Ekonomicko-manazerske spektrum
2022, Volume 16, Issue 1, pp. 91-103

FINANCIAL LITERACY AND SHOPPING BEHAVIOUR

Eva Kicova[1,a], Piotr Gorzelanczyk [2,b]

[1]Department of Economics, Faculty of Operation and Economics of Transport and Communications, University of Zilina, 010 26 Zilina, Slovakia

[2]Staniław Staszic University of Applied Sciences in Piła, Department of transportation, ul. Podchorążych 10, 64-920 Piła, Poland
[a]eva.kicova@fpedas.uniza.sk, [b]piotr.gorzelanczyk@puss.pila.pl,
[*]Corresponding author

Cite as: *Kicova, E, Gorzelanczyk, P. (2022). Financial literacy and shopping behaviour. Ekonomicko-manazerske spektrum, 16(1), 91-103.*

Available at: *dx.doi.org/10.26552/ems.2022.1.91-103*

Received: 15 March 2022; Received in revised form: 1 June 2022; Accepted: 16 June 2022; Available online: 30 June 2022

Abstract:
Research background: Financial literacy has been a topic of discussion in recent years. The concept of financial literacy can be understood as knowledge of financial concepts, but above all as the ability to be able to orientate in the financial market, the ability to manage funds or financially secure oneself and one´s family. It is also the ability to properly distribute household expenses or secure income. In our case, we want to look at the level of financial literacy in connection with the shopping behaviour of the population. Originally, the survey focused on Slovakia and Poland, but since we did not manage to obtain a sufficient number of responses from the Polish side, we will focus primarily on the survey in Slovakia and only point out the results achieved in Poland. In addressing this issue, we relied on already existing global surveys, which point to a low level of financial literacy. One of the surveys involves the OECD, which tests pupils aged 15 in certain countries at regular intervals. The Household Finance and Consumption Survey targets people over the age of 18 and tests people in multiple countries. We also conducted surveys that would point out the purchasing behaviour of the population of Slovakia during the COVID-19 pandemic, one of which was carried out by the TASR agency.
Purpose of the article: The aim of the paper is to point out the current state of financial literacy of the population in Slovakia in relation to shopping behaviour and to outline recommendations for strengthening financial literacy.
Methods: Various methods are used in the paper. By analysing the existing surveys, we determined the assumptions of the survey. Subsequently, using a questionnaire survey, we determined the level of financial literacy. We also used mathematical and statistical methods in the evaluation. Subsequently, by synthesizing the acquired theoretical knowledge and survey results, we outlined possible measures to improve financial literacy in Slovakia.
Findings & Value added: The results of the survey can be used as a basis for work in the field of financial literacy and its constant increase.

Keywords: family budget, financial literacy, shopping behaviour.

JEL Classification: G53

1. Introduction

The term financial literacy offers a wide range of definitions that are very related. According to Garg et al. (2018), financial literacy can be seen as the ability of an individual to allocate his/her available funds independently, responsibly, and efficiently. It is as a property of using skills and knowledge for optimal management and distribution of one´s own funds to financially secure oneself and family (Garg et al., 2018). Some authors the financial literacy as the ability to use an individual´s knowledge, skills, and experience to make effective decisions about using and managing own finances to provide lifelong financial security for oneself and his/her families (Nemeth et al., 2022). It means the ability to understand the basic financial products that people encounter in their lives daily and significantly affect their economic situation and well-being. Financial literacy as a personal or family management includes three components, namely: money literacy, price literacy, and budget literacy (Fang et al., 2018).

Foreign authors look at the issue of financial literacy similarly to Slovak authors (Gerrans et al., 2013). Financial literacy as a combination of knowledge, skills, and behaviours that are necessary for correct financial decisions and for achieving the financial well-being of an individual (Hermansson et al., 2021). Some autors defines it as the ability to track cash resources and payment obligations, knowledge of opening savings accounts and loan applications, basic knowledge of health and life insurance, ability to compare competitive offers and plan future financial needs (Rudeloff et al., 2019).

A minor difference in the definition of financial literacy can be seen in Gerrans and Heaney, according to whom financial literacy is not an isolated category but a specialized part of economic literacy, i.e., the ability to secure an income, to move in the labour market, decide on one´s own salaries and ability to be aware of the possible consequences of own decisions on current and future income (Hermansson et al., 2021). Another view is about who do not look at the concept of financial literacy from a different point of view, but, unlike the above authors, add to the importance of education, which is an essential part of financial literacy (Fish et al., 2021). According to another authors, the concept of financial literacy does not only mean the ability to manage available funds, but also the ability to create own budget, know how to properly assess the value of money or orient yourself in the market of financial products (Wilson et al., 2014). Scientists have confirmed the importance of knowledge by referring to how knowledge can improve a person´s financial well-being (Lin et al, 2019).

According to Worthington Financial services markets require consumers to be more financially literate if they are to manage their finances effectively (Worthington, 2013). The consumers may be overexposed to financial risks. In this respect, increasing financial literacy levels of consumers has become essential, and assessing the financial literacy of the population is a key ingredient of any policy to do so (Karakurum-Ozdemir, 2019). Financial literacy includes skills, competences, and knowledge that are essential for the proper use of the products offered by the financial market (Zhu et al., 2021). These are well-known terms such as credit, interest rate, investment, savings, pension insurance, insurance, inflation, family budget, shopping behaviour etc., which are closely related to financial literacy (Ritsalu et al., 2016). However, the aim of this paper is not to point out the basic theoretical knowledge in the field of financial literacy, but to point out the results and findings from the survey.

2. Methodology

Currently, there are several surveys focused on financial literacy. When looking for statistics, we came across many surveys, only focused on a certain age group, but especially on primary

and secondary school students. One of the latest statistics on the financial literacy of children under 15 is OECD PISA, which conducted the last survey in 2018.

All the surveys focused on the level of financial literacy show a low level of financial literacy. This problem does not only concern people living in Slovakia, but it is also a global problem, which the OECD deals also with. According to the OECD PISA measurement (2018), the average level of performance of OECD countries was 505 points. Slovak students at the age of 15 achieved an average performance of 481 points. In the cycles of the PISA study, which included financial literacy, Slovakia ranked below the average level among OECD countries with its average score. Poland is in significantly higher positions in this evaluation.

The results of the survey point above all to the below-average performance of students in Slovakia in the field of financial literacy. As we wanted to focus primarily on the age group of 18+ (productive population), it was difficult to find research that would focus on the entire population and not just on students. Finally, we found a project called Household Finance and Consumption Survey (2019) (hereinafter referred to as HFCS), which deals with the financial literacy of Slovaks, all euro area countries and some countries outside the euro area, such as Poland, Hungary, Croatia, Romania, and Czechia. The surveys have been carried out since 2010. In Slovakia, the surveys took place in 2010, 2014 and 2017. We analysed the results from the third survey (2017) in more details and compared them with the previous findings (2014). The aim of the HFCS surveys was to find out the respondents´ ability to understand the basic concepts in the field of finance. In 2014, in the second wave of testing, HFCS used five questions to find out how respondents in Slovakia understand the basic concepts in the field of credit, savings, and investment. In 2017, the range of questions was reduced to four (Sharkova et al., 2013).

Although the National Bank of Slovakia and the Ministry of Education, Science, Research and Sport of the Slovak Republic (MESRS SR) have an initiative to increase the financial literacy of Slovaks and try to support it, based on these surveys we can state that the level of financial literacy in Slovakia is nevertheless, relatively low, even lower than in 2014. While in the second HFCS survey 10.6% of respondents correctly answered all questions in the third survey, the number decreased to 9.6% of correct answers. On the contrary, the number of "I do not know" answers increased to 11.3% while in 2014 only 7.4% of respondents marked this possibility of answers. This survey also shows to a positive correlation between the achieved level of education and the number of correct answers. We also found that people who draw a home loan / mortgage are more financially literate. The above research shows that there is a constant problem with financial literacy in Slovakia, even though the MESRS SR still puts education in this area at the forefront (Mihalcova et al., 2014).

Subsequently, we focused on the COVID-19 pandemic, which affected every individual, both financially, personally, and emotionally. We also dare say that it has disrupted the shopping behaviour of many people. We will look at a survey that was conducted in November 2020 and June 2021 by TASR on a sample of more than 1,000 respondents. The survey shows that people bought less consumer products in hypermarkets, and the number dropped from 40% to 25% of customers. Respondents whose net monthly income is up to EUR 800 limited their consumption and bought less. In contrast, people with a net monthly income of EUR 1,800 and more changed their shopping behaviour by making one big purchase instead of several smaller ones. Subsequently, the survey shows that in June 2021, 36% of respondents bought for consumption, mainly women. 44% of respondents shopped more often online than before the pandemic. By contrast, only 8% of respondents said they had reduced the frequency of online shopping. 22% of respondents planned to make online purchases even after the end of the pandemic, these were respondents who were aged 18-44 and had a high school diploma and a

 ISSN 1337-0839 (print) / 2585-7258 (online)

university degree. We can therefore say that the COVID-19 pandemic significantly affected the shopping behaviour of the Slovak population.

Based on the findings presented in surveys we have identified following statistical hypothesis:

H1: There is a relationship between education and financial literacy.

H2: There is a statistically significant relationship between the level of financial literacy and the drawdown of a mortgage.

H3: There is a statistically significant relationship between age and changes in purchasing behaviour due to the COVID-19 pandemic.

The questionnaire survey was conducted in an electronic form. This type of survey has its advantages such as time flexibility, no financial costs, addressing many respondents in a relatively short period of time, the ability to set respondents not to skip a question so that they do not send an incomplete questionnaire etc. Respondents also prefer to fill in the electronic questionnaire, as it ensures a higher degree of anonymity. Thanks to it, we can more easily evaluate the obtained data. On the other hand, the disadvantage is the low computer literacy of some potential respondents and the lack of feedback from respondents. We created the questionnaire on the website www.survio.com, which is used exclusively for questionnaire surveys. We distributed the questionnaire to respondents via social networks. The questionnaire was in circulation in the period from 01/02/2022 to 04/03/2022. Before completing the questionnaire, respondents could read the accompanying text, which contained a request for completion and a brief guide to how the questionnaire will be used. The questionnaire contained 25 questions. The first 5 questions were used to find out the profile of the respondent; the questions were directing at finding out the gender, age, region which the respondent came from, highest level of education, and monthly average income netto. Since we asked questions about financial literacy, but also about the shopping behaviour of respondents, the remaining questions were divided into two parts. Questions 6 to 16 were used to identify the knowledge in the field of financial literacy; question 17 was asked to find out how the COVID-19 pandemic affected the population in Slovakia; questions 18 to 24 were used to get information on shopping behaviour; question 25 identified the impact of the COVID-19 pandemic on shopping behaviour (Mihalcova et al., 2014).

The sample size was determined using the formula mentioned below, where the confidence level was set at 95% and the allowable margin of error at 5%.

$$n = \frac{Z^2 \,.\, p \,.\, (1-p)}{C^2} \tag{1}$$

where:

n sample size,

Z the value derived from the statistical tables, where for a 95% confidence level, the Z value is 1.96,

p probability 0.5

C allowable error range.

$$n = \frac{1.96^2 \,.\, 0.5 \,.\, (1-0.5)}{0.5^2} \cong 386\ respondents \tag{2}$$

As the questions in the survey were focused on the population of the age 18+, we had to correct the size of total population in Slovakia. According to the official statistics, as of

31/12/2020 the size of the population under 18 was 1,028,173 inhabitants, thereby we worked with the size of population of 4,431,608 inhabitants. Subsequently, we used a formula to calculate the correction for the sample size according to the following formula. According to the calculations, we need a sample of at least 385 respondents to complete the questionnaire survey according to the calculations (Szarkova et al., 2013).

$$n\_cor = \frac{\mathrm{n}}{\frac{1 + (n - 1)}{pop}} \tag{3}$$

where:
n sample size,
pop size of the population considering.

$$\mathrm{n_{cor}} = \frac{386.16}{\frac{1 + (386.16 - 1)}{4{,}431{,}608}} = 385\ respondents \tag{4}$$

3. Results

281 respondents took part in the questionnaire survey, which is 73% of the required sample. Even given that we did not manage to complete the overall sample, it can be assumed that 73% of the questionnaire completion represents a sufficient level of notice. On the Polish side, the participating respondents represent only 48% of the sample size, precisely for this reason, as already mentioned, we will only analyse the survey in Slovakia.

129 respondents in the age category of 18-26 years participated in the questionnaire survey, which represents the highest number of respondents, followed by 81 respondents in the age group 27-42 participated and 56 respondents in the age group of 43-57 years. The fewest respondents took part in a questionnaire survey in the category of 58+, namely 15 respondents. More women than men took part in the survey; 61% compared to 39%. The inhabitants of the Žilina Region had the largest representation in the survey, followed by respondents from the Bratislava Region. The least answers were from the Prešov Region.

The most of respondents achieved a secondary education completed by a high school diploma. 67 respondents completed university education, which is 24% from all respondents. 25 respondents achieved only primary education. 42 respondents achieved secondary education (15%), and 19 respondents completed 2nd degree or higher university education (9%).

As for determining the amount of income, most respondents (34%) indicated a monthly income in the range of EUR 527 to EUR 726. On the other hand, less than EUR 526 earned 17% of respondents. In the case of this earning group, it is important to note that these respondents earn less than the official minimum wage in Slovakia (the amount of the minimum wage in Slovakia as of 01/01/2022 was EUR 525.65).

The general part of the questionnaire survey was followed by the questions from the area of financial literacy. The first question was whether the respondents are familiar with investing. Almost half of the respondents could not answer this question and therefore indicated the possibility "I do not know". 36% of respondents answered the question correctly, so the purchase of shares is riskier of these forms, and 17% of respondents answered incorrectly. Thus, the question shows that respondents do not know how to move in terms of investment.

Of the 281 respondents, 153 created a financial reserve, the rest of respondents did not. We linked this question to the gender of the respondents, and it turned out that women saved more than men. We assume that women saved more money on the financial reserve because they are more careful and can save more money than men, as in most cases a man is a breadwinner.

Other questions were focused on the area of pension provision in Slovakia. 64% of respondents answered correctly there are a 3-pillar system in Slovakia. As many as 25% of respondents marked *"I don't know"* as the answer.

Subsequently, we found out what experiences our respondents had with loans. Only 46% of them had experience with a mortgage loan. As many as 140 respondents did not use consumer credit at all. However, 93 respondents borrowed money to buy a car, 35 respondents for electronics, and 13 for vacation. Respondents did not use consumer credit at all for Christmas presents or other goods.

The concept of interest is closely related to mortgage and consumer credit. We wondered if the respondents knew what this term meant. 112 respondents correctly answered the question, i.e., 40%. More than half of the respondents answered incorrectly, i.e., that *"the interest is a fee that is paid when borrowing a loan"*. 72 respondents answered, *"I do not know"*, 15 respondents thought that interest was a monetary reward for credit.

Inflation has been a frequently mentioned term in recent times. According to the survey, only 12% of respondents understand this term. Half of the respondents marked the answer *"I do not know"* and we assume that the respondents ignored this question or were afraid to click another answer. Today, we consider it important to understand this concept. We were surprised that even respondents with a university degree could not answer this question. The correct answer was marked only by 19 respondents with a university education of the 2nd degree and with higher and only 15 respondents with a university education of the 1st degree.

The COVID-19 pandemic affected many people, whether health, psychologically or financially, so we found out how and whether the pandemic affected respondents at all. 40% of them began to monitor their spending more during the pandemic, i. j. 40% (113), 35% (99) of respondents managed to save money for savings, 25% (69) were not affected by COVID-19 pandemic. One option was to answer that in case of a pandemic people did not have money, so they had to take a loan, but zero respondents chose this question.

In questions focused on ***a shopping behaviour*** of the population and their expenditures, we found out whether the respondents monitor their expenditures monthly, i.e., whether they had under control the finances they spend on expenditures. According to the result, 159 respondents monitored their spending, representing 159.

Subsequently, based on the findings, we can divide expenses of the respondents into 12 basic groups. 14% of expenses were used to buy food and soft drinks, 12% were spent on housing, water, electricity, gas, and other fuels, 12% on clothing and footwear, 11% on transport. Other categories of expenditures were placed below 10%.

Most respondents spent 50% to 60% of their income on necessary expenses per month. 72 respondents spent up to 70% and more of income on necessary expenses. 55 respondents spent 10% to 20% of income on necessary expenses, 38 respondents spent 30% to 40% of their income, and 31 respondents did not yet have any necessary expenses. We consider the necessary expenses, those expenses that are paid at regular basis, such as rents, energy, instalments etc.

Nowadays, people are increasingly influenced by various factors or people when shopping. According to this fact, we wanted to know what people used to make decisions about buying goods and services. Our survey was completed by more young people than older ones, because the result show that the respondents most indicated that they follow influencers when shopping, who promote products on social networks. The second most used influencer are discounts,

which are displayed on TV or on the Internet; this answer was marked by 110 respondents. There were also people who still followed the leaflets, namely 32 respondents, and 10 respondents marked the answer *"other"* but did not indicate what other method they use.

Regarding shopping, most respondents (214) answered that they shopped spontaneously. More than 20% of respondents make a list and only 1% of respondents stated that they shopped at the instigation of advertising or otherwise. Nowadays, many people buy spontaneously, which is not right, because they buy things they do not even need, but they buy them, for example when they see they are in action or campaign.

When shopping, the price is most influenced by Slovaks – according to our results, up to 133 respondents. The answer of these respondents corresponded to the amount of income at the level of the minimum wage. People who had an income between EUR 727 to EUR 926 were already dealing with prices for products less, 8 respondents answered. They are more interested in the brand or in the quality of products and services.

As with financial literacy and shopping behaviour, we wondered if there had been any change in connection with the pandemic. More than half of the respondents started shopping online. 29% of respondents did larger household supplies and only 15% of respondents did not change shopping behaviour due to the pandemic. Thus, we can say that COVID-19 changed shopping behaviours in case of 85% of respondents.

4. Discussion

In this chapter, we will verify the hypotheses using the IBM SPSS Statistic program and summarize the results of the survey.

Verification of the hypothesis No. 1: There is a relationship between education and financial literacy.

Since we have two qualitative variables, we will use Chi-square test of the independence of two categorical variables. To verify independence, it is necessary to establish a null (H0) and alternative hypothesis (H1).

H0: There is no dependence between the educational attainment and the level of financial literacy.

H1: There is a dependence between the educational attainment and the level of financial literacy.

Subsequently, using the SPSS program, we created a contingency table of actual numbers, where we put the ratio of education and financially literate and illiterate respondents, respectively. We used this data from a questionnaire survey. We can consider as financially literate respondents those of the seven questions intended for financial literacy in the questionnaire survey correctly answered at least 5 questions. We consider financially illiterate those who answered less than 5 questions correctly.

Table 1: Contingency table of actual numbers

 ISSN 1337-0839 (print) / 2585-7258 (online)

Education	Financially literate individuals	Financially illiterate individuals	Total
1st level of university degree	51	16	67
2nd level of university degree and higher	18	1	19
secondary education without diploma	3	39	42
secondary education with diploma	61	67	128
primary education	2	23	25
Total	135	146	281

Source: own elaboration

We can use the Chi-square test only if two conditions for a contingency table of the type r × s are met:

1. at least 80% of the theoretical numbers are ≥ 5
2. each theoretical frequency is at least 1.

In our case, both conditions are met, and Chi-square test can be used to identify dependence or independence between the observed variables.

Table 2: Chi-square test

Value of Chi-square	Total number	P-value (Sig.)
81.968	281	0.000

Source: own collaboration

In the following table we will look at the p-value of the test (Sig.) using which we will find out whether the contingency coefficient is statistically significant or insignificant using the alpha value of 0.05. If the p-value of the test is <0.05, then we accept hypothesis H1, if the p-value of the test is> 0.05, then we accept hypothesis H0.

We found that the p-value of the test (Sig.) is <0.05, so we reject the null hypothesis and accept the alternative one that means that there is an existence of a statistically significant relationship between the achieved education of the respondents and the level of their financial literacy.

Table 3: Calculation of Phi

	Value	P-value
Coef. Phi	0.540	0.000
Cramer's V	0.540	0.000
Total number	281	

Source: own collaboration

Since we have found that there is a relationship between education and financial literacy, we can further determine the strength of the relationship between these two variables using the value of the Cramer´s V. As is stated in the Figure 3, the Cramer´s V is 0.540, which means a medium dependence of between education and financial literacy. In addition, the p-value of this contingency coefficient is also equal to 0.000, and we can therefore say that there is a moderately statistically significant dependence between the observed variables.

Verification of the hypothesis No. 2: There is a statistically significant relationship between the level of financial literacy and the drawdown of a mortgage.

We have applied the same methodology as in the case of the hypothesis No. 1. and worked with following null and alternative hypothesis.

H0: There is no statistically significant dependence between the level of financial literacy and using a mortgage loan.

H1: There is statistically significant dependence between the level of financial literacy and using a mortgage loan.

Table 4: Contingency table of actual numbers

Mortgage	Financially literate individuals	Financially illiterate individuals	Total
yes	60	68	128
no	76	77	153
totally	136	145	281

Source: own collaboration

We can use the Chi-square test only if two conditions for a contingency table of the type 2x2 are met:

1. sample size is greater than 20
2. all theoretical numbers are ≥ 5.

As is obvious, both conditions were met, and the results of the Chi-square test are stated in the Figure 5. Based on them, we have found out that there is no statistical dependence between financial literacy of the respondents and using a mortgage loan, i.e., the H0 was confirmed in this case.

Table 5: P-value calculation

Chi-square value	Total number	P-value (Sig.)
0.219	281	0.719

Source: own collaboration

Verification of the hypothesis No. 3 There is a statistically significant relationship between the age and changes in purchasing behaviours due to the COVID-19 pandemic.

We worked with the following null and alternative hypothesis and used the same methodology as in the case of the hypothesis No. 1 and No. 2.

 ISSN 1337-0839 (print) / 2585-7258 (online)

H0: There is no statistically significant dependence between the age and changes in purchasing behaviours due to the COVID-19 pandemic.
H1: There is statistically significant dependence between the age and changes in purchasing behaviours due to the COVID-19 pandemic.

We have applied the same process of verification as in the case of the hypothesis No. 1 and since all the conditions for using the Chi-square test were met and the p-value is less than alpha = 0.05, we can state, that there is a statistical dependence between the age and changes in purchasing behaviours due to the COVID-19 pandemic.

Table 6: P-value calculation

Chi-square value	Total number	P-value (Sig.)
88.221	281	0.000

Source: own collaboration

According to the value of the Cramer´s V, see the Figure 8, we can state that there is moderate statistical dependence between the observed variables that is statistically significant.

Table 7: Phi coef. calculation

	Value	P-value (Sig.)
Phi coef.	0.560	0.000
Cramer's V	0.396	0.000
Total number	281	

Source: own collaboration

The findings of the hypothesis can be summarized as:

1. There is a positive link between education and financial literacy. Out of 281 respondents, we consider 135 to be financially literate, i.e., 48% of all participators in the questionnaire survey. The most correct answers were given by respondents with a university degree of the 1st and 2nd degree (25% together) and 22 respondents with a high school diploma were able to answer correctly 5 and more answers.
2. The relationship between financial literacy of the population and using a mortgage loan was not confirmed in case of Slovakia, while the survey conducted by HFCS indicated a positive relationship between financial literacy and using of a mortgage loan. According to our survey, 21% of all respondents who used a mortgage loan answered 5 or more questions correctly, while more that 27% of respondents who did not use it.
3. Interdependence was confirmed between the age of respondents and changes in online shopping during the COVID-19 pandemic. Of the respondents in the age category of 18-26 years, 26% started shopping online, 13% made larger household stocks and only 7% of respondents did not change their shopping behaviour during the COVID-19 pandemic.

Based on the results of our survey, we recommend to strength education of pupils of primary and students of secondary schools in the area of financial literacy.

Based on the low level of financial literacy of primary and secondary school students, the National Standard for Financial Literacy (NSFL) prepared the standard, the version 1.0, that

was approved by the Government of the Slovak Republic in 2008. The newest standard, version .2 has been in force since 2017 and focuses on topics such as financial responsibility, securing money, savings and investing, etc. This standard was to be incorporated into primary and secondary school curricula but was not mandatory. The State School Inspectorate (2015) examined in the school year 2014/2015 how many primary and secondary schools incorporated the standard into the school educational programs. The inspection was performed at 165 primary schools and 29 grammar schools in Slovakia. The results indicate that 33 primary school did not work with the NSFL at all, 65 school incorporated the standard partially, and 67 school incorporated comprehensively.

We also want to point out the need to optimize household spending. This measure follows from both the questionnaire survey and the ever-increasing inflation. It is astonishing that the inhabitants of Slovakia do not understand the concept of inflation and it follows that we cannot even adequately prepare for it. According to the questionnaire survey, food expenditure is also the largest household expenditure. It is these expenses that are necessary, but on the other hand, as follows from shopping behaviour, even the most "spontaneous" purchases. We therefore recommend monitoring expenses and optimizing them.

Expenditures on housing, water, electricity, gas, and other fuels belong to the second group of the most frequently consumed expenditures. Gas prices also increased by 19.6% and electricity by 11.7% compared to the previous year. We recommend people to save electricity. In many households, e.g., there are also several TVs, PCs, or various other appliances and members of families should think about their use and try to limit their consumption.

Expenditures on clothing and footwear are consumed expenditures on which respondents spend their finances. As many as 12% of respondents chose this group of expenditures on which they spend the most income. We assume that these are young people who do not yet have their own families or housing. It is good to think whether people will buy like this even if the prices of all consumer spending continue to rise, which will certainly rise. We suggest that when shopping for clothes, people should reach for discounted pieces or shop in second-hand shops (chisels). Alternatively, to reach for quality pieces that will last them longer, this is what the consumer´s financial literacy says.

Each of us must have felt the higher transport costs. It is important to note that the car transport is used daily and is a certain human standard. Many households use cars every day for short and long distances. Fuel prices increased by 22% year-on-year, as did service fees, and car parts. Due to the reduction of transport costs, we recommend using cars only when necessary or over long distances or using public transport instead of cars or if it is possible to use a bicycle. Given the current situation in the coming period, we expect stagnation in wages. Therefore, we recommend people to generate passive income. These revenues can be obtained e.g., through investment.

As the result of the financial crisis, we suggest to Slovaks to really monitor their expenses monthly, and we bring several types of expenses that people should focus on. We recommend dividing household expenses as follows:

- 10% for the financial reserve,
- 20% life insurance and pension insurance,
- 30% mortgage loans,
- 40% of consumption expenditure.

Each Slovak should create a financial reserve. It is not just a matter of creating, but also of maintaining and not interfering in these finances. However, financial experts recommend that each household set aside at least 10% of its monthly income for a financial reserve. It is advisable to postpone part of the income to the financial reserve as soon as the payment comes

 ISSN 1337-0839 (print) / 2585-7258 (online)

to the consumer. At the beginning of the savings, it is good to set a certain amount and save it every month. The most favourable reserve should be about 6 times the average household income.

In the event of unforeseen situations, such as loss of income due to illness or incapacity for work, it is necessary to protect income with appropriate life insurance. Life insurance settings protect the individual as well as his/her family from the negative effects caused by a loss of income. For this category of financial products, you should spend 20% of your monthly income. We can also include creating your retirement savings here. As many young people do not yet think of retirement and do not realize that the sooner, they start saving, the better they will be in old age.

Today, many households are in debt. Our questionnaire survey shows that 46% of respondents said they had a mortgage. Our sample consisted of more young people studying than those who work, we can say that if more working people took part in the survey, the percentage would be higher. For loans, it is important to know that the RPMN tells us how much the loan will cost us, this is one of the most important parameters to look at when processing a loan. The amount of loan repayments should not exceed 30% of total income. However, we are only talking about mortgage loans, as far as consumer credit is concerned, we should avoid this or get rid of it as soon as possible. As we have already mentioned, the amount of repayments should not exceed more than 30% of spending, but as a result of inflation, interest rates are rising, it is quite possible that spending on household loans will increase too. In this case, it is necessary to pay attention to the time of loan fixation.

The last item that each Slovak should focus on is monitoring not only the necessary household expenses, but also the consumer spending. As consumption expenditure accounts for a large part of expenditure, it is necessary to monitor it regularly. When buying a given item, it is good to think about whether it is necessary to buy it. Even so, one becomes financially literate. The household should set aside 40% of the total income for necessary and consumption expenses. To keep this amount, it is appropriate to set a family budget, for which you, for example you can download the app to your mobile phone to keep your expenses under control.

We focused on these four indicators intentionally, because they relate to the shopping behaviour of the population in Slovakia and point to financial products, thanks to which one does not get into unfavourable situations associated with financial problems. Of course, it is not enough just to use these four rules: 10% to put on the financial reserve, 20% to put on life insurance and pension, max. 30% for mortgages, and 40% of income for household consumption, but education in the field of financial literacy is also very important. Therefore, to improve the level of financial literacy of adults, we propose that compulsory education in this area be created in the workplace. Employers could agree to work with financial intermediaries or other professionals, who would educate them at least once a month, or they could discuss finances, or focus on specific life cases, because many people do not know what to do in critical situations, and there is no one to talk to about such things.

Our questionnaire survey also shows that 103 respondents have a financial intermediary. Of these people, we consider 91 respondents to be financially literate, which means that the financial intermediary also influences the financial literacy of the population in Slovakia. Therefore, we recommend considering using the services of a financial intermediary.

5. Conclusion

The paper analyses the results of the financial literacy surveys conducted by the OECD PISA and HFCS. We were particularly interested in a survey conducted by the HFCS project, which

found that respondents had low financial literacy. Based on these results, we compiled 2 hypotheses, which we verified in our questionnaire survey. We also focused on surveys in the field of shopping behaviour during the COVID-19 pandemic. TASR conducted a survey to address this issue. We also used the results to establish one of the hypotheses. Subsequently, we compiled and conducted a questionnaire survey, which shows that 48% of respondents were financially literate. We found out that more women than men put themselves in the financial reserve in Slovakia, and next that low-income respondents looked at only one factor, which was price, when shopping. The validity of all 3 hypotheses was verified, and important recommendations in this area were pointed out. Financial literacy is an area that is currently being addressed. It is important for every individual in everyday life. Today´s world offers us many opportunities as we can learn for free, so we only need to use this opportunity.

Author contributions: All authors listed have made a substantial, direct and intellectual contribution to the work, and approved it for publication.

Funding: This research received no external funding.

Data Availability Statement: The data presented in this study are available on request from the corresponding author. The data are not publicly available due to restrictions.

Conflicts of Interest: The authors declare no conflict of interest.

References

Garg, N., Singh, S. (2018). Financial literacy among youth. *International Journal of social economics 45 (8).* 173-186.

Gerrans, P., Heaney, R. (2019): The impact of undergraduate personal finance education on individual financial literacy, attitudes and intentions. *Accounting and Finance*, 59 (1), 177-217.

Hermansson, C. Jonsson, S. (2021). The impact of financial literacy and financial interest on risk tolerance, *Journal of Behavioral and Experimental Finance*, 29, 100450.

Fang, J.L., Hao, W. Reyers, M. (2022). Financial advice, financial literacy and social interaction: what matters to retirement saving decisions? *Applied Economics*, 10.

Fisch, J.E., Seligman, J.S. (2021). Trust, financial literacy, and financial market participation, *Journal of Pension Economics & Finance*, 1, 1-31.

Karakurum-Ozdemir, K., Kokkizil, M., Uysal, G. (2019). Financial Literacy in Developing Countries, *Financial literacy in developing countries, Journal and Magazine,* 143 (1), 325-353.

Lin, X. Bruhn, A. William, J. (2019). Extending financial literacy to insurance literacy: a survey approach, *Accounting and Finance*, 59 (1), 685-713.

Mihalcova, B., Csikosova, A., Antosova, M. (2014): Financial literacy - the urgent need today, *2nd World Conference on Business, Economics and Management*, *109*, 317-321.

Nemeth, E., Beres, D. Huzdik, K. Deak-Zsoter, B. Meszaros, A. (2022). Teachers' Financial Literacy, *Public Finance Quarterly*, *1*, 7-32.

Riitsalu, L., Podek, K. (2016). A glimpse of the complexity of factors that influence financial literacy, *Tallinn,* 40 (6), 722-731.

Rudeloff, M., (2019). The influence of informal learning opportunities on adolescents' financial literacy, *Empirical Research in Vocational Education and* Training, 11(1),11-18.

Szarkova, M., Andrejcak, M., (2013). Personnel audit in financial institutions in Slovak Republic, *Financial management of firms and financial institutions: proceedings: 9th international scientific conference: 9th - 10th September 2013.* 899-902,

Worthington, A.C. (2013). Financial literacy and financial literacy programmes in Australia, *Journal of Financial Services Marketing,* 1(2), 227-240.

Zhu, A. Y. F. (2021) Financial Literacy Types and Financial Behaviors Among Adolescent.: Role of Financial Education. *Journal of Financial Counseling and Planning,* 32(2), 217-230.

Wilson, R. M. S., Abraham, A. Mason, C.L.J. (2014). The nature of financial literacy. *Routledge Companion to Accounting Education,* 50-80.