. There are differences between genders in financial attitudes and understanding. These results highlight the significance of creating customized financial literacy programs that cater to the unique requirements and difficulties faced by various groups of students.

The study also emphasizes the beneficial relationship between financial literacy and responsible financial practices including saving, investing, and creating a budget. Higher financial literacy among students is associated with better financial behavior, which may have long-term effects on their present and future financial security. Therefore, efforts should be made to improve the teaching of financial literacy and give students the materials and tools they need to make wise financial decisions.

The research had its limitations as convenient sampling could not provide a representative sample so the conclusion can rather be applied to the sample, the country distribution results in bias, which both mean that further data collection is required in the future. With larger sample size and a more diverse country distribution a more thorough examination of the financial literacy can be conducted in the future.

Overall, this study highlights the value of financial literacy in providing students with the skills and knowledge required to effectively navigate the complex financial landscape. Educational institutions, policymakers, and other stakeholders can enable students to make educated financial decisions and improve their general financial well-being by addressing the gaps in financial knowledge and supporting healthy financial habits. To create financial literacy programs and treatments that effectively address the requirements of college students and position them for financial success in both their personal and professional life, it is crucial to do ongoing research and collaborate with other researchers.

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