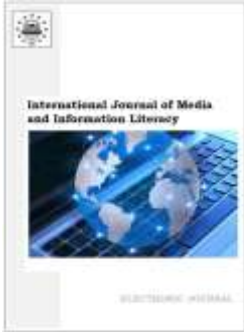
Published in the USA
International Journal of Media and Information Literacy
Issued since 2016.
E-ISSN: 2500-106X
2025. 10(1): 27-39

DOI: 10.13187/ijmil.2025.1.27
https://ijmil.cherkasgu.press



Financial Knowledge and Its Relationship with Sociodemographic Variables: A Study in Adolescent Students in a Public Institution

Aylin del Rosario Lagúnes-Hernández [a], Ángeles García-Aquino [a, *], Arturo García-Santillán [a, b], Violetta S. Molchanova [c, d, e]

[a] UCC Business School, Ver, Mexico
[b] Tecnológico Nacional de México/ITSM, Mexico
[c] Cherkas Global University, Washington, DC, USA
[d] Volgograd State University, Russian Federation
[e] Sochi State Univerisity, Russian Federation

Abstract

The purpose of the study focuses on analyzing the savings decision by basic school students and its relationship with gender, age, number of siblings, as well as financial education variables from their personal and family environment. For this, the working hypotheses are H1. The decision to save is related to the sociodemographic characteristics of the respondent (sex, age, number of siblings). H2. The decision to save is related to financial education variables of the personal and family environment of the student surveyed. The participants are first grade students at the secondary level, between 10 and 17 years of age. Using non-probabilistic self-determination sampling, an instrument designed by Barba (2018) was applied to collect data, obtaining 313 cases. Considering that they are under age, they had the approval of their parents at all times, being notified through the teachers in charge of the school groups.The scale was applied over 2 months in person in the educational institution, with the support of the teaching staff. First, the frequencies of each of the items are obtained and then to test the hypotheses, we use a dichotomous Logit econometric model. The main findings demonstrate a relationship between the savings decision and the number of siblings the student has. Likewise, the decision to save is related to financial education variables of the personal and family environment of the student surveyed. The results emphasize the role that the family environment has in young people's savings decisions. Therefore, we suggest promote financial education from home to encourage learning about financial education at an early age.

Keywords: financial knowledge, interests, loans, savings.

1. Introduction

Financial knowledge is important in people's lives and relevant especially at an early age. Financial knowledge in young people provides the opportunity to manage their finances. In fact, McCormick (2009) refers to the need for a plan to incorporate financial education into academic programs from an early age, in the specific case of primary, secondary and even university levels. Having minimal financial knowledge helps to make better decisions regarding financial management, avoid excessive expenses and avoid the lack of financial resources in their lives (Rodríguez, López, 2022). Global economic conditions have caused financial education to gain popularity. According to Ndou (2023), financial education has an influence on the way people manage their finances, as well as

* Corresponding author
E-mail addresses: aqui_si@hotmail.com (A. García-Aquino)

decision-making. The importance of financial education has helped several countries in the world to develop more and better strategies in favor of the general population, to strengthen knowledge, expand skills in financial matters and with this learning, the national economy is favored (Ferrera et al., 2020).

Currently in Mexico, the interest of financial institutions has emerged in carrying out financial education weeks, this as a result of studies that have demonstrated the low level of financial knowledge in young Mexicans and in general in the population, as mentioned Diez-Martínez (2016). The study evaluates the understanding that Mexican young people between 12 and 16 years old have towards various economic and financial concepts, such as income or remuneration, interest on loan payments, among others. The findings indicate a deficient or little understanding of these economic variables, which means that there is a low level of financial culture, which affects the development of financial culture in our country.

Therefore, it is essential to promote the care of finances at an early age as suggested by McCormick (2009), which is why it is necessary to generate an action plan to incorporate financial education in academic programs, mainly from primary and secondary levels. Furthermore, it is necessary to incorporate basic financial concepts from childhood, since the infant faces financial concepts and terms such as money, work, objects and values from childhood, for this reason Belinova et al. (2021) highlight the importance of children's relationship with financial issues even from preschool age. The information that a person has regarding financial issues directly influences the decision-making they make throughout their life.

Bad financial decisions at a young age can cause various serious consequences for a person and their family now and in the future, as Amagir et al. (2021) point out. Furthermore, if they are better prepared in financial education topics, they will be better prepared for adulthood, as Mousseau, Oztanriseven, Kilinc (2023) refer.

To have the necessary skill to be able to manage and invest money efficiently, Mandell (2008) points out that it is important to know financial concepts, to aspire to have financial well-being, based on the management of personal finances. In the same idea, Bernheim, Garret and Maki (2001) report that financial knowledge favors financial attitudes and skills, which undoubtedly favors the proper administration of their finances, in addition to generating considerable savings of their total income for forecasts in the future.

Financial education provides the necessary knowledge so that individuals can have good practices in the development and management of their personal finances (Núñez, 2013), this includes the skills, as well as the attitudes to master all those terms that are involved in the financial field. In addition to this argument, Gómez (2018), points out that, according to the Financial Networks in 2008, the term financial education needs to be raised through a comprehensive approach where essential elements are unified such as: expenses, savings, investment, credit and insurance. In relation to this, Kuzma et al. (2022) refer that financial education, can be defined as a set of knowledge and skills to manage individual funds profitably, ensure financial independence and participate in charitable events.

Financial education provides the necessary knowledge to have good practices in the development and management of personal finances (Núñez, 2013). This includes the skills, as well as the attitudes to master all those terms that are involved in the financial field. In this idea, Gómez (2018), points out that, according to the Financial Networks in 2008, the term financial education needs to be raised through a comprehensive approach, where essential elements are unified such as: expenses, savings, investment, credit and insurance. In relation to this, Kuzma et al. (2022) refer that financial education can be defined as a set of knowledge and skills to manage individual funds profitably, ensure financial independence and participate in charitable events.

Throughout their lives, human beings are forced to make financial decisions for the administration of their resources, whether with prior financial knowledge or without it. In this sense, we can highlight what Bodie and Merton (2003) refer to, who define finance as the study of the allocation of limited resources over time. Based on the previous definition, the theory of limited rationality emerges, on which Simón Herber suggested that, according to the limitations in the information processing skills and knowledge that each individual has, people tend to seek a level of conformity instead of maximizing its utility (Estrada, 2009).

Within the family environment, it is important to highlight the link between family financial difficulties and poor financial skills, since these two variables contribute directly to the well-being of people and their families. For this reason, Norvilitis, Szablicki and Wilson (2003) refer that financial difficulties in the family are a consequence of the low level of financial knowledge.

To achieve the correct functioning of finances within the home, it is necessary to take into consideration the primary needs, as well as the available resources, all of this, as part of a resource management process where knowledge, attitudes and personal characteristics of individuals, are involved. This argument, according to the family resource management theory, developed by Deacon and Firebaugh (1981).

The family environment is an essential determinant in learning resource management. Moschis (1985) points out that parents who teach their children about financial education serve as figures responsible for the skills acquired in them. However, the majority of parents have not developed the necessary skills to promote a good financial development of their children, which has an impact on decisions based on trial and error, as Lachance and Choquette-Berneir (2004) point out. The financial knowledge transferred at home from parents to children has become the basis of financial education in various contexts (Susilowati et al., 2020).

Parents are unconsciously responsible for transmitting financial knowledge to their children, based mainly on their own self-determination, which can often generate bad habits and practices regarding money management and savings. Hence, the importance of promoting the development of financial skills and everything related to financial education from an early age (Kaiser, Menkhoff, 2017). The knowledge acquired is greater than the impact on behavior, which confirms the effectiveness of financial education instruction in children and young people, unlike financial instruction in adulthood, have little impact on their behaviors.

Fernandes (2014) demonstrated that despite the positive relationship between financial education and behavior in adulthood, financial education in adults does not have a greater impact on their financial skills. Therefore, it is important to prioritize financial teaching at appropriate learning moments in people's lives, considering the personalization of teaching, according to the needs of the individual, as mentioned by Carpena et al. (2017), taking into account the age range in which people are.Some social, family and behavioral factors converge in financial literacy that are important to consider (Frisancho, 2019; Alvarado,Duana, 2018; Mohammed et al., 2018), among the most relevant we find: accessibility, that is, the ways through which information is obtained, age differences, as well as gender, and the educational level that an individual has.

Based on the above, taking into account that financial information can be acquired through various communication channels such as parents, school, the media, as well as friends and colleagues, the need arises for an improvement in the educational system with respect to financial literacy.

Beverly and Burkhalter (2005) suggest the importance of providing better educational tools to generate greater financial knowledge from educational institutions over that acquired through other means. When knowledge is acquired in another way, it can be inefficient, since some factors influence it, such as the educational level in the case of parents. Studies have shown that minors with parents who are poorly educated in financial matters have a low educational level in financial matters (lusardi, 2009). Financial education must be developed within schools, to develop the skills necessary to successfully manage finances now and in the future. Educational institutions are fundamental factors to integrate individuals into the financial world through correct financial literacy (Ferrera et al., 2020).

It should be noted that financial attitudes and interests would depend on the age and gender of the people, as pointed out by Newcomb and Rabow (1999), who determined that it is men who show a greater interest in financial learning, thanks to their desire for independence and future economic solvency. On the contrary, Lusardi (2009) demonstrated that, during the financial learning of children and young people, the parents play a primary role. Parents are those who efficiently or inefficiently transmit their own knowledge and skills acquired through their experiences. In this way, they unconsciously develop financial rules and regulations, which become financial habits developed by children who, lacking knowledge, do not carry out a deep analysis when making their decisions regarding money.

In this sense, when parents control economic resources, they directly influence the financial behavior of future generations according to Grusec and Davidov (2007). Therefore, to have adequate financial learning, it is necessary obtain it from schools. Becchetti and Coviello (2013) demonstrated that financial courses taught in schools are more effective and provide better instruction than those who acquired knowledge directly from their parents. Evidence shows that school-based financial education programs are highly effective policy tools to improve the financial education and behavior of children and young people (Amagiret al., 2021).The acquisition of financial knowledge derives from money management practices and direct experience with its management. Schürkmann's (2017) showed that the use of major financial services contributes to the experiences that people develop throughout their lives.

It is important to recognize the importance of all activities that provide learning, whether informal or learning that does not come from an educational institution or a learning center. In this way, informal learning is also defined as non-institutional learning according to Harring et al. (2016). Another important factor to consider within informal education is the access that young people have today to digital media. According to Fleischer and Hajock (2019), young people develop research skills to acquire information through the Internet thanks to their own needs, even before obtaining formal instruction in these topics.

Historically, initiatives on financial education have been frequently towards the adult population sector, as Martin (2007) refers, this has encouraged the studies towards this population segment. However, since the 1990s, economic circumstances and changes in the development of world economies have given rise to the emergence of new research (Braunstein, Welch 2002). Although this research focuses mostly on the management of personal finances of adults, McCormick (2009) points out that research aimed at financial learning in young people has grown considerably in recent years.

Currently, having financial education is important and necessary for the management of personal finances, especially in adolescents and young adults, as Aprea (2016) points out, who states that they are the ones who experience greater exposure to making financial decisions, compared to with their parents. This exposure is related to observation, financial education, experience, capacity and self-sufficiency they have to apply knowledge in decision making as mentioned by Houston (2010). In addition, it has been shown that many young people learn and develop the skills necessary for financial independence at an early age, as referred to by Shim et al. (2009). Therefore, the importance of promoting financial skills from an early age is due to the learning capacity that one has in childhood, therefore, the younger the person is, the greater the capacity and disposition they have towards learning (Dare et al., 2020).

There are studies about the knowledge and behavior of Millennials on financial issues. According to Schawbel (2012), this generation will constitute 75 % of the global workforce by 2025. However, despite the relevant role they play within the global economy, studies have shown that millennials have negative attitudes regarding the management of their finances (Mottola, 2014). Millennials spend more than they earn and do not have savings for the future.

The excess confidence they demonstrate towards financial knowledge causes their perceived knowledge to exceed their objective financial knowledge, as Chu et al. (2017) point out, which could also be explained with what Robb et al. (2015) refers to, who reported that higher levels of overconfidence about financial education are associated with higher rates of use of alternative and expensive financial services. Therefore we can add that financial knowledge should be considered as Alba and Hutchinson (2020) suggest, a division of two components: subjective knowledge and subjective evaluation.

Based on the issues affecting millennials, Generation Z is expected to face several challenges. These challenges are related to the way they use money for their daily lives in aspects such as: financial education, training in financial administration and financial attitudes. Therefore, financial education acquired at home will play a role in contributing to their financial behavior (Bado et al., 2023).

Finally, derived from concern regarding financial education issues, the complexity of financial products and the problems related to bad sales practices, Agarwalla et al. (2015) consider that it has been possible to direct attention to the behavior that young people have in relation to managing their finances, which is important to take into account. However, the financial situation of young people derived from high debt, which, according to Lusardi et al. (2010), requires an improvement in cash management to make their financial decisions.

The above and given the dependence on money, it is necessary to have good financial control, as well as adequate management of personal finances, as Novitasari, Juliana, Asbari and Purwanto (2021) refers to.

Maintaining sustainable economic behavior can be achieved not only by teaching young people about financial issues, but also by implementing better educational mechanisms so that the knowledge acquired is directly reflected in their economic attitudes, according to Coskun and Dalziel (2020), in this way the probability of obtaining better financial behavior increases, thus improving individual well-being.

Question Research: Is there a relationship between the decision to save and the sociodemographic characteristics of the student? Is there a relationship between the decision to save and financial education variables of the student's personal and family environment? Therefore, the following objectives and hypotheses are set: Analyze the savings decision of the basic school level student and its relationship with gender, age, brothers, as well as financial education variables of their personal and family environment.

Hypothesis: HO1. The decision to save is not related to the sociodemographic characteristics of the student (sex, age, siblings). H1. The decision to save is related to the sociodemographic characteristics of the student (sex, age, siblings). HO2. The decision to save is not related to financial education variables of the student's personal and family environment. H2. The decision to save is related to financial education variables of the student's personal and family environment.

2. Materials and methods

Non-experimental design study of quantitative, descriptive, exploratory and mean difference type. The population under study was 313 first-grade secondary school students located in the city of Veracruz, Mexico. The age ranges are between 12 and 13 years old, all belonging to the state of Veracruz, Mexico. Using non-probabilistic self-determination sampling, the instrument was applied face to face to obtain information, with the support of teachers from the institution to which the study population belongs. At all times, there was the approval of the parents, who were notified at the time through the teachers in charge of the school groups.

To get data, a test designed by Barba (2018), which includes 28 items related to financial topics, with multiple response options, is used. The test was applied during 2 months in the previously mentioned educational institution.

In relation to the statistical procedure, first the frequencies of each of the items of the instrument are analyzed. The information analysis procedure is carried out using a dichotomous Logit econometric model. This procedure is used, considering that the objective of this research is to analyze the savings decision by basic school students and its relationship with gender, age, siblings, as well as financial education variables from their personal environment and familiar. To develop the dichotomous Logit econometric model, the GRETL software is used, which is a software package for econometric analysis written in the C programming language[1] (Baiocchi, Distaso, 2003).

The main variable of this research is the individual savings decision, following the methodology of Nguyen et al. (2017). The participants in this research were asked: do you have the habit of saving? The response options are Yes and No. For the statistical procedure, the variable is coded as a dichotomous variable, which takes the value of 1 if the respondent answers "Yes" and 0 if the respondent answers "No". For the statistical strategy, the methodology used by Alvarado and Duana (2018) is followed. Table 1 show the operationalization of the research variables. Demographic characteristics of the respondent are included: gender, age, and siblings.

Table 1. Variables research and its code

Variable	*Question*	*Code*
Y: Saving decision	Do you have a saving habit?	Dichotomous variable: 1 if yes, 0 otherwise.
X1: gender	Gender	Dichotomous variable: 1 if it is a man and 0 if it is a woman.
X2: age	How old are you?	Dichotomous variable: 1 if the student is between 14-17 years old and 0 if they are between 10 and 13 years old.
X3: siblings	How many brothers do you have?	Quantitative variable that takes values = 0,1,2,3,4
X4: Decision	With the money they give	Dichotomous variable: 1 if yes, 0 otherwise.

[*] It is free and open source software, which is used under the terms of the General Public License (GPL), which is specified in the Free Software Foundation. The Free Software Foundation (FSF) is a nonprofit with a worldwide mission to promote computer user freedom. Copyright © 2007 Free Software Foundation, Inc. [Electronic resource]. URL: https://fsf.org/

Variable	*Question*	*Code*
about money	you to spend, do you decide what to buy?	
X5: Spend everything	Do you spend all your money?	Dichotomous variable: 1 if yes, 0 otherwise.
X6: Parents-save	Do you know if your parents save?	Dichotomous variable: 1 if yes, 0 otherwise.
X7: knowledge about money	Do you know how the money is obtained?	Dichotomous variable: 1 if yes, 0 otherwise.
X8: Goodness of savings	Is it good to save?	Dichotomous variable: 1 if save, 0 otherwise.

Source: own

To analyze the decision to save and its relationship with the sociodemographic characteristics and financial education variables of the personal and family environment, the dichotomous Logit model is used (Wooldridge, 2015). The model is denoted as:

$$P(y = 1 / X) = F(\beta_0 + \beta_1 X_1 + \cdots \beta_{k-1} X_{k-1} + \beta_k) = F(\beta_0 + X\beta)$$

Where: F is the logit distribution function and X denotes the characteristics of the respondents. From the estimation, the significant variables related to the decision to save are identified.

To do this, the z contrast statistic is used. Under the null hypothesis, $H_0: \beta_i = 0$,

$$z = \frac{\beta_i^{'} - \beta_i}{\sqrt{var(\beta_i^{'})}} = \frac{\beta_i^{'}}{\sqrt{var(\beta_i^{'})}} = \sim N(0,1)$$

z is the test statistic, which is distributed as a standard Normal. The testing mechanism that rejects the null hypothesis is given by $P[|Z| > Z_{tablas}] = \alpha$. Where $\alpha$is the significance level of the test, and Z_{tablas} is the critical value. In our model, the independent variables are characteristics of the respondent (gender, age, siblings) and financial education variables from the personal and family environment of the surveyed student.

Analysis and discussion data

Initially, the instrument was validated with Cronbach's alpha, which is slightly low (α: <0.6), which is attributed to the type of items with dichotomous and multiple response options in some cases. Subsequently, the frequencies obtained for each item of the instrument are analyzed, and the results are shown. About gender 50.3 % (n=158) correspond to the female and 49.4 % (n=155) to the male. The age ranges, the highest percentage with 71.7 % (n=225) is between 10 and 13 years old, followed by 27.1 % (n=85) who is between 14 and 17 years old. The frequencies obtained from each item provide interesting information.

Table 2 shows the results of items 1 to 8, where it is observed that 82.8 % (n=260) are curious to know the price of things, apparently they do this when they accompany their parents to buy a product (90.1 %, n=283). The most important attribute for them is price (41.1 %, n=129), followed by taste 39.2 % (n=123); 94.6 % (n=297) decide what they are going to buy when they are given money and try not to spend all the money (64 %, n=201). In specific knowledge there are important results, 88.9 % (n =279) consider that a bank is useful for saving, they know this, thanks to the advice of parents (77.1 %, n=242). This coincides with this data, 67.2 % of parents have the habit of saving (n=211).

In relation to items 9 to 17 of the test used, Table 2b shows the frequencies obtained, where it is observed that 51 % (n=160) like to sometimes accompany their parents shopping, the main reason , it is because they buy things from them (40.4 %, n=127), followed by 19.1 % (n=78) because they like it. In relation to loans, 43.9 % of the students surveyed (n=138) report that their parents have sometimes requested loans, 31.8 % (n=100) mention that they do request loans frequently.

Table 2. Frequencies of the items 1 to 8

Variable		*Frequency*	*Percentage*
1. Are you curious to know the prices of some things?	no	53	16.9
	yes	260	82.8
2. When your parents go to buy something, do they look at the prices?	no	30	9.6
	yes	283	90.1
3. What is the most important thing to you when you buy something in the store?	flavor	123	39.2
	price	129	41.1
	Quality	61	19.4
4. With the money they give you to spend, do you decide what to buy?	no	15	4.8
	sometimes	1	.3
	yes	297	94.6
5. Do you spend all your money?	no	201	64.0
	yes	112	35.7
6. What is a bank for?	To save money	279	88.9
	To request loans	31	9.9
	To pay taxes	3	1.0
7. Who explained it to you?	teachers	45	14.3
	friends	26	8.3
	parents	242	77.1
8. Do you know if your parents save?	Don't save	23	7.3
	They don't know	79	25.2
	Yes, they save	211	67.2

Source: own

52.2 % (n=164) believe that the best option to borrow is with family members, due to trust (60.8 %, n=191), 38.2 % (n=120) on the contrary, believe it is with banks, and on the other hand, 38.9 % (n=122) think that it is more formal and legal to ask the banks. The highest percentage of participants know how money is obtained, 93.3 % (n=293), 86.3 % (n=271) think it is by working. Particularly, they were asked if they give them the same money to spend, the answers were very similar, 50.6 % (n=159) said yes, while 49 % (n=154) said no. For 76.1 % (n=239) the money they are given is enough, the rest mentioned that it is not enough.

Table 2b. Frequencies of the items 9 to 17

Variable		*Frequency*	*Percent*
9. Do you like to accompany your parents shopping?	no	16	5.1
	Sometimes	160	51.0
	yes	137	43.6
10. Why?	They buy me something / I buy things	127	40.4
	I learn economic issues	25	8.0
	To help them	23	7.3
	I like	78	24.8
	I don't like	60	19.1
11. Have your parents borrowed money to make a purchase?	no	75	23.9
	Sometimes	138	43.9
	yes	100	31.8
12. What do you think about the best option for your parents to request a loan?	request a loan from friends	29	9.2
	request a loan from family members	164	52.2
	apply for a loan from the bank	120	38.2
13. Why?	Trust / family relationship	191	60.8

	It is more formal and legal	122	38.9
14. Do you know how money is obtained?	no	20	6.4
	yes	293	93.3
How?	Working	271	86.3
	Request a loan	7	2.2
	From the bank	16	5.1
	I don't know how	19	6.1
16. Do they always give you the same money to spend?	no	154	49.0
	yes	159	50.6
17. Is the money they give you enough for you?	no	74	23.6
	yes	239	76.1

Source: own

Table 3 describes the frequencies of items 18 to 25. The descriptive analysis provides important information: 74.2 % (n=233) of the participants indicate that, if they save, they do so in piggy banks (80.6 %, n=253) and if they need more money, they ask their parents for it (71.7 %, n=225). On the other hand, 50.6 % (n=159) stated that the benefit they obtain when they accompany their parents shopping is because they buy things from them. In terms of savings, 95.2 % (n=299) consider that it is good to save, to earn more money (54.8 %, n = 172) and for emergencies or unforeseen events (33.4 %, n=105). This knowledge was acquired from home; their parents instilled in them this knowledge about savings and its purpose (62.1 %, n=195). Finally, 88.5 % (n=278) say they feel satisfied with what they do with their money, because they can buy things they like (51 %, n=160), likewise 21.3 % (n= 67) consider that it is, because they are responsible people

Table 3. Frequencies of the items 18 to 25

Variable		*Frequency*	*Percent*
18. Do you save?	no	80	25.5
	yes	233	74.2
19. Where do you save?	Piggybank	253	80.6
	Bank	16	5.1
	I don't save	44	14.0
20. If you need more money, what do you do?	I request money to my parents	225	71.7
	I request money from another family member	8	2.5
	I request money from my friends	20	6.4
	I sell things	60	19.1
21. Do your parents reprimand you when you spend all your money?	no	142	45.2
	sometimes	135	43.0
	yes	36	11.5
22. What do you get when you accompany your parents shopping?	Go out for a walk	124	39.5
	They buy me things	159	50.6
	other	30	9.6
23. Is it good to save?	no	14	4.5
	yes	299	95.2
Why?	For emergencies/unforeseen events	105	33.4
	Invest and generate more money	172	54.8
	To prepare for the future	36	11.5
	Parents	195	62.1
24. Who told you?	brothers	4	1.3
	Family members (Grandpa, uncles, among others).	21	6.7
	teachers	6	1.9
	friends	4	1.3

Variable		Frequency	Percent
	My self / for experience	76	24.2
	Internet	7	2.2
25. Do you feel satisfied with what you do with your money?	no	35	11.1
	yes	278	88.5
Why?	I buy things I like / what I want	160	51.0
	I like having my own money	60	19.1
	I spend a lot / I don't invest well	25	8.0
	Because, I'm responsible	67	21.3
	Others		.6

Source: own

Hypothesis test

Table 4 shows the Logit regression model of the decision to save and its relationship with the independent variables. From the results, both variable X1: gender and variable X2: age are statistically non-significant variables. Which means that between male and female students there is no difference regarding the decision to save. Likewise, the result on the age variable indicates that among students in the age range between 10 to 13 years and 14 to 17 years there is no difference regarding the savings decision. The variable X3: number of siblings is a significant variable in the decision to save. The negative sign (-0.854) indicates that having more siblings decreases the probability of saving by the student. The above supports hypothesis 1 on the relationship between the student's savings decision and the number of siblings they have, so there is evidence to reject HO1.

The decision to save is positively related to the decision that the student surveyed has about the use of money. Variable X4 decision about the use of money is statistically significant. The positive coefficient indicates that those students who said they have the decision to use the money, they receive are more likely to save.

The decision to save is negatively related to the decision to spend all the money. The variable X5 spend everything, is statistically significant. The negative sign of the coefficient indicates that those students who said they spent all the money are less likely to save. The decision to save is positively related to the knowledge they have regarding their parents' savings. The variable X6: parents save, has a positive and statistically significant sign. The result indicates that the decision to save is positively related to the fact that children are aware that their parents save. For those children who indicated that they are aware that their parents save, it is more likely that they also save.

The decision to save is negatively related to the decision to spend all the money. The variable X5 spend everything, is statistically significant. The negative sign of the coefficient indicates that those students who said they spent all the money are less likely to save. The decision to save is positively related to the knowledge they have regarding their parents' savings. The variable X6: parents save, has a positive and statistically significant sign. The result indicates that the decision to save is positively related to the fact that children are aware that their parents save. For those children who indicated that they are aware that their parents save, it is more likely that they also save.

Therefore, there is no evidence that allows us to reject HO2, which suggests rejecting working hypothesis 2.

Table 4. Logit estimates. Dependent variable: decision to save

Constant	Coefficient	Std. Dev.	z	Value – p
	−0.0500799	1.18347	−0.04232	0.9662
X1: gender	0.193355	0.307982	0.6278	0.5301
X2: age	0.0503885	0.347202	0.1451	0.8846
X3: siblings	−0.855464	0.394324	−2.169	0.0300 **
X4: decision about money	1.82792	0.629698	2.903	0.0037 ***
X5: spend everything	−1.69084	0.311122	−5.435	<0.0001 ***
X6: parents save	1.44139	0.316095	4.560	<0.0001 ***

Constant	*Coefficient*	*Std. Dev.*	*z*	*Value – p*
X7: Knowledge of money	0.0843006	0.579658	0.1454	0.8844
X8: goodness of savings	0.0625160	0.731407	0.08547	0.9319
Mean of the dependent variable	0.751613			
McFadden R-squared	0.201287			
Log-likelihood	−138.7942			
Number of cases 'correctly predicted'	243 (78.4 %)			
Likelihood ratio test: Chi-square(8)	69.9564 [0.0000]			

Source: own

3. Discussion

This research aims to analyze the relationship between the decision to save and financial education variables of the personal and family environment of adolescent students in the state of Veracruz, Mexico. The descriptive results shows, 74.2 % of the adolescent students indicated that they have the habit of saving. This percentage differs from that reported by Alvarado and Duana (2018), who identify that the majority of adolescents save (92.3 %), without making a distinction between men or women. It also differs from the reported by Frisancho (2019) in Peruvian students, who identifies that only 13.7 % have a savings account. The results obtained from the model provide evidence that there is no gender difference regarding the decision to save. This result coincides with Alvarado and Duana (2018). In our results of the econometric model, it is identified that the respondent's savings decision depends positively on the number of siblings that the respondent has. This result is according with reported by Mohammed et al. (2018) who identify that the personal environment and family, has a significant influence on financial education and financial behavior.

Likewise, in our results the decision to save is related to the decision on the use of money and the knowledge that the respondents have regarding their parents' savings. This result coincides with the argument of Mohammed et al. (2018), who identify that children learn from their parents' consumption about how to spend money, which can strongly influence their spending behavior.

4. Conclusion

This research aims to analyze the savings decision in students at the basic school level and its relationship with gender, age, number of siblings, as well as financial education variables in their personal and family environment. The results of the correlational analysis show evidence to reject HO1. This result shows the relationship between the savings decision of the student surveyed and the number of siblings they have. Likewise, the model results provide evidence to reject HO2. The results support the hypothesis in which the decision to save is related to financial education variables of the personal and family environment of the student surveyed. The results of this research emphasize the role that the family environment has in the savings decisions of young students. In conclusion, it is important to promote financial education from home, with the purpose of promoting the learning of financial education in early-age members, to undertake healthy financial responsibilities in the immediate future.

References

Agarwalla et al., 2015 – *Agarwalla, S.K., Barua, S.K., Jacob, J., Varma, J.R.* (2015). Financial literacy among working young in urban India. *World Development*. 67(1): 101-109. DOI: https://doi.org/10.1016/j.worlddev.2014.10.004

Alba, Hutchinson, 2000 – *Alba, J.W., Hutchinson, J.W.* (2000). Knowledge calibration: what consumers know and what they think they know. *Journal of Consumer Research*. 27(2): 123-156. DOI: https://doi.org/10.1086/314317

Amagir et al., 2021 – *Amagir, A., Van Den Brink, H.M., Groot, W., Wilschut, A.* (2021). Save Wise: The impact of a real-life financial education program for ninth grade students in the Netherlands. *Journal of Behavioral and Experimental Finance*. 100605. DOI: https://doi.org/10.1016/j.jbef.2021.100605

Aprea et al., 2016 – *Aprea, C., Wuttke, E., Breuer, K., Koh, N.S., Davies, P., Greimel-Fuhrmann, B., Lopus, J.S.* (2016). Financial literacy in the twenty-first century: an introduction to the international handbook of financial literacy. In: *Springer eBooks:* 1-4. DOI: https://doi.org/10.1007/978-981-10-0360-8_1

Bado et al., 2023 – *Bado, B., Hasan, M., Tahir, T., Hasbiah, S.* (2023). How do financial literacy, financial management learning, financial attitudes and financial education in families affect personal financial management in generation Z? *International Journal of Professional Business Review*. 8(5): e02001. DOI: https://doi.org/10.26668/businessreview/2023.v8i5.2001

Baiocchi, Distaso, 2003 – *Baiocchi, G., Distaso, W.* (2003). GRETL: Econometric Software for the GNU Generation. *Journal of Applied Econometrics*. 18(1): 105-110. [Electronic resource]. URL: http://www.jstor.org/stable/30035190

Becchetti et al., 2013 – *Becchetti, L., Caiazza, S., Coviello, D.* (2013). Financial education and investment attitudes in high schools: evidence from a randomized experiment. *Applied Financial Economics*. 23(10): 817-836. DOI: https://doi.org/10.1080/09603107.2013.767977

Belinova et al., 2021 – *Belinova, N.V., Bicheva, I.B., Krasilnikova, L.V., Khanova, T.G., Vyalova, N.M., Baskaeva, Zh.K.* (2021). The development of preschoolers' financial literacy in the cooperation of the kindergarten and the family. *SHS Web of Conferences*. DOI: https://doi.org/10.1051/shsconf/20219701020

Bernheim et al., 2001 – *Bernheim, B., Garret, D., Maki, D.* (2001). Education and saving: the long-term effects of high school financial curriculum mandates. *Journal of Public Economics*. 80(3): 435-65.

Beverly, Burkhalter,, 2005 – *Beverly, S.G., Burkhalter, E.K.* (2005). Improving the financial literacy and practices of youths. *Children & Schools*. 27(2): 121-124. DOI: https://doi.org/10.1093/cs/27.2.121

Bodie, Merton, 2003 – *Bodie, Z., Merton, R.C.* (2003). Finanzas [Finance]. (Luz M. Hernández Hernández, Trad.) Prentice Hall Pearson Educación. (Published original work, 1999). [Electronic resource]. URL: ttps://shorturl.at/fgPV1

Braunstein, Welch, 2002 – *Braunstein, S.F., Welch, C.M.* (2002). Financial literacy: an overview of practice, research, and policy. *Federal Reserve Bulletin*. 88(11): 445-457. [Electronic resource]. URL: https://www.federalreserve.gov/pubs/bulletin/2002/1102lead.pdf

Carpena et al., 2017 – *Carpena, F., Cole, S., Shapiro, J., Zia, B.* (2017). The ABCs of financial education: experimental evidence on attitudes, behavior, and cognitive biases. *Management Science*. 65(1): 346-369. DOI: https://doi.org/10.1287/mnsc.2017.2819

Chu et al., 2017 – *Chu, Z., Wang, Z., Xiao, J. J., Zhang, W.* (2017). Financial literacy, portfolio choice and financial well-being. *Social Indicators Research*. 132(2): 799-820. DOI: https://doi.org/10.1007/s1120 5-016-1309-2

Coskun, Dalziel, 2020 – *Coskun, A., Dalziel, N.* (2020). Mediation effect of financial attitude on financial knowledge and financial behavior. *International Journal of Research in Business and Social Science*. 9(2): 01-08. DOI: https://doi.org/10.20525/ijrbs.v9i2.647

Dare et al., 2020 – *Dare, S., Van Dijk, W.W., Van Dijk, E., Van Dillen, L.F., Gallucci, M., Simonse, O.* (2020). The effect of financial education on pupils' financial knowledge and skills: Evidence from a Solomon four-group design. *Journal of Educational Research*. 113(2): 93-107. DOI: https://doi.org/10.1080/00220671.2020.1733453

Deacon, Firebaugh, 1981 – *Deacon, R.E., Firebaugh F.M.* (1981). Family resource management: principles and applications. Allyn & Bacon; Subsequent edition (1 January 1988). [Electronic resource]. URL: https://shorturl.at/hADNS

Diez-Martinez, 2016 – *Diez-Martinez, E.* (2016). Socioeconomic and financial literacy of Mexican adolescents of the 21st century. *Electronic Journal of Educational Research*. 18(2): 130-143.

Estrada, 2009 – *Estrada, F.* (2009). The Economics and rationality of organizations: the contribution of Herbert A. Simon (Economía y Racionalidad de Las Organizaciones: Los aportes de Herbert A. Simon) (December 21, 2009). *Revista de Estudios Sociales*. 31: 84-103. [Electronic resource]. URL: https://ssrn.com/abstract=1517923

Fernandes et al., 2014 – *Fernandes, D.J., Lynch, J., Netemeyer, R.G.* (2014). Financial literacy, financial education, and downstream financial behaviors. *Management Science*. 60(8): 1861-1883. DOI: https://doi.org/10.1287/mnsc.2013.1849

Ferrera et al., 2020 – *Ferrera, J.M.C., Izquierdo, M.G., Chaparro, F.P.* (2020). Financial education and student financial literacy: A cross-country analysis using PISA 2012 data. *Social Science Journal*. 59(1): 15-33. DOI: https://doi.org/10.1016/j.soscij.2019.07.011

Fleischer, Hajok, 2019 – *Fleischer, S., Hajok, D.* (2019). Medien bildungs prozesse. In: Kracke, B., Noack, P. (eds) *Handbuch Entwicklungs- und Erziehungs psychologie*. Springer Reference Psychologie. Springer, Berlin, Heidelberg. DOI: https://doi.org/10.1007/978-3-642-53968-8_35

Gómez, 2018 – *Gómez, M.* (2018). Financial education in Mexico, research notebook no. 53, General Directorate of Legislative Analysis. [Electronic resource]. URL: http://bibliodigitalibd.senado.gob.mx/ bitstream/

Grusec, Davidov, 2007 – *Grusec, J.E., Davidov, M.* (2007). Socialization in the family: The roles of parents. Handbook of socialization. [Electronic resource]. URL: https://psycnet.apa.org/record/2006-23344-011

Gudmunson, Danes, 2011 – *Gudmunson, C.G., Danes, S.M.* (2011). Family financial socialization: theory and critical review. *Journal of Family and Economic Issues*. 32(4): 644-667. DOI: https://doi.org/10.1007/s10834-011-9275-y

Harring et al., 2016 – *Harring, M., Witte, M.D, Burger, T.* (2016). Informal learning: an introduction. In: Harring, M., Witte, M.D., Burger, T. (eds.) *Handbook informal learning. Interdisciplinary and international perspectives*. Beltz Juventa, Weinheim. [Electronic resource]. URL: https://www.beltz.de/fileadmin/beltz/leseproen/978-3-7799-4231-3.pdf

Huston, 2010 – *Huston, S.J.* (2010). Measuring financial literacy. *The Journal of Consumer Affairs*. 44(2): 296-316.

Kaiser, Menkhoff, 2017 – *Kaiser, T., Menkhoff, L.* (2017). Does financial education impact financial literacy and financial behavior, and if so, when? *The World Bank Economic Review*. 31(3): 611-630.

Kuzma et al., 2022 – *Kuzma, I., Chaikovska, H., Levchyk, I., Yankovych, O.* (2022). Formation of financial literacy in primary school students. *Journal on Efficiency and Responsibility in Education and Science*. 15(3): 142-155. DOI: https://doi.org/10.7160/eriesj.2022.150302

Lachance, Choquette-Bernier, 2004 – *Lachance, M.J., Choquette-Bernier, N.* (2004). College students' consumer competence: a qualitative exploration. *International Journal of Consumer Studies*.28(5): 433-442. DOI: https://doi.org/10.1111/j.1470-6431.2004.00390.x

Lusardi et al., 2009 – *Lusardi et al.* (2009). Financial literacy among the young: Evidence and implications for consumer policy. NBER. Working paper [Electronic resource]. URL: https://www.nber.org/system/files/working_papers/w15352/w15352.pdf

Lusardi et al., 2010 – *Lusardi, A., Mitchell, O.S., Curto, V.* (2010). Financial literacy among the young. *Journal of Consumer Affairs*. 44(2): 358-380.

Mandell, 2008 – *Mandell, L.* (2008). The financial literacy of young American adults: results of the 2008 National Jump Start Coalition Survey of High School Seniors and College". *The Jump Start Coalition for Personal Financial Literacy*. Washington, DC. [Electronic resource]. URL: https://views.smgww.org/assets/pdf/2008

Martin, 2007 – *Martin, M.* (2007). A Literature review on the effectiveness of financial education (June 15, 2007). FRB Richmond Working Paper No. 07-03. [Electronic resource]. URL: https://ssrn.com/abstract=2186650DOI: http://dx.doi.org/10.2139/ssrn.2186650

McCormick Henn, 2009 – *McCormick Henn, M.* (2009). The effectiveness of youth financial education: Areview of the literature. *Journal of Financial Counseling and Planning*. 20(1): 70-83. [Electronic resource]. URL: https://ssrn.com/abstract=2225339

Moschis, 1985 – *Moschis, G.P.* (1985). The role of family communication in consumer socialization of children and adolescents. *Journal of Consumer Research*. 11(4): 898.

Mottola, 2014 – *Mottola, G.R.* (2014). The financial capability of young adults – a generational view. In Insights: *Financial capability – march*. Washington, DC: FINRA [Electronic resource]. URL: https://www.findevgateway.org/paper/2014/03/financial-capability

Mousseau et al., 2023 – *Mousseau, B.M., Oztanriseven, F.O., Kilinc, M.K.* (2023). Exploring financial instability in America through the lens of financial education. *Research Square*. DOI: https://doi.org/10.21203/rs.3.rs-3011026/v1

Ndou, 2023 – *Ndou, A.* (2023). The relationship between demographic factors and financial literacy. *International Journal of Research in Business and Social Science*. 12(1): 155-164. DOI: https://doi.org/10.20525/ijrbs.v12i1.2298

Newcomb, Rabow, 1999 – *Newcomb, M.E., Rabow, J.* (1999). Gender, socialization, and money. *Journal of Applied Social Psychology*. 29(4): 852-869. DOI: https://doi.org/10.1111/j.1559-1816.1999.tb02029.x

Norvilitis et al., 2003 – *Norvilitis, J.M., Szablicki, P.B., Wilson, S.D.* (2003). Factors influencing levels of credit-card debt in college students. *Journal of Applied Social Psychology*. 33(5): 935-947. DOI: https://doi.org/10.1111/j.1559-1816.2003.tb01932.x

Novitasari et al., 2021 – *Novitasari, D., Juliana, J., Asbari, M., Purwanto, A.* (2021). The effect of financial literacy, parents' social economic and student lifestyle on students' personal financial management. *Economic Education Analysis Journal*. 10(3): 522-531. DOI: https://doi.org/10.15294/eeaj.v10i3.50721

Núñez, 2013 – *Núñez, L.* (2013). Financial Education. Challenges, lessons and plans. IMCP. Mexico. [Electronic resource]. URL: https://repensarlaculturafinanciera.files.wordpress.com/2016/11/la-importancia-de-la-educacic3b3n-financiera.pdf

Robb et al., 2015 – *Robb, C.A., Babiarz, P., Woodyard, A., Seay, M.C.* (2015). Bounded rationality and use of alternative financial services. *Journal of Consumer Affairs*. 49(2): 407-435. DOI: https://doi.org/10.1111/joca.12071

Rodríguez, López-Ordoñez, 2022 – *Rodríguez, C.E.L., López-Ordoñez, D.A.* (2022). Financial education in Colombia: Challenges from the perception of its population with socioeconomic vulnerability. *Economics & Sociology*. 15(1): 193-204. DOI: https://doi.org/10.14254/2071-789x.2022/15-1/12

Schawbel, 2012 – *Schawbel, D.* (2012). Millennials vs. baby boomers: Who would you rather hire? *Time Magazine*. [Electronic resource]. URL: http://business.time.com/2012/03/29/millennials-vs-baby-boomers-who-would-you-rather-hire/

Schürkmann, 2017 – *Schürkmann S.* (ed.) (2017). FILS: Financial literacy study Validation and analysis of a student-oriented financial study Literature. De Gruyter Oldenburg, Berlín. [Electronic resource]. URL: https://books.google.com.mx/books?id=Xc0oDwAAQBAJ&pg=PA174&lpg

Shim et al., 2009 – *Shim, S., Barber, B.L., Card, N.A., Xiao, J., Serido, J.* (2009). Financial socialization of first-year college students: the roles of parents, work, and education. *Journal of Youth and Adolescence*. 39(12): 1457-1470. DOI: https://doi.org/10.1007/s10964-009-9432-x

Susilowatiag et al., 2020 – *Susilowatiag N., Kardiyem, K., Latifah, L.* (2020). The mediating role of attitude toward money on students' financial literacy and financial behavior. *JABE (Journal of Accounting and Business Education)*. 4(2): 58. DOI: https://doi.org/10.26675/jabe.v4i2.6622

Wooldridge, 2015 – *Wooldridge, J.M.* (2015). Introductory Econometrics: A Modern Approach. Nelson Education, Toronto, Canada.