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Financial Literacy: Determinants and Impact on Financial Behaviour

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Abstract

The knowledge and skills required for personal finance management are becoming more important due to a number of trends. At the same time, research of student's financial literacy either completely lacks or shows that financial knowledge and skills are insufficient. The present first-of-its-kind study in Bulgaria addresses this discrepancy. The purpose of the article is to present the results from an empirical study on the financial literacy of students at Bulgarian universities. From a methodological perspective the article is based on a quantitative empirical research. The research has found that the level of financial literacy is influenced by characteristics such as gender, student income, and responsibility for the financial decision-making, but does not depend on student specialty, university, educational degree or taking a course in personal finance management. If the impact of financial literacy on students' financial decisions and behaviour is concerned, the results show that the knowledge and skills required for personal finance management influence how one controls the budget in a household, the behaviour in cases of decreased income, and retirement savings. However, financial literacy does not influence the availability of a household budget, the frequency of budget control and the availability of an emergency fund.

Keywords: financial literacy; financial knowledge; financial skills; financial behaviour; university students; empirical study; Bulgaria

JEL: D14; D91; O52

1. Introduction

Economic decision-making is highly dependent on one's ability to understand basic financial concepts. A number of public trends contribute to the increased importance of an individual's financial literacy:

First, the development of the Internet and communication technologies provides easier access to financial products. Financial markets are becoming increasingly accessible to the so-called small investors thanks to the advent of online banking, e-commerce platforms of financial markets and other Internet-based applications.

Second, the number of the financial products on offer is increasing. The natural development of markets leads to the distinction of ever more specific consumer needs, for whose satisfaction various and specially developed products have emerged in the market.

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Third, consumers are increasingly expected to have the financial knowledge to make informed choices regarding increasingly sophisticated financial products and services. Not only is the number of products on the increase, but the variety of their features is growing as well, which makes it difficult for all consumers to become oriented in terms of these features, but especially for those who are not quite familiar with financial laws.

Fourth, the regulation of financial systems is devolving to a household's greater responsibility for a prudent consumption of financial products in terms of loans, savings, investment, spending accumulated wealth, etc. The changes in social security systems in Bulgaria and in other countries require individuals to actively participate in the management of their personal finances. This participation, in turn, requires them to understand their own needs and financial possibilities as well as the specifics of the products offered.

Fifth, the global economic crisis of 2007–2008 contributed to an understanding of the need for enhanced financial literacy. Financial literacy is increasingly perceived as a major component of the regulation and supervision of financial markets. The aim of financial literacy is to equip consumers with the knowledge and skills enabling them to avoid financial decisions that could jeopardize their welfare and the functioning of the economic system.

Uninformed financial decisions often due to low financial literacy can have huge negative consequences. The lack of financial literacy hampers day-to-day money management as well as the achievement of long-term objectives, such as buying a home, education, financial support of dependents (children, parents), provision of money for retirement years, etc. Financial illiteracy increases the likelihood of an individual being excluded from the financial markets (Grohmann, Klühs, and Menkhoff, 2018), of practicing unhealthy financial behaviour (Stolper and Walter, 2017), or being exposed to financial frauds (Tanushev, 2004).

There are several reasons that make the issue of young people's financial literacy topical:

First, it is optimal for society if individuals acquire financial knowledge early in life, for example by introducing personal finance courses in primary, secondary and tertiary education. The main reason for this is that although they may never again invest in increasing their financial literacy or begin to forget what they have learned, even the least educated people would benefit more from their wealth regardless of its size.

Second, young people must make financial decisions that have an important impact on their lives from a relatively young age. An example of such a decision is the investment in education, i.e., which educational degree to take, how to finance it, etc. (Lusardi, 2015).

Third, the financial choice young people must make now is different compared to past decisions. Financial systems, services and products are becoming increasingly sophisticated. The development of service marketing requires the ability of consumers to become oriented vis-à-vis large-scale specialized information (Netseva-Porcheva, 2012).

Fourth, in many countries, young people's financial situation is characterized by high indebtedness (Lusardi , Mitchell, Curto, 2010), which in turn is a source of anxiety and depression and influences their decisions in the labour market.

The research subject in this study is students at Bulgarian universities. The research object is their knowledge and behaviour in terms of personal finance management.

There are several reasons for identifying university students as the target group of this research. First, university students are part of the educational system that so far has not been investigated in Bulgaria, and therefore targeting these students will fill in the missing elements in the picture of financial literacy across all levels of the Bulgarian educational system. Second, although there are many initiatives and projects targeting school levels of education, there are none aimed at university students. From this perspective, the current research could play an important role in revealing what factors determine financial literacy, and how it influences the financial behaviour of those students. Third, during their studies, university students in Bulgaria most often leave their homes and start living on their own. Thus, they are forming a household on their own and are required to make all the decisions that every household must make: resource planning (budgeting), bill paying, buying insurance, etc. Last but not least, most university students in Bulgaria start their professional career with paid internships or jobs and thus receive their own income. Having their own income triggers a number of important decisions about their present and future that require financial choices and have financial implications: handling a student loan, opening bank accounts, using credit cards, choosing a pension fund, using savings and investment instruments, etc.

The aim of the article is to present the correlations between student financial literacy and its determinants as well as between it and key aspects of student financial behaviour. To achieve this purpose, the following tasks are set: first, to present the most significant findings from studies on the financial literacy of young people and adults carried out to date; second, to justify a conceptual model of financial literacy and financial behaviour and to develop an appropriate research tool; third, to present the results from an empirical study of the financial literacy and financial behaviour of Bulgarian students; and fourth, to draw conclusions and provide guidelines for future research.

2. Literature review

2.1. Definitions of financial literacy

Financial literacy is a key element of economic and financial stability for both the individual and society. To operationalize and measure this concept, it must first be defined. Our study showed that there are few definitions of financial literacy in the literature even though the concept is widely used. Only a limited number of studies provide precise definitions of this concept and they focus on different aspects of financial literacy.

One of the approaches offering a definition of financial literacy is that of Gale and Levine. According to them, financial literacy is “the ability to make informed and effective decisions about the use and management of wealth and money” (Gale and Levine, 2010). This and similar definitions are based on consumer abilities and are focused on their judgements and decisions.

Another approach to defining financial literacy is that of Vitt et al., whose definition specifies the abilities and skills related to this concept. According to them, these include “an ability to read, analyze, manage and talk about personal financial conditions influencing material welfare” (Vitt et al., 2000).

A third approach to financial literacy is based on knowledge. For instance, Danes and Haberman describe it as "the ability to interpret, communicate, calculate and develop an independent judgement as well as to take action as a result of these processes, so that an individual can cope with the challenges of the surrounding financial world" (Danes and Haberman, 2007).

A fourth approach to financial literacy is the one emphasizing the relationship between people's knowledge and skills and their actions. This approach has advantages over the others and is the most widespread. Atkinson and Mess define financial literacy as "a combination of awareness, knowledge, skills, attitudes and behaviours needed to make the right decisions for the accumulation of an individual's financial wealth" (Atkinson and Messy, 2012). According to Lusardi and Mitchell, financial literacy is "the ability to carry out financial planning, to increase and retain wealth, to make informed decisions about the degree of indebtedness and level of savings concerning retirement years, and to use financial knowledge" (Lusardi and Mitchell, 2014).

Huston believes that, similar to general literacy, financial literacy can be described by two main dimensions: understanding the knowledge about personal finance, and its use. Based on this, she proposed to define financial literacy as "measuring how well individuals understand and use the information related to their personal finance" (Huston, 2010).

The OECD (Organization for Economic Cooperation and Development) definition is within the scope of the fourth approach as well. The challenge facing the OECD is formulating a definition that is valid for very different countries and explaining why financial literacy is such a necessary skill. According to the OECD definition, financial literacy is "the knowledge and understanding of financial concepts and risks as well as the skills, motivation and confidence to apply this knowledge and understanding to make effective decisions in different financial conditions, to increase the financial welfare of individuals and society and to engage in economic life" (OECD, 2014).

Lusardi (Lusardi, 2015) noted four peculiarities of the abovementioned OECD definition. First, the importance of financial literacy is not limited to the creation of knowledge and understanding, but is also related to its purpose: encouraging decision-making. Second, the aim of financial literacy is to improve financial welfare, not to influence any particular behaviour, such as increasing savings or decreasing indebtedness, etc. Third, financial literacy affects not only individuals but society as a whole. Fourth, similarly to reading, writing, scientific knowledge, etc., financial literacy allows young people to participate in the economic life. As the PISA report noted, financial literacy is one of the basic competencies of the twenty-first century. (OECD, 2014).

As for the definition of the concept under consideration, it should be taken into account that the concept of financial literacy is widely used interchangeably with terms such as financial education, financial knowledge and financial erudition. At the same time, although studies use the term financial education, they do not mean financial literacy. For instance, while some authors draw conclusions about the uncertain effect of financial education on subsequent financial behaviour, they are actually examining the impact of a particular

financial discipline on financial behaviour (Moreno-Herrero et al., 2018), which shows that even though it is used as a synonym of financial literacy, in some studies, financial education really means financial education.

2.2. Research conceptual model and hypotheses

The conceptual model of this study is presented in Figure 1. The model includes three groups of variables and illustrates their interactions.

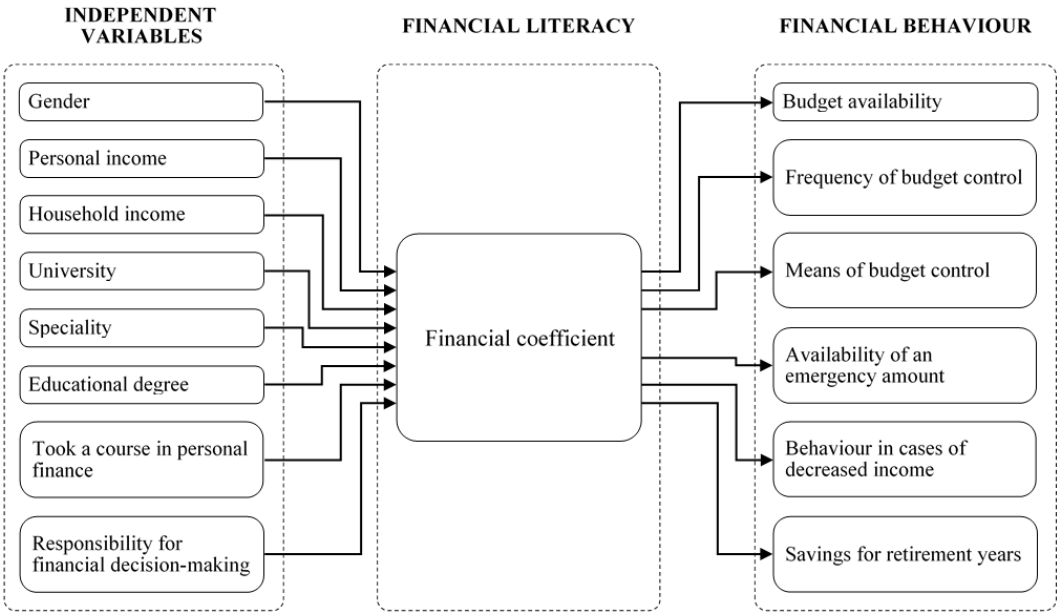

Figure 1. *Conceptual model of the study. Developed by the author*

The first group includes demographic variables such as gender; student income (personal and of their household); university, specialty and educational degree; if the respondent has taken a course in personal finance management or not; and if the student is responsible for the financial decision-making in their household.

The second group includes the financial coefficient, which is a measure of student financial literacy. The research assumption is that the independent variables affect the level of student financial literacy.

The third group includes variables related to particular aspects of student financial behaviour, such as availability of household budget, frequency and means of budget control; availability of an emergency fund; behaviour in cases of decreased disposable income; and whether the student saves for retirement years. The assumption is that the level of financial literacy influences financial behaviour.

2.2.1. Financial literacy determinants

Surveys of financial literacy can be divided into two main types depending on the target group studied. The first type includes surveys of large groups of the population in a given country, for instance, households or

individuals in a given country. The second type is aimed at more specific groups, such as women, employees, bank customers, investors, university students, working students, people taking a particular financial course, baby boomers, youngsters, low-income bank customers, social care students, etc.

2.2.1.1. Research on adult financial literacy

A survey of OECD and its International Net for Financial Education (INFE) that took place in 2012 focused on the financial knowledge in 14 countries. The results show that financial illiteracy is widespread in many countries, both developed and developing. Another result shows that low levels of income and education are directly related to low financial literacy (OECD, 2014).

A more recent survey of OECD has found that large groups of citizens are lacking the necessary financial literacy and financial resilience to deal effectively with everyday financial management. This is particularly concerning at the time of the unfolding crisis as a result of the COVID-19 pandemic, which is likely to put considerable economic and financial pressures on individuals and test their ability to preserve their financial well-being (OECD, 2020).

Lusardi summarized 12 different surveys of financial literacy carried out using the same methodology (through three questions on this topic suggested by her) for the period 2007-2012 in different countries worldwide (Lusardi, 2015). Comparative results show that, in all countries, few people could correctly answer all three basic questions about financial literacy. These people comprise approximately 30% of the total population, and their proportion is similar in countries with developed financial markets, including the USA, the Netherlands, Germany, Japan, Australia, etc., and in countries with emerging financial markets, such as Russia and Romania.

The number of surveys of financial literacy determinants, including gender, education, experience, income, etc., is considerable. In terms of gender, for instance, Chen and Volpe revealed that low levels of financial literacy were observed among women, among people with little work experience and among individuals under 30 (Chen and Volpe, 1998). Lusardi, Mitchell and Curto found that women had lower financial literacy than men and that the stimulation of cognitive abilities and a higher educational qualification could improve the level of financial literacy (Lusardi, Mitchell and Curto, 2010). On the other hand, Munoz-Murillo et al. (Munoz-Murillo et al., 2020) found that financial literacy did not vary substantially in terms of gender, but varied in terms of the cognitive abilities of the individuals.

In the conceptual model of this study, gender is included as an independent variable influencing the level of financial literacy.

In terms of age, surveys show that financial literacy is lowest among the youngest and oldest individuals (Lusardi and Mitchell, 2014). It is interesting to note that elderly people's subjective perception of their own financial literacy is high, whereas their actual results after an objective assessment through questions about their financial literacy are notably worse. Finke, Howe, and Huston developed a tool to measure adult financial literacy and confirmed that even though actual financial literacy decreases with time, people's confidence in their ability to make financial decisions actually increases with age (Finke, Howe, and Huston, 2016).

In terms of education, surveys show considerable differences in the financial knowledge of people with various degrees of education. A number of surveys in the USA and other countries reveal that people who are not graduates (college or university) are less likely to deal well with financial concepts (Lusardi and Mitchell, 2011).

Financial literacy also varies according to income and employment. There is evidence that low-paid and unemployed individuals deal with financial concepts worse than other individuals (Lopus et al., 2019).

In the model of the present study, personal income and household income are included as independent variables influencing the level of financial literacy.

The results from the surveys cited above suggest, firstly, that despite differences among the countries and the surveyed groups, individuals are generally deficient in financial literacy that could help them make informed decisions. Secondly, in all countries studied thus far, it is possible to distinguish groups with lower and higher levels of financial literacy. Demographic variables are often the major factor distinguishing these groups.

2.2.1.2. Surveys of financial literacy of schoolchildren and students

The OECD PISA programme aims to assess the financial knowledge of upper secondary school students. In 2012, a module on financial literacy was added to the test on the skills in mathematics, natural sciences and reading. This module made it possible to compare 15-year-old schoolchildren in the countries covered by their financial literacy (OECD, 2014).

To what extent young people understand financial concepts and what is the level of their financial literacy are important considerations when measuring how they cope with financial problems and manage money (Moreno-Herrero et al., 2018). Results from surveys of schoolchildren and students all over the world show that, generally, the financial literacy of young people is not high.

Lusardi, Mıtchell and Curto surveyed 7,138 young adults and found that only 27% of the respondents knew something about inflation, risk diversification and simple interest calculation (Lusardi, Mıtchell and Curto, 2010).

Financial literacy differs according to student specialty. Chen and Volpe (Chen and Volpe, 1998) surveyed 924 college students in 14 American universities and found that students in business and economics have a higher degree of financial literacy. A survey of 789 students in Australia showed that students with previous work and practical experience and those with high personal income have a high level of financial literacy (Beal and Delpachitra, 2003).

In the model of the present study, university profile (economic or non-economic), specialty and whether a course in personal finance has been taken are included as independent variables influencing the level of financial literacy.

In terms of educational degrees, it is interesting to examine Jorgensen's survey (2007) of students doing their bachelor's or Master's degrees. This survey reveals that financial knowledge increases gradually from freshmen to Master's students. Jorgensen found that students depending on their parents have a better appreciation of the indicators of financial knowledge, attitudes to finance and financial behaviour.

In this study, educational degree is included as an independent variable influencing the level of financial literacy.

A survey of 2,382 students at American universities shows that *family* has the most significant influence on student financial behaviour in terms of money management (Hanson and Olson, 2018). Mimura et al. examined the sources of financial information, financial knowledge and financial behaviour of students in California and found that personal finance information received from parents is in positive correlation with the level of financial knowledge and with financial behaviour (Mimura et al., 2015).

In the current study, responsibility for the financial decisions in the household is included as an independent variable influencing the level of financial literacy.

2.2.1.3. Studies of financial literacy in Bulgaria

The information available from several empirical studies conducted in Bulgaria contains results on the financial literacy of different groups of people.

A 2010 study by the World Bank outlined the situation at a national level, including the specifics for several particular groups in five areas: confidence in the financial sector; awareness when using financial services; financial literacy; management of household finance; and consumption of and interest in financial products (Alfa Research, 2010). The prevailing self-assessment of Bulgarians regarding their financial literacy was negative (26,5% said their knowledge and skills were unsatisfactory and 19,8% said they had no skills at all). Residents of the smallest settlements, the eldest people as well as the youngest people, less educated people, unemployed people, retired people and people with the lowest income had the lowest rating.

A survey by ING Insurance Bulgaria conducted in 2011 measured the respondents' financial literacy, established their actual financial behaviour and examined how the level of their financial literacy influenced their attitudes and behaviour (ING Insurance Bulgaria, 2011). The level of financial literacy was measured using the answers to thirteen questions. The results showed that 57% of Bulgarians had only basic financial knowledge. On average, 7,9 out of 13 questions were answered correctly. Age, education and income influence financial literacy: the active population, mostly between 30-49 years old, with higher education and incomes above the average, had a higher level of financial literacy.

A survey by Provident Financial Bulgaria conducted in 2014 focused on saving and use of credits (Provident Financial Bulgaria, 2014). Only 25% of the respondents defined themselves as financially literate even though a great many of them were unfamiliar with basic terminology. About half of the respondents said they wanted to learn more about managing their money.

A 2016 survey by Junior Achievement and NN tried to establish the level of financial literacy of Bulgarian schoolchildren. The respondents were from the three levels (primary, junior high and high school) of secondary education (Junior Achievement Bulgaria, 2016). The questions were grouped into four sections: Money, Earning, Spending and Planning. The questionnaires for the junior high and high school levels also included the group "Financial products and services". The main conclusion of this largest-scale survey so far in Bulgaria is that financial literacy is relatively good, but partial. Student knowledge is not well-structured and no understanding of the matter is observed; in short, there is only fragmentary knowledge. Although some of the students showed high financial literacy

in some of the questions, the majority of the respondents revealed a low knowledge of personal finance management.

A survey by Junior Achievement and MetLife carried out in 2017 focused on the financial vulnerability of Bulgarian households. Based on a stress test, it measured household sustainability in three negative scenarios: emergency spending, income decrease and increased spending (Junior Achievement Bulgaria, 2017). The main result from the survey is that the financial vulnerability of Bulgarian households is significantly higher than in Europe: 3 out of 4 Bulgarian households are financially vulnerable, whereas in Europe this proportion is 33% lower.

The abovementioned surveys of financial literacy determinants elicit the following hypotheses in this study:

H1.1: Student financial literacy differs according to student gender.

H1.2: Student financial literacy differs according to a student's personal income.

H1.3: Student financial literacy differs according to student household income.

H1.4: Student financial literacy differs depending on whether a student studies at an economic or non-economic university.

H1.5: There are no differences in student financial literacy in terms of student specialty.

H1.6: There are no differences in student financial literacy in terms of a student's educational degree.

H1.7: Student financial literacy differs depending on whether a student has taken a course in personal finance management.

H1.8: Student financial literacy differs according to one's responsibility for household financial decision-making.

2.2.2. Financial literacy outcomes

A number of studies have focused on how personal financial literacy influences financial decision-making and financial behaviour.

Guiso and Jappelli presented evidence that financial literacy is the major variable influencing the lack of personal investment diversification. Thus people with no financial literacy underestimate the benefits of investment diversification (Guiso and Jappelli, 2008).

Niu et al. explore the link between financial literacy and retirement preparation in China. The empirical results show that financial literacy has a strong and positive impact on various aspects of retirement preparation among people in China, including determining retirement financial needs, making long-term financial plans, and purchasing private pension insurance (Niu et al., 2020).

The conceptual model of this study includes a behavioural variable related to retirement savings.

Shahrabani analyzed the factors influencing the intention to control one's personal budget of students in Israel (Shahrabani, 2012). The results showed that the intention to plan income and expenses depends on the level of financial literacy and on factors such as indebtedness, level of negative emotions in the case of indebtedness, and income level.

The model of this study includes behavioural variables related to the availability of a household budget and to the frequency and means of controlling that budget.

A number of studies have examined the relationship between financial literacy and various aspects of financial behaviour. For instance, it was established that insufficient financial literacy is the reason behind bad investment decisions (Al-Tamimi and Bin Kalli, 2009), irresponsible behaviour in finance

management (Barbić et al., 2019), and the inability to make informed financial decisions (Chen and Volpe, 1998).

The model of this study includes behavioural variables related to the availability of an emergency fund and to behaviour in cases of decreased income.

The relationship between personal finance knowledge and financial behaviour has been examined in case of adults and in case of students as well.

Chen and Volpe were among the first to study the relationship between the financial knowledge and financial decision-making of students, although, according to the authors, this relationship is very elusive because the study examined hypothetical rather than real financial decisions. In their survey, the respondent students were divided into two groups: students with higher and lower knowledge of various aspects of personal finance. The results showed that students with better knowledge had higher results regarding the hypothetical use of financial resources, investment and insurance than those students with poorer knowledge. The authors concluded that it was more probable for students with better financial knowledge to monitor and control their financial decisions (Chen and Volpe, 1998).

At the same time, researchers note some controversial results. For instance, in a survey of 216 students, Jones found no relationship between credit card indebtedness and the level of financial literacy (Jones, 2006). Borden et al. could establish no significant relationship between financial knowledge and financial behaviour, regardless of whether the latter was prudent or risky (Borden et al., 2008). A survey carried out by Robb and Sharpe in 2009 showed that knowledge of personal finance and credit card usage behaviour are related and, contrary to the authors' initial hypothesis, individuals with higher financial literacy have higher credit card indebtedness (Robb and Sharpe, 2009).

The results from the abovementioned surveys regarding the relationship between the level of financial literacy and financial behaviour elicit the following hypotheses in this study:

H2.1: Financial literacy influences the availability of a household budget.

H2.2: Financial literacy influences the frequency of budget control.

H2.3: Financial literacy influences the means of budget control.

H2.4: Financial literacy influences the availability of an emergency fund.

H2.5: Financial literacy influences behaviour in cases of decreased income.

H2.6: Financial literacy influences retirement savings.

The literature review regarding the determinants of financial literacy and its influence on financial behaviour as well as the available information about empirical studies on financial literacy in Bulgaria show that, on the one hand, although it is defined differently, this concept lies at the heart of individual economic decisions and behaviour and thus has a serious impact on an individual's welfare and quality of life. On the other hand, no empirical studies on student financial literacy have been conducted thus far despite the indicated importance of this social group.

3. Methodology

3.1. Sample and data collection method

The sample includes 265 randomly selected students at higher institutions in Bulgaria. The respondents are mainly from economic specialties, with the majority coming

from the University of National and World Economy, UNWE (specialties: marketing; administration and management; finance, accounting and control) and the Higher School of Insurance and Finance (HSIF). Also taking the survey were students from non-economic specialties: media pedagogy and art communication; technological entrepreneurship (Sofia University "St. Kliment Ohridski"), pre-school and elementary school pedagogy; elementary school pedagogy and foreign languages (Ruse University "Angel Kanchev"), psychology (Plovdiv University "Paisii Hilendarski"), journalism and mass communications (American University in Bulgaria), etc.

Data collection was carried out in January 2020 through an online multi-page questionnaire survey. The questionnaire was programmed for individual completion in an online survey platform.

3.2. Measures

The questionnaire includes questions divided into three sections correspondingly focused on respondents' financial literacy, financial behaviour and demographic status.

Financial literacy is measured using a 20-question scale[2]. The questions are divided into 5 groups: income, budget, financial future (IBFF): 6 questions; saving: 4 questions; credit: 4 questions; housing: 3 questions; cards and payments (C&P): 3 questions. The possible answers vary between two and eight, with all questions having only one correct answer. The only exceptions are questions 1 and 3 in the credit group, which have more than one correct answer. For these two questions to be answered correctly, all correct answers must be given.

Financial behaviour is covered by six variables: availability of household budget, frequency of budget monitoring, means of budget control, availability of emergency fund, behaviour in cases of decreased income, and retirement savings.

The demographic variables describing the respondents are gender, monthly personal income, monthly household income, respondent's university, specialty, educational degree, whether they took a course in personal finance management, and responsibility for the household's financial decisions.

3.3. Data analysis

3.3.1. Data transformation

To begin analyzing the data, it is necessary to transform some of them. The transformation involves the formation of a new variable out of the variables corresponding to the twenty questions revealing financial literacy: a Financial Coefficient. This variable is a summary measure of the respondent's financial literacy and is calculated as the sum of the correct answers to each of the twenty questions. The variable has values between 0 and 20, with 0 meaning that the respondent has correctly answered none of the questions and 20 meaning that the respondent has correctly answered all of the questions.

Two aims are achieved by constructing the "Financial Coefficient" variable. The first is the increased possibility for the new compound variable to express more adequately and more thoroughly the respondent's level of financial literacy. For instance, the compound variable "Financial Coefficient" is more likely to be a more adequate measure of overall financial literacy than any of the individual measures. The second is that the new compound variable

[2] The questions for measurement of financial literacy are available upon request.

is viewed as measured on an interval scale, which makes it possible to apply parametric methods for dependency analysis.

Data processing was carried out using SPSS 23. The accepted critical level of significance in testing the zero hypothesis Ho is α = 0,05 with a 95% guarantee probability.

3.3.2. Reliability check of the measurement scale of financial literacy

Cronbach's α coefficient is used to measure the internal consistency of the questions. This coefficient is calculated on the basis of arithmetic mean values or average correlations for each question on the scale with every other question. A scale is considered reliable if the α coefficient values are within the interval 0,70-0,90.

The calculated Cronbach's α of the scale for financial literacy measurement in this study is 0,782, which shows very good reliability.

Table 1 comprises descriptive statistical data about each question. This information (the arithmetic mean and variance values) is used to decide whether to rule out any of the questions from the scale during its construction. Column 4 of the table, Corrected Item-Total Correlation, shows the correlations of each question with the total amount of the other questions. It becomes clear from this column that the correlations between each of the twenty variables and the rest of the variables are at an acceptable level and it is not necessary to exclude variables from the scale. Therefore, the scale developed for the purposes of the current study to measure financial literacy is of satisfactory reliability and can be used.

Table 1. Statistical data about the questions

Variables	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
IBFF_1	10,75	6,688	0,488	0,761
IBFF_2	10,71	6,951	0,382	0,780
IBFF_3	10,60	7,105	0,372	0,780
IBFF_4	10,83	6,757	0,426	0,773
IBFF_5	11,28	6,674	0,494	0,760
IBFF_6	10,72	6,702	0,498	0,760
SAV_1	10,81	6,936	0,356	0,787
SAV_2	10,74	6,702	0,486	0,762
SAV_3	11,16	6,302	0,610	0,733
SAV_4	11,02	6,853	0,667	0,786
CRED_1	11,17	6,119	0,694	0,714
CRED_2	10,98	6,749	0,408	0,777
CRED_3	11,43	6,893	0,506	0,764
CRED_4	10,99	7,010	0,308	0,799
HOUS_1	10,71	6,826	0,446	0,769
HOUS_2	10,99	7,064	0,287	0,803

Variables	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
HOUS_3	11,02	6,955	0,328	0,795
C&P_1	11,23	6,550	0,526	0,753
C&P_2	10,89	6,669	0,451	0,768
C&P_3	10,80	6,487	0,558	0,746

Note: Developed by the author.

3.3.3. Validity check of the measurement scale of financial literacy

Validity aims at checking whether the constructed measurement scale is really suitable for what it is intended. Establishing scale reliability does not guarantee that the hidden variable for question measurement is really the hidden variable the researcher wants to measure and analyze. At this stage, the constructive validity of the new scale should be demonstrated, i.e., to show the extent of consistency between measurement results and theory.

To check the constructive validity of the analyzed scale, a confirmatory factor analysis is conducted. The aim of this analysis is to confirm that for the analyzed sample, the scale has the same structure that was defined by the author. If this is confirmed, it will mean that the scale is valid for the particular data. Table 2 presents the results regarding the KMO measure of sampling adequacy and Bartlett's test of sphericity.

Table 2. KMO measure of sampling adequacy and Bartlett's test of sphericity

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy		**0,895**
Bartlett's Test of Sphericity	Approx. Chi-Square	335,715
	df	190
	Sig.	0,000

Note: Developed by the author.

The data are analyzed with the principal components using the Varimax rotation method with Kaiser normalization. For the analyzed scale, the results show that Bartlett's test of sphericity is statistically significant ($p<0.001$) and the KMO measure of sampling adequacy for the scale is 0,895. We can conclude that the scale developed for financial literacy assessment is valid for the sample (n=265) and its use can continue.

4. Results

4.1. Differences in financial literacy among various groups

To verify the hypotheses about financial literacy determinants (hypotheses H1.1 to H1.8), variance analysis is used. The descriptive statistics for financial literacy determinants are given in Table 3. Table 4 includes the results from the analysis of variance (ANOVA) for the impact check of financial literacy determinants.

Table 3. Descriptive statistics for financial literacy determinants

	N	Mean	Std. Deviation	Std. Error
Gender				
Man	72	11,889	2,515	0,296
Woman	193	11,119	2,746	0,198
Personal income				
No income	10	9,900	3,178	1,005
Up to BGN 300	15	11,000	1,732	0,447
BGN 301–500	18	10,333	3,162	0,745
BGN 501-800	26	10,731	2,237	0,439
BGN 801-1000	57	11,404	2,652	0,351
BGN 1001-1500	60	11,617	2,756	0,356
BGN 1501-2000	32	11,063	2,063	0,365
BGN 2000-3000	10	13,200	3,853	1,218
Over BGN 3001	4	14,000	4,163	2,082
No answer	33	11,636	2,608	0,454
Household income				
No income	4	7,750	2,062	1,031
Up to BGN 300	1	11,000	.	.
BGN 301–500	6	8,833	3,430	1,400
BGN 501-800	7	10,714	1,976	0,747
BGN 801-1000	21	10,524	2,639	0,576
BGN 1001-1500	45	11,289	2,322	0,346
BGN 1501-2000	45	11,067	2,775	0,414
BGN 2000-3000	61	11,459	2,936	0,376
Over BGN 3001	40	12,175	2,330	0,368
No answer	35	11,971	2,640	0,446
University profile				
Economic university	223	11,386	2,621	0,176
Non-economic university	42	11,024	3,119	0,481
Specialty				
Marketing	116	11,629	2,701	0,251
Administration and management	51	10,726	2,450	0,343
Finance, accounting and control	58	11,621	2,661	0,349
Other economic specialties	7	12,143	1,574	0,595
Non-economic specialties	32	10,563	3,151	0,557
No answer	1	9,000	.	.
Educational degree				
Bachelor	232	11,254	2,759	0,181
Master	32	11,813	2,264	0,400
Doctor	1	13,000	.	.
Took a course in personal finance management				
Yes	38	10,737	3,285	0,533
No	227	11,427	2,588	0,172

	N	Mean	Std. Deviation	Std. Error
Responsibility for household financial decisions				
No	60	10,683	2,639	0,341
Yes, completely	40	12,150	2,878	0,456
Yes, partially	165	11,364	2,639	0,206

Note: Developed by the author.

Table 4. Results from the analysis of variance for the impact check of financial literacy determinants

	Sum of Squares	df	Mean Square	F	Sig.
Gender					
Between Groups	31,068	1	31,068	4,306	0,039
Within Groups	1897,370	263	7,214		
Total	1928,438	264			
Personal income					
Between Groups	123,408	9	13,712	1,937	0,047
Within Groups	1805,029	255	7,079		
Total	1928,438	264			
Household income					
Between Groups	152,249	9	16,917	2,429	0,012
Within Groups	1776,188	255	6,965		
Total	1928,438	264			
University profile					
Between Groups	4,627	1	4,627	0,633	0,427
Within Groups	1923,810	263	7,315		
Total	1928,438	264			
Specialty					
Between Groups	62,833	5	12,567	1,745	0,125
Within Groups	1865,605	259	7,203		
Total	1928,438	264			
Educational degree					
Between Groups	11,567	2	5,784	0,790	0,455
Within Groups	1916,871	262	7,316		
Total	1928,438	264			
Took a course in personal finance management					
Between Groups	15,519	1	15,519	2,134	0,145
Within Groups	1912,919	263	7,273		
Total	1928,438	264			
Responsibility for household financial decisions					
Between Groups	52,173	2	26,086	3,643	0,028
Within Groups	1876,265	262	7,161		
Total	1928,438	264			

Note: Developed by the author.

In terms of the differences in student financial literacy depending on ***gender***, the null hypothesis is that gender does not influence financial literacy and the alternative hypothesis is that gender influences financial literacy. As Table 4 shows, the obtained coefficient of significance (Sig.=0,039) is less than the acceptable critical level of significance, which means that the null hypothesis is rejected and the alternative one is accepted and considered true, i.e., there are differences in student financial literacy depending on gender.

For the differences in student financial literacy depending on student ***personal income***, a null hypothesis is suggested according to which personal income does not influence financial literacy. The alternative hypothesis, on the other hand, is that personal income influences financial literacy. The obtained coefficient of significance (Sig.=0,047) is lower than the acceptable level of significance (Table 4). Therefore, the null hypothesis must be rejected and the alternative hypothesis must be considered true; i.e., there are differences in student financial literacy depending on a student's personal income.

As for student ***household income***, the null hypothesis is that household income does not influence financial literacy, whereas the alternative hypothesis is that household income influences financial literacy. The obtained coefficient of significance (Sig.=0,012) is lower than the critical level of significance (Table 4) and, therefore, the alternative hypothesis is accepted; i.e., there are differences in student financial literacy depending on a student's household income.

In terms of the differences in student financial literacy according to ***university profile (economic or non-economic)***, the null hypothesis is that university profile does not influence financial literacy and the alternative hypothesis is that university profile influences financial literacy. The obtained coefficient of significance (Sig.=0,427) is higher than the acceptable level of significance. This finding means that the alternative hypothesis is rejected and the null hypothesis is accepted; i.e., there are no differences in student financial literacy regardless of whether students study at an economic or a non-economic university.

For the study on the impact of student ***specialty***, the null hypothesis is that the specialty does not influence student financial literacy and the alternative hypothesis is that the specialty influences financial literacy. The obtained coefficient of significance is higher than the acceptable critical level of significance (Sig.=0,125), which means that the alternative hypothesis is rejected and the null hypothesis is accepted; i.e., there are no differences in student financial literacy depending on student specialty.

The differences in student financial literacy depending on student ***educational degree*** are examined, with the null hypothesis stating that a student's educational degree does not influence financial literacy and the alternative hypothesis stating that a student's educational degree influences financial literacy. The obtained coefficient of significance (Sig.=0,455) is higher than the acceptable critical level of significance (Table 4), which means that the alternative hypothesis is rejected and the null hypothesis is accepted; i.e., there are no differences in student financial literacy regardless of a student's educational degree.

In terms of the differences in student financial literacy according to ***taking a course in personal finance management***, the null hypothesis is that studying such

a subject at university does not influence student financial literacy and the alternative hypothesis is that studying such a subject at university influences student financial literacy. The obtained coefficient of significance is higher than the acceptable critical level of significance (Sig.=0,145), which means that the alternative hypothesis is rejected and the null hypothesis is accepted; i.e., there are no differences in student financial literacy regardless of the student taking a course in personal finance management.

In terms of the differences in student financial literacy according to the ***responsibility for household financial decisions***, the null hypothesis is that this responsibility does not influence financial literacy and the alternative hypothesis is that the responsibility for household financial decisions influences financial literacy. The obtained coefficient of significance (Sig.=0,028) is lower than the acceptable critical level of significance (Table 4), which means that the null hypothesis is rejected and the alternative hypothesis is accepted, i.e., there are differences in student financial literacy according to household financial decisions.

4.2. Impact of financial literacy on financial behaviour

The impact of the level of financial literacy on the ***availability of a household budget*** is checked by logistic regression. The null hypothesis is that student financial literacy does not influence the availability of household budget and the alternative hypothesis is that student financial literacy influences the availability of household budget. The obtained coefficient of significance (Sig.=0,350) is higher than the acceptable critical level of significance (Table 5), which means that the null hypothesis is considered true and the alternative one is rejected; i.e., that statistically, student financial literacy is not significantly related to the availability of a household budget.

Table 5. Results from the logistic regression checking the impact of financial literacy on the availability of a household budget

Variables not in the Equation

			Score	df	Sig.
Step 0	Variables	Total Assessment	0,875	1	0,350
	Overall Statistics		0,875	1	0,350

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I. for EXP(B)	
								Lower	Upper
Step 1[a]	Total Assessment	0,046	0,049	0,872	1	0,350	1,047	0,951	1,153
	Constant	0,216	0,566	0,145	1	0,703	1,241		

a. Variable(s) entered on step 1: Total Assessment.

Note: Developed by the author.

The impact of the level of financial literacy on ***the frequency of budget control*** is tested using discriminant analysis. The obtained coefficient of significance (Sig.=0,528) in Table 6 is higher than the acceptable critical level of significance, which means that the total assessment of the test is not statistically significantly related to the frequency of

budget control. This finding means that student financial literacy does not influence the frequency of budget control.

Table 6. Results from the discriminant analysis to test the impact of financial literacy on the frequency of budget control

Tests of equality of group means

	Wilks' Lambda	F	df1	df2	Sig.
Total Assessment	0,993	0,640	2	176	0,528

Note: Developed by the author.

The impact of the level of financial literacy on ***the means of budget control*** is tested using discriminant analysis. The obtained coefficient of significance (Sig.=0,005) in Table 7 is lower than the acceptable critical level of significance. Therefore, the total assessment from the test is statistically significantly related to the frequency of budget control, which means that student financial literacy influences the means of budget control.

The second part of Table 7 shows that the Wilks' Lambda is statistically significant (Sig.=0,005 < 0,05), which means that the model with the financial coefficient as an independent variable is able to statistically significantly discriminate among the different groups of students according to the means of budget control.

The third part of Table 7 shows that despite its statistical significance, this model explains 10,24% (0,320*0,320) of the variance in the dependent variable (means of budget control).

Table 7. Results from the discriminant analysis of the impact of financial literacy on the means of budget control

Tests of equality of group means

	Wilks' Lambda	F	df1	df2	Sig.
Total Assessment	0,898	3,262	6	172	0,005

Wilks' Lambda

Test of Function(s)	Wilks' Lambda	Chi-square	df	Sig.
1	0,898	18,750	6	0,005

Eigen values

Function	Eigenvalue	% of Variance	Cumulative %	Canonical Correlation
1	0.114a	100,0	100,0	0,320

a. First 1 canonical discriminant functions were used in the analysis.

Note: Developed by the author.

The influence of the level of financial literacy on ***the availability of an emergency fund*** is studied using discriminant analysis. The obtained coefficient of significance (Sig.=0,539) in Table 8 is higher than the acceptable critical level of significance, which means that the total assessment from the test is not statistically significantly related to the availability of an emergency fund. This finding shows that student financial literacy does not influence the availability of an emergency fund.

Table 8. Results from the discriminant analysis of the impact of financial literacy on the availability of an emergency fund

Tests of equality of group means

	Wilks' Lambda	F	df1	df2	Sig.
Total Assessment	0,970	0,885	9	255	0,539

Note: Developed by the author.

The influence of the level of financial literacy on the ***behaviour in cases of decreased income*** is studied using discriminant analysis. The obtained coefficient of significance (Sig.=0,008) in Table 9 is lower than the acceptable critical level of significance, which shows that the total score of the test is statistically significantly related to the behaviour in cases of decreased income. Therefore, student financial literacy influences the behaviour in cases of decreased income.

The second part of Table 9 shows that Wilks' Lambda is statistically significant (Sig.=0,008 < 0,05), which means that the model in which the financial coefficient is an independent variable is able to statistically significantly differentiate the different groups of students according to their behaviour in cases of decreased income.

The third part of Table 9 allows us to conclude that despite its statistical significance, this model explains 11,49% (0,339*0,339) of the variance in the dependent variable (behaviour in cases of decreased income).

Table 9. Results from the discriminant analysis checking the impact of financial literacy on the behaviour in cases of decreased income

Tests of equality of group means

	Wilks' Lambda	F	df1	df2	Sig.
Total Assessment	0,885	2,151	15	249	0,008

Wilks' Lambda

Test of Function(s)	Wilks' Lambda	Chi-square	df	Sig.
1	0,885	31,126	15	0,008

Eigenvalues

Function	Eigen value	% of Variance	Cumulative %	Canonical Correlation
1	0.130a	100,0	100,0	0,339

a. First 1 canonical discriminant functions were used in the analysis.

Note: Developed by the author.

The influence of the level of financial literacy on ***retirement savings*** is studied using discriminant analysis. The obtained coefficient of significance (Sig.=0,047) in Table 10 is lower than the acceptable critical level of significance, which shows that the total assessment from the test is statistically significantly related to retirement savings. Therefore, student financial literacy influences retirement savings.

The second part of Table 10 shows that the Wilks' Lambda coefficient is statistically significant (Sig.=0,047 < 0,05). Therefore, the model with this independent variable is able to statistically significantly discriminate the different groups of students according to retirement savings.

The third part of Table 10 shows that despite its statistical significance, this model explains only 2,3% (0,152*0,152) of the variance in the dependent variable of retirement savings.

Table 10. Results from the discriminant analysis checking the influence of financial literacy on retirement savings

Tests of equality of group means

	Wilks' Lambda	F	df1	df2	Sig.
Total Assessment	0,977	3,087	2	262	0,047

Wilks' Lambda

Test of Function(s)	Wilks' Lambda	Chi-square	df	Sig.
1	0,977	6,102	2	0,047

Eigenvalues

Function	Eigen value	% of Variance	Cumulative %	Canonical Correlation
1	0.024a	100,0	100,0	0,152

a. First 1 canonical discriminant functions were used in the analysis.

Note: Developed by the author.

5. Discussion

5.1. The impact of the independent variables on the level of financial literacy

Table 3 shows that financial literacy is somewhat higher for men than for women: the average value of the financial coefficient for men is 11,9 and for women 11,1. This result is similar to those of previous surveys of students in the USA carried out by Chen and Volpe (Chen and Volpe, 1998) and Lusardi, Mitchell and Curto (Lusardi, Mitchell and Curto, 2010), as well as to the results of other surveys in Bulgaria (ING Insurance Bulgaria, 2011).

The reasons for the differences in male and female financial literacy can be explained by, first, men's higher incomes and inclination to consume products of higher value and status: automobiles, motorcycles, watches, mobile phones, expensive travels, etc. The consumption of such products requires better financial literacy to better manage money, including investments and savings. Second, men are more inclined to take risks, and higher financial literacy is required to be able to manage these risks.

The first and the third columns of Table 3 show that the average value of the financial coefficient increases with increased student income, both personal and household. This result confirms that, as established in other surveys, higher income is related to higher financial literacy which is not surprising because higher income allows the consumption of products and services requiring better skills for personal finance management. There is reason to believe that the inverse dependence manifests as well: better knowledge of finance contributes to obtaining a higher income thanks to an increased awareness and risk avoidance regarding the consumption of financial products, those risks being related

to an insufficient knowledge of financial laws. Furthermore, higher income stimulates the consumption of better quality and more expensive products, including buying clothes, eating out, better children's education, travels, a willingness to save for rainy days, etc. This type of consumption boosts the demand for investment and savings products with which higher aims can be achieved, which, in turn, suggest higher financial literacy.

This study found out that student specialty, student educational degree and university profile do not influence the level of student financial literacy, which is in contrast to the studies cited in the literature review and according to which these variables influence the level of knowledge and skills of personal finance management. One explanation for these results may be the role and importance of different public institutions in building individuals' financial literacy in Bulgaria. It is reasonable to assume that family plays a much greater role in building the knowledge and skills for personal finance management than university education. It can also be assumed that secondary education has a greater importance in the development of young people's financial literacy than university education. These assumptions require further investigation.

The fact that taking a course in personal finance management has no statistically significant impact on student financial literacy is one of the surprising results of the present study. This finding contradicts our preliminary expectations that students who have taken a course in personal finance management have higher financial literacy. One possible explanation is that there might be a discrepancy between the academic content of the subject taught at university and the scope of the questions used to calculate the financial coefficient. Another possible explanation may be the assumption formulated above, that building a certain attitude and viewpoint regarding personal finance in Bulgaria takes place at an early age; during the years of secondary education and when they attend university, young people have already formed these attitudes and views.

Although as far as we know, the relationship between the responsibility for household financial decisions and financial literacy has not been investigated so far, the result from the survey in the current study showing that those students responsible for household financial decisions have higher financial literacy is not surprising. For the overwhelming majority of students in Bulgaria, university education marks the beginning of an independent life and of setting up one's own household, which requires making independent decisions about personal finance management. This lifestyle, in turn, requires a higher level of financial literacy. In many cases, university education is related to service and to starting work, which also requires a certain level of financial literacy given the additional financial decisions students must make when working and earning their own income (drawing up a personal budget, choosing a pension fund, etc.).

5.2. The impact of financial literacy on financial behaviour

The result obtained with regard to household budget availability is in contrast with the findings of previous studies in Bulgaria. The 2011 ING survey of people over the age of 20 shows that increased financial literacy leads to an increased percentage of people whose households have a budget (ING Insurance Bulgaria, 2011). The proportion of households with a budget is comparable in both surveys:

67,5% in the current survey of students and 71% in the ING survey. According to the 2017 survey of Junior Achievement Bulgaria, the proportion of households without a budget is slightly higher: 38% of the households do not make a budget for any reason, neither for certain periods, nor for particular events (Junior Achievement Bulgaria, 2017).

The result from the present survey can be explained using the specifics of a student's household: both by the absence of sustainable habits regarding household financial planning, especially if the student lives on his/her own, and by the still strong influence of the parents' views and attitudes to household finances.

The results regarding the frequency of budget control in the present survey show that most students (61,5%) monitor household finances weekly and about one third (34,6%) do so monthly. The financial coefficient is slightly higher with weekly (11,6) budget monitoring than monthly (11,1) monitoring.

The results regarding the means of budget control show that taking notes in a notepad is the most popular means of budget monitoring (34,1% of respondents), followed by tracking bank statements (20,7%) and keeping a record of income and expenses on a computer (20,1%). 14,5% of respondents monitor the family budget in their head. What must be noted is the low prevalence among students (3,9%) of applications/mobile phone programmes of the electronic purse type, offering numerous opportunities for analysis and control of the use of available funds.

In terms of the availability of an emergency fund, the survey shows that 20,8% of respondents have no such amount saved. For 44,2% of students, the emergency fund can cover the expenses for up to 3 months; for 9,1% it can do so for 3 to 6 months; and for 17% for over 6 months.

The fact that the level of student financial literacy does not influence the availability of an emergency fund contradicts our hypothesis. This unexpected result can be explained by the typically surveyed age group's relatively low propensity to personal financial planning. Although most students run their own household, they would rather rely on their parents'/relatives' emergency fund. The fact that students do not support any dependents (children, parents, etc.) reduces the impetus to save money for an emergency fund that would cover their expenses for 6 months or longer.

Still, from a comparative point of view, it should be noted that the percentage the students who do not have an emergency fund (20,8%) is much smaller than that of all citizens of age (54%) surveyed by ING in 2011 (ING Insurance Bulgaria, 2011).

The results regarding the behaviour in cases of decreased income are shown in Table 11. What should be noted is that, except for one answer, the most frequently chosen answers are related to decreased income. Starting a second job is not among the top three alternatives to coping with low incomes. Two of the leading three alternatives are related to reducing food expenses due to their considerable share of the household budget in Bulgaria.

Table 11. Descriptive statistics of the behaviour in cases of decreased income

Behaviour in cases of decreased income (The respondents indicated up to 5 answers)	Chosen answer (%)
I won't eat out	59,6%
I'll take lunch to work	59,2%
I'll cut down on luxurious purchases	54,0%
I'll start a second job to compensate	36,6%
I'll spend more time at home	31,7%
I'll walk more	25,7%
I'll travel less	23,8%
I'll save energy (I'll save water, switch off the lights, etc.)	17,7%
I'll use public transport	14,3%
I'll avoid credit card purchases	13,6%
I won't go on holiday	13,2%
I'll learn to / I'll do more repair work on my own at home (plumbing, car, etc.)	6,8%
I'll take my small change	6,4%
I'll cancel my subscriptions (newspapers, magazines, cable TV, etc.)	6,0%
I'll grow my own food (fruit, vegetables, etc.)	4,9%
I'll move to a smaller home	4,2%
I'll change my bank to save on fees	1,5%
Other	3,0%

Note: Developed by the author.

Regarding retirement savings, the results show that 51,7% of students save for retirement years, 44,2% do not save for retirement years, and 4,2% do not know if they do so.

The influence of student financial literacy on retirement savings as an important behavioural aspect of personal finance management can be related to a number of phenomena. First, over the last few years in Bulgaria, efforts have increased to inform people about the elements and possibilities of the three-pillar pension system. There are an increasing number of initiatives aimed at improving financial literacy as a whole and in particular the knowledge of different social groups of the pension model in the country. Second, the changes made to the legal framework of pension insurance in 2015 and the regulatory decisions on the pay-out phase in early 2020 stimulate discussions and raise public awareness of various aspects of how the pension system functions. Third, starting one's first job occurs most often in one's university years, which confronts students with compulsory participation in the country's social security system – both through their contributions to state social security and through their participation in the second pillar of the pension system (a universal or professional pension fund). This increases young people's awareness that everyone working outside the informal sector of the economy – on an employment contract or as

a self-insured person – is obliged to save for retirement.

6. Conclusions

The present study examines the influence of independent variables on the level of financial literacy of students at Bulgarian universities as well as the effect of financial literacy on student financial behaviour. It was found that the level of financial literacy is influenced by characteristics such as gender, student income (personal and of their household), and responsibility for the financial decision-making in a household, but does not depend on student specialty, university, educational degree or taking a course in personal finance management. If the impact of financial literacy on students' financial decisions and behaviour is concerned, the results show that the knowledge and skills required for personal finance management influence how one controls the budget in a household, the behaviour in cases of decreased income, and retirement savings. At the same time, financial literacy does not influence the availability of a household budget, the frequency of budget control and the availability of an emergency fund.

The survey results provide information about important dependencies related to financial literacy, and thus offer greater opportunities to all those whose decisions have a direct or indirect impact on building the financial literacy of Bulgarian students. The range of stakeholders is wide, the most important being the following: those responsible for the development and implementation of particular public policies in education; department chairs, deans, and rectors in charge of curricula and syllabi development; university lecturers; NGOs developing projects to enhance student financial literacy; and financial institutions in two different roles: as business entities offering financial products aimed at students, and as stakeholders interested in raising the level of student financial literacy.

As the first scientific research on the financial literacy of students at Bulgarian universities, this study will definitely encourage further studies to clarify the determinants, manifestations and consequences of financial literacy. Future research on student financial literacy in Bulgaria can continue in several directions. First, there is a need to further investigate and explain the fact that taking a course in personal finance management does not statistically significantly influence student financial literacy; i.e., those who have taken a course in personal finance do not have higher financial literacy than that of other students. Second, the research instrument developed and validated in this study can be used for similar surveys in other Bulgarian universities to track changes in the factors influencing the level of financial literacy and the influence of financial literacy on various aspects of financial behaviour. Third, the research instrument can be used for international comparative studies and for research into the specifics of student financial literacy in different countries.

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