

Article

Financial Literacy: The Case of Poland

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Abstract: Financial literacy is a path to sustainability and has an important role in ensuring the financial sustainability of individuals, families, enterprises and national economies. The level of these economic indicators such as debt, payment discipline, savings and financial management all translate into prosperity or insolvency and bankruptcy and result partially from financial literacy. The higher the level of financial literacy, especially of young people, the more favorable the level of economic indicators, which translates into the economy and sustainable development. However, despite many years of research, there is still a lack of a uniform and coherent definition of financial literacy, as well as methods for measuring it. This study offers a small step forward, presenting the authors' own view of the concept of financial literacy, the conceptualizations of financial literacy and methods used for investigating. Moreover, they present the results of a survey conducted on the financial behaviour, financial attitudes, and financial knowledge of the Polish youth and compare this to a PISA study on 15-year-old students. Results demonstrate a good, and partially very good, level of financial literacy among young Poles, showing that they are rational in their financial decision making.

Keywords: Financial Literacy; Financial Knowledge; Household Finance; Young people

1. Introduction

Financial literacy is important to ensure the sustainability development of individuals and society. According to Bryant (2013), economic growth and sustainability are rooted in the financial literacy of individuals. Rahmandoust et al. (2011) show the importance of financial literacy in entrepreneurs' success and then in the sustainable development of society. Financial literacy is important for the sustainability of both the consumers and the entrepreneurs and for people of all age. The earlier that financial literacy is acquired the greater the benefit for their development. Financial literacy. Therefore, to ensure the sustainability of the economy, research is needed to understand the impact it has.

During the past decade, research on financial literacy has increased. Definitions of financial literacy in the literature vary quite a bit. This shows that the problem of financial literacy has been studied for years by various scientists from different parts of the world. Moreover, it demonstrates the importance and timeliness of the problem and points to further deficiencies resulting from diverse attempts at developing a homogeneous, consistent tool for assessing financial literacy, which allows to assess it properly and to undertake international comparative studies. Therefore an urging need arises for further research and exploration along with the redevelopment of solutions adopted in this studied area.

Despite many years of research, there is still a lack of a uniform and coherent definition of financial literacy, as well as methods for measuring it. This study offers a small step forward,

presenting the authors' own view of the concept of financial literacy. First, the conceptualizations of financial literacy are reviewed and methods for investigating it are discussed. Next, the authors present the results of a survey conducted on the financial behaviour, financial attitudes, and financial knowledge of the Polish youth and then compare this to a PISA study on 15-year-old students. In addition, age is significant, as in some countries young people at this age complete their compulsory education and start a professional activity.

2. Conceptualization of Financial Literacy

Financial literacy is a significant element in understanding finances and rational financial decision making. It influences the quality of financial life and the proper rational decision making in the area of finances. Life's financial decisions depend on individuals' knowledge and understanding of personal finance (Lusardi et al., 2017). The three fundamental financial decisions, important at various stages of one's financial life, include savings, making debts, and consumption. The quality of financial decisions taken by individuals depends on their financial knowledge, abilities, and attitudes (Felipe et al., 2017). Agarwall et al. (2013) affirm that considering an environment where the scope and complexity of financial products and services keep increasing, it is necessary that the individuals develop a solid understanding on the word of finance to be able to become good decision-makers and use the right path to achieve their financial goals and needs.

Financial literacy is a broad concept, not explicitly defined by the authors. It can be defined as an ability to use knowledge and skills to manage one's financial resources effectively for lifetime financial security (Hastings et al., 2012). The dimension of financial literacy is a particular kind of human capital that is acquired throughout the life cycle, by learning various subjects that affect the ability to effectively manage revenue, expenses, and savings (Delavende et al., 2008; Potrich et al., 2015). OECD/INFE defines financial literacy as a combination of awareness, knowledge, skill, attitude and behaviour necessary to make sound financial decisions and ultimately achieve individual financial wellbeing (OECD/INFE 2011, OECD 2013).

According to Orton (2007), financial literacy can be divided into three dimensions; (i) financial knowledge and understanding, (ii) financial skills and competence, and (iii) financial responsibility. Widdowson and Kim (2007) identify the following dimensions of financial literacy: (i) basic numeracy skills and basic arithmetic ability, (ii) understanding of the benefits and risks associated with particular financial decisions, and (iii) capability to know where to seek professional advice. Remund (2010) groups financial literacy into five categories: (i) financial knowledge, knowledge about financial concepts and products; (ii) financial communication, communication aptitudes concerning financial concepts; (iii) financial ability, ability to use knowledge in order to take the necessary financial decisions; (iv) financial behaviour, real use of different financial instruments; (v) financial confidence people's confidence in their previous financial decisions and actions. Atkinson & Messy (2011) define financial literacy as awareness, knowledge, skills, attitude, and behaviours. The literature uses many different components of the concept of financial literacy. For the purposes of this article a Robson approach has been adopted (2012), according to which financial literacy has three dimensions: financial knowledge, financial attitude, and financial behaviour.

3. Methods Used in Financial Literacy

The largest international survey of young people (15-year old students) is the Program for International Student Assessment (PISA). It has been implemented every 3 years since 2000 in all the OECD countries, as well as in dozens of partner countries; however, the financial literacy research was carried out for the first time in 2012. Poland has participated in the PISA survey from the beginning, i.e. from 2000. In 2012 the financial literacy study was conducted on a sample of 29,000 15-year-old students from 13 OECD countries. The aim of this study was to check whether the 15-year-olds have enough knowledge and skills to further their livelihood.

In the PISA research conducted in 2015 (PISA, 2017) the Polish 15-years old students scored significantly poorer compared to the study carried out in 2012 (published in 2015). The PISA data

(2017) indicates to what extent the 15-years students are already using money and are involved in financial decisions. On average, in 10 participating OECD countries about six in ten students have a bank account and/or a prepaid card. More than half the students in Australia, the Flemish Community of Belgium, the Canadian provinces, Italy, the Netherlands, Spain, and the United States have a bank account and/or a prepaid card. Moreover, students also earn some money from small occasional jobs outside of school hours. In the PISA 2015 study (PISA, 2017), the Polish 15-year-olds scored 485 points as compared to the score of 510 points in PISA 2012. This was below the OECD average, which score was 489 points the PISA 2015 survey.

In 2015, the Chinese scored the most points, i.e. 566 as compared to their score of 603 in 2012 – 603 and the Belgians scored 541 in 2015 and 2012. In 2012, the USA, Russia, France, Slovenia, Spain, Croatia, Israel, Slovakia, Italy, and Colombia scored lower results than Poland (PISA 2014: 32). However, in the next survey, conducted in 2015, only Italy, Spain, Lithuania, Slovak Republic, Chile, Peru, and Brazil had lower results than Poland and with Russia with 512 points and the USA with 587 points exceeding Poland's score (PISA, 2017).

There are different factors that affect financial literacy. One of them is gender. In most studies reported in the literature, males have a higher level of financial literacy than females. In the studies on households (Chen and Volpe, 1998; Lusardi, 2008; Lusardi and Mitchell, 2011; Potrich et al. 2015; Drolet, 2016) and the studies on students (Luksander et al. 2014; Sarigül, 2014; Kılıç et al, 2015), males exhibited higher level of financial literacy than females. Some studies on university students (Ludlum et al., 2012; Erdoğan and Erdoğan, 2018; Wagland and Taylor, 2009) have shown that gender has no effect on financial literacy. In a limited number of studies (Özen and Kaya, 2015), it is found that female students have a higher level of financial literacy than male students. Authors stated that this may be possible when women have equal education opportunity and engage with financial topics.

According to Mottola's study (2013), women tend to have lower income and financial literacy levels and they are less confident about their math skills. Therefore, they engage in more costly credit card behaviours than men. To solve the problem of financial literacy, gender equity must be addressed as a central issue that goes beyond the economics of personal finance (Pinto & Coulson, 2011). According to the authors, this issue should be considered as social justice.

Another factor influencing financial literacy is family and school. They play a key role in the education process, including the increase in financial knowledge. These are two basic environments where young people acquire knowledge in various areas among which finance. Family and school usually exert a crucial influence on the child's development (Grima et al., 2019) (Pavia, et al., 2019) (Woods, et al. 2019). They provide experiences and knowledge. Of particular significance is family, as it constitutes one of the significant links in the chain of education. A crucial role of the family in financial education could be clearly visible in the results of the primary research, which demonstrated that most of the participants stated they received information mainly from family (30.3%), internet (9.4%), and school (7.1%). Surprisingly low is the share of school in raising financial literacy, which, however, can be quite easily explained with the fact that schools only rarely include financial issues in the curricula of subjects they teach. The role of the family is also clearly demonstrated by the fact that young people in need to solve a financial problem most frequently (74%) turn to their family for advice.

4. Methodology

This section provides a description of the sampling and the methods used to collect data and interpret it.

The aim of the study was to collect information on financial literacy and financial education in Poland. The authors adopted the OECD (2011) methodology, which considers financial literacy as a combination of financial behaviour, financial attitude, and financial knowledge separately.

The research on financial literacy was conducted between October 2017 and January 2018 and conducted among young people attending high school, with an average age of 15 years in line with the PISA survey methodology. The study was administered in schools during the first weeks of

classes by their teachers. Therefore there were students who had not yet attained the age of 15 years (1.9%) or were slightly older than 15 years (0.4%).

The survey was carried out in Poland on a nationwide representative sample of 2070 respondents. Due to some missing information, the final sample included 1932 respondents (82.8% response rate). They were the students of three types of schools: 3 technical schools (17.6%), 6 high schools (35.4%), and 8 vocational schools (47%). The sample included also some younger or older subjects who started school a year earlier or were repeaters. A large majority (94 %) of the surveyed students were born in 2001, 1.9 % were born in 2000, and 0.4 % in 2002, 3.7 % of the subjects did not specify their date of birth, 52.7 % of the participants were female, 46.6 % male and 13 students (0.7 %) did not mention their gender.

Table 1 shows the demographic characteristics of the respondents and displays some detailed information concerning their financial habits and the sources of their financial knowledge. Particularly, it demonstrates the role of family and school in this regard.

Table 1. Distribution and characteristics of the sample (N=1932)

Variable	Description	N	%
Date of birth	2000	37	1.9
	2001	1816	94.0
	2002	8	0.4
	Missing	71	3.7
	Total	1932	100
Gender	Male	901	46.6
	Female	1018	52.7
	Missing	13	0.7
	Total	1932	100
Parents education	Mother		
	primary school	259	13.4
	trade/technical/vocational training	613	31.7
	high school graduate	298	15.4
	bachelor degree	542	28.1
	master degree/engineer	57	3.0
	Father		
	primary school	64	3.3
	trade/technical/vocational training	604	31.3
	high school graduate	566	29.3
	bachelor degree	191	9.9
	master degree/engineer	412	21.3
Where do you find information about financial matters?	School	138	7.1
	Internet	182	9.4
	Family	585	30.3
	Family, Internet and School	1013	52.4
	Subtotal	1918	99.3
	Missing	14	0.7
	Total	1932	100
Are you getting regularly (pocket) money?	I do not get (pocket) money regularly	762	39.4
	From your mother/father/family	920	47.6
	I earn money by doing jobs	208	10.8
	Scholarship/Child allowance	31	1.6

	Subtotal	1921	99.4
	Missing	11	0.6
	Total	1932	100
How well, in your opinion, do you manage your own money?	I have most of the time money problems	549	28.4
	I have to borrow money often	858	44.4
	only just as best as I can	390	20.2
	in a good way	19	1.0
	in a very good way	110	5.7
	Subtotal	1926	99.7
	Missing	6	0.3
	Total	1932	100
Are you regularly saving money?	No, I do not spare. I think I do not need the savings	137	7.1
	No, I do not save at all, I spend all my money	214	11.1
	Yes, but very irregular	580	30.0
	Yes, for a specific target (e.g. bicycle, computer etc.)	768	39.8
	Yes, I am saving regularly	208	10.8
	Subtotal	1907	98.7
	Missing	25	1.3
	Total	1932	100
What person do you consider yourself from the point of view of cash expenditures?	very spendthrift	80	4.1
	I'm rather spendthrift person	245	12.7
	neither frugal nor extravagant	815	42.2
	rather frugal person	624	32.3
	I am a very frugal person	161	8.3
	Subtotal	1925	99.6
	Missing	7	0.4
	Total	1932	100
When in an average month you are running so short of money that you cannot anymore entertain something?	at the beginning of a month/after the first week	130	6.7
	midst of the month/after the second week	407	21.1
	at the end of the month/after the third week	572	29.6
	I have enough until the end of the month	802	41.5
	Subtotal	1911	98.9
	Missing	21	1.1
		Total	1932
Do you have at present any kind of debts?	I have debts form my mobile phone/for online shopping and others	20	1.0
	I owe money to my relatives (e.g. parents/brother/sister/grandparents) and to my friends	259	13.4
	No, I do not have debts	1611	83.4
	Subtotal	1890	97.8

	Missing	42	2.2
	Total	1932	100
Whom would you ask for advice if you had financial problems?	financial advisor, a teacher/school pedagogue, others	101	5.2
	Family and friend	1429	74.0
	nobody, would try to solve the problems by myself	353	18.3
	Subtotal	1883	97.5
	Missing	49	2.5
	Total	1932	100
In your opinion, the financial knowledge you get at home and school is enough to manage your own finances?	I strongly disagree	120	6.2
	I rather disagree	477	24.7
	I have no opinion	503	26.0
	I rather agree	686	35.5
	I strongly agree	137	7.1
	Subtotal	1923	99.5
	Total	1932	100
What would you expect from a finance lesson at school?	theory/theoretical knowledge	54	2.8
	practical knowledge	1505	77.9
	practical and theory/theoretical knowledge	278	14.4
	I do not need special finance knowledge/ lessons	90	4.7
	Subtotal	1927	99.7
	Missing	5	0.3
	Total	1932	100

Source: Authors' computation

The study was completed using a PAPI method. A test questionnaire was used, which contained questions concerning financial knowledge, financial skills, financial attitude, financial behaviour, and financial information obtained by young people. Additional questions determined the demographic characteristics of the respondents. Financial knowledge was measured with true/false closed questions. With regards to financial attitude, respondents judged how much they agreed with various statements on a Likert-type scale. The part of the questionnaire concerning financial behaviour contained questions about savings, debt, consumption, and financial habits. Respondents choose from among several pre-existing answers. The total score could vary from 0 to 5 and the total amount scored was taken as the sum of the points obtained for each question.

In the area of financial knowledge, there were 12 true/false type questions. One point was assigned for a correct answer, 0 otherwise. Therefore, financial knowledge could assume a value from 0 to 12. Three levels of financial information were identified: low, average, and high, depending on the number of correct answers. The low level was assigned to participants who answered correctly from 0 to 4 questions, the average one to those who gave from 5 to 8 correct answers and the high one to those who gave from 9 to 12 correct answers.

The reliability of the scale of financial knowledge was assessed. Bayram (2009: 193) stated that the reliability analysis measures the internal consistency of a set of items and gives information about the relationship between the items within a scale. In this study, Cronbach's Alpha coefficient (α) was calculated, a measure widely used to assess the reliability of questionnaires. The Cronbach Alpha (α) reliability analysis results are shown in Table 2.

Table 2. Scale and reliability statistics

Scale Statistics			Reliability Statistics	
Mean	Std. Deviation	N of Items	Cronbach's Alpha	N of Items
83.22	8.233	40	.750	40

Source: Authors' computation

The statistics displayed in Table 2 show that the general average is 83.22, the standard deviation for the scale is 8.233, and the reliability coefficient, Cronbach Alpha, is 0.75. Since the scale of reliability is between 0.60 and 0.80, we considered this as reliable (Kalaycı, 2008: 405) and it can be said that the internal consistency of the data of this study is very good.

The primary survey was carried out in the fourth quarter of 2017. The questionnaires were sent to the teachers all over Poland, who distributed them to their students during the lessons and allowed the students an appropriate amount of time to complete them. In total 24 schools in 20 cities in 11 voivodeships participated in the survey. Part of the survey was also conducted in Germany, but in this article only the results concerning Poland are presented.

5. Results

Financial behaviour

Table 3 presents the results concerning financial behaviour, including savings, making debts, and consumption. The results show that more than 80% of young people are saving money. It should be noted, however, that this is a declarative answer, and that 30% are saving money irregularly, almost 40 per cent (39.8%) are saving for a specific target, and only about 11% (10.8%) are saving regularly. In our opinion saving money is a good financial behaviour, but at the age of 15 it doesn't predetermine anything. It is only natural that young people, having no financial liabilities and being provided for the necessities of life (board and lodging), save for a specific target (a new computer, a bicycle etc.). However, if a 15 year old is saving for a specific purpose or irregularly, it is not predetermined that he/she will continue this behaviour in the adult life. Of particular importance seems to be the result pointing to the regular saving of money, reported only by 10.8% of the respondents, as well as long-term saving, which was not addressed in this study, being more suitable for a study on the adults.

Table 3. Financial behaviour

Question	Answer	Frequency	%
Are you regularly saving money?	No, I do not spare, I think I do not need the savings	137	7.1
	No, I do not save at all, I spend all my money	214	11.1
	Yes, but very irregular	580	30.0
	Yes. for a specific target (e.g. bicycle. computer etc.)	768	39.8
	Yes, I am saving regularly	208	10.8
What person do you consider yourself from the point of view of cash expenditures?	very spend thrift	80	4.1
	I'm rather spendthrift person	245	12.7
	neither frugal nor extravagant	815	42.2
	rather frugal person	624	32.3
	I am a very frugal person	161	8.3
Do you have at present any kind of debts?	I have debts for my mobile phone/for online shopping and others	20	1.0
	I owe money to my relatives (e.g. parents/brother/sister/grandparents) and to my friends	259	13.4
	No, I do not have debts	1611	83.4

	Subtotal	1890	97.8
	Missing	42	2.2

Source: Authors' computation

Above 80% (83.3%) of the respondents have no debts. However, it is slightly surprising that more than 13% (13.4%) owe money to their family. This result is high for young students, assuming the expectations that in the future they will be taking credit card consumer loans and subsequently, mortgages and car credits. Also, the young generation tend to incur debts, they grow up in comfort and wealth, are used to quality products and prices are secondary for them. They are often impatient, they want to have everything immediately and therefore take loans from banks and use credit cards. Although their main life task is learning and they are dependent on their parents, they are very active consumers and they willingly spend money on their whims. 42.2 per cent of the subjects consider themselves neither frugal nor extravagant, but as much as 40.6 per cent judge themselves as frugal (a rather frugal person 32.3% I am a very frugal person 8.3%).

Financial Attitude

The results of the primary research show that the topic of money and talking about money is no taboo for the young Poles (Table 4). As many as 70% of the respondents claim that financial matters do not seem too complicated for them. They are generally not troubled by financial worries. However, despite the fact that because of their young age they perform rather simple financial operations, the same positive attitude to financial matters should be considered a good prognosis for the future. Of course, such an attitude may also result in reckless behaviour – It is simple, so I do not have to think more deeply about the financial aspects of the transaction. This approach may, with more complex operations such as credit, lead to imprudent financial decisions. On the basis of the conducted research, we cannot draw conclusions regarding such attitudes. However, the responsibility of adults (and of the educational system in the country) should – at the stage of education and upbringing – sensitize young people to financial matters and shape responsible attitudes. Young people should be aware that financial matters are of varying complexity and the more complex long-term ones require special attention and consideration when making financial decisions. However, young Poles declare awareness of the necessity of saving and as many as 76 % of the respondents understand that refraining from current consumption and postponing (saving) money in this way may mean a better future for them. If we confront these attitudes with declarations regarding real behaviour (30 % of the respondents declared that they regularly save and almost 40 % save from time to time). These attitudes indicate high awareness of saving. Young Poles show quite reasonable attitudes about their spending options and declare that during the purchase of various products they wonder if they can afford such a purchase. Over 77 % of the respondents declare that they do not buy things that they cannot afford. Only 17 % of the respondents said that if they have money, they should not hesitate to flaunt it. The vast majority of respondents did not want to show in public that they have money. Such a result is interesting because it is widely believed that the young generation is very susceptible to the so-called consumer symbols of social status and thus – de facto – to flaunting the fact of having money. The research results show that young people control their cash well, although the difference between the awareness of how much money is in their portfolio (84.5 % of the respondents declare that they know) and how much money they have in their account (66 % of the respondents declare that they know) is clearly visible. This difference may be due to the fact that many respondents do not have a bank account yet. In general, it should be stated that the respondents show great self-satisfaction in terms of their ability to deal with their financial affairs. Over 83 % believe that they manage their money well (Świecka et. al. 2019).

Table 4. Financial attitudes

		Freq.	%			Freq.	%
When we talk about	Strongly Agree	70	3.6	If today I will withhold	Strongly Agree	400	20.7
	Agree	251	13.0		Agree	1065	55.1
	Disagree	1116	57.8		Disagree	383	19.8

money I get bad mood	Strongly Disagree	485	25.1	some expenses and save, I will be better off in the future	Strongly Disagree	76	3.9
	Subtotal	1922	99.5		Subtotal	1924	99.6
	Missing	10	.5		Missing	8	.4
	Total	1932	100		Total	1932	100
When I have savings I spend them soon to realize my wishes	Strongly Agree	224	11.6	I spend often more money than I intended too	Strongly Agree	323	16.7
	Agree	634	32.8		Agree	725	37.5
	Disagree	736	38.1		Disagree	700	36.2
	Strongly Disagree	335	17.3		Strongly Disagree	177	9.2
	Subtotal	1929	99.8		Subtotal	1925	99.6
	Missing	3	.2		Missing	7	.4
	Total	1932	100		Total	1932	100
I have the feeling that money and finances are too complicated for me	Strongly Agree	98	5.1	I often buy things without thinking whether I can afford them or not	Strongly Agree	99	5.1
	Agree	477	24.7		Agree	341	17.7
	Disagree	1031	53.4		Disagree	975	50.5
	Do not agree at all	325	16.8		Do not agree at all	513	26.6
	Subtotal	1931	99.9		Subtotal	1928	99.8
	Missing	1	.1		Missing	4	.2
	Total	1932	100		Total	1932	100
I attach a lot of importance to thrift	Strongly Agree	653	33.8	I know at the moment how much money I have got in my wallet/on my account	Strongly Agree	886	45.9
	Agree	639	33.1		Agree	746	38.6
	Disagree	357	18.5		Disagree	216	11.2
	Strongly Disagree	257	13.3		Strongly Disagree	81	4.2
	Subtotal	1906	98.7		Subtotal	1929	99.8
	Missing	26	1.3		Missing	3	.2
	Total	1932	100		Total	1932	100
When I have money. I should not hesitate to flaunt it	Strongly Agree	105	5.4	I think I am capable of managing my money	Strongly Agree	45	2.3
	Agree	218	11.3		Agree	270	14.0
	Disagree	898	46.5		Disagree	1209	62.6
	Strongly Disagree	698	36.1		Strongly Disagree	402	20.8
	Subtotal	1919	99.3		Subtotal	1926	99.7
	Missing	13	.7		Missing	6	.3
	Total	1932	100		Total	1932	100
In my life everything will be somehow put in order	Strongly Agree	554	28.7	I am (actually) troubled by financial worries	Strongly Agree	113	5.8
	Agree	970	50.2		Agree	439	22.7
	Disagree	224	11.6		Disagree	943	48.8
	Strongly Disagree	174	9.0		Strongly Disagree	430	22.3
	Subtotal	1922	99.5		Subtotal	1925	99.6
	Missing	10	.5		Missing	7	.4
	Total	1932	100		Total	1932	100

Source: Authors' computation

Financial Knowledge

Last but not least, one of the most important elements of financial literacy is financial knowledge. In the primary research, 12 questions concerning the objective financial knowledge were used. That is not an opinion of one's level of knowledge, but the real knowledge of some issues concerning personal finances to which participants were required to answer true/false question. The analysis of financial knowledge demonstrated that there were much more correct answers than incorrect ones. The number of all the correct answers exceeded 50 % and in some subjects, this even reached 90%.

The incorrect answers comprised both false answers and the answers “I don’t know” (Table 5). Both these types of incorrect answers demonstrated that the respondents had no knowledge on a given subject. It is worth noting that the number of answers “I don’t know” is quite considerable – from 8.5% to the question “if one can pay for goods and services by mobile phone” to 25% to the question on the debit and credit payment cards to 37.6% to the question concerning bitcoin. Young people have some basic knowledge of personal finances, but when it comes to the more advanced services and instruments, they need further education. The results confirm the necessity to elaborate on the subject and provide them with proper education. It should be emphasized that possessing knowledge not always translates into proper financial behaviour and attitudes towards money and therefore, besides financial knowledge, a significant role should be assigned to emotions, environment in which the youth is brought up, their own experiences and those of their parents and family, as well as the place where they live in.

Table 5. Financial knowledge

Knowledge statements	Correct answer (%)	Incorrect answer (%)	Do not know (%)
Balance sheet is a statement of costs and revenues for a given period.	73.6	26.4	20.3
Budget is a financial plan containing a statement of income and expenditure.	59.8	40.2	14.1
The debit card works just like a credit card.	64.0	36.0	24.9
Income levels affect future retirement pension.	78.2	21.8	9.5
Bank accounts may only be owned by an adult.	80.8	19.2	8.9
Financial planning is finding the best ways to use your money.	68.6	31.4	9.8
Financial knowledge is only needed for those who work in financial institutions.	77.3	22.7	14.0
Overdraft is the amount that an account holder can debit at a given bank.	59.3	40.7	29.5
Visa/MasterCard are only for withdrawing cash from an ATM.	75.4	24.6	15.3
Only adults can use the online banking services.	57.1	42.9	22.5
You can pay for goods and services by mobile phone.	85.7	14.3	8.5
Bitcoin is money you can use to pay online.	55.7	44.3	37.6

Source: Authors’ computation

At first sight, it is clear from Table 5 that the students knew the best correct answer to the eleventh question. On the other hand, it is also clear that the largest number (94.4%) of wrong answers was given to the first question. Apart from this, half of the students solved correctly eleven of the twelve problems.

Table 6 highlights the score levels of financial literacy obtained from the survey.

Table 6. Levels of financial knowledge

Levels	Level of financial knowledge	Number of correct answers	N	%
Level 1	Low level	0 - 4	209	10.8
Level 2	Average level	5 - 8	876	45.3
Level 3	High level	9 - 12	847	43.8

TOTAL	1932	100
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Source: Authors' computation

Accordingly, 209 students answered correctly up to 4 questions, 876 students answered from 5 to 8 questions correctly and 847 students answered from 9 to 12 questions correctly. The largest number of students were scored at level 2, although the number of students scoring at level 3 is very close to those who scored level 2. Therefore it can be said that the majority of students reached a level score which was between average and high.

Table 7 presents more detailed information on the scores achieved by the participants according to gender.

Table 7. Average achievement scores according to gender

Questions	Gender		General Scores
	Female	Male	
1. Balance sheet is a statement of costs and revenues for a given period	4.5 % (46/1018)	6.5% (59/901)	5.5% (105/1919)
2. Budget is a financial plan containing a statement of revenue and expenditure	62.9% (640/1018)	55.9% (504/901)	59.6% (1144/1919)
3. The debit card works just like a credit card	64.1% (653/1018)	63.5% (572/901)	63.8% (1225/1919)
4. Income levels affect future retirement pension	79.2% (806/1018)	76.7% (691/901)	78.0% (1497/1919)
5. Bank accounts may only be owned by an adult	81.7% (832/1018)	79.5% (716/901)	80.7% (1548/1919)
6. Financial planning is finding the best ways to use your money	70.5% (718/1018)	66.4% (598/901)	68.6% (1316/1919)
7. Financial knowledge is only needed for those who work in financial institutions	79.5% (809/1018)	74.8% (674/901)	77.3% (1483/1919)
8. Overdraft is the amount that an account holder can debit at a given bank	61.9% (630/1018)	55.8% (503/901)	59.0% (1133/1919)
9. Visa/MasterCard are only for withdrawing cash at an ATM	74.7% (760/1018)	75.9% (684/901)	75.2% (1444/1919)
10. Only adults can use the online banking services	58.5% (596/1018)	55.3% (498/901)	57.0% (1094/1919)
11. You can pay for goods and services by mobile phone	87.7% (893/1018)	83.1% (749/901)	85.6% (1642/1919)
12. Bitcoin is money you can use to pay online	42.3% (431/1018)	70.5% (635/901)	55.5% (1066/1919)
Mean	64.0%	63.7%	63.8%

Source: Authors' computation

According to the results of the primary research, financial knowledge of the female and male participants is similar, although on average women scored higher (64%) than men (63.7%). Women proved to have better financial knowledge on the issues asked in 9 out of 12 questions, while men were better informed only on 3 of them. That is balance sheets, payment cards and bitcoins.

As highlighted in Table 7, the overall score of students was 63.8 %. Students gave the best answers to question 11 (85.6%) and the poorest answers to question 1 (5.5 %). Therefore, it can be said that there are little differences between genders in terms of the financial information level, although in general, men or women are better informed on particular subjects.

The independent t-tests were used to determine whether there is a significant difference between gender and the levels of financial knowledge, financial behaviours and the ability to use financial instruments. Before conducting these tests, the normality of the distribution of the data was assessed.

To this end, the skewness and kurtosis were evaluated. The values of the skewness and kurtosis are presented in Table 8.

Table 8. Descriptive statistics

	Financial knowledge	Financial behaviour	Financial attitudes
N	1932	1932	1931
Mean	.6399	2.9233	2.9161
Median	.6667	2.9091	2.9982
Skewness	-1.091	-0.920	-0.138
Kurtosis	-0.095	0.177	0.040

Source: Authors' computation

Results show that the skewness values are -1.091 for financial knowledge, -0.92 for financial behaviour and -1.138 for financial attitudes. The kurtosis values are -0.095 for financial knowledge, 0.177 for financial behaviour and 0.040 for financial attitudes. Since all the skewness and kurtosis values are between +1.50 and -1.50, it can be said that the data is normally distributed.

The results of the t test for financial information are shown in Table 9.

Table 9. Financial information according to gender

Gender	N	Mean	Std. Deviation	F	P
Female	1018	.6397	.19044	16.620	.746
Male	901	.6366	.22065		

Source: Authors' computation

Results show that the average financial knowledge score of 1018 female students is 0.6397 and that of 901 male students is 0.6366. However, although the achievement level of female students is slightly higher than that of male students, the difference is not significant ($p = 0.746 > 0.05$).

The results of the t-test for financial behaviour are presented in Table 10.

Table 10. Financial behaviour according to gender

Gender	N	Mean	Std. Deviation	F	P
Female	1018	2.8722	.38602	2.603	.000
Male	900	2.9841	.36804		

Source: Authors' computation

In table 10 we show the results that the average financial behaviour score of 1018 female students is 2.8722 and that of 900 male students is 2.9841 and that this difference is statistically significant ($p = 0.000 < 0.05$).

The results of the t-test for the use of financial tools are presented in Table 11.

Table 11. Use of financial tools according to gender

Gender	N	Mean	Std. Deviation	F	P
Female	1015	1.7189	.29989	6.517	.000
Male	888	1.8026	.27596		

Source: Authors' computation

Accordingly, results show that the average use of financial technology for 1015 female students is 1.7189 and that of 888 male students is 1.8026 and this difference is statistically significant ($p = 0.000 < 0.05$).

6. Discussions and Conclusions

This section may be divided by subheadings. It should provide a concise and precise description of the experimental results, their interpretation as well as the experimental conclusions that can be drawn.

The results of the primary research demonstrated a good and partially very good, level of financial knowledge of the young people in Poland. 45.3 % obtained an average level score and 43.8 % achieved a high-level score in financial knowledge. This result shows that they are rational in their financial decision making. However, knowledge is only one of the components required to ensure future financial livelihood.

A high level of financial knowledge not always translates into the proper financial behaviour on financial markets. We can use the analogy of commonly used diets to explain this. We might know a lot about diets, but it doesn't necessarily mean that we can apply this knowledge and achieve the desired results. Undoubtedly, however, knowledge lays a necessary foundation. When supplemented with the experience – one's own and that of the parents, family and the closest environment; it should bring positive results in financial life and livelihood. This, however, is just the base that should be developed so as to know how to plan a budget, to save, to invest or to know what loans to take and when, how to manage debt, how to protect oneself for the future, etc.

The appropriate way to acquire financial knowledge that will translate into proper behaviour is financial education. Financial education should be carefully thought of and well adapted to the age of a student. It shouldn't be uniform for all since the needs of young people are different from those of adults. The language and terminology should also be adequately adapted so that the message could reach its recipient. Young people are in many ways privileged since they have access to the world wide web of the internet, online books, articles, blogs, and social media, etc. where they can find a lot of information on financial matters, which of course might not have been available to their parents and grandparents. Financial literacy is of great importance not only for the individuals but also for the state economy. The more financial awareness individuals have, the more they expect from the financial institutions, the authorities and the employers.

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