The Level of Financial Literacy among Third Level Students

By

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Abstract

Given the current need to contextualize and expand the concept of financial literacy among the population, this study was conducted to determine the level of financial literacy among third level students in Ireland, as well as how they manage their finances to have a stable financial life. First of all, financial literacy can be defined as a dynamic process in which individuals gain financial information and develop skills that ensure the best management of available financial resources. Financial literacy includes financial attitudes, financial behaviour, and specific knowledge, which are acquired in different environments such as homes, schools, and universities.

To ensure the realization of this project, students enrolled at the National College of Ireland were surveyed, there were a total of 40 complete responses. The average score was 61.57%, which concluded that students have a medium level of financial literacy. Although the level of literacy was classified as a medium, the result also demonstrated that there is a lack of knowledge in certain areas, which makes it necessary to create and strengthen the available financial education methods. When comparing differences in the level of financial literacy between groups, the average scored for the male gender was higher level than the female gender. Followed, other races, unemployed, other schools and other incomes averaged higher when comparing white race, employed, business school, income 20,001 to 40,000 respectively.

Keywords: financial literacy, financial attitudes and behaviours, financial education, literacy rate

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1. Introduction

The objective behind this project is to identify whether individuals are financially literate by analysing the financial literacy level of students enrolled in third level. For this to occur, it is necessary to access how individuals are aware of the impact of their daily actions to establish a stable long-term financial position. This section presents the context for the development of this research, then the presentation of the research questions, and lastly, the structure of this research.

1.1. Research Background

Every day all individuals make financial decisions, consequently, these decisions have an impact on their lives. Following this premise, the financial decisions of individuals generate an impact on the economy of their respective countries. Given this idea, various governments in recent years have increased the development of the concept of financial literacy among their population (Gerardi et al., 2010).

Cooperation and Economic Development (OECD) is one of several organizations which along governments, has developed tools over the years to measure the degree of financial literacy among countries. The efforts that have been made by the OECD were recognized on the G20 agenda in 2012, which emphasized the lack of financial literacy across countries (OECD, 2013). However, financial literacy does not have a single defined concept, the most applied concept among authors is that financial literacy corresponds to a multidimensional phenomenon that encompasses acquiring financial knowledge and applying these concepts correctly, creating a stable financial life (Huston, 2010).

Previous studies have shown a lack of financial literacy among the population of different countries and the impacts that this absence may have on the economy of their respective countries. So, this project is pertinent as the intention is to measure the level of financial literacy among the population, more specifically, the level of financial literacy among individuals enrolled in third level in Ireland.

1.2. Research Question

Financial literacy corresponds to a subject that is acquired and deepened as individuals gain more access to financial information, ultimately changing their habits. Below are the three research questions proposed for further investigation in this project:

1 - What is the level of financial literacy among university students?
2 – To what degree do they utilise this faculty in managing their finances to develop a stable financial life?
3- Is there a difference in financial literacy between groups?

1.3. Dissertation Structure

This project intends to establish the level of financial literacy among students enrolled in third level in Ireland, as well as how they use this knowledge in making day-to-day financial decisions. Therefore, for this purpose, this work consists of a critical literature review, identifying the need to develop this research based on previous research, as stated there is a lack of financial literacy among individuals and the existence of different levels of financial literacy among groups.

Then, it established what would be the focuses of this research, that is, what are the research questions that this project seeks to identify, in which are the three research questions described above. In addition, a quantitative method will be adopted as the best approach for conducting this research. Elaboration of a questionnaire to assess the financial attitudes, financial behaviours, and specific knowledge of participants, as well as the creation of a function to calculate financial literacy. Finally, the presentation of the most relevant results of this research, detailing some limitations and further discussions.

2. Literature Review

Financial literacy is a dynamic and constant process that must be accessible to all individuals. Given this complexity, financial literacy must be introduced early in the lives of individuals, in which homes, schools, universities are some environments for the dissemination of this subject.

2.1. What is Financial Literacy?

Like any other type of learning, financial literacy requires some preparation, discipline, and planning to ensure the correct assimilation and practice of this knowledge. So, to be financially literate, it is necessary to have attitudes, behaviours, and certain specific information related to the subject. To acquire financial stability, it is necessary to have a level of financial literacy whereby goals are set by applying the absorbed knowledge, focus and discipline to avoid failure at some point along the way. So, financial literacy encompasses all measures that individuals take to improve the use of their financial resources, using all available financial knowledge. Furthermore, these individuals are able to measure the impacts of their financial decisions (Worthington, 2013).

According to Robb et al. (2012), there is a difference between financial education and financial literacy, and it is necessary to contextualize these concepts for the development of financial literacy. Financial education consists only of having financial knowledge. However, financial literacy corresponds to the use of this knowledge in a precise way when making decisions. Individuals who are financially literate can understand the impact of various variables that are in their daily lives, such as interest rates on financial contracts, the return on financial investments, changes in inflation rates, among others. Therefore, these individuals make more measured decisions and develop a planned financial life. Financial literacy is the method by which individuals gain access to financial products and services, which results in the control and maximization of their financial resources (Hung et al., 2009).

As defined by the OECD (2011), financial literacy is a set of techniques, knowledge, and skills through which individuals gain access to financial products. Therefore, financial literacy involves the use of these concepts by individuals to generate good management of their financial resources.

Consequently, it has become increasingly important for individuals to become financially literate to develop a stable financial life. This has led to an increase in government backing of the importance of financial literacy among its citizens. Individuals need to be aware of the economic changes in their environment. Moreover, individuals need to measure the short- and long-term consequences of their financial actions, which is only possible by instilling a solid financial foundation (Remund, 2010). The impact of not having a solid foundation of financial literacy can lead to an increase in indebtedness, uncontrolled use of credit cards, and excessive interest charges. Hence, it is necessary to understand how individuals make their decisions regarding financial products, taking their financial knowledge into consideration (Huston, 2010).

2.2. Financial Behaviour and Attitudes

According to Atkinson and Messy (2012), it is possible to identify whether individuals are financially literate based on their daily behaviours, as that is when individuals have control over their own budgets. However, developing a universal standard of financial literacy is complicated due to each individual processing information in a distinct manner.

According to Mandell (2008), daily planning is the most effective way to ensure that the goals are achieved as it allows the actions to be put into practice. If necessary, corrective measures must be taken if something happens which acts against planned goals. The result of money represents the profit of all the effort put in to achieve the goals. The absence of money represents non-compliance with the plan, establishing that the plan was not put into practice strongly and consistently to ensure the achievement of the goals. Financial literacy is not considered the easiest of subjects to be learned, as individual must alter some habits while the knowledge is being acquired (Remund, 2010).

There is a relationship between financial literacy and the development of adult life. As individuals get older, a better mindset around money and responsibilities is expected. Being financially literate requires the wisdom to know how to apply these concepts correctly, which creates ways to use finances effectively and coherently, generating profitable situations. Financial literacy provides financial maturity, which comes from taking decisive actions such as the postponement of satisfying some personal or immediate desires. Financial literacy ensures that individuals have the ability to manage their desires, which in the long run, contributes to the development of character and maturity in said individuals (Perry and Morris, 2005).

Financial literacy is learning a set of applicable techniques to manage money, which is not just a state of having money. The process of being financial literacy is more complex and involves creating a healthy mentality around money. The financial education process includes the combination of different areas of knowledge, which encompasses commercial knowledge, management, and investment strategies. Actions such as saving a portion of earned income, controlling expenses, and making investments are knowledge elements that are also part of the knowledge of being financially literate. Thus, the final objective of financial literacy is to be able to ensure a financial stable life (Perry and Morris 2005, Delavande et al. 2008).

To achieve a more balanced life, financial self-management is necessary. One of the first steps in improving personal finance management is to strengthen one's asset register, which consists of recording, mapping, and analysing records. Through these records, it is possible to identify the sources of inflow and outflow of funds. The premise should be that individuals have fewer expenses incurred than income earned. If at some point this is not the case, plans and goals must be redone, intensifying expenditure control, especially in areas where there is a lack of financial control. Financial independence through the annotation process occurs as discrepancies in personal or family planning are identified and subsequently corrected as they occur. This technique should be encouraged as it becomes a habit over time (Halfeld and Torres, 2001). Therefore, monitoring expenses is essential so that individuals can fulfil as many goals as possible, while managing to maintain financial independence. However, if one is to fail at any given moment, a temporary defeat is not a permanent failure, it just means that the plans were not good enough or coherently executed, or that this plan may need external help to be carried out. The search for external assistance, especially in cases of excessive debt, should be done as soon as possible so that these debts do not put individuals in extreme situations of discomfort. Although there is a lot of information on the Internet and in books that are of great help, at times this may not be enough. Individuals may need help from people around them to access skills and knowledge that they themselves do not know (O'Neill and Xiao, 2012).

It is advisable to have a financial reserve, in the event of an unexpected or emergency expense. Setting these aside funds in a savings account for emergenciess is important, as this amount will allow, in cases of extreme lack of control, to maintain survival and payment of fixed expenses, in addition to providing peace of mind to resolve these unforeseen events. The saving process consists of individuals postponing certain expenses until a future time, or even indefinitely. When striving for financial security, individuals should not be influenced by emotions. However, putting into practice the knowledge gained from financial literacy is not that simple. Overcoming emotions and changing the thought processes that individuals have held for for years requires a lot of discipline and attention (Campbell, 2006).

Financial literacy is extremely important, so that, it should be a plan developed and introduced gradually into society, since it is a necessity for everyone (Huston, 2010). Being financially literate requires always staying abreast of any relevant societal changes that may impact on the finances of individuals. Understanding the financial environment will always remain relevant, given that financial independence corresponds to a dynamic process that requires attention, discipline, commitment, and ongoing studies (Kim and Garman, 2004).

2.3. Personal Budget

One of the main ways to ensure emotions are kept under control when dealing with money is through learning the concept of personal finance, which in practice means creating a personal budget. Personal finance refers to people’s behaviour regarding their income and expenses. This behaviour develops throughout life and is the result of everyday practices. An individual who works on their personal finance skills will certainly handle family resources in a better way, given that the knowledge acquired is being applied in day-to-day financial decisions (Merton, 2000).

Personal finance is a term that encompasses activities related to money, such as saving, accumulating, investing and paying for all the needs of individuals. Ensuring control over the expenditure of money requires being financially educated, as well being psychologically prepared for it. Financial education brings together different conceptions of guidelines, clarifications, attitudes, among others, which are necessary for the management of personal financial resources to control and manage money. Individuals who have a sound financial education make their goals and objectives clear. Consequently, the achievement of these goals becomes easier to be achieved (Johnson and Sherraden, 2007). At certain times to purchase some items, it is necessary to assume some obligations that may reduce the financial results in a certain period. Therefore, to proceed with this acquisition, it is relevant to weigh personal needs and desires, considering what is relevant to your life and estimating the impacts of acquiring these items (Kiyosaki, 2012). The lack of understanding of the concept of financial education causes an increase in the number of defaults by individuals who lose control of their own money and expenses. Financial ignorance is one of the main factors that worsens individual's quality of life. It results in a lack of ability to manage one's own resources, creating a phenomenon called financial illiteracy. Financial illiteracy is present in society and leads a minority of the population to be unable to manage their money accurately or put into practice their financial education and knowledge (Shahrabani, 2012).

According to the OECD (2011), a lack of financial knowledge affects the entire world population, which leads individuals to have uncontrolled expenses. Therefore, establishing a culture of financial education is a great challenge, which begins within homes and schools. There is currently a lack of interest from parents in teaching and promoting financial education within the family structure. In the school environment, due to a lack of importance being placed on this subject, there is insufficient development of this discipline in the curriculum.

2.4. Household Budget

In addition to the personal budget, it is important to consider the family budget as a mechanism to develop financial literacy among the general population. Family financial planning allows a more harmonious relationship to be created between couples, which allows the parties involved to come together to seek solutions to financial problems and thus improve their financial situation. However, not only do couples need to be aware of the importance of family financial planning (Dew, 2008). Family budget planning should include all family members regardless of age. The topic should be discussed so that everyone can develop a financial education and understand the common goals of the family. Thus, parents or guardians have the role of transmitting this knowledge of family financial matters to their children, so that the children can understand the implications of their actions for the family's well-being from an early age. As they grow up, they will become financially aware and financially literate adults. (Palmer et al., 2001).

Financial literacy needs to be reflected in the daily financial habits of each family member, so everyone creates a healthy mindset about money, controlling personal desires as they already have an awareness of the importance of planning in household finances. The financially literate individual knows how to use their set of skills that have been acquired without putting personal and family finances at risk. Financial education requires a long-term perspective, lots of training and persistence (Klapper et al., 2013).

Family financial education begins when the family changes its behaviour to understand what money is for. All family members must participate in financial decisions to guarantee the fulfilment of the family objective, as everyone involved is clear about the income and expenses of the family. The main problems related to the family financial budgets are related to inappropriate decision-making, which most often occurs due to a lack of knowledge. However, the consequences of these financial errors are traps that can result in a total lack of financial control that can spread over a long period (Pinto et al., 2005).

To ensure that this does not occur, the household budget must be strictly followed so that the objectives and goals are achieved in the scheduled period, not causing a feeling of frustration. The household budget is also essential for reasons that go beyond harmonic household stability. When thinking about expenses and income, both must be planned very accurately in relation to economic stability. In this sense, when individuals have a well-structured and planned household budget, the impact of other variables such as inflation or changes in the basic interest rate are smaller. Despite these variables not being under the family’s control, they have been accounted for in the budge (Calamato, 2010). Sadly, the family household budget is ignored by many, which consequently leads to a lack of control of family income and expenses, which in turn lead to negative result in the monthly family budget. In many cases, it is necessary to use other ways of obtaining credit to pay certain debts that cannot be extended (Campbell, 2006).

A well-conducted budget facilitates the control necessary to keep expenses in place and help to find and eliminates cases of overspending in monthly expenses. One of its objectives is to establish an accurate overview of family bills and debts, which allows the allocation of available resources to ensure the timely payment of these obligations which are vital to maintaining the family. When managing house expenses, one must consider any or new commitments that add to existing ones, for example, rent, water, electricity, gas, telephone, etc. Payment of these bills depends on having sufficient income available, in the event that there is no sufficient income to cover expenses, other measures should be taken such as the use of credit cards and bank loans to guarantee the outstanding debts. However, in extreme cases, these measures may lead to certain financial losses given the addition of interest to the overall debt (Calamato, 2010). The result of not having financial resources leads to economic instability, so maintaining discipline for a short period is essential until the habit of saving is acquired. The worst case scenario, if extra expenses arise, may lead to disputes and even the breakdown of the structure of the family (Grable et al., 2007). However, by involving all family members in setting financial goals and objectives, it is possible to have a single common goal that follows in line with the budget. In the event of an unexpected situation related to a lack of money, the family together establishes a quick and effective response to the problem, always prioritizing the common well-being of all (Palmer et al., 2001).

2.5. Debt Level

Marketing has led to an increase in excessive consumption by the general population. These marketing influences have made people more compulsive, which has led to a concerning results in behavioural studies regarding financial decisions such as saving, selling, consuming, buying and getting into debt. The results of these studies have shown that consumers have great difficulty with saving money due to the constant bombardment and pressure from the media to acquire new products and services, which has increased the population's consumerism (Escudero and Prado, 2008). One of the reasons for this phenomenon is a low financial education, in which leads consumers to spend a large sum of money on the purchase of these products and services. Many of these purchases may not be essential and may incur expenses which are higher than the monthly budget, causing individuals to become indebted (Campbell, 2006).

Marketing strategies focus on emphasizing the benefits of a particular product or service, creating a connection between consumers, and increasing sales. However, consumers are incurring unforeseen costs that may impact their budget, which means that consumers need to know how to identify whether or not the benefits offered by a particular product or service are exaggerated, as well as whether or not the purchase must occur immediately or could be delayed (Pinto, et al., 2005). Increasing rates of consumer debt is a financial problem that could be avoided if individuals bought rationally. One of the reasons for indebtedness is the consumer's lack of preparation for aggressive marketing tactics, which means they are led to consume compulsively. Given that marketing uses a series of techniques to convey to the consumer the need to purchase certain products or services, using the budget as tool to control spending would help consumers to avoid falling into marketing traps since the purchases of products and services would need to be in line with the budget (Calamato, 2010). Moreover, it is necessary to identify the best forms of credit payment to avoid high-interest rates which can lead to a total lack of financial control. Charging expenses to a credit card or taking out a loan can work as a temporary measure to meet payment dates, but keeping up with interest rates on the repayment instalments can lead to an overall increase in debt and thus a lack of financial control (Palmer et al., 2001).

2.6. Financial Education at School

Financial literacy encompasses a continuous learning process that can be propagated in different environments. Given this, the school becomes one more environment to expand this knowledge. Financial education at school would help to develop the full capacity of human beings, preparing students to evolve physically, emotionally, intellectually, and socially. The development of financial education as a discipline aims to contextualize the functions of the financial market, as well as raising awareness of the risks that money can bring without good management and preparation of personal finances (Amagir et al., 2018).

Teaching children the value of money is crucial for a successful financial education in adult life. Financial education should start in the first period of school where teachers should aim to reinforce home education, showing the students the importance of money and the need to have a personal budget. In this way, school can teach the importance of money in simple daily activities, such as organizing monthly allowances. Financial education at school must have the support of the parents themselves, as the parents are a reference for the child, who follows them as a model. Children of parents who have a good financial education tend to be more responsible and organized with money, as they learn from an early age of the need to develop these practices. These children become more autonomous, powerful, and confident adults, as they can make their own decisions, consider right or wrong, evaluate products correctly, and finally, find ways to acquire the desired products without harming their budget (Hasting et al., 2013).

Financial education is not often undertaken by the general population, due to a lack of information around important financial concepts. However, there is also a lack of didactic material that would enable the teaching of personal financial management as a discipline. It also involves academic professionals and, school administration, that is to say, there is no environment in schools for this topic to be developed (Simmons, 2016). As stated by Johnson and Sherraden (2007), most secondary school students are not financially literate, thus, they do not know any financial concepts such as earning, spending, saving, or investing. This absence of these concepts makes most students unable to discuss financial matters, set financial goals and plans for the future. This result was also found in the research by Valentine and Khayum (2005), in which only 51% of the sample got the questions right and in the study by Pinto et al. (2005), only 57.3% of the students answered the questions correctly**,** the authors considered this a low level of financial literacy for students.

2.7. Financial Education in the University Environment

Universities are the subsequent environment for developing financial literacy among individuals, as financial literacy is a process that begins in homes, expands to schools, and deepens in universities. Given that, university students may find it easier to answer financial questions such as giving information on interest rates, taxes, retirement plans, among other issues. Compared to other individuals who have not attended universities, that is, who are not intensifying their qualifications and aggregating the financial education received so far (Amagir et al., 2018). However, even in the university environment, there is a lack of financial literacy. Several education professionals claim that they are unable to implement financial education in universities because of the lack of qualified professionals and resources to promote courses and lectures. The number of government initiatives offered to schools are not enough to meet the demand, despite governments knowing of its importance in the academic environment (Lusardi and Wallace, 2013).

According to a previous study by Chen and Volpe (1998), to measure the degree of financial literacy among students, only 53% answered the questions correctly. Graduates' students scored higher when compared with undergraduate students. Men scored higher than women, and international students scored lower when compared to North Americans. As stated by the authors, the reason for this occurrence is the lack of development of financial literacy in the curricula of universities.

This lack of financial literacy was found in the studies by Avard et al. (2005), where students scored only 34.8%. Then 70% of students had at least one credit card, and 68% said they did not have a personal budget or plan considering their income versus expenses. In addition, only half pay their credit card expenses in one payment. A portion of the students said they didn't mind saving and did not consider it an important factor, which caused only a few declared to have any money saved. This lack of financial literacy leads most students to finish graduation with a high level of debt that corresponds to student loans and other expenses. The increase in student loans occurs as university students may use part of the student loan that should be used to pay the fee to pay off credit card debt. This high level of indebtedness can affect the lives of students in future attempts to acquire credit to buy cars, houses, among others (Palmer et al., 2001).

2.8. Family Income, Gender and Age

Although the assimilation of information is different among individuals, financial literacy should be an egalitarian process. However, it has been noted that the level of financial literacy is not equal for all individuals, for which there are several contributing factors. Differences in gender, education level, family income, among others, are some of the determinants of differing levels of financial literacy (Perry and Morris, 2005).

So, developing ways to measure and disseminate financial literacy among the entire population has become a necessity in modern society. In 2006, a questionnaire was developed by researchers Lusardi and Mitchell to measure the degree of financial literacy of the population in the United States. The questions were structured to assess the population's knowledge of the three main financial foundations: interest rates, inflation, and diversification and risk. The survey concluded that the question related to interest rates had a 65% correct answer among participants. Only 64% correctly answered the question related to inflation. Only half of the participants were able to answer the last question correctly. These results highlighted those women scored lower than men; participants under the age of 25 and above 65 years old demonstrated a low level of financial literacy; and white and Asian races performance better than blacks and Hispanics races (Lusardi and Mitchell, 2011). This result was also found in the studies by Chen and Volpe (1998), suggested that women had other ways of assessing their level of financial literacy, that is, women were more conservative, had difficulty in performing financial calculations, had fewer qualifications, lacked interest. Any of these scenarios could end up hindering, even more, the ability to make responsible financial decisions.

As previously discussed, financial literacy is also related to the social and emotional well-being of the population. In this sense, individuals with a low family income may be subject to worse emotional outcomes that can affect to all family members. This low family income generates a low level of financial literacy, which reduces the ability of individuals to manage their fund, making it almost impossible to plan a stable financial life (Mottola, 2013).

In addition, the OECD has created the International Gateway for Financial Education (INFE) with the aim of being a tool to measure the degree of financial literacy among countries and to serve as a platform for the exchange of information and knowledge among experts. The OECD developed a questionnaire consisting of nineteen questions covering the three components of financial education, these components being financial attitudes, financial behaviour, and financial knowledge. A pilot study was carried out to measure financial literacy within 12 countries. All participating countries had a low level of financial literacy among their populations. The study concluded that individuals with low family income had a lower proportion of correct answers in the questions. This factor is related to the lack of adequate education and extra educational qualifications. Men in general had a better result when compared to women. This factor is related to the fact that globally women tend to have a lower level of education than men (OECD, 2013).

2.9. Impacts of Covid-19

SARS-CoV-2 or Covid-19 is a disease that originated in China, which began to manifest itself in the fourth quarter of 2019. It is characterized as a pandemic, as outbreaks of the new disease occurred in several countries. The World Health Organization officially declared it a global pandemic in March 2020, given the rapid contamination around the world, demanding that several virus suppression measures were put in place based on recommendations from local authorities and the World Health Organization. One of them was the lockdown in several countries (Qiu et al., 2020). Given that, an accelerated erosion of the financial situation of families began to be observed, due to the need to close stores, businesses, and other services, as well as restriction of movements and travel, among other measures (Barrafrem et al., 2020).

One of the effects of the pandemic is the loss of financial well-being. In this sense, financial well-being is characterized as the state in which individuals are able to entirely comply with their afoot financial obligations, without harming any future financial goals. That is to say, financial well-being is the satisfaction of individuals in being aware that their income is sufficient to guarantee their expenses, having the ability of individuals to make financial decisions without the concerns of related financial constraints (Arber et al.,2014). In addition, financial anxiety is another factor caused by the pandemic that leads to a reduction of financial well-being. Financial anxiety is described as the feeling of anxiety about the current financial situation. This feeling is driven by changes in income, work, family income and economics (Bruggen et al., 2017).

Each country has introduced a series of government benefits to help the resident population face the financial impacts of the pandemic. Based on the study by Botha et al. (2021) carried out in Australia, it concluded that 34% of participants did not have sufficient income to pay for future financial needs, 29% could not cope with an unexpected expense, 21% were not satisfied with their level of expenditure, 18% said that the expenses were higher than the income and, finally, 16% were not enjoying life because they could not properly manage their income. In Ireland, a preliminary study concluded that with all the financial measures introduced by the government, 60% of the poorest families had an increase in income, whereas losses were registered among the richest 40% (O’Donoghue et al., 2020).

2.10. Literature Conclusion

The literature review concluded that financial literacy encompasses a continuous learning process that includes the use of various techniques to manage the financial resources available to ensure a stable financial life. Financial attitudes and behaviours guide financial goals and objectives are the first element needed to be financially literate. Additionally, having a personal budget and a family budget are tools that help in this learning process. All members must be included when developing a family budget, thus ensuring that all family members are aware of and aligned with goals and targets. For children, this activity is the first contact with financial responsibilities that will be expanded in the school environment, later in the university environment. The results of this practice in the lives of individuals are the establishment of a stable financial life, the ability to identify the pitfalls of marketing, not finding themselves in high-debt situations, finally, the importance of having a financial reserve in the event of the emergence of unplanned expenses or a pandemic like Covid-19.

3. Research Methodology

Given that financial literacy does not have a single measurement standard, this project aims to create a model to measure the level of financial literacy among participants, then to identify how they make their day-to-day financial decisions, and finally to identify if there are differences between groups. This section contains the methodology and approaches applied for this research.

3.1. Data Collection

Given the points outlined in the literary review of this project, it is necessary to have a well-developed research plan to ensure that the results follow the main objective of this research. Therefore, the first step in carrying out this project was the creation of a questionnaire to access demographic information and other data to determine the level of financial literacy among participants (Appendix 1). Faced with the pandemic restrictions on personal contact, the data collection was carried out through the Survey Monkey website. The link to the survey was distributed through the NCI students' email addresses.

Throughout the conduction of this survey, every care was taken to protect the identity and data of the participants, which included following GDPR law and NCI Ethical Guidelines and Procedures for Research involving Human Participants. All participants agreed voluntarily to participate in this survey. All responses were confidential and anonymous, no personal information from any students was captured and participants could withdraw from the research at any time.

Considering that questions about financial attitudes and behaviours may trigger stress in participants who may be in unfavourable financial situations, some support lines were added to the end of the questionnaire for participants who wished to seek some help. The study was conducted during July and August of 2021.

3.2. Quantitative Methods

For this project, the most suitable strategic model is a quantitative method approach, in which the results are incorporated into a numerical analysis. In this context, a primary survey was conducted with an anonymous questionnaire to measure the level of financial literacy among students.

This 39-part questionnaire aims to identify the level of financial literacy of the participating students. All 39 questions were written by the author, except for the first three questions in the specific knowledge section. These 3 questions are the same questions used in the study by researchers Lusardi and Mitch (2006). The only change that was made was that the currency went from $ (Dollar) to € (Euro) given that the research took place in Ireland, which uses the Euro as the official currency. The context and words of the questions remained unchanged.

Table 1 shows the division of the questions into five sections. All questions addressed in the questionnaire will measure the level of financial literacy among students enrolled in third level and how they manage their finances.

Section	Number of Questions	Themes

1	10	Background Information
2	7	Financial Attitudes
3	10	Financial Behaviour
4	9	Specific Knowledge
5	3	Impacts of the Covid-19 Pandemic

Table 1 - Division of Questions

Each section has a specific objective to identify certain trends in the sample, in this study each section is relevant as described below.

1. **Background Information**: This section addresses the age, gender, marital status, ethnicity, employment status, educational level, income level and financial dependence of participants, through which this study aims to uncover actions and attitudes within differing demographic groups.

2. **Financial Attitudes**: This section seeks to measure how satisfied students are with their current financial situation, as well as their perceived need for action to develop a stable financial life.

3. **Financial Behaviour**: Given that daily behaviours can guarantee a stable financial life in the long term, it is necessary to reveal to what extent students perform financially positive daily activities.

4. **Specific knowledge**: Financial knowledge encompasses a series of variables that can be basic or of a more complex degree. In this research, those variables included financial factors such as remuneration, inflation, interest, different forms of investments and personal budgeting.

5. **Impacts of the Covid-19**: One of the many effects of the pandemic was the closing of stores and businesses, which left many employees at home. Consequently, some individuals have lost part of their income which makes it necessary to adjust budgets and reduce expenses. Given the occurrence of this phenomenon, these questions were included to assess whether individuals had lost income, had needed to replan spending, or had taken out a bank loan to cover costs.

To ensure a consistent analysis of the results, all questions in the questionnaire were mandatory, none of the participants expressed any objection to this approach.

3.3. Methods of Analyses

As established, the quantitative research method and application of primary research were used. Statistical data were processed using SPSS Statistics software and spreadsheets. These tests included the calculation of mean, standard deviation and independent t-test.

The first step to be developed in this project corresponds to a detailed and descriptive analysis of the sample results. In addition, means and standard deviations are to be calculated for each question in the questionnaire. To ensure that this occurs, a five-point Likert scale is applied to financial attitudes and financial behaviour, in which 1 is equal to strongly disagree, 2 disagree, 3 neither agree nor disagree, 4 agree and 5 strongly agree. This same method was applied in studies by Pinto et al. (2005) and Stella et al. (2019).Regarding specific knowledge questions, a scoring system was used in which for each wrong answer received 0 points and each correct answer received 1 point. This model was adapted based on the studies by Lusardi and Mitchell (2011).

As stated by the OECD (2013), literacy level includes financial attitudes, financial behaviour, and specific knowledge. It can be established that the financial literacy function corresponds to the sum of these three elements, which is described in the equation below:

$$\text{Financial literacy} = \text{Financial Attitude}/5 + \text{Financial Behaviour}/5 + \text{Specific Knowledge}/1$$

Based on this, the financial literacy function corresponds to the average of the responses to the 7 questions about financial attitudes; the average of the responses to the 10 questions about financial behaviour; and the average of the responses to the 9 questions about specific knowledge.

The result of the sum of the weighted averages varies on a scale from 1 to 3. Converting this scale into a percentage, the weighted averages were grouped into three, which are: Group 1, a high level of financial literacy, with a result of equal to or greater than 80%; Group 2, a medium level of financial literacy, with a result of between 60% and 79%; and finally, a low level of financial literacy, with a result of below 60%. This classification is the same as established by Chen and Volpe (1998).

An independent sample t-test is used to compare the means between two variables. Through this statistical test, it is possible to analyse whether there is any difference between the groups. Five groups are established to measure whether there is a difference in the level of financial literacy between certain groups. The variables are gender (nominal scale: male = 0 and female = 1), race (nominal scale: white race = 0 and other races = 1), employment status (nominal scale: employed = 0 and unemployed = 1), study department (nominal scale: school of business = 0 and other schools = 1) and income (nominal scale: 20,001 to 40,000 = 0 and all other income + abstentions = 1).

3.4. Sample and Research Limitations

The sample chosen to conduct the research was a group of students enrolled at the National College of Ireland. This sample was chosen as these students are attending the third level educational, which meets the objective of this research.

The survey had 41 responses, however, one of the participants did not complete the survey. This partial response was excluded, therefore the sample contained 40 complete responses that will be analysed as described above. Although the number of participants is not high, the number of answers obtained is sufficient for the analysis of financial literacy among third-level students, making it possible to identify some trends in the sample.

There are some limitations that may affect the results of this study, participants may be from different backgrounds which impact on different forms of teaching, as there is no standard of teaching across countries. Then, it is not possible for the researcher to verify that all information declared by the participants is true. In addition, the questionnaire in this research contains mandatory multiple choices answer a and questions, in which there is no opportunity for the participants to give alternative answers.

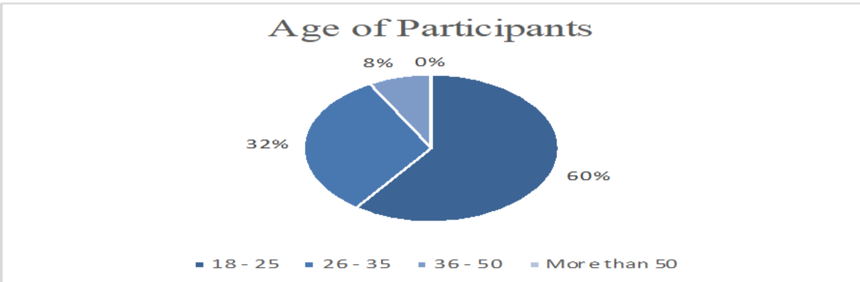
4. Results and Analysis

This chapter presents the results found in the sample, considering the points highlighted in the methodology of this project. First, a descriptive analysis is made of the results; followed by the impacts of the pandemic on the sample; then the level of financial literacy is determined for, the sample as a whole and the groups respectively.

4.1. Descriptive analysis of the sample

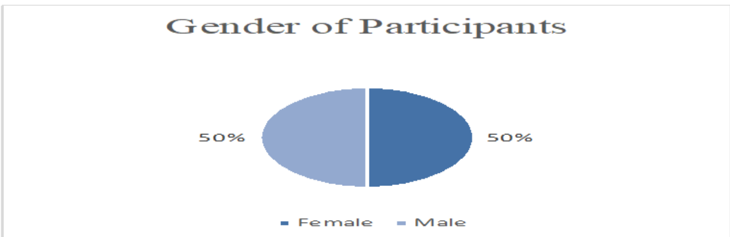
As established, this sample contains 40 responses from which some characteristics of the sample are identified. All participants were enrolled in course during the study.

The first question within the first section identified the age of the participants. Most participants were between 18 years old to 25 years old, at 60%, followed by 26 years old to 35 years old at 32% and over 36 years old at 8%, as shown in Graph 1. These results reveal that most of the participants are young in their early stages of life, which may lead to a low level of financial literacy or financial dependence on other individuals.



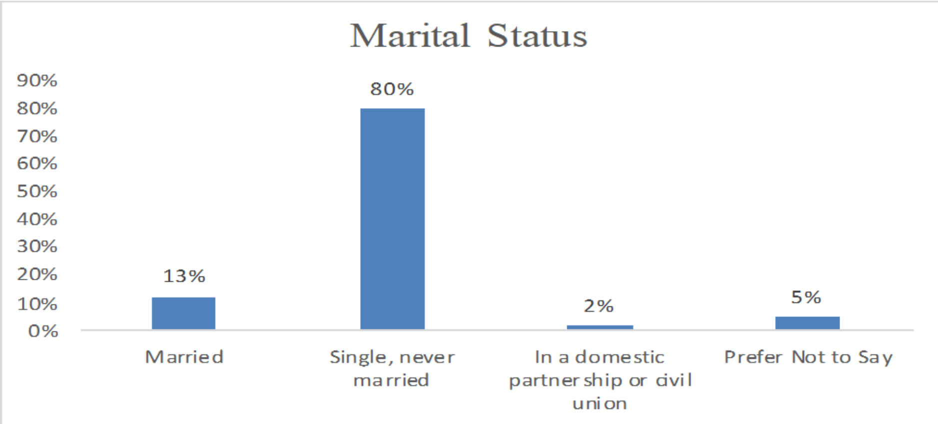
Graph 1 – Age of Participants

The second question sought to reveal the gender of the participants. There was an equal number of the sample identifying as male and as female. This divided the sample exactly in half, with no one self-identifying as any other gender, as detailed in Graph 2.



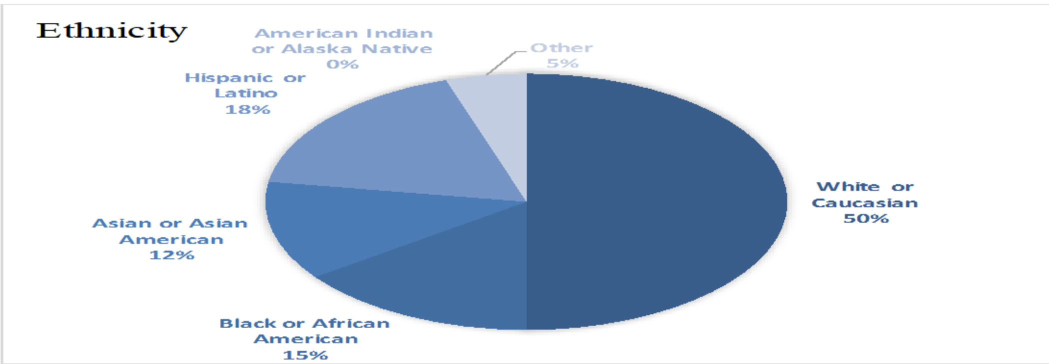
Graph 2 – Gender of Participants

Next, to analyse marital status, an 80% declared themselves single or never married; 13% identified as married; 5% preferred not to say; and 2% were in a stable relationship or civil union. These results are consistent since more than half of the sample is between 18 and 25 years old. They are young people who do not have a long-term relationship, or any legal relationship related to marital status. Graph 3 shows these results.



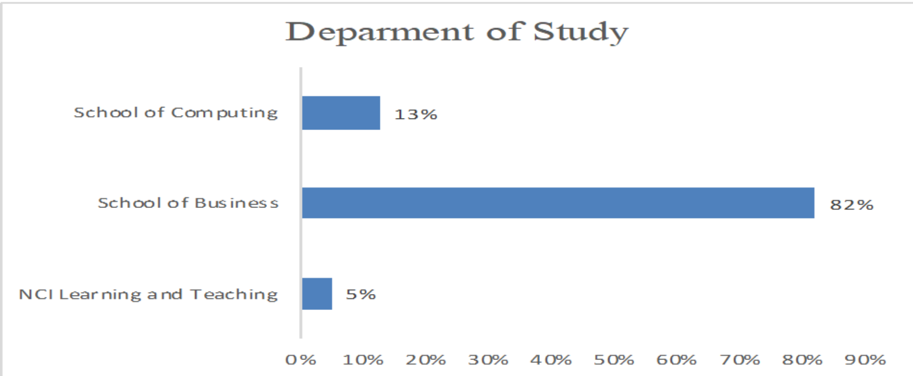
Graph 3 – Marital Status

The following background question was to identify the ethnicity of the participants. The largest group was White or Caucasian at 50%; followed by Hispanic or Latino at 18%, 15% were Black or African American; 12% were Asian or Asian American; and 5% were others. Graph 4 shows this classification.



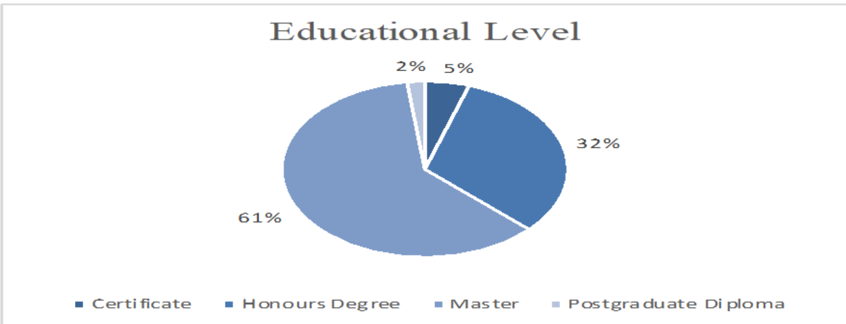
Graph 4 – Ethnicity

To identify the field of study of the participants, the same model that the National College of Ireland uses to divide its study department was used. Thus, the results were that 82% were in the School of Business; 13% were in the School of Computing; and 5% were in NCI Learning and Teaching. This is shown in graph 5.



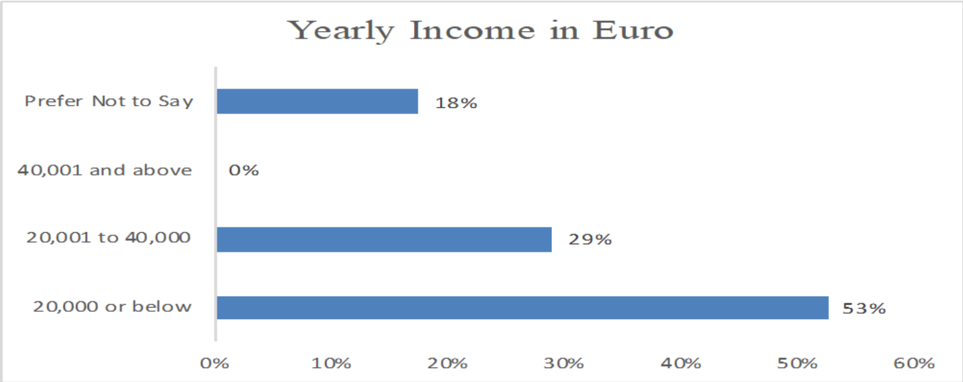
Graph 5 – Department of Study

To understand the educational level of participants, the same structure as the National College of Ireland uses to establish the educational level of students was used in this study. Most students were enrolled in or had already completed a Master's Level degree, at 61%; followed by the Honours Level, at 32%; the Certificate Level, at 5%; and finally the Post-Graduate Diploma Level, at 2%. Graph 6 details the level of education.



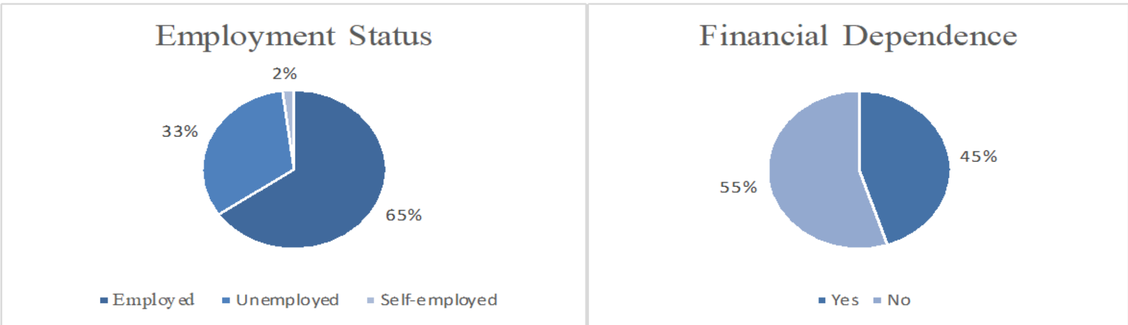
Graph 6 – Educational Level

The next question looked at participants' annual income, in which 53% claimed to receive between € 20,000 or less, versus 29% who reported receiving between € 20,001 and € 40,000. However, 18% chose not to report their annual income. This result is shown in graph 7.



Graph 7 – Yearly Income

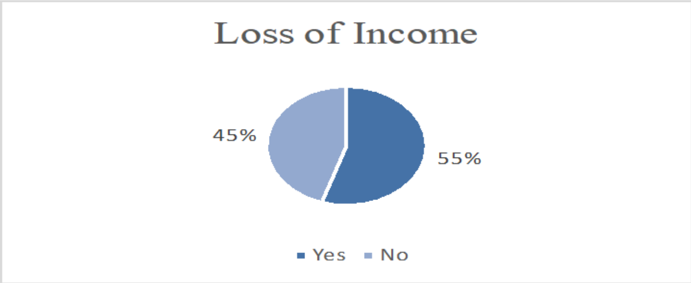
The last two questions analysed employment status and dependence on someone else. The employment status question showed that registered 65% of participants were employed; 33% were unemployed; and 2% were self-employed. Although the level of employees is higher than that of unemployed, when it came to financial dependence, the results shows that 45% were financially dependent on someone else. It has been concluded that those employment relationships were part-time jobs, which would explain why the majority declared to have an annual income of € 20,000 or less. Graph 8 details the employment situation and financial dependence.



Graph 8 – Employment Status and Financial Dependence

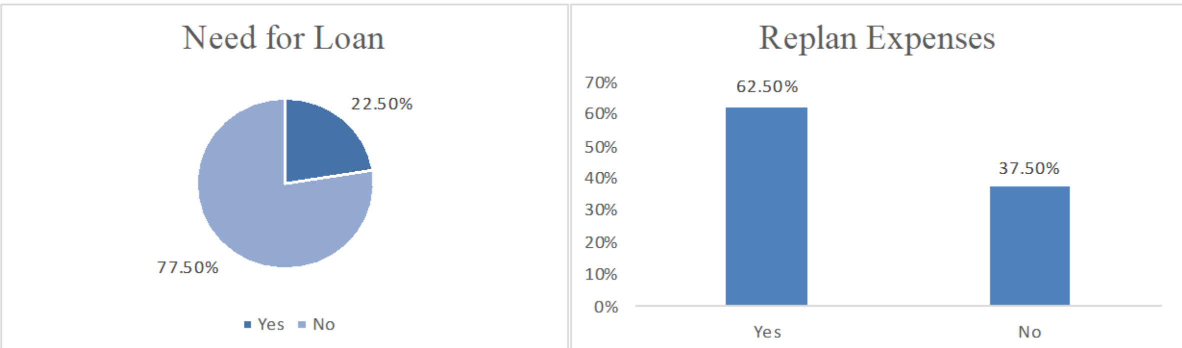
4.2. Impacts of the Covid-19 Pandemic on the sample

Regarding the impacts of the Covid-19 pandemic, 55% of respondents said they had suffered a loss of income, versus 45% who said they did not have any loss of income due to the pandemic. A portion of those who stated that they did not have a loss of income may correspond to those who classified themselves as unemployed. Perhaps, they did not have a fixed income before the pandemic, so they did not have any loss of income during the pandemic, as shown in Graph 9. This survey did not measure the length of participants were unemployed.



Graph 9 – Loss of Income

In addition to other effects of the pandemic, only 22.5% of participants reported that they needed to take out a loan during the pandemic. This result can be considered positive since the proportion of participants who reported a loss of income is not equal to the number of participants who had to resort to taking out a loan to rebuild their income. In other words, most participants were able to readjust their income and expenses without the need to take out a loan. This study did not measure any loans that parents or partners may have taken out during the pandemic as this survey was individual. As expected, 62.5% said they had needed to reschedule or cut some of their spending, due to pandemic. This result may be correlated with the loss of income experienced by some participants, and with the lack of availing of credit in the form of loans. Again, this study was individual, not measuring any change in family spending. Graph 10 shows the need for loans and the need to replan expenses.



Graph 10 – Need for Loan and Replan Expenses

4.3. Analysis by Section

As established in the methodology of this study, the Likert scale was used for financial attitudes and financial behaviour, in which 1 corresponds to strongly disagree and 5 to strongly agree. Given this classification, the minimum average could be 1, which represents bad attitudes and behaviours, conversely, the maximum average could be 5, which represents strong financial attitudes and behaviours. Regarding specific knowledge, a scale of 0 and 1 was used, where 0 was attributed to all wrong answers plus abstentions and 1 to correct answers. The sum of the means for each section is shown in table 2. All individual answers to each question are in Appendix 2.

Section	Mean	Percentage
Financial Attitudes	2.640	**52.80%**
Financial Behaviour	3.029	**60.58%**
Specific Knowledge	0.713	**71.33%**

Table 2: Average by section and percentage

To begin with the analysis of financial attitudes, when considering all the answers in this section the average was 2.640, which is considered a low level, out of 52.80%. Then, when analysing the individual questions was concluded that participants showed concern about having financial goals set, with an average result of 4.25, which emphasizes that goals are relevant mechanisms to develop a stable financial life. Participants demonstrated financial control at an average of 3.47, where participants reported spending their resources on items within their budget. When assessing how satisfied they were with their current financial situation, the average was 2.70. Following the discussion, considering daily actions such as personal budget development, thinking about the future, spending versus savings, the averages were 1.95, 1.18, 2.55 respectively.

When it came to financial behaviours, the average for this section was 3.029, which is considered a medium level, out of 60.58%. The highest average result came in at 4.10, in which participants reported saving a part of their monthly income, an average of 4.08 reported paying bills on time, and an average of 3.93 reported analysing prices before buying a product. The lowest averages were 1.83 for the use of loans and 1.85 for paying with credit cards, however, these results must be analysed as positive, which implies that participants did not need to use these methods as forms of payment.

When it came to specific knowledge, the average for this section was 0.713, which is considered a medium level, out of 71.33%. The highest average found was 0.90 for question 5, which measured the comparison of product discounts, with one of the variables being the discount percentage. Next, both question 4, relating to the impacts of the increase in inflation, and question 9 referring to the payment of principal plus interest, had an average of 0.85. The lowest average was 0.48 for question 3, which measured the diversification of investments with investment in shares, followed by question 2, which measured the impacts of inflation over the years with an average of 0.60.

As each variable was analysed individually and then by section, a global analysis of the results was pertinent to determine the level of financial literacy among students. Using the function outlined in the methodology of this study along with the results of each section, the following equation can be established:

$$\text{Financial literacy} = 2.640/5 + 3.029/5 + 0.713/1 = \mathbf{1.847}$$

By adding together the results of financial attitudes, financial behaviour and specific knowledge, the students obtained an average of 1.847. It has been concluded that students have a medium level of financial literacy, which is represented by a percentage of **61.57**%.

4.4. Analysis by Groups

As pointed out in the literature review of this work, there is a difference in the level of financial literacy between groups, so an analysis of these differences was necessary. To start the analysis of groups, the mean and standard deviation were calculated as before. Subsequently, the level of financial literacy was estimated according to the financial literacy function. Table 4 lists the results found. The full result can be seen in Appendix 3.

	Financial Literacy	
Gender	**Mean**	**Percentage**
Male	1.916	**63.85%**
Female	1.812	**60.39%**
Race		
White	1.845	**61.51%**
Other Races	1.883	**62.76%**
Employed Status		
Employed	1.835	**61.17%**
Unemployed	1.917	**63.90%**
Study Department		
School of Business	1.853	**61.77%**
Other Schools	1.913	**63.78%**
Income		
20,001 to 40,000	1.851	**61.71%**
Ohers Income	1.868	**62.28%**

Table 3: Average by group and percentage

The first groups to be compared was the different gender groups. According to financial literacy equation, the male gender had an average of 1.916, which is higher than the female average of 1.812. Breaking down the components of this result, the only area in which the female gender had a higher average than the male gender was in financial attitudes, where females scored 2.779 versus the male score of 2.693.

Continuing on with the analysis of differences between groups, when averages between races were compared it was found that other races had an average of 1. 833 which was higher than the white race of 1. 845. When analysing the results buy section, the white races had superior results in financial attitudes and specific knowledge, but, in financial behaviour, the result was inferior compared to other races.

Employment status was considered to identify whether work experiences is a factor that aids in the development of financial literacy. In the scope of this study, unemployed individuals had an average of 1.917 against individuals who report being employment who got an average of

1.835. In all sections of this research, the unemployed got a higher average score than the employed. However, it is necessary to emphasize that the sample contained only 40 observations.

Identifying to which departments the students belonged was pertinent given that some of the participants may have already developed financial literacy given the modules they studied in the curriculum. Based on the results, 'other schools' had an average of 1.913, which was higher than the business school. Only in specific knowledge did the business school have a higher average than other schools.

Finally, analysing the income variable concluded that 'other incomes' had an average of 1.868, which is higher than the income range of €20,001 to €40,000. However, it should be noted that the composition of other incomes included all participants who did not wish to disclose their annual income.

T-tests for all groups were performed to identify if there was a significant difference between the means. The results are shown in table 4.

Groups	T-value
Gender	**0.3245**
Race	**0.1185**
Employed Status	**0.2579**
Study Department	**0.1919**
Income	**0.0528**

Table 4: T-value

Considering 95% confidence interval, the T-critical for df=38 is 2.024, thus the results of the table above for all groups, there was a failure to reject the null hypothesis, which concluded that there is an equality of means.

5. Discussion

Following the three questions that were outlined in chapter 1, as a basis for carrying out this project, this section is intended to discuss the results, identifying similar and different factors within the literature. These three main research questions were:

1 - What is the level of financial literacy among university students?
2 – To what degree do they utilise this faculty in managing their finances to develop a stable financial life?
3- Is there a difference in financial literacy between groups?

5.1. Research Question 1

The first step in measuring students' financial literacy level was to access some demographic information. With this, it was concluded that most students in the sample were up to 35 years old and single, which half identifying as male and half identifying as female. Surprisingly, most are enrolled in a master's course, implying that they have already completed an initial degree. The commitment to their studies and some legal working visa requirements that apply to many international students may explain the fact that many students do not have an annual income above €20,000, do not work, or are financially dependent on others.

According to Chen and Volpe (1998) the students' financial literacy level can be considered medium with a result higher than 60%. Based on the results collected by the survey, it can be concluded that third level students have a medium level of literacy with an average of 1.847, which corresponds to 61.57%.

Although the average of students fell within the classification of medium level of financial literacy, this result demonstrates that students have a lack of financial literacy mainly in the of financial attitudes in which the average was 2.640, which is represented by a percentage of 51.80%. Improving financial behavioural practices and expanding specific knowledge is also advisable.

Overall, when questioning the degree of current financial satisfaction, the average score was 2.70, which shows that students would like to be in a better financial condition. This demonstrates the need to strengthen financial literacy among students. However, it is necessary to contextualize that the sample was composed of university students, in which a portion declared being financially dependence on others or being unemployment, which justifies this dissatisfaction with their current financial situation.

5.2. Research Question 2

One of the practices of a financially literate individual is establishing financial goals and targets (Remund, 2010). Thus, it can be concluded that students are aware of this need with an average of 4.250, in which they have sought to establish financial goals and targets for the future. As established by Johnson and Sherraden, (2007) and Shahrabani (2012), individuals should have a budget in place as a tool to ensure financial stability. So, the students have demonstrated to have a budget in practice since the majority stated that they only buy products that are within their budget. In addition, students are able to save a portion of their monthly income, pay all bills within days, and have not used credit cards or taken out bank loans. However, students did not demonstrate the practice of recording financial activities in spreadsheets or any other tool, as the average was 2.280.

Financial literacy includes financial attitudes, financial behaviour, and specific knowledge (OECD, 2013). Financial attitudes had the lowest score, which requires the most attention. Awareness of investment concepts should be deepened given that the lowest average was in question 3, which asked which would be the best form of investment in only one stock or a mutual fund. This low result is similar to the results found in the research by Lusardi and Mitchell (2011).

Overall, it has been concluded that students have adequately good financial attitudes, behaviours, and knowledge. These good levels of financial control are evident in the results pertaining to the impacts of the Covid-19 pandemic. Participants reported a loss of income and a need to replan their spending, without the need to take out bank loans.

5.3. Research Question 3

The last question aimed to understand whether there is a difference in financial literacy between groups. Based on the results it has been concluded that men have higher financial literacy than women. This result is in line with research by Chen and Volpe (1998), Lusardi and Mitchell (2011) and Atkinson and Messy (2012).

According to the study by Lusardi and Mitchell (2011), the white race usually has a higher average than other races. However, when conducting this research, the opposite was observed, with other races scoring higher average than the white race. Again, it is necessary to emphasize that the sample was small which may have impacted the results.

Mottola (2013) stated that low income tends to consecutively have a low level of financial literacy given that these individuals are not able to intensify their qualifications. Individuals with higher income were expected to higher financial literacy level than individuals with lower income. However, in this study individuals with lower income had a higher average than individuals with higher income.

Based on the results of the T-test for the groups, the results were not statistically significant, that is, there is an equality of mean between the groups surveyed.

6. Conclusion and Recommendations

This final chapter will analyse the objectives of this project in line with the results that were found, along with the theoretical approach of this research. Furthermore, some limitations and suggestions pertinent to this study will be highlighted.

6.1. General Conclusions

This study aimed primarily to fill the need to establish the level of financial literacy among individuals. To achieve this, it identified whether third-level students are financially literate. Through a critical literary review, for an individual to be financially literate they need to have financial knowledge. Moreover, these concepts need to be applied properly to ensure better allocation of available financial resources. Goals and objectives align financial attitudes and behaviours, and personal and family budgets are to be used as tools.

The sample group contained 40 observations participants made up equally of men and women. The majority were single, aged up to 35 years old, white, with an educational level corresponding to studying or having completed a Master's level degree, and had an annual income equal to or less than €20,000. Participants stated that they had suffered financial impacts of the Covid-19 pandemic such as loss of income or the need to replan or cut spending, however, a small portion of only 22% needed to resort to using bank loans to rebuild income.

The students' financial literacy level was established through the function that includes financial attitudes, financial behaviours, and finally specific knowledge. According to the function calculation, it has been concluded that students enrolled in third-level education have a medium level of financial literacy, average of 1.847, out of 61.57%. Students recognized the need to have goals and objectives in place, they demonstrated having financial control because they always seek to buy items that are within their budget and do not make use of credit cards or bank loans. However, there is room for improvement given that the level of satisfaction with their current financial situation was an average of 2.700. Perhaps intensifying control methods such as recording expenditures is a way to improve the financial situation.

The last analysis referred to the differences between groups, in which five groups were created. The first group corresponds to the difference between genders in which the male gender had a higher average than the female gender. The second group corresponds to difference between races, in which other races had an average higher than the white race. This result was contrary to previous studies. Surprisingly, the unemployed had a higher average than the employed. Similarly, to other schools had a higher average than the school of business. Finally, in the group that corresponded to annual income, the average of the other incomes was higher than the average income of €20,001 to €40,000 group.

6.2. Limitations of this Study

Several limitations affected the implementation of this project. Firstly, the survey to measure the literacy level among third-level education students was carried out only with students from the National College of Ireland. Secondly, due to the pandemic and contact restrictions where face-to-face interviews were not recommended, it was necessary to use an electronic survey that was sent out to students via, as previously stated. However, the engagement of participants was small, resulting in only 40 complete responses. This result could have been different if another survey collection procedure had been applied.

The background of the participants may have affected the results, as there is no unique teaching pattern across countries. All questions were designed so that participants would not have difficulty understanding the relevant content of the question. Perhaps some of the participants experienced some trouble in understanding the questions, which may have impacted the results. In addition, as the survey was made up of multiple-choice questions and answers, it did not allow any participant to respond within another option that was not stipulated in the questionnaire. Finally, the application of a mixture of approaches could have increased the impact of this study, which led the researcher to have a more productive understanding of the theme and relevant points.

6.3. Suggestions for Further Research

Due to the absence of discussion on this topic and its importance as highlighted in this study, this survey should be extended to measure the level of financial literacy among all third-level education students in Ireland, and subsequently the level of financial literacy of all inhabitants of the country of Ireland.

As stated, the analysis of these results is of interest to all individuals seeking to strengthen their financial knowledge. In addition, it might be relevant for all universities that want to improve their curricula with financial knowledge, and finally, the Irish government to create financial literacy projects for all in need.

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Appendices

Appendix 1 – Questionairre

Dear All,

I am studying for a master's Diploma in Finance at the National College of Ireland. This survey is being conducted as part of my research project. It aims to investigate the level of financial literacy among students and how they use this knowledge in their day-to-day financial decisions.

The survey should take around 7 minutes to complete, which has 40 questions divided into five sections. Participation is entirely voluntary. Participants can withdraw at any point by clicking the exit button on the top right or closing this page. However, participants cannot modify their answers or withdraw once participants have submitted their responses as your participation is anonymous. Responses are completely confidential as personally identifiable information, such as name, email address, organization name, or IP address, will not be collected.

When data is acquired and processed through the internet, there is always the possibility of data loss. This danger cannot be eradicated, so participants must be aware of that before agreeing to participate. However, this survey is not collecting any data that can personally identify any participant. All data will be stored in a password protected electronic format and will only be used for academic purposes.

By answering this survey, participants are consenting to be a participant in this study. For research involving human subjects, the study was reviewed by the National College of Ireland Ethics Committee.

If you have any queries concerning this survey, please do not hesitate to contact me at x20124236@student.ncirl.ie

* 1. Do you agree to participate in this survey voluntarily?

a) Yes

b) No

1- Socioeconomic Information

* 1. What is your age group?

a) 18 - 25

b) 26 – 35

c) 36 – 50

d) More than 50

* 2. What is your gender?

a) Female

b) Male

c) Intergender Nonbinary

d) Transgender

e) Prefer Not to Say

f) Other

* 3. Which of the following best describes your current relationship status?

a) Married

b) Single, never married

c) Divorced

d) Separated

e) In a domestic partnership or civil union

f) Prefer Not to Say

* 4. What is your ethnicity?

a) White or Caucasian

b) Black or African American

c) Asian or Asian American

d) Hispanic and Latino

e) American Indian or Alaska Native

f) Other

* 5. Are you currently a student?

a) Yes

b) No

* 6. Which department were you or are you in?

a) NCI Learning and Teaching

b) School of Business

c) School of Computing

d) Other

* 7. What level are you at?

a) Certificate

b) Diploma

c) Higher Certificate

d) Higher Diploma

e) Honours Degree

f) Master

g) Postgraduate Diploma

h) Professional Training

i) Special Purpose Award

* 8. What is your Employment Status?

a) Employed

b) Unemployed

c) Self-employed

* 9. What is your approximate yearly income? In Euro

a) 20,000 or below

b) 20,001 to 40,000

c) 40,001 and above

d) Prefer Not to Say

* 10. Do you have any financial dependence on your parents or on someone else?

a) Yes

b) No

2 - Financial Attitudes

1. Overall, are you satisfied with your current financial situation?

a) Strongly disagree

b) Disagree

c) Neither agree nor disagree

d) Agree

e) Strongly agree

2. Have goals set for the future are not fundamental.

a) Strongly disagree

b) Disagree

c) Neither agree nor disagree

d) Agree

e) Strongly agree

3. I live in the present, I do not care about the future.

a) Strongly disagree

b) Disagree

c) Neither agree nor disagree

d) Agree

e) Strongly agree

4. I spend all my income; I cannot save any of it.

a) Strongly disagree

b) Disagree

c) Neither agree nor disagree

d) Agree

e) Strongly agree

5. I cannot develop any personal/family budget.

a) Strongly disagree

b) Disagree

c) Neither agree nor disagree

d) Agree

e) Strongly agree

6. I can only spend my income on important things that are within my budget.

a) Strongly disagree

b) Disagree

c) Neither agree nor disagree

d) Agree

e) Strongly agree

7. I get satisfied with spending my income on shopping.

a) Strongly disagree
d) Agree

b) Disagree
e) Strongly agree

c) Neither agree nor disagree

8. I get more satisfaction from spending than saving my income.

a) Strongly disagree
d) Agree

b) Disagree
e) Strongly agree

c) Neither agree nor disagree

3- Financial Behaviour

1. I have a financial budget set with goals and targets to be achieved monthly.

a) Strongly disagree
d) Agree

b) Disagree
e) Strongly agree

c) Neither agree nor disagree

2. I write down and control all my earnings and expenses (spreadsheet, applications, paper).

a) Strongly disagree
d) Agree

b) Disagree
e) Strongly agree

c) Neither agree nor disagree

3. I pay all my bills on time

a) Strongly disagree
b) Disagree
c) Neither agree nor disagree
d) Agree
e) Strongly agree

4. I manage to save a portion of my monthly income.

a) Strongly disagree
b) Disagree
c) Neither agree nor disagree
d) Agree
e) Strongly agree

5. Usually, I compare the prices of products that I want before I buy.

a) Strongly disagree
b) Disagree
c) Neither agree nor disagree
d) Agree
e) Strongly agree

6. I review my expenses and budget before purchasing a long-term expense.

a) Strongly disagree
b) Disagree
c) Neither agree nor disagree
d) Agree
e) Strongly agree

7. Often, I need to borrow money from family members.

a) Strongly disagree
b) Disagree
c) Neither agree nor disagree
d) Agree
e) Strongly agree

8. Often, I use the credit card as a form of payment.

a) Strongly disagree
b) Disagree
c) Neither agree nor disagree
d) Agree
e) Strongly agree

9. Quite often, I take out bank loans or other types of financing

a) Strongly disagree
b) Disagree
c) Neither agree nor disagree
d) Agree
e) Strongly agree

10. I can clearly identify the interest costs when taking out a bank loan.

a) Strongly disagree
b) Disagree
c) Neither agree nor disagree
d) Agree
e) Strongly agree

4 - Specific Knowledge

1. Suppose you had €100 in a savings account and the interest rate was 2% per year. After 5 years, how much do you think you would have in the account if you left the money to grow?

a) More than €102

b) Exactly €102

c) Less than €102

d) Do not know or refuse to answer

2. Imagine that the interest rate on your savings account was 1% per year and inflation was 2% per year. After 1 year, how much would you be able to buy with the money in this account?

a) More than today

b) Exactly the same

c) Less than today

d) Do not know or refuse to answer

3. Please tell me whether this statement is true or false. "Buying a single company's stock usually provides a safer return than a stock mutual fund?

a) True

b) False

c) Do not know or refuse to answer

4. Regarding the cost of living, what happens when inflation increases?

a) Cost of living Increases

b) Cost of living Decreases

c) Cost of living Does not Change

d) Do not know or refuse to answer

5. Suppose you want to buy a cell phone at the cost of €800, store A offers 10% off, while new store B offers €100 off. Which store has the biggest discount?

a) Store A

b) Store B

c) Both are the same

d) Do not know or refuse to answer

6.Low return investments have a low risk. On the contrary, investment with a high return has a high risk. Conclude that this statement is?

a) True

b) False

c) There is no relationship between the variables

d) Do not know or refuse to answer

7.Suppose you got a promotion at work, now receiving double your salary. At the same time, inflation rises and your cost of living also doubles in the same proportion. What happens to your budget?

a) Budget Increases

b) Budget Decreases

c) Budget Does not Change

d) Do not know or refuse to answer

8. A 20-year mortgage requires the payment of larger instalments, whereas a 30-year mortgage requires smaller instalments. Given that the mortgage for the two periods is the same amount, which mortgage has a lower cost concerning the interest?

a) 20-year mortgage

b) 30-year mortgage

c) Both are the same

d) Do not know or refuse to answer

9. If you lend €100 to a friend, considering he will repay the amount borrowed plus 1% interest, how much will he pay you back?

a) €100

b) €101

c) €110

d) Do not know or refuse to answer

5- COVID -19

1. Given the effects of the pandemic, have you had a loss of income?

a) Yes

b) No

2. Did you need to take out a loan?

a) Yes

b) No

3. Did you need to replan or cut some of your spending?

a) Yes

b) No

Helpline

If you are having problems with money management and debt, following some support lines, please reach them out:

Money Advice and Budgeting Service - MABS
Helpline: 0761 07 2000 (9am - 8pm, Monday - Friday)
email: helpline@mabs.ie
Website: www.mabs.ie

Citizens Information
Address: Drop in 260 locations nationwide
Tel: 0761 07 4000 (Monday to Friday, 9am to 8pm).
Website: www.citizensinformation.ie/en/

Samaritans
Address: Samaritans Ireland, 4-5 Usher's Court, Usher's Quay, Dublin 8.
Tel: 01 6710071; Freephone: 116-123
Website: www.samaritans.ie

Department of Social Protection
Address: Local Offices nationwide – online 'office locator'
Website: www.welfare.ie

Debt Settlement Arrangement - DSA
Helpline: 01 247 88 99
Website: www.nationaldebtrelief.ie

Appendix 2 – Descriptive Results of each Question

Question	Variables	Mean	St. Deviation
1	Overall, are you satisfied with your current financial situation?	2.700	1.091
2	Do you believe it is necessary to have financial goals set for the future?	4.250	0.981
3	I spend all my income; I cannot save any of it.	2.380	1.125
4	I live in the present, I do not think about saving for the future.	1.180	1.027
5	I cannot develop any personal/family budget.	1.950	0.815
6	I can only spend my income on important things that are within my budget.	3.470	1.109
7	I get more satisfaction from spending than saving my income.	2.550	1.131
	Financial Attitudes	**2.640**	**1.304**
1	I have a financial budget set with goals and targets to be achieved monthly.	2.820	1.217
2	I write and track all my income and expenses using spreadsheets, applications, or paper.	2.280	1.519
3	I pay all my bills on time	4.080	1.047
4	I manage to save a portion of my monthly income.	4.100	0.871
5	Usually, I compare the prices of products that I want before I buy.	3.930	1.289
6	I review my expenses and budget before purchasing an expense item.	3.800	1.203
7	Often, I need to borrow money from family members.	2.200	1.285
8	Often, I use the credit card as a form of payment.	1.850	1.145
9	Quite often, I take out bank loans or other types of financing	1.830	1.059
10	I can clearly identify the interest costs when taking out a bank loan.	3.400	1.482
	Financial Behaviour	**3.029**	**1.212**

1	Suppose you had €100 in a savings account and the interest rate was 2% per year. After 5 years, how much do you think you would have in the account if you left the money to grow?	0.780	0.423
2	Imagine that the interest rate on your savings account was 1% per year and inflation was 2% per year. After 1 year, how much would you be able to buy with the money in this account?	0.600	0.496
3	Please tell me whether this statement is true or false. “Buying a single company’s stock usually provides a safer return than a stock mutual fund?	0.480	0.506
4	Regarding the cost of living, what happens when inflation increases?	0.850	0.362
5	Suppose you want to buy a cell phone at the cost of €800, store A offers 10% off, while new store B offers €100 off. Which store has the biggest discount?	0.900	0.304
6	Low return investments have a low risk. On the contrary, investment with a high return has a high risk. Conclude that this statement is?	0.680	0.474
7	Suppose you got a promotion at work, now receiving double your salary. At the same time, inflation rises and your cost of living also doubles in the same proportion. What happens to your budget?	0.630	0.490
8	A 20-year mortgage requires the payment of larger instalments, whereas a 30-year mortgage requires smaller instalments. Given that the mortgage for the two periods is the same amount, which mortgage has a lower cost concerning the interest?	0.650	0.483
9	If you lend €100 to a friend, considering he will repay the amount borrowed plus 1% interest, how much will he pay you back?	0.850	0.362
	Specific Knowledge	**0.713**	**0.454**

Appendix 3 – Descriptive Results for Groups

	Financial Attitudes		Financial Behaviour		Specific Knowledge			
Gender	Mean	St. Deviation	Mean	St. Deviation	Mean	St. Deviation	**Financial Literacy**	
Male	2.693	1.257	3.220	1.453	0.733	0.443	**1.916**	**63.85%**
Female	2.779	1.352	2.835	1.533	0.689	0.464	**1.812**	**60.39%**
Race								
White	2.807	1.229	2.835	1.452	0.717	0.452	**1.845**	**61.51%**
Other Races	2.664	1.376	3.220	1.534	0.706	0.457	**1.883**	**62.76%**
Employed Status								
Employed	2.659	1.344	3.012	1.558	0.701	0.459	**1.835**	**61.17%**
Unemployed	2.878	1.221	3.057	1.403	0.730	0.446	**1.917**	**63.90%**
Study Department								
School of Business	2.675	1.343	3.021	1.537	0.714	0.453	**1.853**	**61.77%**
Other Schools	3.020	1.070	3.057	1.350	0.698	0.463	**1.913**	**63.78%**
Income								
20,001 to 40,000	2.560	1.264	3.042	1.637	0.731	0.445	**1.851**	**61.71%**
Ohers Income	2.811	1.317	3.021	1.447	0.702	0.458	**1.868**	**62.28%**

Appendix 4 - Relative Frequency of Responses

Q1. What is your age group?		
Answer Choices	Responses	
18 - 25	60%	24
26 - 35	32%	13
36 - 50	8%	3
More than 50	0%	0

Q2. What is your gender?		
Answer Choices	Responses	
Female	50%	20
Male	50%	20
Intergender	0%	0
Nonbinary	0%	0
Transgender	0%	0
Prefer Not to Say	0%	0
Other	0%	0

Q3. Which of the following best describes your current relationship status?		
Answer Choices	Responses	
Married	13%	5
Single, never married	80%	32
Divorced	0%	0
Separated	0%	0
In a domestic partnership or civil union	2%	1
Prefer Not to Say	5%	2

Q4. What is your ethnicity?		
Answer Choices	Responses	
White or Caucasian	50%	20
Black or African American	15%	6
Asian or Asian American	12%	5
Hispanic or Latino	18%	7
American Indian or Alaska Native	0%	0
Other	5%	2

Q5. Are you currently a student?		
Answer Choices	Responses	
Yes	100%	40
No	0%	0

Q6. Which department were you or are you in?		
Answer Choices	Responses	
NCI Learning and Teaching	5%	2
School of Business	82%	33
School of Computing	13%	5
Other	0%	0

Q7. What level are you at?		
Answer Choices	Responses	
Certificate	5%	2
Diploma	0%	0
Higher Certificate	0%	0
Higher Diploma	0%	0
Honours Degree	32%	13

Master	61%	24
Postgraduate Diploma	2%	1
Professional Training	0%	0
Special Purpose Award	0%	0

Q8. What is your Employment Status		
Answer Choices	Responses	
Employed	65%	26
Unemployed	33%	13
Self-employed	3%	1

Q9. What is your approximate yearly income? In Euro		
Answer Choices	Responses	
20,000 or below	53%	21
20,001 to 40,000	29%	12
40,001 and above	0%	0
Prefer Not to Say	18%	7

Q10. Do you have any financial dependence on your parents or on someone else?		
Answer Choices	Responses	
Yes	45%	18
No	55%	22

Q1. Overall, are you satisfied with your current financial situation?		
Answer Choices	Responses	
Strongly disagree	10%	4
Disagree	43%	17
Neither agree nor disagree	20%	8
Agree	23%	9
Strongly agree.	5%	2

Q2. Do you believe it is necessary to have financial goals set for the future?		
Answer Choices	Responses	
Strongly disagree	5.00%	2
Disagree	2.50%	1
Neither agree nor disagree	0.00%	0
Agree	47.50%	19
Strongly agree	45.00%	18

Q3. I spend all my income; I cannot save any of it.		
Answer Choices	Responses	
Strongly disagree	25.00%	10
Disagree	32.50%	13
Neither agree nor disagree	27.50%	11
Agree	10.00%	4
Strongly agree.	5.00%	2

Q4. I live in the present, I do not think about saving for the future.		
Answer Choices	Responses	
Strongly disagree	45.00%	18
Disagree	37.50%	15
Neither agree nor disagree	7.50%	3
Agree	7.50%	3
Strongly agree.	2.50%	1

Q5. I cannot develop any personal/family budget.		
Answer Choices	Responses	
Strongly disagree	30.00%	12
Disagree	50.00%	20
Neither agree nor disagree	15.00%	6
Agree	5.00%	2
Strongly agree.	0.00%	0

Q6. I can only spend my income on important things that are within my budget.		
Answer Choices	Responses	
Strongly disagree	5.00%	2
Disagree	15.00%	6
Neither agree nor disagree	25.00%	10
Agree	37.50%	15
Strongly agree.	17.50%	7

G7. I get more satisfaction from spending than saving my income.		
Answer Choices	Responses	
Strongly disagree	17.50%	7
Disagree	35.00%	14
Neither agree nor disagree	30.00%	12
Agree	10.00%	4
Strongly agree.	7.50%	3

Q1. I have a financial budget set with goals and targets to be achieved monthly.		
Answer Choices	Responses	
Strongly disagree	12.50%	5
Disagree	37.50%	15
Neither agree nor disagree	12.50%	5
Agree	30.00%	12
Strongly agree.	7.50%	3

Q.2 I write and track all my income and expenses using spreadsheets, applications or paper.		
Answer Choices	Responses	
Strongly disagree	45.00%	18
Disagree	25.00%	10
Neither agree nor disagree	2.50%	1
Agree	12.50%	5
Strongly agree.	15.00%	6

Q.3 I pay all my bills on time		
Answer Choices	Responses	
Strongly disagree	2.50%	1
Disagree	10.00%	4
Neither agree nor disagree	5.00%	2
Agree	42.50%	17
Strongly agree	40.00%	16

Q.4 I manage to save a portion of my monthly income.		
Answer Choices	Responses	
Strongly disagree	2.50%	1
Disagree	2.50%	1
Neither agree nor disagree	10.00%	4
Agree	52.50%	21
Strongly agree.	32.50%	13

Q5. Usually, I compare the prices of products that I want before I buy.		
Answer Choices	Responses	
Strongly disagree	7.50%	3
Disagree	12.50%	5
Neither agree nor disagree	2.50%	1
Agree	35.00%	14

Strongly agree.	42.50%	17

Q6. I review my expenses and budget before purchasing an expensive item.		
Answer Choices	Responses	
Strongly disagree	5.00%	2
Disagree	15.00%	6
Neither agree nor disagree	7.50%	3
Agree	40.00%	16
Strongly agree.	32.50%	13

Q7. Often, I need to borrow money from family members.		
Answer Choices	Responses	
Strongly disagree	42.50%	17
Disagree	22.50%	9
Neither agree nor disagree	10.00%	4
Agree	22.50%	9
Strongly agree.	2.50%	1

Q8. Often, I use the credit card as a form of payment.		
Answer Choices	Responses	
Strongly disagree	52.50%	21
Disagree	27.50%	11
Neither agree nor disagree	5.00%	2
Agree	12.50%	5
Strongly agree.	2.50%	1

Q9. Quite often, I take out bank loans or other types of financing		
Answer Choices	Responses	
Strongly disagree	52.50%	21
Disagree	25.00%	10
Neither agree nor disagree	10.00%	4
Agree	12.50%	5

Strongly agree.	0.00%	0

G10. I can clearly identify the interest costs when taking out a bank loan.		
Answer Choices	Responses	
Strongly disagree	17.50%	7
Disagree	15.00%	6
Neither agree nor disagree	5.00%	2
Agree	35.00%	14
Strongly agree.	27.50%	11

Q1. Suppose you had € 100 in a savings account and the interest rate was 2% per year. After 5 years, how much do you think you would have in the account if you left the money to grow?		
Answer Choices	Responses	
More than € 102	77.50%	31
Exactly € 102	12.50%	5
Less than € 102	5.00%	2
Do not know or refuse to answer	5.00%	2

Q2. Imagine that the interest rate on your savings account was 1% per year and inflation was 2% per year. After 1 year, how much would you be able to buy with the money in this account?		
Answer Choices	Responses	
More than today	15.00%	6
Exactly the same	12.50%	5
Less than today	60.00%	24
Do not know or refuse to answer	12.50%	5

Q3. Please tell me whether this statement is true or false. “Buying a single company’s stock usually provides a safer return than a stock mutual fund?		
Answer Choices	Responses	
True	5.00%	2
False	47.50%	19

Do not know or refuse to answer	47.50%	19

Q4. Regarding the cost of living, what happens when inflation increases?		
Answer Choices	Responses	
Cost of Living Increases	85.00%	34
Cost of Living Decreases	5.00%	2
Cost of Living Does not Change	5.00%	2
Do not Know or Refuse to Answer	5.00%	2

Q5. Suppose you want to buy a cell phone at the cost of € 800, store A offers 10% off, while new store B offers € 100 off. Which store has the biggest discount?		
Answer Choices	Responses	
Store A	2.50%	1
Store B	90.00%	36
Both are the same	0.00%	0
Do not Know or Refuse to Answer	7.50%	3

Q6. Low return investments have a low risk. On the contrary, investment with a high return has a high risk. Conclude that this statement is ?		
Answer Choices	Responses	
True	67.50%	27
False	0.00%	0
There is no relationship between the variables	15.00%	6
Do not know or refuse to answer	17.50%	7

Q7. Suppose you got a promotion at work, now receiving double your salary. At the same time, inflation rises and your cost of living also doubles in the same proportion. What happens to your budget?		
Answer Choices	Responses	
Budget Increases	27.50%	11
Budget Decreases	5.00%	2

Budget Does not Change	62.50%	25
Do not know or refuse to answer	5.00%	2

Q8. A 20-year mortgage requires the payment of larger instalments, whereas a 30-year mortgage requires smaller instalments. Given that the mortgage for the two periods are the same amount, which mortage has a lower cost concerning the interest?		
Answer Choices	Responses	
20-year mortgage	65.00%	26
30-year mortgage	22.50%	9
Both are the same	2.50%	1
Do not know or refuse to answer	10.00%	4

Q9. If you lend € 100 to a friend, considering he will repay the amount borrowed plus 1% interest next month. How much will he pay you back?		
Answer Choices	Responses	
€ 100	2.50%	1
€ 101	85.00%	34
€ 110	5.00%	2
Do not know or refuse to answer	7.50%	3

Q1. Given the effects of the pandemic, have you had a loss of income?		
Answer Choices	Responses	
Yes	55.00%	22
No	45.00%	18

Q2. Did you need to take out any loan?		
Answer Choices	Responses	
Yes	22.50%	9
No	77.50%	31

G3. Did you need to replan or cut some of your spending?		
Answer Choices	Responses	

Yes	62.50%	25
No	37.50%	15