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DISSERTATION

FINANCIAL LITERACY FROM DAY 1!
WHAT IS THE LEVEL OF FINANCIAL LITERACY OF THE PORTUGUESE CHILDREN?

AFONSO MIGUEL DE SOUSA CAMPOS

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RESUMO

Este estudo tem como objetivo avaliar o nível de literacia financeira dos alunos do terceiro e quarto ano em Portugal e compreender os fatores que influenciam o seu conhecimento financeiro. Explora-se a demografia, a perceção das crianças sobre conceitos financeiros e a influência dos pais na literacia financeira. A pesquisa aborda a importância da educação financeira precoce para as crianças, tendo em conta os seus futuros papéis como adultos responsáveis. Ao analisar o conhecimento dos alunos e o impacto dos pais, o estudo contribui para a compreensão e melhoria da literacia financeira entre os jovens portugueses.

Foram encontrados vários fatores significativos que influenciam o conhecimento financeiro das crianças. Os rapazes, em média, demonstraram níveis mais elevados de literacia financeira do que as raparigas. Crianças mais velhas e as que se encontram no quarto ano também apresentaram pontuações mais altas de literacia financeira em comparação com estudantes mais novos e aqueles que se encontram no terceiro ano, respetivamente. Além disso, os alunos que gostam de estudar matemática tendem a ter níveis mais elevados de literacia financeira. Crianças que se sentem mais confortáveis com a sua compreensão do dinheiro também demonstram, em média, níveis mais altos de literacia financeira. Além disso, a pesquisa destacou o impacto substancial da educação dos pais na literacia financeira das crianças, indicando que filhos de pais com nível de educação superior tendem a obter pontuações mais altas de literacia financeira. Da análise do currículo, observou-se um possível défice nos conteúdos ministrados. Apesar dos alunos reconhecerem os riscos de perdas financeiras online, muitos não estão cientes da possibilidade de se ganhar dinheiro através da internet. A par disto, ao comparar os conteúdos da educação financeira Portuguesa com a Americana, constatou-se um atraso na introdução de certos conceitos aos alunos Portugueses.

Este trabalho contribui para abordar a escassez de estudos sobre literacia financeira de crianças, sendo a maioria focada em adultos ou jovens adultos.

Palavras-chave: Literacia Financeira, Conhecimento Financeiro, Crianças, Pais, Portugal.

Códigos JEL: D14; G53; I22; J13; J14

ABSTRACT

This study aims to assess the financial literacy level of third and fourth-grade students in Portugal and understand the factors influencing their financial knowledge. It explores demographics, children's perceptions of financial concepts, and parental influence on financial literacy. The research addresses the importance of early financial education for children, considering their future roles as responsible adults. By analyzing students' knowledge and parental impact, the study contributes to understanding and improving financial literacy among the Portuguese youth.

Several significant factors influencing children's financial knowledge were found. Boys, on average, demonstrated higher financial literacy levels than girls. Older children, as well as those in the fourth grade, exhibited higher financial literacy scores compared to younger students and those in the third grade, respectively. Additionally, students who enjoy studying mathematics tend to have higher levels of financial literacy. Children who feel more comfortable with their understanding of money also show, on average, higher financial literacy levels. Moreover, the research highlighted the substantial impact of parental education on children's financial literacy, indicating that children with more educated parents tend to score higher in financial literacy assessments. When reviewing the curriculum, we noted a potential deficiency in the content these students are exposed to. Despite recognizing the risks of online financial loss, many are unaware of the potential for earning money online. Additionally, comparing Portuguese and American education revealed delays in introducing certain concepts to the Portuguese students.

This work contributes to addressing the lack of studies on financial literacy of children, the majority being on adults or young adults.

Keywords: Financial Literacy, Financial Knowledge, Children, Parents, Portugal

JEL CODES: D14; G53; I22; J13; J14

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ASF: Autoridade de Supervisão de Seguros e Fundos de Pensões

CMVM: Comissão do Mercado de Valores Mobiliários

OECD: Organisation for Economic Co-operation and Development

PISA: Programme for International Student Assessment

PNFF: Plano Nacional de Formação Financeira

1. INTRODUCTION

The recognition of financial literacy's significance by OECD governments in 2002 marked a pivotal moment in understanding the essential skills required for navigating modern society. While literacy was traditionally defined as the ability to read and write, the evolving landscape demanded a broader perspective.

The OECD's acknowledgment of schooling's role in cultivating a "literate" adult population emphasized the importance of personal fulfilment, societal participation, empowerment, and employment success. In 2000, the OECD initiated the Programme for International Student Assessment (PISA), which evaluated reading, mathematical, and scientific literacy among young adults. This ground-breaking initiative reflected a shift towards preparing individuals for the complexities of contemporary knowledge-based societies. Formerly, the focus of education was primarily on training professionals in mathematics and science. However, a rapid evolution of the world required a multifaceted approach, encompassing not only traditional literacy but also mathematical, scientific, and technological literacy.

PISA 2000 demonstrated that literacy extends beyond basic reading and writing skills, encompassing practical knowledge and competencies essential for everyday life. This paradigm shift underscored the imperative for educational systems to adapt to the changing needs of society, ensuring that individuals are equipped with the diverse skill set required for success in the modern world.

Fast forward, what began as a mere concept of financial education has evolved into greater relevance with the introduction of the comprehensive notion of financial literacy.

This study analyses the financial literacy levels among third and fourth grade children by employing two surveys, one targeted at the children themselves and another aimed at their respective parents. Through this investigative approach, the research seeks to understand the relationship between children's financial literacy, some of their characteristics and various parental influences.

These surveys were implemented in all 12 schools of Agrupamento de Escolas de Pombal, corresponding to 25 different classes and a total of 415 students. The data comes from the answers of 261 students and their respective parents.

The outcomes of this work show us the statistical significance of various factors in shaping children's financial literacy levels. These factors include the gender, age, grade, comfort with mathematics, and understanding of money among the children. On average, boys have a higher level of financial literacy than girls. Older children also have higher levels of financial literacy. The same happens to children from the fourth grade, who revealed higher scores than the ones from the third grade. We also discovered that a student who likes to study maths, on average, has higher levels of financial literacy than the ones who do not. In what concerns money, a child who feels more comfortable with his understanding of money, typically demonstrates higher levels of financial literacy than does who do not. Additionally, we highlight the significant impact of the parental education level on children's financial literacy. In this case, the higher the level of education of a parent, the higher was the score of the respective child.

In the realm of financial literacy research, there's a notable gap concerning children, with the majority of studies focusing on adults or young adults. This gap is significant considering that early childhood may represent an opportune period for introducing financial concepts, allowing children to gradually adapt to the subject and become more proficient over time.

This study contributes to the academic literature by being one of the few focused on financial literacy among young children, addressing a key gap in early financial education. It offers further academic value through the creation of a new, age-appropriate questionnaire tailored to the cognitive development of young children. Additionally, the research stands out by evaluating the financial literacy of the children's parents, exploring how parental knowledge impacts children's financial understanding. It also highlights the significant role of math skills in financial literacy and brings attention to the critical need for digital financial literacy education for young children, preparing them for an increasingly digital financial environment.

The structure of this work unfolds as follows: Section 2 delves into an exploration of existing literature related to financial literacy, its applicability to children, potential parental influences, and a specific examination of financial literacy in Portugal. Section 3 outlines the propositions of our study, detailing the anticipated outcomes of each analysis, along with the methodology employed to gather and analyse the data. Moving forward, Section 4 presents the findings of our data analysis and model results, while Section 5 encapsulates the study with a summary and concluding remarks.

2. LITERATURE REVIEW

In the recent years, the concept of financial literacy has become more and more popular. For some it may mean little but for others it is the path for success. Whether we comprehend it or not, what we see today is a big effort of both governments and individuals in increasing their level of financial literacy. But what is exactly financial literacy and why is it important? To better answer this question it may help to go back in time to the year of 2005 where the OECD considered **financial education** as:

"the process by which financial consumers/investors improve their understanding of financial products, concepts and risks and through information, instruction and/or objective advice, develop the skills and confidence to become more aware of financial risks and opportunities, to make informed choices, to know where to go for help, and to take other effective actions to improve their financial well-being".

In: OECD (2005), p. 4

In this definition "understanding", "skills" and the notion of applying understanding and skills were seen as the key elements of this definition. However, this definition only characterizes a process – education – not an outcome (of that same process). To later create an assessment framework that would then be used around the world (PISA), a new definition (which incorporated the outcome of that process) was created:

***"Financial literacy** is knowledge and understanding of financial concepts and risks, and the skills, motivation, and confidence to apply such knowledge and understanding in order to make effective decisions across a range of financial contexts, to improve the financial well-being of individuals and society, and to enable participation in economic life."*

In: OECD (2013), p. 144

In PISA 2012, the OECD intents to clarify this definition. From there we understand that literacy is viewed as an evolving set of knowledge, skills, and strategies that individuals develop throughout life, involving more than the reproduction of accumulated knowledge. In respect to knowledge and understanding of financial concepts and risks, the OECD explains that financial literacy requires knowledge and understanding of fundamental financial concepts, products and risks. Concepts such as interest, inflation and value for money are essential for one's financial well-being. In what concerns skills, it is explained that the concept involves cognitive processes like accessing information, comparing, evaluating, as well as basic mathematical and language skills applied in a financial context. As for motivation and confidence, it is understood that

financial literacy includes non-cognitive attributes such as motivation to seek information, confidence, and the ability to manage emotional factors in decision-making. The <u>application in decision making</u> is explained as the ability to apply knowledge in real-life situations for making informed and responsible decisions that meet specific needs. <u>Across financial contexts</u> pretends to ensure that making good financial decisions involves considering both immediate daily needs and future adult decisions that carry long-term financial implications. <u>Improving financial well-being</u> is also part of the concept of financial literacy and stands from acknowledging its broader influence on society, therefore contributing to national and global stability, productivity, and development. Finally, <u>enabling participation in the economic life</u> describes that financial literacy empowers individuals to actively participate in economic life, supporting their ability to make beneficial decisions and engage with and contribute to the economic world.

According to Lusardi (2015) this definition of financial literacy introduced four innovative aspects that were worth taking in consideration. Financial literacy does not refer simply to knowledge and understanding, but also to its **purpose** - which is to promote effective decision making. The **objective** of financial literacy is to improve financial well-being, not to affect a single behaviour, such as increasing saving or decreasing debt. Financial literacy has **effects** not just for **individuals** but for **society** as well and also, financial literacy, like reading, writing, and knowledge of science, enables young people to **participate in economic life.**

Hung A. (2009) designed a conceptual model of financial literacy, where the concept served as the basis to both ones' financial skills and perceived knowledge, which would then lead to financial behaviours. Financial behaviour is also described as a driver for someone's perceived knowledge and financial knowledge. These are concepts heavily studied in what concerns financial literacy.

The relevance of this subject has been heavily discussed. Although the majority of researchers focus on the benefits of financial literacy, there are some that argue about its possible disadvantages. For example, Lauren Willis (2008) argues that in the attempt to increase the level of financial literacy, people may become **overconfident** without actually gaining any skills, potentially leading to worse decisions. Also, the pursuit of financial literacy may **blame individuals** for their financial struggles, deflecting calls for effective market regulation and inhibiting the development of other policy tools for improving financial welfare. The author also adds that "consumers generally do not serve as their own doctors and lawyers and, for reasons of efficient division of labour alone, generally should not serve as their own financial experts." In this case, a search for policies that lead to good consumer financial outcomes should replace the search for effective financial literacy education.

On the other hand, the majority of researchers understand the importance of financial literacy and the benefits associated to it. Lusardi (2015) states that financial literacy is recognized as a **crucial skill in the twenty-first century**, gaining popularity as individuals are increasingly expected to take personal responsibility for their financial matters. Other researchers have also found positive causal treatment effects on financial knowledge and financial behaviours (Kaiser et al, 2022).

In one of the most recent papers, created at the request of the Belgian Presidency of the Council of the European Union, the authors share what they believe, according to the literature, are some of the benefits of a household with higher financial knowledge (Demertzis et al, 2024). **The ability to better allocate lifetime resources**, assuming that greater financial knowledge leads to lower financial fragility and is also linked to higher wealth accumulation. **The ability to plan better for retirement**, stating that poor financial knowledge prevents people from preparing for the future, therefore people are less likely to plan for retirement. Another benefit is that people may **be more likely to participate in the financial markets**, because as individuals gain a deeper understanding of financial matters, they tend to engage more actively in these types of markets. Lastly, they consider the **ability to contain over-indebtedness** as a benefit since people with low levels of financial knowledge tend to borrow at more expensive terms (Lusardi and Tufano, 2015).

Beside these points, the authors also mention the importance financial knowledge may have in the **digital world** (of finance) we are living in. A world where also digital skills and digital access to finance are becoming more and more important especially when using more complex products and services. In addition, it is mentioned the positive relationship between the level of financial knowledge and the degree of **trust in institutions** (van der Cruijsen et al, 2021), suggesting also that financial regulators gain from higher trust in jurisdictions where higher levels of financial literacy are present.

In the end of one of Lusardi's lectures, the author states:

"just as it was not possible to contribute to and thrive in an industrialized society without basic literacy - the ability to read and write - so it is not possible to successfully navigate today's world without being financially literate. Financial literacy truly is an essential skill for the 21st century."

In: Lusardi (2015), p. 653

When we consider financial literacy to be an important skill of the twenty-first century (Lusardi 2015), it is imperative to talk about the next generations. Not only because we should thrive to create a better world for them, but also because they will be the ones supporting the economy for the years to come. They are the future and, if we want a better future, we need to consider them on the equation.

There has been a big debate on whether financial literacy should be discussed on the early stages of life. Researchers have proven that the need for individuals to make prudent financial choices early in life is influenced by various factors such as socioeconomic challenges, economic crises, technological advancements, and political decisions regarding finance (Ozkale and Aprea, 2022). However, the literature shows us that young children may have incorrect perceptions of finance in early ages (Berti and Bombi, 1988). These are times where their knowledge is limited and with many misconceptions (Webley, 2005). Therefore, it is extremely important to define what children should actually know about finance. Bidwell (2013), Bosshardt and Walstad (2018) suggest that children should be able to manage their pocket money and their shopping, balance savings for products that they want to buy and generally be ready for financial activities that they will encounter in the near future like paying bills, getting loans, and gaining economic independence. Also, in a world where children are more and more connected to information, we need to understand that advertisements, social media, and their social environment due affect them in financial matters (Gudmunson & Danes, 2011; Lucey et al., 2015; Oehler & Wendt, 2017). This is significant because as Lusardi (2015) shows from the PISA results, disparities in financial knowledge early in life can act as a multiplier of economic inequality among older adults.

In respect to some of the factors associated with differences in financial literacy among the young, Lusardi (2015) mentions gross domestic product (GDP) per capita, gender differences in financial literacy, and the influence of parental background and economic status. The author explains that living in a rich country does not appear to have a strong impact on the financial literacy scores, stating that some countries with lower levels of per capita GDP perform better than higher per capita income countries. With this, Lusardi (2015) demonstrates the importance of a well-functioning educational system and why this type of knowledge should be rigorously present in school curricula. In respect to gender differences, the data shows us that financial literacy levels have no considerable association with the gender of the respondents. However, there is a very strong link between financial literacy and socioeconomic status (Lusardi, Mitchell, and Curto 2010). Socioeconomically advantaged children tend to have higher financial literacy

levels. In PISA this was evaluated according to the parent's education and occupation, the number and type of home possessions (family wealth) and the educational resources available at home.

In what concerns Portugal and financial literacy, the available data and studies, and the perceived level of financial literacy in Portugal, sometimes, tend to contradict themselves. As an example, we have the International Survey of Adult Financial Literacy (INFE) performed in 2023 and coordinated by the OECD. In this survey, Portugal was number 13 on the table of global indicators of financial literacy, out of 39 countries (20 members of OECD), scoring 63 points out of 100. This result is equal to the average of the countries member of OECD and higher than the average of the 39 participant countries. However, this result is computed "*as the sum of the scores on financial knowledge, financial behaviour and financial attitudes*".

If we look deeper into the data, we can see that this result was achieved due to high scores on the indicators financial behaviour and financial attitudes (both above average), but a very low score (21 out of the 39 countries) in respect to financial knowledge. More than 51% of the respondents were not able to reach the minimum target score on financial knowledge. For example, only 24.7% of the respondents were able to show understanding of simple and compound interest and only 46.6% answered correctly to the question of risk diversification.

Now, considering one of the latest papers prepared by Bruegel at the request of the Belgian Presidency of the Council of the European Union, we can see that Portugal scored second to last out of the 27 countries of the European Union. The score for answering correctly to three out of five questions was of 36%. In comparison, the country with highest score was Finland (73%) and the average for the EU was 51%. This survey measured the *understanding of fundamental concepts that are of relevance in daily financial decision-making*. One considerable difference in this survey to the previous one (from OECD) is that the metrics to measure financial literacy were only financial knowledge and did not include financial behaviour, in alignment with how academic research uses survey data on financial literacy. Taking in consideration the conceptual model of financial literacy, this may be worth looking into, since financial knowledge serves as the "basis" for financial literacy.

In Portugal, the first big initiative in favour of financial literacy dates back to 2008 with the creation of Portal do Cliente Bancário. This entity was responsible for providing information on the characteristics and risks of the main retail banking products and services. In 2010, the Bank of Portugal carried out the first survey on the financial literacy of the Portuguese population and, in 2011, together with CMVM and ASF created PNFF - Plano Nacional de Formação Financeira (National Financial Education Plan). In respect to education and young children, in 2013 was

published the first Financial Education Reference and in 2014 was launched a teacher training program for the subject. In 2015, were publish the educational workbooks specifically directed to students from the first, second and third "ciclo". Since 2012, there is an annual contest named Todos Contam, which aims to reward the best financial educational projects in schools. Now, and since 2017, one of the main priorities of the Bank of Portugal is to promote digital financial literacy while responding to the challenges of sustainability and sustainable finance.

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3. RESEARCH PROPOSITIONS AND METHODOLOGY

The main objective of this work is to evaluate the level of financial literacy from students of the third and fourth grade, while also seeking to comprehend some of the characteristics that may influence the children's level of financial literacy.

When thinking about the future, not taking in consideration today's youth is a severe mistake, as these children will one day be adults, responsible for their own decisions. As elucidated before, the Portuguese keep scoring low on the financial literacy ratings compared to other countries, especially when taking into account their level of financial knowledge.

This paper intends to contribute to the subject, as few are the studies conducted on the Portuguese youth population, the majority being on the adult population. To achieve this, it will be studied the demographics of the children, their (perception of) knowledge on certain subjects related to financial literacy and also the parental influence on their level of financial literacy. To achieve this last topic, a survey directed to the children's parents was also conducted.

Firstly, in respect to demographics, we want to understand if gender and age are both related to the level of financial literacy a children may have. We call these propositions **P1** and **P2** respectively. Given that students of the same age may be in different grades, we aim to investigate proposition **P3**, which suggests that a student's grade level may influence their level of financial literacy.

The following propositions seek to examine whether children's knowledge (perception of knowledge) impacts their level of financial literacy. Lusardi (2012) contends that financial literacy is closely intertwined with mathematics due to its inherent nature. Similarly, the OECD (2016) acknowledges mathematical literacy as a foundational skill for financial literacy. Building upon these insights, Proposition **P4** strives to investigate whether a child's increased comfort with mathematics correlates with a higher level of financial literacy. Furthermore, in terms of knowledge, we decided to investigate whether children's confidence in their understanding of money affects their financial literacy. This is denoted as Proposition **P5**.

Finally, it was out intent to study whether financial literacy had any relation to parental influence. Jorgensen (2010) explains that while parental influence directly and moderately impacts financial attitudes, it does not have an effect on financial knowledge. Therefore, proposition **P6** seeks to test if there is any possible parental influence on the financial literacy levels of their respective child. For this, we test the parent's financial literacy, their level of education, the household income and parenting skills.

Figure 1: Conceptual Model
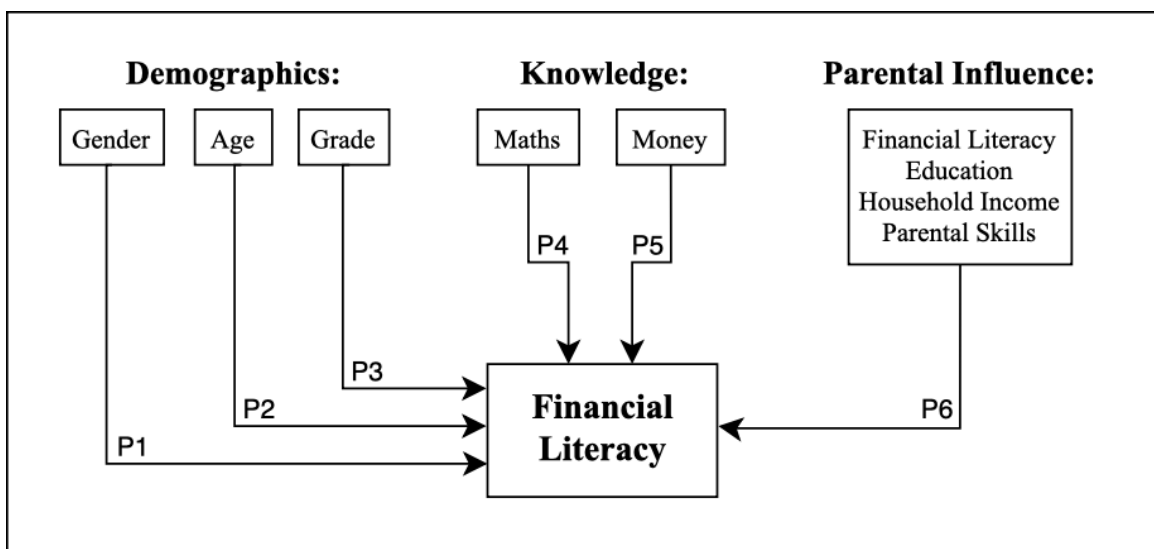
Our data set comes from two separate surveys which, after approval from the schools' Board of Directors, were designed and distributed to all primary schools of Agrupamento de Escolas de Pombal. After some discussion with some of the students' Professors it was decided to print the surveys in paper. The main justification for this was to secure the largest number of answers possible (not discriminating parents who are not familiar with answering surveys online). Also, there was a concern that the parents could help their children answering the survey. In response to this, the surveys from both parents and children were separated. In this scenario, students carried the surveys home for parental approval, and upon acceptance, parents would both endorse their participation and respond to the survey. By doing this, students who received their parents' approval to answer the survey would only do it in class, with no help from their parents. The Professors were asked not to help the students when answering the survey.

The lack of public studies conducted within children of such young ages (especially in Portugal), was a challenge when creating the survey to be answered by the students. The challenge did not only arise from what contents should be included but also from the type of language that should be used. Therefore, the survey was constructed along with the primary school's Professors' orientation and approval.

The survey directed to the students was created based on the "Financial Education Workbook for 1º Ciclo". A workbook published in 2015 as part of a partnership between the Ministry of Education, the National Council of Financial Supervisors (Bank of Portugal, Securities Market Commission, and Insurance and Pension Funds Supervisory Authority), and four associations

from the financial sector (Portuguese Banking Association, Portuguese Insurance Association, Portuguese Association of Investment Funds, Pensions and Asset Management, and Association of Specialized Credit Institutions), as explained in "TodosContam" website. This workbook comprises five main subjects: "Needs & Wants"; "Income & Expenses"; "Savings"; "Risk & Uncertainty" and "Means of Payment". For each subject, four multiple choice questions were created based on the exercises present in the workbook. Finally, two questions regarding the use of internet and money were added, based on Bank of Portugal's worriedness express in their latest report for Digital Financial Literacy and a question related to compound interest was added based on studies conducted to US elementary students.

This questionnaire was used to construct three different financial literacy indices. The first one, named "**FL**", consists of the percentage of correct answers from the total of twenty questions, equally weighted. On the other hand, "**FL AGG**" takes into consideration the five different subjects of questions. Each subject had a total of four different questions; therefore, we decided to calculate the average of the five subjects considering different weights for the four questions within each subject. The weight attributed to each question from a specific subject was assigned according to its difficulty. In this case, the most difficult question (the one with the lowest number of correct answers from the students) had a weight of 50% on the respective subject. The next most difficult question had a weight of 30%, the following 15% and finally 5%. Finally, with all values for the five different subjects, we calculated their average. As for "**FL SUB**" the focus was not on the difficulty level of the questions within each subject but on the difficulty level of each subject. Here all questions had the same weight, however each subject had a different weight in calculating the level of financial literacy from the students. The subject where the average percentage of correct answers was the smallest was considered the most difficult, having the corresponding weight. The weight for each subject was calculated by first subtracting each percentage from one hundred percent, calculating the logarithmic values of each adjusted percentage, normalizing these logarithmic values to sum up to 1, and finally, by normalizing the values ensuring that a subject with a lower number of correct answers had in fact a higher weight.

4. DATA AND RESULTS

The survey was delivered to all 12 schools of Agrupamento de Escolas de Pombal, representing a total of 415 students from 25 different classes. Considering that some students were missing class, some did not get approval from their parents to participate in the study and the ones who failed the "test question", 261 surveys from both students and their respective parents were collected.

Table I: Demographic Aspects of Parents

Parents' Demographics		%	N
Age	From 16 to 24 years old	0.40%	
	From 25 to 39 years old	41.31%	
	From 40 to 54 years old	57.90%	259
	From 55 to 69 years old	0.40%	
	More than 70 years old	0.00%	
Gender	Male	85.55%	
	Female	14.45%	256
Educational Level	First to Nineth Grade	11.20%	
	Tenth to Twelfth Grade	44.02%	259
	Superior Education	44.79%	
Household number	2 people	6.81%	
	3 people	21.28%	
	4 people	50.64%	235
	5 people	16.60%	
	6 people	4.68%	
Household Income Level	Less than 900€	11.76%	
	From 900€ to 1800€	45.10%	
	From 1800€ to 2700€	28.63%	255
	From 2700€ to 3600€	9.02%	
	More than 3600€	5.49%	

With respect to the data collected from the parents, 85.6% were women, 57.9% aged between 40 and 54 years old, 74.1% married, 44.8% with higher education, 50.64% with a household composed by 4 people and 45.10% with a monthly household income between 900€ and 1800€.

The data is not entirely representative of the Portuguese population as 52.4% are women, the median age is 46.8 years, 23.2% have higher education, the mean household is 2.6 people, and the average monthly household income is about 1895€ (Eurostat. & PORDATA).

Table II: Demographic Aspects of Children

Children's Demographics		%	N
Age	8 years old	39.23%	
	9 years old	44.62%	
	10 years old	15.77%	260
	11 years old	0.38%	
Gender	Male	49.03%	
	Female	50.97%	259
Class	Third Grade	55.17%	
	Fourth Grade	44.83%	261

In what concerns the data collected from the students, 50.9% were girls, 44.6% were 9 years old, while 55.2% were in the third grade and 44.8% were in the fourth grade. The data may not entirely represent the actual population as, in Portugal, 51% of the students from 1º Ciclo are boys (PORDATA).

The considerable difference in the gender of the parents could be attributed to the prevalent trend where women typically assume the role of primary caregivers of children.

Table III: Children's Average Percentage of Correct Answers on Subjects

Average % of Correct Answers on Subjects	
Needs & Wants	61.80%
Income & Expenses	36.90%
Savings	57.50%
Risk & Uncertainty	60.60%
Means of Payment	58.20%

When looking into the responses of the students, we see an overall percentage of 55% correct answers. The subjects with higher level of correct answers were "Needs & Wants" and "Risk & Uncertainty" with 61.8% and 60.6% respectively. The following subjects with higher level of correct answers were the ones related to "Means of Payment" and "Savings" with 58.2% and 57.5% respectively. Finally, the subject with the worst number of correct answers was the one related to "Income and Expenses" where, on average, only 36.9% of the questions were answered correctly. Going into detail, the questions where students demonstrated better understanding of the concepts were the ones in which they had to comprehend how money and purchases work (87.3%), the concept of necessity (82.3%), the safest place to save money (79.3%) and how to save money (73.9%). In contrast, students revealed difficulty in understanding the concepts of fixed and variable expenses (13.8% and 35.6% respectively), the concept of extraordinary revenue (22.6%) and also the concept of insurance (35.2%).

The existing literature suggests there is little gender disparity in the level financial knowledge, with indications that women may have lower levels compared to men (OECD 2023). The OECD (2013) also suggests that since women usually live longer than men and earn less than men over their lifetime, financial decisions are particularly important for them, especially when it concerns securing long-term financial well-being. However, Lusardi (2015) explains from the data collected in PISA 2012 that when considering young children, there are not gender differences in the average scores of financial literacy. Taking this into account, our primary objective is to evaluate the influence of gender on financial literacy levels among respondents. To address this proposition, we will carry out a bivariate comparison of means. The following table will present the results of the analysis.

Table IV: Bivariate Analysis – Student Gender

	Proposition 1				
	Bivariate Analysis (t-test)	N	FL	FL AGG	FL SUB
Gender	Female	132	53.4848	43.856	51.5037
	Male	127	56.7716	47	55.0186
	Test Value (t)		-1.721*	-1.5636	-1.846*
	Std. Error Difference		1.90982	2.010643	1.90406

***Significant at 1% level, **Significant at 5% level, *Significant at 10% level.

Our research shows statically significant differences between boys and girls. Boys demonstrate, on average, higher financial literacy levels.

In what concerns age, the OECD (2023) demonstrates that adults aged 30-59 years old exhibit higher levels of financial literacy than adults aged 18-29 years old, although the differences being small. In what concerns children, this makes us believe that as they grow and have more experiences, they should have higher levels of financial literacy. This will also be tested considering the grade of the respondents. To address these propositions, we will carry out a Bivariate analysis (ANOVA) for the age of the respondents and a Bivariate analysis (t-test) for their grade.

Table V: ANOVA Analysis – Student Age

Proposition 2					
Bivariate Analysis (ANOVA)		N	FL	FL AGG	FL SUB
Age	Test Value (F)	260	2.92**	1.93	2.65**

***Significant at 1% level, **Significant at 5% level, *Significant at 10% level.

Table VI: Bivariate Analysis - Student Grade

Proposition 3					
Bivariate Analysis (t-test)		N	FL	FL AGG	FL SUB
Grade	3rd Grade	144	52.5694	43.3888	50.812
	4th Grade	117	58.1196	47.7948	56.1049
	Test Value (t)		-2.9241**	-2.1919	-2.7887**
	Std. Error Difference		1.89811	2.01013	1.89795

***Significant at 1% level, **Significant at 5% level, *Significant at 10% level.

The results show us statically differences in respect to the age of the children and especially in the grade of the students. We tend to see that, on average, older children and students from the fourth grade, have higher scores of financial literacy.

To test our first three propositions, we ran a Tobit Regression model, since there is a latent continuous variable (children's level of financial literacy), which has not been observed over its entire range, and is truncated between 0 and 100. The model is described by Equation 1 below.

(1) *Children's Financial Literacy = a + b$_1$Gender + b$_2$Age + b$_3$ Grade + e*

Table VII: Tobit Regression for Children's Financial Literacy (Gender, Age, Grade)

	Tobit Regression for Children's Financial Literacy					
	FL		FL AGG		FL SUB	
	Estimate	Std. Error	Estimate	Std. Error	Estimate	Std. Error
Gender	3.684256[*]	1.89877	3.432476[*]	2.007764	3.846673[**]	1.888391
Age	1.928409	1.91956	1.615547	2.02994	1.983436	1.909335
Grade	3.513077	2.77486	2.613466	2.934523	3.161338	2.760203

***Significant at 1% level, **Significant at 5% level, *Significant at 10% level.

As we can observe from the results in Table VII, when considering the variables gender, age and grade, the gender of the children is statistically significant to their level of financial literacy.

Many authors have also demonstrated the importance and relation of mathematics and financial literacy. Through PISA, the OECD (2014) has already demonstrated that mathematical literacy has a significant correlation of 0.83 on financial literacy. As previously stated, the main objective of the following proposition is to test whether the children's comfort level in studying mathematics has any correlation with their level of financial literacy. For this, a bivariate comparison of means (t-test) was performed.

Table VIII: Bivariate Analysis - Maths

	Proposition 4				
	Bivariate Analysis (t-test)	N	FL	FL AGG	FL SUB
Maths	Do not like to study	32	48.28125	39.34375	46.57222
	Like to study	226	55.95133	46.11062	54.04577
	Test Value (t)		-2.6492[***]	-2.2118[**]	-2.5829[**]
	Std. Error Difference		2.895222	3.059473	2.89349

***Significant at 1% level, **Significant at 5% level, *Significant at 10% level.

Our research shows us that there is a significant difference in the levels of financial literacy between the students who like to study maths and those who do not. In this case, students who enjoy studying maths, on average, have a higher financial literacy score.

It was also our intention to evaluate if the children's confidence in understanding of money had any relation with their financial literacy level. To achieve this, another bivariate comparison of means (t-test) was performed.

Table IX: Bivariate Analysis – Money

	Proposition 5				
	Bivariate Analysis (t-test)	N	FL	FL AGG	FL SUB
Money	Not Know	76	51.18421	41.89474	49.25877
	Know	178	56.71348	46.69663	54.83814
	Test Value (t)		-2.6196***	-2.1502**	-2.6462***
	Std. Error Difference		2.110742	2.23319	2.108472

***Significant at 1% level, **Significant at 5% level, *Significant at 10% level.

Considering the outcomes, the data demonstrates a significant difference in the levels of financial literacy between the children who reveal confidence in understanding money and those who do not. On average, a higher level of financial literacy is attributed to children who are confident of their understanding of money.

To test these two propositions, we, once again, ran a Tobit Regression model. The model is described by Equation 2 below.

(2) *Children's Financial Literacy = a + b$_1$Maths + b$_2$Money + e*

Table X: Tobit Regression for Children's Financial Literacy (Maths, Money)

	Tobit Regression for Children's Financial Literacy					
	FL		FL AGG		FL SUB	
	Estimate	Std. Error	Estimate	Std. Error	Estimate	Std. Error
Maths	7.640876***	2.914865	6.552922**	3.081715	7.250163**	2.899134
Money	5.217626**	2.108547	4.462849**	2.231584	5.210473**	2.099542

***Significant at 1% level, **Significant at 5% level, *Significant at 10% level.

Looking into the results from Table X, when considering the variables maths and money, we understand that both the confidence level of children in maths and on the understanding of money are statistically significant to their level of financial literacy.

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In what concerns parental influence on the financial literacy level on their children, Jorgensen (2010) explains that while parental influence directly and moderately impacts financial attitudes of the children, it does not have an effect on their financial knowledge. To address this, we will carry out a Bivariate analysis (t-test) for the parenting skills (the ability of parents to share their knowledge of financial topics) and a Bivariate analysis (ANOVA) for both the parent's level of education and their household income.

Table XI: Bivariate Analysis – Parenting skills, Parent Education and Household income

	Proposition 6				
	Bivariate Analysis (t-test)	N	FL	FL AGG	FL SUB
Parenting skills	Yes	147	54.7619	45.09524	52.92729
	No	114	55.4386	45.71053	53.51667
	Test Value (t)		0.3499	0.3025	0.3052
	Std. Error Difference		1.933909	2.033777	1.931056
	Bivariate Analysis (ANOVA)	N	FL	FL AGG	FL SUB
Parent education	Test Value (F)	259	2.39*	2.83*	1.81
Household income	Test Value (F)	255	1.07	1.24	0.9

***Significant at 1% level, **Significant at 5% level, *Significant at 10% level.

Our research shows us that there is a significant difference in the levels of financial literacy according to the level of the parent's education. In this case, students whose parents have higher levels of education, tend to have higher levels of financial literacy.

A Tobit Regression model will be run to test this proposition. The model is described by Equation 3 below, where the variable corresponding to the level of the parent's financial literacy is also included.

(3) *Children's Financial Literacy = a + b_1Parent's Financial Literacy + b_2Parenting Skills + b_3Parent Education + b_4Household income + e*

Table XII: Tobit Regression for Children's Financial Literacy (Parent's influence)

	FL		FL AGG		FL SUB	
	Estimate	Std. Error	Estimate	Std. Error	Estimate	Std. Error
Parent's financial literacy	-0.2576953	0.056687	-0.020901	0.059382	-0.032333	0.0564536
Parent's Education	2.748748*	1.657741	2.813715	1.737231	2.480092	1.65105
Household Income	1.09589	1.07309	1.406723	1.1231	0.9585891	1.068589
Ability to share knowledge	-0.438657	1.968771	-0.726789	2.062839	-0.245459	1.960828

***Significant at 1% level, **Significant at 5% level, *Significant at 10% level.

Once again, the data shows us that level of the parent's education is statistically significant to the level of the children's financial literacy. Students whose parents have higher levels of education, tend to have higher levels of financial literacy.

Lastly, a Tobit Regression will be performed with all the previously mentioned variables. The model is described by Equation 4 below.

(4) *Children's Financial Literacy = a + b_1Parent's Financial Literacy + b_2Parenting Skills + b_3Parent Education + b_4Household income + b_5Children'sGender + b_6Children's Age + b_7Children's Grade + b_8Maths + b_9Money + e*

Table XIII: Tobit Regression for Children's Financial Literacy (All variables)

Tobit Regression for Children's Financial Literacy

	FL		FL AGG		FL SUB	
	Estimate	Std. Error	Estimate	Std. Error	Estimate	Std. Error
Parent's financial literacy	-0.0218337	0.0560993	-0.0179108	0.0597405	-0.0285267	0.0560056

Parent's Education	3.023463*	1.635878	3.135*	1.742649	2.724948*	1.63329
Household Income	1.198015	1.052583	1.563819	1.1199	1.025563	1.050762
Ability to share knowledge	-1.965812	1.979761	-2.128557	2.108583	-1.737028	1.976428
Children's Gender	1.287326	2.022455	0.9930408	2.154537	1.578276	2.019665
Children's Age	2.665198	1.950619	2.64243	2.076897	2.647041	1.947598
Children's Grade	2.876697	2.888351	2.17158	3.075911	2.382218	2.884339
Children's Maths	6.681152**	3.017014	5.445725*	3.209099	6.266518**	3.008032
Children's Money	3.228637	2.214591	2.450024	2.358358	3.33105	2.210581

***Significant at 1% level, **Significant at 5% level, *Significant at 10% level.

We once again observe that the parent's level of education and the children's confidence in maths are statistically significant to the level of financial literacy of the students.

4.1 Additional Analysis

As previously explained, all questions used to determine the level of financial literacy of the students were created using the workbook specifically designed for their age. This workbook has served as the "manual" of what children should be taught about financial literacy but, for some reason, it has not been updated since 2015. Taking this in consideration, we decided to include some other questions that could help us better understand the children's preparedness for the future of finance.

One of the latest reports from Bank of Portugal focuses on digital financial literacy. According to the OECD, digital financial literacy can be defined as:

"A combination of knowledge, skills, attitudes and behaviours necessary for individuals to be aware of and safely use digital financial services and digital technologies with a view to contributing to their financial well-being."

In: OECD (2022), p. 8

In this report we understand how recent digitalization of products and services (specially accelerated by the COVID-19 pandemic) has given opportunities to individuals to access finance as well as to manage their personal finances and plan their financial future. However, it is also recognized that the financial landscape has become more complex and digital financial services have introduced new challenges and risk factors. Nowadays, access to credit is literally at a distance of a click, which may be concerning as it may "help" families easily increase their level of indebtedness. Online frauds and scams have also skyrocketed. All in all, the report states, as its main strategy, to increase the use and trust of digital financial products and services and to make people more resilient to online fraud attempts and cybersecurity attacks and more aware of behavioural biases when accessing financial products and services through digital channels.

Despite mentioning several initiatives directed to children, in this report only young people aged 16 to 24 years and other groups were considered as groups "most in need". Going back to the workbooks for children's financial literacy, we also see that only the workbooks for students from "3º ciclo" and higher education (published in 2018 and 2021, respectively) actually mention the internet in the financial system. Both workbooks for students from "1º ciclo" and "2º ciclo" (published in 2015 and 2016, respectively) never mention the internet in what concerns digitalization and financial literacy. This may be surprising, especially when considering that today's generations are in contact with these technologies on a daily basis, whether at home or in

the classroom. In our questionnaire, when asked if the students knew how to use the internet, the majority of children (254 of 259) admitted knowing how to use it.

Table XIV: Bivariate Analysis – Internet Usage

	Internet Usage				
	Bivariate Analysis (t-test)	N	FL	FL AGG	FL SUB
Internet	Do NOT know how to use	5	43	37	41.36
	Know how to use	254	55.27559	45.4685	53.38836
	Test Value (t)		-1.7621*	-1.1513	-1.7285*
	Std. Error Difference		6.966549	7.355314	6.959006

***Significant at 1% level, **Significant at 5% level, *Significant at 10% level.

In table XIV the results show us that children who admit knowing how to use the internet, demonstrate higher levels of financial literacy.

Taking this in consideration we decided to understand how children saw the internet in respect to the financial world. Therefore, we asked them if it was possible to lose money on the internet and if it was also possible to earn money on the internet.

Table XV: Bivariate Analysis – Lose Money on the Internet

	Lose Money on the Internet				
	Bivariate Analysis (t-test)	N	FL	FL AGG	FL SUB
Lose Money	No	58	50.25862	38.82759	48.85211
	Yes	203	56.42857	47.23153	54.42261
	Test Value (t)		-2.7113***	-3.5461***	-2.4453**
	Std. Error Difference		2.275677	2.369924	2.278064

***Significant at 1% level, **Significant at 5% level, *Significant at 10% level.

In table XV the results show us that the majority of children (203 of 261) understood that it was possible to lose money on the internet. We also can see that there is significant difference in the levels of financial literacy according to their answer. Students who believed that it was possible to lose money on the internet demonstrated higher levels of financial literacy than those who did not.

Table XVI: Bivariate Analysis – Earn Money on the Internet

Earn Money on the Internet					
	Bivariate Analysis (t-test)	N	FL	FL AGG	FL SUB
Earn Money	No	130	52.19231	42.72308	50.59547
	Yes	131	57.90076	47.98473	55.7542
	Test Value (t)		-3.0271***	-2.6425***	-2.7311***
	Std. Error Difference		1.885787	1.991164	1.888912

***Significant at 1% level, **Significant at 5% level, *Significant at 10% level.

When asked if it was possible to earn money on the internet, the answers were significantly different. Almost half of the students (130 of 261) believed it was not possible to earn money on the internet. We can also see that students who believed that it was possible to earn money on the internet demonstrated higher levels of financial literacy than those who did not. We connected with some of the student's Professors in order to discuss a possible explanation to these results. We found out that there are many initiatives on their schools that try to educate children on the dangers of internet (provided by the Ministry of Education and the Portuguese Police Forces). This can also be seen when looking into the content of the workbooks for students from "3º ciclo" and higher education. The only positive aspect mentioned related to the internet was the fact that the law enables individuals to return orders, made online, for free within 14 days. The rest of the information included in the workbooks was about tips of how to be safe online and information on the different types of digital frauds. Although we understand the importance of educating the youth on how to have a safer experience online, after talking with the student's Professors, we suppose that too much information on one side of the scale (few benefits of using the internet, for example, as a tool to earn money) can be alarming for students, creating a false representation of reality which they take with them for their future lives. If we zoom out in the calendar, the internet is a very recent technology. But this recent technology has seen itself growing exponentially throughout the years. It is understandable, the worriedness of institutions in providing children the information for them to use this technology safely. In fact, we cannot forget that we are dealing with children, making this a high responsibility subject. But maybe, in a time where we watch Artificial Intelligence take the first big steps in our world, we should start considering giving children more information about what seems to be the future (digitalization) and how can they use it to benefit their lives.

When researching for this project and while constructing the questionnaire directed to the students, we asked ourselves several times whether the content of what these children were being taught was appropriate. "Maybe they are too young" or "they should definitely know this" were

some of the reflections we had when thinking about some of these topics. However, it was after reading one of the articles of Batty (2015) entitled "Experimental Evidence on the Effects of Financial Education on Elementary School Students' Knowledge, Behavior, and Attitudes" that we decided to test, in a very simple way, if the content of what these students were being taught was appropriate. This article from Batty shows us that:

"Younger students can learn financial topics and that learning is associated with improved attitudes and behaviors which, if sustained, may result in increased financial capability later in life."

In: The Journal of Consumer Affairs (Spring 2015), p. 69

To achieve this conclusion, elementary students from the United States participated in a program consisting in lessons about financial education. As explained by the author, these lessons were not intended to be taught as special classes but could be easily integrated into the subjects the students already studied. Therefore, no additional classes were required neither extended school days. The children would then respond to assessments consisting in financial literacy quizzes which included questions drawn from the FFFL (Financial Literacy for Life) curriculum. If we look into the lessons' learning objectives and the questions from the quizzes, we see that, for example, these children were already being taught about interest and compound interest. Remind you that these were elementary students, and this program is directed to students from grade 3 all the way to grade 5. On the other side of the Atlantic Ocean, if we look into the workbooks created for the Portuguese children, the Portuguese are not supposed to understand the definition of interest until they enter "2º ciclo". Moreover, the concept of compound interest is only studied in the workbook directed to students from "3º ciclo". Taking this in consideration, we decided to include in our questionnaire one last question, about compound interest, adapted from the questionnaire created by Batty. The question did not include the word interest in itself but the logic behind the concept.

Table XVII: Bivariate Analysis – The concept of Interest

	The concept of Interest				
	Bivariate Analysis (t-test)	N	FL	FL AGG	FL SUB
Interest	Incorrect	201	52.38806	42.76119	50.62908
	Correct	60	64	54.08333	61.74611
	Test Value (t)		-5.3683***	-4.9392***	-5.1245***
	Std. Error Difference		2.163049	2.292296	2.169401

***Significant at 1% level, **Significant at 5% level, *Significant at 10% level.

The table XVII shows us that almost 23% of the students responded correctly to the question related to compound interest. These students also demonstrated considerable higher levels of financial literacy. There is in fact significant difference in the levels of financial literacy according to their answer. This study may actually open the discussion about the subjects these students should actually learn or not, according to their age. Maybe we do not need young children to know the exact definitions of the concepts, but we could let them understand the logic behind the concept. We also believe that this type of education should not only be provided in classrooms by Professors. The children's parents also can and should take part in their education. About the concept of interest for example, parents do not have to teach their children the concept itself, but they can explain them, for example, that if they do not spend their weekly allowance of 5€ they will give them an extra 2€. This motivates children to save their money while also preparing them for the concept of interest and everything that comes with it.

5. CONCLUSION

So far, most research on financial literacy has been looking at adults or, at most, young adults. With this, a lot less is known about children. However, the literature has proven, in many ways, the importance of financial literacy, especially when making early financial decisions.

In this research we analyse the financial literacy levels of children from the third and fourth grade. The information was gathered through the implementation of two surveys, one for the children and one for the respective parent.

Our findings demonstrate that the gender of the children, their age, their grade, their level of comfort with maths and their understanding of money can all be statistically significant in respect to the student's financial literacy levels. We also conclude that the level of education of a child's parent is also statistically significant to the children's level of financial literacy.

Upon deeper analysis, we note a potential deficiency in the curriculum content these students are exposed to. In an increasingly digitalized world, we observe that while many students acknowledge the risk of financial loss online, a significant portion remain unaware of the potential for earning money through the use of the internet. Furthermore, upon comparing the educational content provided to Portuguese children with that offered to students in the United States, it becomes evident that our students are introduced to certain concepts much later in their academic journey.

Through this work, we contribute with significant conclusions that may help academics compare the results of children and adults, while also providing valuable information that both policy makers and schools can use to adapt the education on children of this age.

As possible limitations to this study, we find that children (and parents) from a very specific region were surveyed. Results may be different in other communities where culture may add additional relationships.

We suggest for future research a national survey with more details while also possibly interviewing children to better comprehend their answers.

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APPENDICES

Annex 1: Parent's Questionnaire

Questionário
Encarregado/a de Educação

Contexto: Estudos indicam que Portugal tem atualmente uma das piores taxas de literacia financeira da União Europeia. Com o intuito de perceber o quão preparadas estão as próximas gerações para o mundo das finanças foi desenvolvido um questionário específico para alunos de escolas básicas de Pombal, bem como para os seus encarregados de educação. As respostas a este questionário irão suportar uma tese final de mestrado de um ex-aluno do Agrupamento de Escolas de Pombal que atualmente frequenta o Mestrado de Management no Instituto Superior de Economia e Gestão da Universidade de Lisboa.
Agradeço, desde já, a simpatia e tempo dispensado!

Tema: Literacia Financeira

Informações:
- Questionário completamente **anónimo sem qualquer impacto** na avaliação do seu educando.
- Procure responder às questões **sem recorrer** a qualquer meio de informação, para comprometer o estudo em causa.
- Caso autorize, o seu Educando irá igualmente responder a um breve questionário realizado em sala de aula.
- Qualquer dúvida por favor contacte:
  Afonso Campos
  email: l54083@aln.iseg.ulisboa.pt

☐ Aceito participar e consinto a participação do meu educando no estudo.
☐ Não aceito participar e não consinto a participação do meu educando no estudo.

Assinatura do Encarregado de Educação

_____

1

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Sobre si:

Idade: 16-24 anos __   25-39 anos __   40-54 anos __   55-69 anos __   ≥70 anos __

Sexo: Masculino ___   Feminino ___

Estado Civil: Solteiro __   Casado __   Divorciado __   Viúvo __

Nível de Escolaridade: 1º-9º ano __   10º-12º ano __   Ensino Superior __

Ocupação: Empregado__ Desempregado __ Reformado __ Outra _____

Quantas pessoas fazem parte do seu agregado familiar? (incluindo-o a si) ___

Rendimento líquido mensal aproximado do agregado familiar:
<900 euros __   900€-1800€ __   1800€-2700€ __   2700€-3600€ __   >3600€ __

Tem investimentos? Sim __ Não __

A internet não é um meio seguro para investir. Concordo __   Discordo __   Não sei __

Possui dívidas? (Créditos, Financiamentos,...) Sim __   Não __   Não sei __

Já foi alvo de alguma burla? Sim __   Não __

Que tipo de aluno era na disciplina de Matemática?
Medíocre __   Mau __   Suficiente __   Bom __   Muito bom __

Considera-se uma pessoa com conhecimento financeiro suficiente?
Sim __   Não__   Não sei __

De que forma adquiriu a maior parte do conhecimento financeiro que tem atualmente?

Escola __   Familiares __   Amigos __   Cursos __   Internet __   Televisão __

Sente que é capaz de transmitir ao seu Educando os conhecimentos financeiros

necessários para lidarem com o tema? Sim __   Não __   Não sei __

Como considera o nível de literacia financeira atual do seu Educando?

Medíocre __   Mau __   Suficiente __   Bom __   Muito Bom __

Considera que a literacia financeira deve ser lecionada em meio escolar?
Sim __   Não __   Não sei __

Definição Literacia Financeira *(Francisca Guedes de Oliveira, 2023)*

A literacia financeira é mais do que apenas um conjunto de competências, é uma ferramenta poderosa que ajuda os indivíduos a tomar controlo das suas vidas financeiras e a construir um futuro mais seguro. Ajuda a evitar fraudes e armadilhas e abre portas a oportunidades de crescimento económico pessoal.

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Por favor, responda às seguintes perguntas sem consultar qualquer suporte de informação. Não existem respostas **erradas**. Relembro que as respostas são **anónimas**.

1. O que é a inflação?
   - A diminuição do valor do dinheiro num certo período de tempo
   - O aumento do valor do dinheiro num certo período de tempo
   - A estabilidade do valor do dinheiro ao longo do tempo
   - A variação do valor do dinheiro consoante políticas governamentais
   - Não sei / Não respondo

2. Quando as taxas de juro sobem, os preços das obrigações tendem a _____.
   - Aumentar
   - Diminuir
   - Manter-se
   - Estabilizar
   - Não sei / Não respondo

3. Num contrato de seguro, a franquia corresponde:
   - Ao valor da indemização que fica a cargo da seguradora
   - Ao valor da indemização que fica a cargo do segurado
   - Ao valor total da reparação
   - Ao valor total da mensalidade
   - Não sei / Não respondo

4. O que é um orçamento pessoal?
   - Um registo de despesas mensais
   - Um empréstimo bancário pessoal
   - Um plano para gastar dinheiro numa obra para a casa
   - Uma ferramenta para controlar despesas e receitas
   - Não sei / Não respondo

5. Quanto maior o risco _____ o retorno.
   - Menor
   - Maior
   - Pior será
   - Estabiliza
   - Não sei / Não respondo

6. O que são ativos e passivos financeiros?
   - Ativos são os juros; Passivos são as ações
   - Ativos são os juros; Passivos são os dividendos
   - Ativos são bens e investimentos; Passivos são dívidas e obrigações
   - Ativos são dívidas e obrigações; Passivos são bens e investimentos
   - Não sei / Não respondo

7. Quando a oferta é maior que a procura, os preços _____.
   - Tornam-se imprevisíveis
   - Permanecem inalterados
   - Aumentam
   - Diminuem
   - Não sei / Não respondo

8. O que é a diversificação de investimentos?
   - Fazer investimentos mais regularmente
   - Fazer investimentos num único local seguro
   - Distribuir os investimentos por diferentes ativos
   - Distribuir os investimentos por época do ano
   - Não sei / Não respondo

9. O que são ações e como funcionam?
   - Investimentos feitos no governo
   - Partes do capital social de uma empresa que conferem direitos e deveres ao acionista
   - Empréstimos de curto prazo que as empresas obtêm para financiar projetos específicos
   - Contratos que garantem o direito de compra de um ativo a um preço fixo
   - Não sei / Não respondo

10. O que são criptomoedas?
    - Moedas físicas cunhadas digitalmente para circulação na blockchain
    - Títulos de dívida emitidos por instituições financeiras para transações virtuais
    - Carteiras digitais usadas exclusivamente para transações online seguras
    - Unidades de troca descentralizadas baseadas em tecnologia blockchain
    - Não sei / Não respondo

3

11. Investir em ações de várias empresas tende a ser:
   - o Mais arriscado que investir em ações de uma só empresa
   - o Menos arriscado que investir em ações de uma só empresa
   - o De igual risco ao investir em ações de uma só empresa
   - o Indiferente, visto que ações são tabeladas
   - o Não sei / Não respondo

12. O que é um fundo de emergência?
   - o Um investimento com pouco risco
   - o Um investimento com elevado risco
   - o Uma poupança para comprar uma habitação
   - o Uma poupança para lidar com despesas
   - o Não sei / Não respondo

13. O que são juros compostos?
   - o Taxa fixa aplicada ao capital inicial
   - o Juros que permanecem constantes ao longo do tempo
   - o Juros que são somados ao capital inicial e, posteriormente, calculados sobre o novo total
   - o Juros que contêm diferentes componentes
   - o Não sei / Não respondo

14. Qual o ativo que apresenta maior liquidez?
   - o Um carro
   - o Uma casa
   - o Ações de uma empresa
   - o Dinheiro na conta à ordem
   - o Não sei / Não respondo

15. O que é o retorno sobre o investimento? (ROI)
   - o O valor do lucro bruto de um investimento
   - o Um indicador de liquidez
   - o O valor do investimento que retorna em impostos no final de um período
   - o Uma medida financeira que avalia o desempenho de um investimento
   - o Não sei / Não respondo

16. Como analisar a viabilidade de um investimento?
   - o Avaliando o retorno potencial do mesmo
   - o Considerando o custo inicial do investimento
   - o Analisando o retorno potencial bem como os riscos associados
   - o Analisando os riscos associados bem como as tendências atuais do mercado
   - o Não sei / Não respondo

17. O número vinte é _____ que o número dez.
   - o 2 vezes maior
   - o 4 vezes maior
   - o 2 vezes menos
   - o 4 vezes menor
   - o Não sei / Não respondo

18. O que é um certificado de aforro?
   - o Um documento que certifica a propriedade de um imóvel
   - o Um título de dívida emitido pelo governo para financiar projetos públicos
   - o Um instrumento de poupança de baixo risco oferecido por instituições financeiras
   - o Um investimento de alto retorno disponível para investidores qualificados
   - o Não sei / Não respondo

19. Suponha que tem 1000€ numa conta poupança e a taxa de juro é de 2% ao ano. Ao fim de 2 anos terá na conta:
   - o 1002€
   - o 1029€
   - o Mais de 1030€
   - o Menos de 1000€
   - o Não sei / Não respondo

20. Imagine que a taxa de juro do seu depósito a prazo é de 5% ao ano e a inflação é de 10% ao ano. Após 1 ano poderia comprar:
   - o Mais do que poderia comprar hoje
   - o Menos do que poderia comprar hoje
   - o Exatamente o mesmo, não teria qualquer efeito
   - o Não poderia comprar nada
   - o Não sei / Não respondo

4

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Annex 2: Children's Questionnaire

Sobre ti:

I.   Idade: ____ (anos)

II.   Sexo: Masculino ____   Feminino ____

III.   Ano de escolaridade: ____ (ano)

IV.   Sabes pesquisar na internet? Sim ____   Não ____

V.   Gostas de estudar matemática? Sim ____ Não ____

VI. Achas que sabes o necessário sobre dinheiro? Sim ___   Não ___

Responde às perguntas fazendo uma cruz no círculo certo. (Quando não souberes, responde "Não sei" ☺)

1 -

1.1 O material escolar é _____ .
- ○ Um bem supérfluo
- ○ Uma necessidade
- ○ Um desejo
- ○ Não sei

1.2 Ir ao teatro é _____ .
- ○ Uma necessidade
- ○ Algo indispensável
- ○ Um desejo
- ○ Não sei

1.3 Uma televisão é _____ .
- ○ Um bem duradouro
- ○ Um bem não duradouro
- ○ Uma fonte de rendimento
- ○ Não sei

1.4 Um pacote de cereais é _____ .
- ○ Um bem duradouro
- ○ Um bem não duradouro
- ○ Uma fonte de rendimento
- ○ Não sei

2 -

2.1 Num orçamento, **receita** ou **rendimento** é _____ .
- ○ O dinheiro que gastamos
- ○ Uma despesa inesperada
- ○ O dinheiro que recebemos
- ○ Não sei

2.2 Num orçamento, **despesa** é _____ .
- ○ O dinheiro que gastamos
- ○ Uma fonte de rendimento
- ○ O dinheiro que recebemos
- ○ Não sei

2.3 A eletricidade da casa é _____ .
- ○ Uma despesa Fixa
- ○ Uma despesa Inesperada
- ○ Uma despesa Variável
- ○ Não sei

2.4 Os pneus novos para o carro são _____ .
- ○ Uma despesa Fixa
- ○ Uma despesa por impulso
- ○ Uma despesa Variável
- ○ Não sei

3 -

3.1 A avó do Tomás deu-lhe 10€ no seu aniversário. O Tomás decidiu comprar um estojo que custa 3€ e um caderno que custa 4€. **Quanto dinheiro lhe vai sobrar?**
- ○ 2€
- ○ 3€
- ○ 4€
- ○ Não sei

3.2 O orçamento da Ana tinha muitas vezes **saldo negativo** porque _____ .
- ○ Não gastava tudo o que recebia
- ○ Planeava gastar mais do que aquilo que recebia
- ○ Diminui as despesas
- ○ Não sei

3.3 A Rute sempre pôs dinheiro no **mealheiro** porque _____ .
- ○ Não gastava tudo o que recebia
- ○ Tinha que aumentar as suas despesas
- ○ Não poupava
- ○ Não sei

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3.4 Qual a melhor forma de obteres uma **receita extraordinária**?

- ○ Vender limonada aos vizinhos
- ○ Poupar para uma situação inesperada
- ○ Poupar para um mealheiro novo
- ○ Não sei

4 -

4.1 O que é o **risco**?

- ○ Certeza associada a um tipo de rendimento
- ○ Incerteza associada a um acontecimento que possa ocorrer no futuro.
- ○ Contrato que fazemos com o banco.
- ○ Não sei

4.2 O que é um **seguro**?

- ○ Uma maneira eficaz de lidar com situações inesperadas.
- ○ Uma maneira eficaz de poupar dinheiro
- ○ Uma maneira eficaz de lidar com situações previsíveis.
- ○ Não sei

4.3 Onde é mais seguro **guardar** o nosso dinheiro?

- ○ Numa conta bancária
- ○ Num ordenado
- ○ Em casa, escondido
- ○ Não sei

4.4 Após ter gasto algum dinheiro na compra de um carro, a família Neves pode **repor as economias** da família

- ○ Aumentando a semanada dos filhos
- ○ Desistindo do almoço de domingo em casa dos avós
- ○ Pedindo a que todos façam uma poupança coletiva
- ○ Não sei

5 -

5.1 A moeda oficial de Portugal é o Euro. A moeda oficial dos **Estados Unidos da América** é _____

- ○ O Real
- ○ Libra esterlina
- ○ O Dólar
- ○ Não sei

5.2 Se fores numa viagem a Itália **com que moedas** consegues comprar um gelado?

- ○ Franco suíço
- ○ Libra esterlina
- ○ Euro
- ○ Não sei

5.4 Qual a **forma de pagamento** que escolherias para comprar um frigorífico?

- ○ Notas e moedas
- ○ Poupança extraordinária
- ○ Cartão de Débito
- ○ Não sei

5.3 O Pedro foi comprar bananas à loja do Senhor Rui. As bananas custavam 3€ e o Pedro pagou com uma nota de 20€. O Senhor Rui **aceitou** a nota e deu de **troco** ao Pedro uma nota de 10€, quatro moedas de 1€ e duas moedas de 2€. O troco **está certo**?

- ○ Sim
- ○ Não, o Pedro recebeu um euro a menos
- ○ Não, o Pedro recebeu um euro a mais
- ○ Não sei

6 -

6.1 É possível **ganhar** dinheiro na internet?

- ○ Sim
- ○ Não, a internet não dá troco
- ○ Não, a internet não tem dinheiro
- ○ Não sei

6.2 É possível **perder** dinheiro na internet?

- ○ Sim
- ○ Não, a internet é segura
- ○ Não, a internet não recebe dinheiro
- ○ Não sei

6.3 A mãe da Joana tem 40€ numa conta no banco. Por cada ano em que a mãe tiver o dinheiro no banco, o banco dá-lhe **metade do total** para a conta. No final do **primeiro ano** ficou com 60€ na conta. **Quanto** é que a mãe da Joana vai ter no final do **segundo ano**?

- ○ 80€
- ○ 90€
- ○ 100€
- ○ Não sei

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