Financial Literacy among University Students: A Case Study for Open Education Students in Anadolu University, Turkey

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Abstract

Financial literacy is getting more attention nowadays. In literature, there are numerous studies related with the subject of financial literacy. OECD has created a survey to be used for measuring financial literacy and this survey is widely applied by scientists all over the world. Anadolu University Open and Distance Education system is the first institution in Turkey that offers higher education through contemporary distance education model. In this education system, the student body is not a homogenous as one might see in traditional full-time university degrees. The students in the open and distance education comes from different age groups, from 18 to 72, and from different study areas; their overall purpose is to get a university degree with a flexibility of working and studying at the same time. In this study, an adaptation of the OECD survey for Turkey is used and the results are given in detail.

1. Introduction

Financial literacy is realized as a very useful tool to see how individuals cope with financial problems. If the individuals are confident with financial literacy, they might handle the financial problems a little bit better. Governments pay attention to financial literacy of their populations in order to create policies, and solve the financial problems of the society. Also by using financial literacy information from different countries, it is possible to make comparisons. Countries can learn from different countries if the financial literacy levels between these countries similar to each other. Additionally, financial literacy levels can be used as benchmarks to make a list of countries in an ascending or descending order.

Measuring financial literacy of people can also help the governments to create better retirement plans. Lusardi and Mitchell studies this subject [1]. On their review, the evident reveals that many households are unfamiliar with even the most basic economic concepts needed to make saving and investment decisions. Such financial illiteracy is widespread: the young and older people in the United States and other countries appear woefully under-informed about basic financial concepts, with serious implications for saving, retirement planning, mortgages, and other decisions. In response, governments and several nonprofit organizations have undertaken initiatives to enhance financial literacy. The experience of other countries, including a saving campaign in Japan as well as the Swedish pension privatization program, offers insights into possible roles for financial literacy and saving programs.

Özdemir and et al. studies the financial literacy of undergraduate students [2]. The students in their study takes finance related course in their curriculum. In the paper, a sample is selected from the Faculty of Economics and Administrative Sciences students, who are exposed to financial concepts and techniques more than any other university faculty students. The financial literacy of university students was measured through a scale, which was designed by adapting OECD financial literacy scale to the conditions of Turkey. According to the findings of the research, the financial literacy of the Faculty of Economics and Administrative Sciences students is high.

McKenzie, in his thesis, studies the financial literacy of university students: A comparison of graduating seniors' financial literacy and debt level [3]. In his thesis, he explains that the level of university students' financial literacy has been discussed in Congress, opinion pieces in the media and the increasing level of student debt has been used to suggest their financial illiteracy. His study investigated the financial literacy of graduating university seniors by comparing their financial literacy level with their debt level. The difference in financial literacy levels of business majors, minors and non-business majors was assessed. The relationship between graduating university seniors‟ financial literacy level and their credit card and student loan debt was also reviewed. Gender, employment status, ethnicity, family income and college major were similarly examined to see if they were predictors of financial literacy levels and debt levels. In this thesis, financial literacy was defined as an individual's ability to obtain, understand, and evaluate the relevant information necessary to make decisions with an awareness of the likely financial consequences [4].

Mandell and Klein's study examines the differential impact on 79 high school students of a personal financial management course completed 1 to 4 years earlier [5]. This study used a matched sample design based on a school system’s records to identify students who had and had not taken a course in personal financial management. The findings indicated that those who took the course were no more financially literate than those who had not. In addition, those who took the course did not evaluate

themselves to be more savings-oriented and did not appear to have better financial behavior than those who had not taken the course. The study raises serious questions about the longer- term effectiveness of high school financial literacy courses.

OECD studies the financial literacy constantly. Atkinson and Messy shows the results of OECD / International Network on Financial Education (INFE) Pilot Study [6]. In their paper, they present the findings from an OECD International Network on Financial Education pilot study undertaken in 14 countries. The analysis focuses on variations in financial knowledge, behavior and attitude across countries and within countries by socio-demographics. The results highlight a lack of financial knowledge amongst a sizeable proportion of the population in each of the countries surveyed. Furthermore, there is considerable room for improvement in terms of financial behavior. Attitudes are shown to vary widely. They claim that These results will enable countries to identify needs and gaps in financial education provision and develop national policies or strategies. They also provide a sound evidence base for developing OECD recommendations and principles.

Beal and Delpachitra investigates the financial literacy among Australian university students [7]. This study has surveyed a wide cross-section of the student population of a regional Australian university with a substantial external-student enrolment. First-year Faculty of Business students as well as students in other faculties or disciplines were targeted. The research has found that financial literacy is not high and this, no doubt, stems from the lack of financial-skills education in high schools. Of the five identified areas of financial skill or knowledge, decision-making skills and knowledge of insurance appeared to be the least well developed. The weighted average score for decision- making skills was 47% and for knowledge of insurance was 46%.

Ahsan studies financial literacy research on undergraduate students in Malaysia, and looks at current literature and research opportunities [8]. His study focuses on Malaysia, as a developing nation, rising cost of living and dynamic fluctuations price of goods and services demand people to be financially equipped in financial decision making, especially young adults which include undergraduate students. His paper reviews four published studies on financial literacy of undergraduate students in Malaysia. As a result, this paper presents research gaps from the existing literature, proposes research opportunities that not only targeted at scholars but academicians teaching financial literacy in schools and universities.

Thapa and Nepal looks at the financial literacy problem in Nepal for college students [9]. This study surveys 436 college students to examine their financial literacy; the impact of demographic, educational and personality characteristics on financial literacy. Mean, ANOVA and logistic regression were used in carrying out analysis. Results show that most of the students have basic level of financial knowledge but they lack in understanding of credit, taxes, share market, financial statement and insurance. Students are highly influenced by their parents at home and they have positive attitude towards savings. The study further identified income, age, stream of education, types of college, and attitude of students as determinants of financial knowledge; and financial knowledge is unaffected by gender, university affiliation, financial behavior and influence. It is concluded that college students have basic level of financial knowledge. However, overall financial knowledge of the students is affected by some of their demographic, educational and personality characteristics.

Coşkun studies the financial literacy among university students in Turkey via a survey created by herself [10]. The survey is applied to the students from Celal Bayar University in Turkey. Among the results it has been shown that the most used financial tools are the credit card followed by a debit account. The decision on making a financial movement is based on the information given by a bank branch representative. The paper also shows that there were not any statistically significant differences among the students for some demographic characteristics.

Vieira studies the financial literacy and a literature review of the subject is given in the paper [11]. This article provides a literature review about the dilemma of financial literacy. The individuals and families' financial decision process is getting more vital in recent years. Given the increasingly risky and globalized markets, the actual context of global financial crisis and the continuous increasing in the complexity of financial products and services, individuals must be able to make well-informed and correct decisions. Consequently, higher levels of financial knowledge contribute to more extensive economic growth and development. However, it has been shown that, in global terms, the financial literacy present low values, which suggest the need of financial educational programs in the school's curricula. There is also evidence of a positive relationship between financial literacy and investment decisions, as well as retirement programs. Studies conducted to date suggest that there are socioeconomic conditions that influence the financial knowledge, attitudes and behaviors, such as age, gender, work experience, income and education level.

Tuna and Ulu looks at the financial literacy of Sakarya University students [12]. The students, sample size is 326, are from business department. Descriptive statistics and some statistical tests are

applied to see if there are statistically significant differences for gender, age, personal income, grade, or type of education. The paper states that gender, age and grade factors have statistically significant differences for the financial knowledge levels.

Barış studies the financial literacy and budgeting behavior on university students [13]. The effect of level of the student's financial literacy on their individual budgeting behavior has been investigated by applying a questionnaire on the students of Gaziosmanpaşa University Faculty of Economics and Administrative Sciences (FEAS). As a result of the study, it was found that there is not statistically significant difference between the level of financial literacy (low or high) and budgeting behavior. It was also determined that student's basic level financial literacy is not low, but their advanced level financial literacy is low. It was also found that financial literacy only differs in terms of gender and the financial literacy of girls is higher than boys in their study.

As it can be seen from all of the above-mentioned studies, the financial literacy is an important subject to study and it is ever popular among scientist.

This study looks at the financial literacy among open education students and shows some of the results obtained from financial literacy survey.

2. Anadolu University Open Education System

The Faculty of Open Education at Anadolu University was established in 1982-1983 academic year as the first faculty offering open and distance education in Turkey. The Open and Distance Education System of Anadolu University has so far had 2,200,000 graduates and offers higher education to about 1,400,000 students. With its experience of over 30 years in open and distance education, Anadolu University plays an irreplaceable role in overcoming higher-education problems in Turkey, getting engaged in specific projects.

In open and distance education, the student body is not a homogenous as the system allows people to be student from every age and social backgrounds. The Open Education System provides equal opportunity in higher education for all individuals that do not have access to campus-based higher education, including prison inmates as well as individuals with physical, hearing and visual impairment. Anadolu University provides degree programs to the students who lives outside of Turkey. At the moment, the people who can speak and write in Turkish living in Turkish Republic of Northern Cyprus, Western Europe, Azerbaijan, Macedonia, Kosovo, Albania, Bosnia-Herzegovina and United States of America may join to several degree programs. In 1993, the structure of the open education system in Anadolu university is changed and Faculty of Business Administration and Faculty of Economics were established within the system to offer four-year undergraduate degrees in related fields.

In Anadolu University open education system, main teaching material is the book of the specific course. The curriculum of the open education programs is the same as their undergraduate counterparts. Therefore, a student from a formal education may move on to the system without big difficulties and may finish their program and get their degrees. All the degrees from the Anadolu University are accredited with the necessary associations. Since studying at home might be difficult for students who encounters a specific subject for the first time, Anadolu University offers their open education students face-to-face classes for some difficult courses such as statistics and accounting around 81 cities in Turkey. Also, students are provided with extra materials to understand the course via e-seminars, television programs from a nationwide free TV channel TRT School, e-campus interactive learning environment. Around Turkey, in every city, there are bureaus for students to get in contact with Anadolu University and obtain their class books and get official papers. If one may want to get more information about the Anadolu University Open Education system the following link will be useful and we encourage the students and those who want to be student to visit and find out the degree program suitable for their needs.
(https://www.anadolu.edu.tr/en/open-education)

3. The survey and data

The main purpose of the study is to see financial literacy levels of the students who are already in the real world and try to get a degree from an open and distance education program. In Anadolu University Open education system, there are three faculties: Open Education, Economics and Business faculties. The percentage of the female students in these faculties are 55%, 32%, and 29% respectively. as it can be seen from these percentages, Anadolu university provides a very good opportunity to females to get a university degree. In 2016-2017 academic year, in total, there are 1,350,000 students approximately enrolled to a degree program.

When the age distribution of the students is investigated, it is seen that the 41% of the students age is more than 28 years. In open education system, there are approximately 25,000 students with disabilities. Those students with vision problems accounts for 43%.

In this study, the survey of OECD for financial literacy is used [13, 14, 15]. The OECD survey is used in many studies in Turkish and validity of the survey is proved by many studies. Therefore, we

were able to use the survey confidently to measure the financial literacy of open education students.

A random sample of students are chosen for this study. In order to reach the students, students are contacted during the face-to-face classes provided in the cities. There are 1267 students in the study. OECD financial literacy survey is adapted as a survey with 21 questions. It includes questions related with money concepts, information sources for financial decision making, awareness of financial assets, and some demographical information.

The students who participated in this study are volunteered to be included in the study. A pretest of the survey, with 50 randomly chosen students, is applied then the final version of the survey is used.

In order to analyze the data set, SPSS 24 software is used.

4. Results

In this study, there are 1267 students from Anadolu University Open Education System programs. The gender distribution of the sample is 38% female and 62% male. The income distribution of the students in the sample is given in Figure 1.

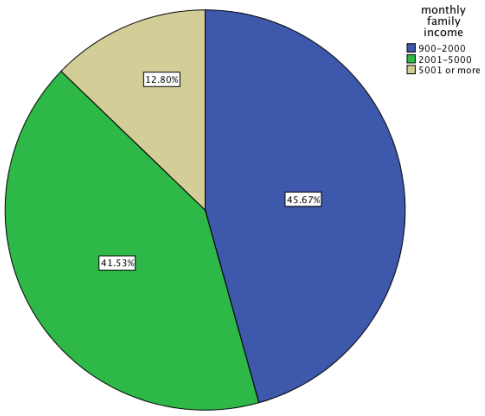


Figure 1. Monthly family income (1 sterling is 4.48 Turkish Lira)

As it can be seen from the pie chart in Figure 1, the 45.67% of the students comes from low income families. Therefore, for these students, handling the financial assets is more important than the others. When the data is investigated, it is seen that the percentage of the students from big cities and towns is 96.86.

68.1% of the students think that they have a secure family income. 31.4% of the students are married.

According to findings, 44.2% of the students are not working on a job. The ratio of the girls who are not working is 61.4%. It is a common practice for a pensioner to work at a job in Turkey. The percentage of students who work in a governmental agency is 18.6% and out of 85.2% of these students are male. The percentage of the students who work in private agencies is 28.2% and out of 67.9% of these students are male.

In Figure 2, the distribution of the sample according to cities in Turkey is given. The figure shows that the sample covers all the regions of Turkey.

The data set in this study is a special one since it covers all the regions of Turkey, so it gives a student's view of the financial literacy in terms of people living in different geographical and economical regions of Turkey. This is the power of centralized open education system that is applied in Turkey by Anadolu University since 1992 reaching the all corners of a big geography.

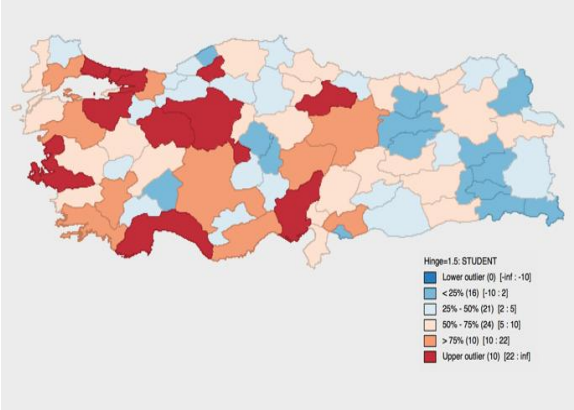


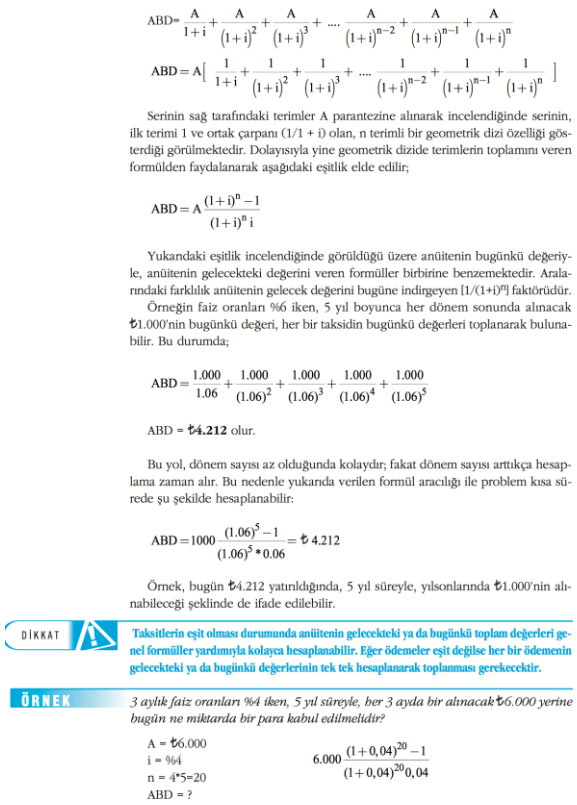
Figure 2. Turkey's map for the distribution of the number of students in sample

Figure 3 includes an excerpt from Financial Management book used in Open Education system.

The books written for open education students cover the subjects that are thought on formal undergraduate education, the style of the main text pays extra attention to details and allows a person to understand the subject as much as possible without extra outside help.

In Figure 4 the distribution of the province type of the students according to their address are given. As it can be seen from the pie chart, in Figure 4, approximately 28% of the students live outside of the cities. Again, this shows the power of open education for reaching the rural areas in Turkey for a university degree.

One of the question in the survey involves a small sentence with some mental arithmetic, "Five brothers has received 1,000 Turkish Liras, If the brothers share this money, how much money each brother will get?". Even though the question is extremely simple, it is our surprise that 10.7% of the students' answers were wrong or a miscalculation.



$$ABD = \frac{A}{1+i} + \frac{A}{(1+i)^2} + \frac{A}{(1+i)^3} + ... \frac{A}{(1+i)^{n-2}} + \frac{A}{(1+i)^{n-1}} + \frac{A}{(1+i)^n}$$

$$ABD = A\left[\frac{1}{1+i} + \frac{1}{(1+i)^2} + \frac{1}{(1+i)^3} + ... \frac{1}{(1+i)^{n-2}} + \frac{1}{(1+i)^{n-1}} + \frac{1}{(1+i)^n} \right]$$

Serinin sağ tarafındaki terimler A parantezine alınarak incelendiğinde serinin, ilk terimi 1 ve ortak çarpanı (1/1 + i) olan, n terimli bir geometrik dizi özelliği gösterdiği görülmektedir. Dolayısıyla yine geometrik dizide terimlerin toplamını veren formülden faydalanarak aşağıdaki eşitlik elde edilir;

$$ABD = A\frac{(1+i)^n - 1}{(1+i)^n i}$$

Yukarıdaki eşitlik incelendiğinde görüldüğü üzere anüitenin bugünkü değeriyle, anüitenin gelecekteki değerini veren formüller birbirine benzemektedir. Aralarındaki farklılık anüitenin gelecek değerini bugüne indirgeyen $[1/(1+i)^n]$ faktörüdür.

Örneğin faiz oranları %6 iken, 5 yıl boyunca her dönem sonunda alınacak ₺1.000'nin bugünkü değeri, her bir taksidin bugünkü değerleri toplanarak bulunabilir. Bu durumda;

$$ABD = \frac{1.000}{1.06} + \frac{1.000}{(1.06)^2} + \frac{1.000}{(1.06)^3} + \frac{1.000}{(1.06)^4} + \frac{1.000}{(1.06)^5}$$

ABD = **₺4.212** olur.

Bu yol, dönem sayısı az olduğunda kolaydır; fakat dönem sayısı arttıkça hesaplama zaman alır. Bu nedenle yukarıda verilen formül aracılığı ile problem kısa sürede şu şekilde hesaplanabilir:

$$ABD = 1000\frac{(1.06)^5 - 1}{(1.06)^5 * 0.06} = ₺\,4.212$$

Örnek, bugün ₺4.212 yatırıldığında, 5 yıl süreyle, yılsonlarında ₺1.000'nin alınabileceği şeklinde de ifade edilebilir.

DİKKAT

Taksitlerin eşit olması durumunda anüitenin gelecekteki ya da bugünkü toplam değerleri genel formüller yardımıyla kolayca hesaplanabilir. Eğer ödemeler eşit değilse her bir ödemenin gelecekteki ya da bugünkü değerlerinin tek tek hesaplanarak toplanması gerekecektir.

ÖRNEK

3 aylık faiz oranları %4 iken, 5 yıl süreyle, her 3 ayda bir alınacak ₺6.000 yerine bugün ne miktarda bir para kabul edilmelidir?

A = ₺6.000
i = %4
n = 4*5=20
ABD = ?

$$6.000\frac{(1+0,04)^{20} - 1}{(1+0,04)^{20}0,04}$$

Figure 3. Financial Management Book excerpt from Anadolu University Open Education system

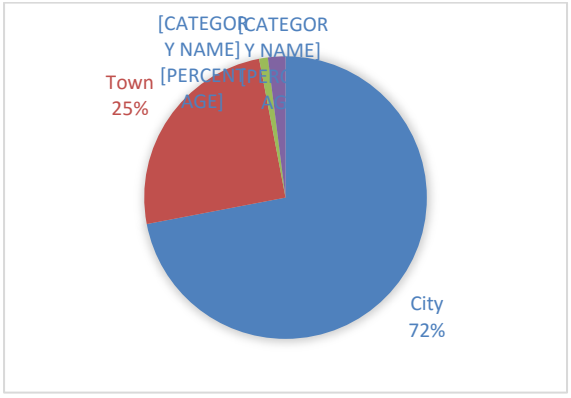


Figure 4. Province levels of students' addresses

In Table 1, the answers to the question "If you lose your main income source, how long do you think you will be able to continue with your current living standards?" are given.

According to Table 1, 46.3% of the students may live up to a month with their current living standards if they lose their main income source. The percentage of the students who may live with their current living standards is 18.8%. But the highest percent of the choices goes to "I don't know" with 22.4%. So, it might be said that a good financial literacy knowledge may turn the minds of these students towards future investments and they will have a clearer mind to what to do if such a catastrophic situation such as losing a job or getting fired happens.

Table 1. To continue current living standards without main income source

	Percent
Less than a week	11.3
At least a week but not a month	15.8
At least a month but not 3 months	19.2
At least 3 months but not 6 months	12.6
More than 6 months	18.8
I don't know	22.4

Students answers to the question "The investments with better premiums will probably involve bigger risks" is that only 8.3 percent says it is incorrect whereas remaining 91.7% thinks that this is correct.

The question about inflation involves the following sentence "the higher inflation means that we need more income to live by". 86.1% of the students thinks that this is true. In a country with high inflation rates higher compared to European countries, the answer to this question is not surprising.

Another question is related with interest. The question states that "One afternoon, you gave 100 Turkish liras to one of your friends, Next morning your friend pays you back 100 Turkish liras. How much interest, do you think, does your friend paid for the loan?". The percentage of the students with correct answer is 72.9%.

From the above answers, it can be seen that the students' knowledge on some financial statements is not low.

It should be noted that, percentage of the students without a work is 44% and also the percentage of retired/pensioner students in this study is 1.1%. So, the most of the students in this study have a job or a salary. Therefore, it looks like, they need to control their income in order to get a better deal out of their salary. The yearly inflation rate in Turkey between January 2016 and January 2017 is 9.22%. The yearly inflation rate has just gone up to 10.90% as of May 2017(http://www.inflation.eu/inflation-rates/turkey/historic-inflation/cpi-inflation-turkey-2017.aspx).

In order to show the awareness of students towards some financial assets, a classification of the assets is created based on the past experience of the authors and OECD reports. There are 13 categories for financial assets and classification of knowledge according to financial assets are given in Table 2. According to Table 2 the most known financial asset is Credit card whereas the least known asset with 42% non-secured debt. Table 2 includes all financial assets in descending order.

Table 2. Awareness of Financial Assets

	I heard (%)	I didn't hear (%)
Credit card	97.10	2.90
Checking account	94.30	5.70
Deposit account	93.80	6.20
Insurance	93.50	6.50
Stock	90.80	9.20
Pension fund	85.70	14.30
Mobile payment	84.50	15.50
Bill of exchange	79.80	20.20
Treasury bill	79.20	20.80
Capital account	78.30	21.70
Mortgage	75.20	24.80
Junior debt	42.00	58.00

In order to see which financial items the students use/have, Table 3 is created.

It can be seen from Table 3 that checking account is the most used item with a percentage of 77.20%. It might be surprising to see that the pension fund is only 23.70%. In Turkey, the private pension funding system is a new system. The civil servants have already a pension plan designed by the government, but a recent change in pension funding towards the workers has come from the government. Nowadays the workers under 45 years old are encouraged to join in to a private pension system, and if the person does 'not leave the private pension system, the government gives small contribution towards the persons' pension fund. In the near future, it is expected that the people who use the private pension system in Turkey will dramatically be increased. The system is in its early phase, many of the civil servants who were joint automatically in to a private pension system used their right to withdraw from the system. Even though a civil servant under 45 years of age leaves this automatic private pension system, in two years' time they will automatically registered in to system by government.

Table 3. Financial items ownership

	Yes	Yes, in last 2 years	No
Checking account	71.00	6.20	22.80
Credit card	63.90	9.90	26.20
Insurance	47.50	6.00	46.50
Mobile payment	42.00	7.00	51.00
Deposit account	27.10	7.00	65.90
Capital Account	24.00	7.20	68.80
Pension fund	18.80	4.90	76.30
Stock	10.00	4.10	86.00
Mortgage	7.90	3.40	88.70
Junior debt	6.80	3.00	90.20
Bill of exchange	4.40	2.60	93.00
Treasury bill	4.40	3.10	92.40

63.90% of the students claimed that they own at least one credit card. And 47.50% of the students said that they own an insurance policy. 42% of the students says that they use online or mobile payment systems such a cellular phone. Only 18.80% of the students says that they own a pension fund. The percentage of students invest in stock exchange is 10%.

The participants of the study also are asked about "the trust of their salaries steadiness", and 68% of the participants claimed that the total income in their family is trustworthy.

In order to decide which financial asset is suitable for a person, students need to look into some sources. In order to find which is the most looked after method for finding financial assets the following Table 4 is created. The Table 4 shows the effect of the source on the choice of financial asset.

Students opinion on "If you invest your money more than one financial asset, the probability of losing all of your money is smaller" gets a support of 83.80%. Therefore, it can be said that the students will support the idea of dividing their investments in to different financial assets given the opportunity.

Table 4. The effect of the information source on the choice of financial asset

	Yes
Internet	56.30
Bank branch	54.00
Own knowledge	45.10
Marketing specialist	32.10
Internet (best buy lists)	32.00
Friends and family (working on finance)	29.00
Friend and family (others)	27.10
TV ads	20.90
Newspaper and magazines' best buy lists	17.90
Column writers	16.20
Independent finance advisors	13.60
Employer advice	11.80
Newspaper articles	11.20
Other ads	10.20
Information received by post	7.80
None of these	4.60

In Table 4 the effect of the source on the choice of financial asset are shown. As it can be seen from Table 4, the internet is the biggest source among these students. the second important source is the bank branch. At the same time 45.10% of the students are also trusting their own knowledge acquired in their life. It seems that the percentage of knowledge coming from the employer is a very low number, 11.80%. According to this result it may be suggested that the people who sells financial assets may contact with employers and educate them in order to reach their workers.

The percentage of the students who think that "the money is for spending" is 36.90% and 31.70% of the students have no idea about this sentence.

The percentage of the students who pay their bills on time is only 21.8%. It shows that the students are not too fond of paying their bills on time.

The percentage of the students who think that "Before making a purchase, I revise my financial state in order to see if I can afford it" is 75.40%. Therefore, it can be said that the students in our study prefers to stay safe before making a purchase.

The percentage of the students who says "I prefer to live today, I don't care about the future" is only 8.6%. It is wise to remind that 44.2% of the students in this study are not working. So, it is not a surprise to see such a small percentage in this question.

"I prefer and find more satisfying spending money rather than making long term investments" comes with 21.6%. Again, this is a small number, the percentage of the students who has a no idea in this question is 21.00%, and who does not support this idea is 57.40%.

"I define long term financial goals for myself and put all the efforts to reach this goal" gets a support of 45.60% of the students. Only 31.80% of the students do not support this idea.

"I employ a financial investment agent to follow my financial affairs" is supported by 15.9% of the students.

In this survey study, there are also eight questions related with financial literacy, that can be analyzed using factor analysis. Factor analysis gives us an opportunity to categorize the relationships between these 8 questions and create a meaningful structure of these questions to interpret our results.

The reliability of the answers given to those eight questions is measured by the Cronbach α statistic and it is equal to 0.733. So, the answers given by the students to these eight questions are accepted as reliable. In order to create a factor analysis of the data set, we need to look for the sample size adequacy. In order to find sample size adequacy, the Kaiser-Meyer-Olkin (KMO) statistic is calculated. KMO statistic in our data is 0.739 and also Bartlett's test of sphericity is found to be statistically significant for α=0.01. Therefore, a factor analysis is carried out.

The total variance explained table of the factor Analysis is given in Table 5.

According to Table 5, the total variance explained by the first three components account for the 69.74% of the total variability among these eight questions. These eight questions and how they spread around among the three factors are given in Table 6.

According to Table 6, there are three factors that can be created from these eight questions. The simplest factor is the third factor with only one question. In literature, a factor with one variable is not suggested as long as this factor makes a significant contribution to the study.

Table 5. Total variance explained by factors

Component	Initial eigenvalues			Rotation SSL		
	Total	% of Variance	Cumulative %	Total	% of variance	Cumulative %
1	2.91	36.49	36.49	2.533	31.66	31.66
2	1.60	20.01	56.51	1.742	21.77	53.44
3	1.05	13.23	69.74	1.304	16.30	69.74
4	.67	8.38	78.12			
5	.57	7.16	85.28			
6	.52	6.52	91.81			
7	.42	5.26	97.07			
8	.23	2.92	100.00			

As it can be seen from table 5, the contribution of the third factor to overall variability in the data is 13.23%. This amount of variability in factor analysis should not be ignored. After inspecting the result of the variable associated with third factor, it is decided that the third factor can be used in our analysis. In order to finalize the factors equamax rotation is used. Table 6 shows the rotated component matrix of the factor analysis applied to our data set. Each component is also ordered from the most important item to least important item for each factor.

Using Table 6, we should be able to name our factors. In order to name each factor, each factor is investigated by the questions/items making up the factor. The highest coefficient in each factor has the highest importance for the associated factor. According to Table 6, the third factor is named as "I work with a consultant" factor. The second factor is named as "I do not care about future but live today" and the first factor can be named as "I play safe and stay secure". The naming of the factors is based on the opinions of the authors and can be changed with more suitable suggestion if any one comes up.

Using factor analysis results, for each student, factor scores are calculated. Using factor scores, a comparison of the students by gender is investigated. The aim here is to look if there is a statistically significant difference between students according to gender for these three factors.

First, factor scores for each student is calculated. Than a t test for each factor by gender is applied. t test results for each factor are as follows.

Factor 1: the t value for gender difference is -2.372 (p=0.018). Using 0.05% significance level, there is a statistically significant difference between male and female students for factor 1 named as "I

play safe and stay secure". In detailed investigation, it has been seen that females tend to get lower scores on this factor than males.

Table 6. Rotated Component Matrix for Factor Analysis

	Component		
	1	2	3
Before making any purchase, I check my financial state to see if I am able to make this purchase	.905		
I pay my bills on time	.872		
I make long term financial plans and do my best to reach those goals	.663		
In order to make an investment or saving I am ready to take a risk	.528		
I feel spending money is more satisfying then making long term saving plans.		.805	
I prefer to live today, I don't care about future		.778	
Money is for spending		.674	
I work with a consultant for my financial issues.			.918
Extraction Method: Principal Component Analysis. Rotation Method: Equamax with Kaiser Normalization.			

Factor 2: the t value for gender difference is 2.537 (p=0.011). Using 0.05% significance level, there is a statistically significant difference between male and female students for factor 2 named as " I do not care about future but live today". Females tend to get higher scores on this score than males.

Factor 3: the t value for gender difference is -0.944 (p=0.345). Using 0.05% significance level, there is no statistically significant difference between male and female students for factor 3 named as "I work with a consultant ".

5. Conclusion

In this study, the financial literacy of the students enrolled in open education system in Anadolu University, Turkey is investigated. In order to measure the financial literacy, The OECD survey is adapted.

According to results obtained from the analysis of the survey results, the following conclusions can be made:

- 70% of the students answered correctly to the questions measuring financial literacy levels
- Using factor analysis, the statements related with money is combined into three categories
- There are some differences between males and females for the factors defined for money related questions
- Among the financial assets, the most known asset is credit card
- Among the financial assets, the least known asset is Junior debt
- There is a statistically significant relationship between gender and employment
- The most important information sources for choosing financial assets are: Internet, bank branch, personal knowledge, marketing specialist for the asset, and internet (best buy lists)
- Among the questions related with money, the highest support comes to the question named as "Before making any purchase, I check my financial state to see if I am able to make this purchase"

In this study, it shows that the open education faculty students are aware of the financial assets. This student body is not a uniform one since open education allows students from every age and social groups to be included in university system.

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