## ECONOMICS AND BUSINESS ADMINISTRATION FACULTY **VILNIUS UNIVERSITY**

## **FINANCE AND BANKING**

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## **MASTER THESIS**

GYVENTOJŲ FINANSINIO RAŠTINGUMO	THE EVALUATION OF FINANCIAL
ĮTAKOS GYVENIMO KOKYBEI	LITERACY'S IMPACT ON QUALITY OF
VERTINIMAS	LIFE

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#### **INTRODUCTION**

Relevance of the topic: In modern society, people's financial literacy is becoming increasingly important. Surrounded by a greater and growing variety of financial products and services than ever before, the ability of an individual to understand and use available information to his or her financial advantage is irreplaceable. However, in a world where the information and knowledge available does not always mean the most optimal decision to be made, the rush, the abundance of advertising, the impact of marketing raises the question of whether financial literacy really affects the quality of life in society. An income invested well or poorly today can sustain or ruin individuals later on, or even determine the level of income during retirement. The financial education of a country's population determines personal financial decisions that affect the overall level of the country's economy. Although the issue of financial literacy is quite important in the 21st century and is often discussed in scientific articles, it is not very often discussed in other areas of public interest, knowledge. The most deserving researchers in the field of financial literacy are economists A. Lusardi and O. S. Mitchell. Their work has demonstrated that financial literacy influences economic decisions independently of other available knowledge and skills (Lusardi and Mitchell, 2014). Various research studies the level of financial literacy among defined age groups and its impact on their financial decision-making. Also, different studies reveal that the level of financial literacy among the population is slightly below average. In one of the above-mentioned studies, it was found out that the level of financial literacy among the last grades of Lithuanian students is rather low (Gaigaliene and Karpavičiūtė, 2017), but it has a significant impact on saving behavior. Research has found a positive effect of income on feelings of happiness (Easterlin, 2001). Also, it has been concluded that individuals experiencing a lack of financial capacity experience negative consequences for their psychological health (Taylor et al., 2011). However, there is not much research directly linking the concepts of financial literacy and quality of life. With the increase in research on financial capacity and the well-being of the population alone, the causal relationship between financial literacy and quality of life has not been sufficiently addressed in the scientific literature to date. This work primarily aims to review the theoretical links between financial literacy and quality of life, then seeks to investigate the assumption that there is a connection between these two economic-social concepts in Lithuania.

The aim of the study: was to evaluate the impact of financial literacy on the quality of life.

#### Work tasks:

1. To analyze the financial literacy from the theoretical point of view, its concept and aspects, research methods, to review the importance of financial literacy both for the individual and for the economy of the whole country.

2. To delve into the concept of quality of life, research methods and the factors surrounding this area.

3. Draw the connection between financial literacy and its impact on the quality of life.

**Working methods** - Analysis of scientific literature and other official sources; empirical quantitative research; statistical data analysis.

The work will consist of three main sections. The first chapter is the theoretical part, which reviews the works of other authors, formulates the main statements of the work, on the basis of which the assumptions of the research are formed. The theoretical part will be grouped into four subsections. The first is entitled "Financial literacy, its concept, circumstances and importance for the individual and the state", because it will define the concept of financial literacy, distinguish financial literacy competencies, as well as the relevance of financial education in today's world and its impact on individual financial decisions, to the state. The second sub-chapter of the theory is entitled "The Concept and Factors of Quality of Life" because it will exclusively review the concept of quality of life: starting with its definition, theories of different scientists, and ending with different research on essential factors of quality of life; the most popular factors are summarized in the tables. The third section is entitled "Analysis of the Relationship between Financial Literacy and Quality of Life", which will combine the theory described above, linking the impact of literacy on material well-being to the importance of the income factor in measuring quality of life. It also describes the impact of financial ability on psychological health and feelings of happiness, highlighting how these factors affect quality of life. A section entitled "Evaluating Surveys and Results of Research on Financial Literacy and Quality of Life" will evaluate previous research in these areas. Most of them use the survey method, so the design of the surveys will be examined, and the surveys

themselves and the results obtained will be evaluated in order to delve into their specifics, which would help in their research. The second part is a description of the research methodology "The Methodology for researching the interaction between financial literacy and quality of life", where the type of research will be named (quantitative research, economic experiment), the research group (Lithuanians not related to economics and finance) will be defined, the research sample will be calculated, describes the nature of the questions and defines the object, purpose and method of the research. The results of the study will be discussed in the following chapter, entitled "Data Analysis and Research Results". In this chapter, together with the naming of the research results, comparison with the statements defined in the theory and analysis of different aspects of the results, a visual representation of the results in tables and diagrams will be provided. The dependence between the main concepts of this work - financial literacy and quality of life - will be calculated using the regression equation. Also, the causal relationship between income and financial literacy, income and quality of life will be assessed in this way to identify the importance of income in the context of this study. Efforts will be made to assess the link between sound financial behavior, savings and investment and financial literacy. The following is a summary of the results in all three of the selected age groups. The conclusions and suggestions provide key summaries of the work and research findings, suggestions for future research, and a proposal on how public policy and focus on education could raise the country's level of financial literacy and overall quality of life.

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## **1. THEORY OVERVIEW**

# 1.1 FINANCIAL LITERACY, ITS DEFINITION, MAIN ASPECTS, AND IMPORTANCE

In this part of the paper I will be taking a closer look into financial literacy, its concept, most important facets, and evaluation methods, a review of research already done in this area and the theoretical possibilities to research the subject further.

A review of all the definitions of financial literacy reveals 4 main aspects that were most commonly used in research papers published before 2015. These aspects are described in Table 1, and their examination highlights the main reasoning of these particular defining qualities, that can be seen in the second part of the table.

The understanding of financial concepts	The ability to plan finances for future	The ability to make financial decisions	Confidence in your financial plans for the future
The more financial	Ability to use existing	The ability to choose the	Confidence includes the
concepts a person knows,	knowledge to manage	best informed, optimal	perception of pension
from general to more	personal finances, save and	solution for the long-term	funds and the investment
complex, the better	plan for the future. This	interests of the person in	decisions made in these
knowledge of the general	ability encompasses the	complex financial systems,	funds - the more optimal
economic situation, the	competence to read,	applying the available	the decisions and the better
more financially literate he	analyze, manage, and	financial knowledge. This	the perception, the more
or she is and is able to	communicate	skill also includes making	confidence one has in
make better informed	circumstances that are	the right decisions in the	one's plans for the future.
decisions. At the initial	related to personal finances	context of personal lending	Experts are researching the
level of research, financial	and affect a person's	and credit.	optimal way of
literacy is measured as	material well-being. The		accumulating funds for old
knowledge of financial	ability to analyze the		age and how individuals
concepts.	financial situation and		are able to navigate the
	manage one's finances		pension fund system.
	indicates a higher level of		
	literacy.		

Table 1. Concepts of Financial Literacy.

Created by the author of the paper from the following sources: Hilgert et al. (2003) Hung et al. (2009), Bowen (2003); Courchane and Zorn, (2005); Lusardi and Mitchel, (2014); Remund (2010); Carswell (2009); Collins (2007); Balatti (2007); Vitt et al. (2000); Huston (2010); Beal and Delpachitra (2003); Worthington (2004); Mandell (2007); Stone et al. (2008). Financial literacy is defined as the ability to make complex financial decisions. More specifically, a person's ability to process economic information and make informed decisions about financial planning, asset accumulation, debt management, and pension planning (Lusardi and Mitchell, 2014).

Based on the definitions discussed above, in the remainder of this paper, financial literacy will be understood as the level of ability to understand financial concepts and to apply them to personal financial planning for the future, skill and confidence in one's financial decisions. Financial literacy can be refined into several key aspects. These aspects include the ability to make the most optimal financial decisions that are influenced by a person's financial knowledge, mathematical abilities, life chances, saving and planning for the future, a person's ability to take into account their old age or future needs. Perceptions of risk diversification are also a fairly important component of financial literacy, as it has a strong impact on investment and future opportunities. From the aspects of financial literacy, we see that they affect a person's current and future life circumstances.

It is important to define another term that has a strong link to the concept of financial literacy - financial capability. In recent years, this term has received increasing attention in the areas of financial education and personal finance management issue solving. The concept of financial capability first developed in the UK and Canada and has now spread around the world. Financial capability differs from the concept of financial literacy in that capability is a broader term that encompasses all the knowledge and skills needed to make rational financial decisions: financial literacy, financial services, behavior, social influences, and emotions. Thus, financial capability includes both literacy and desired financial behavior. Capability is usually measured by assessing financial behavior and the combination of financial behavior and its consequences (Xiao et al., 2014). The level of financial capability is measured by how well a person is able to manage their assets and finances, make adequate financial decisions, and better manage their credit and debit (Noctor et al., 1992).

At a microeconomic level financial literacy is important to attain for every household, it helps to save money that could later be invested and used in order to achieve other financial goals. Financial literacy includes not only complex economic models or aspects of cultivating increased funds, but also simple financial solutions such as buying everyday goods, comparing

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prices, choosing consumer or home credit. Empirical research shows that financial literacy has a positive effect on a person's financial behavior and financial status. A financially literate person will be able to create a personal budget plan, control expenses, save, manage debts, acquire financial investment tools, save for retirement, and successfully accumulate assets. An important aspect of financial literacy is the comprehension of inflation. A person, knowing and realizing that the value of money decreases during inflation, will choose to invest with a higher return than the inflation rate in that year. Understanding inflation will not allow a person to be wasteful. Another important aspect of financial literacy is the perception of interest rates. A person who decides to take out a loan and understands the concept of interest will tend to opt for a loan with a lower interest rate (Andarsari, 2019). The modern consumer has a much greater variety and freedom of choice than ever before. While this may seem like very good progress in the financial field at first glance, greater opportunities for consumers create a greater environment for making mistakes and getting deep into financial problems. This means that consumers who do not have the necessary skills and knowledge will not achieve their intended goals or objectives and often this failure has a negative impact on both the employer and the government. Because the consequences of poor financial literacy can be painful and lead to increasing poverty, it is important to understand what distinguishes more successful savers from those who cannot afford to save (Michaud, 2017).

While analyzing different studies and population statistics on the impact of different aspects of human life on financial literacy show that certain demographic and social factors are positively correlated with this socio-economic skill. According to the summary provided by Giedrė Kvieskienė, demographic factors that create a higher probability of a person to enter the group of poorly financially educated people are a lower level of education, belonging to minorities, being a woman, and living in rural areas. Assessing the level of financial literacy by age group of the population, young people's literacy estimates vary widely from country to country, older people tend to have less financial literacy knowledge, and it is middle-aged people who reach the best literacy levels. Also, according to many different studies, income is considered to be a crucial factor - it shows that not only does the increase in the level of financial literacy have a positive effect on the increase in income, but also higher income has a positive effect on financial literacy. It was found that financial experience contributes to the growth of financial literacy (Kvieskienė, 2016). Asta Gaigalienė's research in the field of financial literacy

among young people confirmed Giedrė Kvieskienė's conclusions and revealed that among 11th and 12th grade Lithuanian students, 11th grade students were most likely not to answer any of the financial literacy questions correctly. When evaluated by gender, men appeared to have a higher level of financial literacy. According to the division of persons into urban and rural residents, urban adolescents were more financially literate. Comparing through the prism of the amount of income, individuals with higher monthly income (101–300 Eur) were more literate. Other factors that influenced young people's decision to save and how to save were their class, gender, place of residence, and disposable income (Gaigalienė and Karpavičiūtė, 2017).

In macroeconomic terms, financial literacy is defined as an investment in a country's human capital, and potentially as the resilience of a country's financial system to economic shocks (Hall, 2008). In recent years, it has been seen that most countries in the world cannot boast of high levels of financial literacy and that slightly above-average results are valued as better financial results. Higher financial literacy can benefit not only individuals or households, but also the country's economic system. Unfortunately, it is easy to see that most households lack financial literacy. In order for individuals to make correct day-to-day decisions, they should know the basic concepts of personal finance, such as compound interest investment risk and its management in the short and long term. Understanding these concepts would help eliminate the most recurring wrong decisions (e.g., choosing the wrong financial investment tools). Investing in foreign equity or bond markets, mutual funds and hedge funds with an acceptable level of risk could be a good example of how long-term responsible financial management brings more money to the economy, leading to more spending and raising GDP. Individual decisions affect a country's well-being by adjusting interest rates and inflation. Responsible management of financial resources benefits not only individuals but also the country as a whole (Navickas et al., 2014).

As financial literacy is a rather important and significant indicator not only for individuals and households, but also for the national economy, most countries and institutions aim to increase financial literacy of the public. Improving financial literacy requires a lot of investment and costs, so it is important to understand how much and what kind of knowledge is best for which members of society. Not all employees and residents need to understand advanced concepts such as stocks, dividends, pricing, etc., as most of this knowledge would never be used

and it would be a futile investment in sub-optimal financial literacy. For most members of society, it is important to understand the basic concepts they often find in the financial market, the understanding of which would help them to make better financial decisions. Most commonly, these are economic concepts related to inflation, compound interest rates, or risk diversification. Learning financial literacy is an expensive, time-consuming, and often personal investment intensive endeavor, the value of which fades over time if knowledge is not practiced and developed or not fully assimilated. It is important not only to identify certain groups in society that need deeper financial literacy may decline. Skills and knowledge in making financial decisions are acquired from long-term experience or purposeful learning, most curricula seem to be effective in assimilating the necessary knowledge. However, the question arises as to whether acquiring financial literacy for those who do not have it is cost-effective (Lusardi ir kt., 2017).

The 2007 financial crisis inspired a new interest into a population's financial literacy's level as well as the potential to expand it and make use of such as skill. A few of the reasons for such interest were mentioned by Keith Hall, naming the financial crises as a failure to adequately assess the risks posed by innovative financial instruments by both society and financial institutions. Despite the dire consequences of the global financial crisis, market players are continuing to take the initiative to further develop and offer new financial services to clients of all educational, economic, and social backgrounds. Defining the totality of financial instruments, service baskets and their suppliers as a financial infrastructure, which is one of the foundations of the state's economic health, it is concluded that in order to correctly make use of this infrastructure, there is a requirement of political regulation and financial literacy (Hall, 2008). Political regulation of financial institutions is a very broad topic, the in-depth analysis of which is not the focus of this paper. Against a background of financial literacy research, the goal of policy regulation is defined as banning money laundering schemes, controlling financial institutions from excessive risky practices that could destabilize the macroeconomic climate, and seeking to provide additional protection for the most vulnerable (Lusardi and Mitchell, 2014). However, the assumption that economic policy will be surgically exact and minimally invasive only at a level that does not compromise the efficiency of a country's economics, inevitably relies on the requirement of superior political competence, which is largely defined as financial

education of political players. In summary, social and political financial literacy is needed to stabilize and make effective use of financial infrastructure development and innovation.

From this overview it can be seen that a financial literate individual as well as a financial literate society or nation can both benefit their individual lives as well as have a positive impact on a nation's economy, therefore the education and a gain in experience in order to raise financial literacy is of utmost importance in the current financial climate.

## 1.2 ANALYSIS OF QUALITY OF LIFE AND ITS LINK TO FINANCIAL LITERACY

This section there is an overview of the concept of quality of life, aspects, research methods, and indicators that affect quality of life as well as the link between financial literacy and quality of life, and the areas that are most intertwined with these two concepts.

Quality of life is not easy to measure and difficult to study, because the concept of quality of life can be perceived in many different ways, therefore the assessment methods used in quality of life research are very different (Servetkienė, 2012). Although many productive studies have been conducted in the field of quality of life research, disagreements and debates about the exact definition of quality of life remain equally relevant without reaching a consensus on what quality of life really is (Rapley, 2003). However, from a social science perspective, quality of life can be defined as well-being measured in terms of human life experience: "*Quality of life is understood as a degree of well-being felt both individually and in society, and its perception encompasses two areas: physical and psychological. The physical aspect is the basic needs of the human body: survival and protection from environmental factors; the psychological aspect is a positive or negative emotional state of a person." (Puškorius et al., 2015, p. 24).* 

The main benefit at the macro level is that quality of life calculations assist in rethinking the way public services are delivered so that they become more democratic, more emancipatory, and more inclusive (Rapley, 2003). ). At a higher level, empirical welfare research even helps to assess whether a society is improving or collapsing, and during the industrialization period it helps to decide whether the growth of material resources should be the main focus for achieving a good quality of life for society (Diener et al., 1997). At the individual level, the results of

subjective well-being research and social indicators help individuals make important decisions, such as what place to live (Diener et al., 1997).

For a long time, the quality of life in the works of scientists has been identified with material well-being based on material resources, their distribution, income level, growth and economic status, social status in society and other various socio-economic indicators (Puškorius et al., 2015). In comparison, not so long ago, the twentieth century, during the 1980s, there was a breakthrough in quality of life research, in which quality was measured not only by macroeconomic indicators, but also by population surveys on the sense of happiness, assessing the subjectively perceived quality of life. At that time, not only did research emerge covering new aspects of quality of life, but there was a general increase in interest in the concept of quality of life. For these reasons, the 1980s are considered to be a renaissance of quality of life science (Servetkienė, 2012). A study by sociologist E. Allard was conducted in 1978 considered the first work to explore a new concept of quality of life. This paper evaluates the relationship between economic interests and new human needs. In the works published by the researchers, quality of life was interpreted through a full-fledged psychological life, i.e. aspects of happiness, life satisfaction. Scientific studies such as those of R. Cummins in the year 2000, found that residents can be satisfied with their lives, despite objectively poorly valued housing or even poverty. Thus, not only objective but also subjective circumstances can determine an individual's quality of life (Servetkiene, 2012). The first to develop an index of quality of life that measures subjective satisfaction with life, weighing the importance of each aspect to the individual, were Doctors of Medicine C. E. Ferrans and M. Powers in 1984, they created an index consisting of five factors that measure quality of life, several of which are relevant to this work: the first factor is activity and health, the second is psychological and spiritual well-being, the fourth is family life, and the last is economic and social well-being. The index was later adapted for individuals with different health disorders, adapting to the symptoms of the disease and the expectations of the individuals. A. G. White, a researcher in social psychology who corrected this method of medical doctors, in 2007 developed a Life Satisfaction Index, universally applicable to people in different regions and countries. Summarizing the calculations of A. G. White's analysis, it can be stated that health, material well-being and access to education are the most important factors in assessing the quality of human life (Servetkienė 2012).

Research on subjective well-being is based on the statement that in order to know an individual's well-being, it is necessary to directly measure his or her cognitive and emotional responses to self-assessment (Diener and Myers, 1995). In essence, it is based on the utilitarian tradition of Jeremy Bentham, who argues that people's decisions are motivated by experiences of a sense of pleasure, and therefore society should strive for the greatest happiness in the greatest numbers. It is subjective well-being that measures an individual's happiness in the social science environment. Thus, we can also replace subjective well-being with a synonym of happiness. Subjective well-being consists of three components that are not independent of each other:

- total life satisfaction (BPG)
- Positive emotional experience (TE)
- negative emotional experience (NE)

Subjective well-being can be expressed as:

SG = BPG + (TE - NE)

#### Formula no. 1 Subjective well-being formula.

Multivariate studies have confirmed that all three components are separate constructs (Baker, 2014). Life satisfaction is a broad concept that combines all assessments of different areas of life into one, so an individual or society may have a low level of one component but high estimates of the remaining components.

The subjective well-being index has been examined in different research papers. The initial Life Satisfaction Index by A.White correlated most strongly with factors of health, material wellbeing, and access to education. According to another study of 55 nations, subjective well-being at the national and cultural levels reveal a strong correlation between income, human rights, and social equality (Diener, 1995).

According to Servetkienė (2012), the quality of life is assessed by many different factors, it consists of many different areas of life, which can be summarized into three main groups of areas shown in Table no. 3. Also, the table describes the quality of life indicators of these groups.

Quality of life is a concept that often becomes the object of research and is especially relevant in today's economic progress, which is uniquely understood and interpreted by scientists in various fields: economics, sociology, politics, philosophy and medicine. Due to different approaches, there is no agreed definition of quality of life, but in economic theory it is understood as a degree of well-being, assessed both at the subjective - individual and objective - society - levels. A person's quality of life can be assessed in two ways - through physical and psychological aspects.

#### Table 3, Quality of Life Groups

Quality of life group	Description of group indicators
The first group - physical and mental health and demographic (population development) indicators	Morbidity, mortality, life expectancy, natural population increase, marital status, psychological health.
The second group - material well- being	Income level, income inequality, social and legal status, job satisfaction, access to public services, work-life balance, income, share of GDP for consumption.
The third group - education, culture and the system of moral values	Interpersonal relationships (relationships with people: friendships, family ties, etc.), opportunities to participate in cultural life, to acquire education, the surrounding political environment and an assessment of equal opportunities.

Compiled by the author of the paper based on Servetkienė (2012).

The physical aspect can be understood as the satisfaction of the needs of the organism, to which we can attribute both the disposal of material resources and the provision of protection, and the psychological aspect can be assessed through the prism of the emotional state (Puškorius et al., 2015). At the subjective level, quality of life is usually studied through the prism of subjective well-being. Subjective well-being (sometimes called happiness) refers to people's own well-being of their own lives, for which positive and negative experiences and emotions, as well as life satisfaction, are of the utmost importance. According to popular studies of subjective well-being, the most important areas of life for individuals that determine their happiness are health,

material well-being and education (White, 2007), as well as work, and personal relationships are particularly influential (Luthans, 2013), income, human rights and social equality have become important areas (Diener, 1995). Social indicators - objective factors of quality of life - are potentially easier to compare between countries, their causality is easier to analyze because they cover a wider range of societal values than personal happiness, but social indicators do not necessarily determine the happiness of nations or individuals, often poorly correlated with subjective well-being, but remains a valuable source of quality of life indicators worldwide. From a utilitarian perspective, the happiness of the population and the quality of life help to assess the effectiveness of the country's economic policy, compare its progress with other states and allow to assess the usefulness of public services, identify where improvement is possible. Therefore, research that helps to better understand and measure quality of life benefits both public policy and the country's economy as a whole and individual citizens.

The relationship between financial literacy and a person's quality of life has not yet been extensively explored in socio-economic studies or research. The concept of financial literacy in scientific studies and articles is often associated with the general well-being of society and the economy, or with the individual benefits of the population. For example, financially literate people should rationally dispose of their income, make the right investment and savings decisions, and therefore have a higher income in old age, and thus contribute to economic growth and their well-being. As a result, financial education and other measures to increase financial literacy pay off. Less often, financial education is directly linked to a person's quality of life, but such research is growing, recognizing the importance of quality of life for a nation as a whole and for each individual. For this reason, it is worth looking for more links between financial literacy (and related concepts) and quality of life (and key determinants), using these links to formulate assumptions about the ways in which financial literacy (directly or less directly) can affect quality of life.

The relationship between financial literacy and quality of life can be viewed by identifying the impacts of financial literacy on an individual's life that can become important factors in assessing different aspects of his or her quality of life. As explained in the first chapter, financial literacy has a positive effect on a person's material well-being and income level, and the income level also helps to increase the social capital of literacy. After reviewing different quality of life

indices, the second chapter highlights the importance of material well-being for a person's overall quality of life. Thus, we can assume that financial education has a positive effect on the quality of life by positively affecting the material provision of the population. In this section, we will take a deeper look at the impact of financial literacy on savings, as the ability to save and later dispose of saved income is one of the key signs of material well-being and stability, thus affecting the overall quality of life. It is also important to discuss financial behaviors related to return on investment, retirement accumulation, and credit, as all of these elements have a strong impact on a person's income throughout their life cycle.

Saving is a big part of personal finance management and requires high financial literacy skills. Savings interest rates are higher by saving over a longer period of time as individuals invest using the various financial instruments available to them in the modern financial market. Although investing requires risk-taking, it can be reduced by investing in different sectors - diversifying. Understanding the importance of investing and risk management indicates low financial literacy. Promoting public awareness of financial products, instruments and their importance would increase investment interest. The ability to invest correctly and get the highest return is the most difficult aspect of personal financial management, as it requires a high level of financial education (Navickas, Gudaitis, 2014).

Savings are crucial at the macroeconomic level, i.e. the economy of the whole country. In the long run, low savings rates lead to financial instability. Assessed at the individual level, it shows that a person is not financially self-sufficient to survive an economic downturn or maintain a stable level of quality of life as life circumstances change. Thus, personal financial decisions remain important throughout life (Gaigalienė and Karpavičiūtė, 2017). It is also important to note that decisions made at a young age have a significant lasting impact on a person's long-term financial well-being (Henager and Crude, 2016). For this reason, it is important to find out what factors influence young people's saving decisions. According to the theories formed at the end of the 20th century, the saving behavior of the population is influenced by various factors, such as personal attitudes, beliefs, motivation, and the influence of others (Tuvesson and Yu, 2011). As a result, both psychological and economic incentives that influence individuals' savings decisions become the object of research. The phenomenon of savings itself is assessed on the basis of at least a few different assessment measures. The following aspects of individual savings

assessment are distinguished: opportunities to save, level of savings, regularity of savings, motives for saving, approach to saving, motivation to save and subjective saving (Gaigalienė and Karpavičiūtė, 2017). To assess the impact of adolescents' savings on their financial literacy, the authors used a survey method and applied a linear regression equation to analyze the responses obtained. The questionnaire was developed based on surveys of researchers Lusardi and Mitchel (2011), Otto and Webley (2016), Fisher and Anong (2012), and Tuvesson and Yu (2011). Some of the questions covered students' saving habits (aspects of saving were singled out: attitude to saving, saving habits and motivation), some were devoted to assessing financial literacy and some questions covered demographic measures: gender, place of residence, person's monthly budget, class. 440 responses were received from students in grades 11–12, for a total of 52,698 students in these grades at the time of the study, resulting in a total error of 4.65 for the study as a whole.

The results of the study revealed an existing positive relationship between financial literacy and student savings. It is estimated that 38% of all saving decisions or actions are determined by students' financial literacy. This effect is quite large. It also turned out that the financial literacy of the students of the last grades of the gymnasium is not high. About one-fifth of respondents are financially literate and able to answer complex questions, while another group of similar size is virtually financially illiterate. The study shows a worse situation in Lithuania - in this age group, it appears worse than in most other countries, where similar types of questionnaires were applied (although the whole population was assessed) and a higher average financial literacy of young people was obtained. Although the result of general literacy is not very good, when evaluating saving behavior separately, it was concluded that students' saving habits are quite good, which coincides with rational saving theory. Summarizing the responses, it became clear that the growing generation views savings more positively than neutrally, tending to save on unforeseen expenses, but does not always do so on a regular basis, devotes as much as remains unused on regular purchases. There is also a lack of motivation for students to save. It is the saving behavior of young people that is more rational than that of the Lithuanian household in general (as opposed to financial literacy). Pupils in grades 11–12 save 31% more than people between the ages of 18 and 29 and 31% more than the whole age group combined. This comparison is a reference to future generation savings decisions - they should be more thoughtful, so at a time when current high school students already have a stable income, the

overall level of savings in Lithuania should increase. Because of the receptivity of children and young people at a young age, it is important to teach both interest calculation and saving in the education system, as this knowledge will help to understand both the savings and borrowing aspects in the future. It can be concluded that last grade students tend to save and their financial literacy has a significant impact on saving decisions, but the overall financial literacy of young people is not high and other factors also have a significant impact on saving behavior. Such factors that are not included in this study could potentially include confidence in one's decisions and knowledge, a propensity to plan for the future, and innate or developed abilities, especially mathematical ones. However, both this and other studies in various countries around the world so far show that the link between a person's financial literacy and personal savings not only exists, but also has a significant correlation.

Other areas of contact between financial literacy and a person's material well-being are investment decisions, credit and pension accumulation. Most sources state that less financially literate people tend to make poor financial decisions. The correlation between low financial literacy and high-cost borrowing and sub-optimal mortgage options is the most examined. It has been observed that people with lower literacy levels often use high-cost borrowing methods and overpay for orders and fees. The use of credit cards among the population with lower financial literacy has been observed and is common. Financially literate and illiterate people used credit cards differently: less literate people were more likely to pay interest on a credit card or not pay off the full debt incurred on the credit card. Less financially literate individuals were more likely to be in debt and did not always fully understand their financial situation. Another aspect described in the literature is the influence of financial literacy on stock market participation. Positive results were observed in Dutch and US statistics: people with higher financial literacy were more likely to buy shares and participate in the stock market. Similar research has shown that financially literate people make fewer investment mistakes. Financially literate Germans have been able to assess portfolio risk, diversify it more, and get higher returns (Stolper and Walter, 2017). Financial literacy is consistently associated with better retirement and retirement planning, higher return on savings, and lower interest debt. The links between pension planning, savings and financial literacy have recently been seen around the world. Most states have mandatory pension plans in place, thus reducing the question for workers on how to save and accumulate funds for old age. Delegating financial matters can also mean entrusting your

finances to a financial advisor who will decide how best to invest the consumer's funds to earn a higher return. However, it should be remembered that these people may have other external factors that influence their decisions regarding the client's finances. Thus, hiring financial advisers does not eliminate the need for members of societies to develop their financial literacy, as less financially literate consumers are very easy to exploit for fraudsters or imperfect financial market agents (Michaud, 2017).

The assumption that financial education has a positive effect on quality of life because it has a positive effect on a person's material situation needs to be verified by reviewing empirical research on the subject. Financial ability correlates with income and material well-being (Taylor, 2011). A group of people with high financial capability (including, but not limited to, financial literacy) will better manage their income and will have more disposable income or a lower level of indebtedness compared to an identical but lower financial literacy group. Higher incomes allow living to higher standards and reaching material aspirations, thus contributing to a higher quality of life.

As research confirms the correlation between financial education and material well-being, research examining the relationship between material well-being (or income) and the quality of life itself should be reviewed further. Easterlin (2001) examines the relationship between happiness and income over an individual's life cycle. According to the author himself, the concept of happiness (also called well-being, usefulness and satisfaction by the author) is receiving more and more attention in works examining the quality of life and standards. As mentioned in the second chapter, life satisfaction, or happiness, is included in more than one subjective index of quality of life. According to the Easterlin's study, when assessing their happiness, residents usually consider the following dominant issues: standard of living, family life, health. The author chose to examine income as an essential factor influencing the feeling of happiness, based on studies such as the 1960 Cantril survey, which revealed that in many countries, material circumstances, the standard of living, are mentioned most often. According to the author, the data of each national survey reveals a positive bivariate relationship between happiness and income. The findings of the Easterlin study reveal that income has a positive effect on the assessment of happiness, but the magnitude of the effect is relative and highly dependent on a person's material needs, life cycle, and personality traits. For example, a young

person usually has less material aspirations, but as a young person matures, aspirations grow in proportion to income, resulting in additional income providing less additional happiness. It is also concluded that not only external factors such as income but also internal ones such as genetic traits and personal traits affect the sense of happiness. It is also concluded that individuals with higher education receive, on average, higher incomes and feel happier as a result. The study examined the impact of education on a person's income and happiness by applying cohort of the population variable to two groups of respondents - individuals with higher education and individuals with secondary or lower education. Thus, the study examined the impact of education levels under the universal education system on happiness. However, by extending the description of education, the findings of this study can be applied to financial education, although such education is much more difficult to assess. According to this Easterlin study, an increase in income usually has a positive effect on a person's sense of happiness, so it can be concluded that an increase in material well-being has a positive effect on quality of life (Easterlin, 2001).

In addition to material well-being, it is important to look at whether financial literacy affects some of the other aspects of human life that make up the overall quality of life. One such aspect is physical and psychological health. Financial literacy as a whole of financial knowledge and as a social skill is extremely important for a person, because the lacking average population is not only less able to manage their finances and therefore less materially supplied, but can also experience stress and psychological discomfort due to this skill and knowledge shortage.

While linking the phenomena of quality of life and financial literacy we can also look at extreme options, looking for links between concepts such as financial literacy and extreme financial deprivation, poverty and even social exclusion. Different financial literacy knowledge capital can contribute to wealth inequality and social exclusion. In one Lusardi study, researchers simulated pension assets by comparing subjects with higher education and those who did not complete compulsory schooling. In the case where the developed model enables educated employees to invest in their financial literacy, wealth inequality rises sharply between groups. We see that financial literacy is of considerable importance and depends on it one-third of the inequality of profits between individuals approaching retirement age (Lusardi et al., 2017). Financial literacy or its deficit and disparities in society increase not only financial but also

social exclusion. Financial literacy in this context can be classified as a social skill. The role of social skills in shaping the class of socially excluded people is considered by researchers to be essential - these skills play a crucial role in a person's career and social situation. According to practical knowledge, all social skills are very important and their lack can lead to the population falling into the group of social exclusion. Among other social skills, such as career planning, family life, communication, the ability to manage personal finances is no less important, especially in old age, as the opportunity to earn decreases (Kvieskienė, 2016). Financial literacy helps to avoid material deprivation, and thus to avoid the risk of falling into the group of social exclusion.

It is important to define what social exclusion is and why it negatively affects individuals 'quality of life. Social exclusion is defined as a process during which individuals cannot ensure a minimum level of quality of life that causes negative feelings such as shame, insecurity, lack of self-confidence, lack of respect and dignity, and psychological discomfort in a general sense (Tereškinas, Bučaitė-Vilkė, 2015). Tereškinas in 2016 highlights the definition of the researcher Bowring (2000) that an individual, living unable to meet his or her basic needs, which consists of residential property and a satisfactory level of quality of life, experiences a life of poverty. Tereškinas further develops the idea that persons facing great financial difficulties also lose the opportunity to participate fully in public life, to follow the usual practices, customs or norms in society. Loss of such opportunities leads to negative experiences, individuals not only experience shame, but also become stigmatized by society (Tereškinas et al., 2016). Thus, according to the definitions, an essential condition for social exclusion is that a person lives a life of extremely poor quality that does not meet a minimum satisfactory standard. An overview of the aspects of social exclusion and the impact on various spheres of life reveals that the population belonging to the group of social exclusion lives inferior lives, lacks dignity and experiences a constantly negative psychological state. Such persons also live a poor social life due to material deprivation. Such all-round poverty proves a poor quality of life. As a result, it can be argued that lack of financial literacy, among other social skills, can be one of the important factors in creating a low quality of life.

A number of studies have been conducted on how financial literacy affects a person's wellbeing from a negative anxiety and stress perspective, assuming that low levels of financial

literacy increase anxiety about the future financial situation. This research group also includes a 2018 study conducted by Kadoya. Their article describes a study conducted that aimed to examine the role that financial literacy plays in reducing anxiety about old age. The study draws on an improved study of preference parameters at Osaka University and empirically demonstrated that financial literacy reduces anxiety in old age through its interactions with wealth, income, and marital status (Kadoya et al., 2018). Consequently, the more financially literate a resident is, the less they are worried about the future and especially the financial situation in old age.

Also, part of the research links financial literacy not only to a person's sense of anxiety, wellbeing, but also to general psychological health. 2011 M.P. Taylor, S.P. Jenkins and A. Sacker conducted a study on the dependence of mental health on financial ability, independent of other factors such as income size or financial shocks. It has been investigated that high financial ability is associated with extremely good psychological health. Interestingly, different effects of poor financial ability have been measured for men and women - for men, lack of financial ability has extremely negative consequences for their health, outweighing even the effects of low income or deprivation, and resembles the effects of unemployment. For women, the same poor financial abilities equate to having divorced status. Thus, financial stress is a critical factor in an individual's psychological health and well-being. Improving the financial skills of the population, according to the findings of this study, would have a significant impact on diseases related to stress and its consequences. Improving financial capacity would also improve individuals' psychological health and thus their overall quality of life. During an economic recession, improving financial skills becomes especially relevant, then it has the greatest impact on health and quality of life. Economic policies aimed at improving financial education in the long run would improve the overall quality of life in the country and the level of the economy itself. A financially literate person is less worried about their finances and inability to manage them properly, and more financially literate individuals are in better psychological health because higher literacy improves their self-confidence and their future (Taylor et al., 2011).

All the aspects of quality of life and financial literacy outlined can be divided into the main 10 areas where these two factors are linked. A description of 5 areas, that could be described as financial is provided in the Table no. 4.

**Description of the relationship Relationship** area Financial literacy affects a person's quality of life through an intermediate link - material well-being. Research has found a causal link between financial literacy and sound financial management behavior. A person applies financial knowledge and skills by making optimal savings, investment, borrowing and pension planning decisions. Thus, Material all these decisions of personal finances are positively influenced by the level of financial well-being literacy. Proper financial management helps to mobilize higher income that improves material well-being. Material well-being is one of the most important factors in assessing the quality of life, therefore a materially self-sufficient person is likely to live a happier life. Saving is one of the main ways to accumulate income and one of the main aspects of financial management. When it comes to saving in a more general sense, it often involves setting aside money and investing. However, educating individuals would also significantly increase the level of financial literacy, as there is a strong dependency, Saving saving is also influenced by other factors, such as other abilities, propensity to plan for the future and self-confidence. Savings mitigate the effects of the economic downturn, both on an individual and macroeconomic level, and are therefore crucial. Without proper savings, irresponsible borrowing is more common, and without savings, there will be no reason to invest. The ability to make investment decisions requires a relatively high level of financial literacy, especially when choosing between complex investment instruments. Financial Investing knowledge helps to create a more diversified investment portfolio with a lower level of risk and a more stable return. It has also been observed that participation in the stock market only starts when a certain higher level of literacy is reached. Higher financial literacy helps to avoid higher-cost borrowing products: quick loans, excessive use of credit cards, and so on. Also, more financially literate individuals pay off debts on time and avoid fines by better appreciating the opportunities offered by Borrowing available finances. Young people with little experience in financial management are more likely to borrow irresponsibly. In the long run, it is important to be able to value the market when selling and buying Retirement planning large purchases, to choose the right investment and loan options. The exclusion of long-term financial financial literacy in society creates inequalities in profits among older people, which put management older people at risk of poverty.

Table 4, Essential Relationships between Financial Literacy and Quality of Life from the Prism of FinancialLiteracy compiled by the author.

Table no. 5 shows the distinguished areas of the relationship between quality of life and financial literacy in terms of quality of life aspects: these are factors that are directly related to a person's happiness, health, psychological well-being, and overall well-being. It is revealed how financial literacy affects these areas and, consequently, the quality of life.

Table 5, *Relationships between financial literacy and quality of life on the quality of life side, compiled by the author.* 

Relationship area	Description of the relationship
	Income has a positive effect on quality of life as it usually raises a personal sense of
The influence of	happiness. Income, along with health and interpersonal relationships, is one of the most
income on one of the	important factors in happiness. The strength of the influence of income on happiness also
factors of quality of	depends on the resources available for innate personality traits, such as a tendency to
life - happiness	pessimism, as well as the matching of aspirations and goals. Thus, in most cases, the increase
	in income increases the feeling of happiness, but in a variable ratio.
	Physical and psychological health are one of the most important components of quality of
	life. In quality of life research, personal assessment of health and sense of happiness is given
The impact of	more and more importance, and these studies assess the well-being, emotions and general
financial literacy on	level of happiness of individuals. As a result of these studies, it is becoming easier to
psychological well-	elucidate the effects of financial literacy on an individual's well-being, happiness, and even
being	health using similar methods. It is this way of researching quality of life that helps to
	discover the links between quality of life and financial literacy.
	Financial literacy skills have a significant impact on individuals 'well-being, and perceived
	literacy in particular increases psychological discomfort. The happier a person feels because
	he or she has a good financial knowledge base, the more influence the available knowledge
Feeling at ease	has on his or her quality of life. Lack of financial literacy causes psychological discomfort
	as it increases self-confidence and uncertainty about the future. Higher literacy reduces
	anxiety levels, especially in old age, as it reduces worries about wealth, lack of income, and
	even marital status.
	In some cases, a lack of financial capacity leads to stress equivalent to the effects of
	unemployment, with greater anxiety about inability to manage finances being seen among
Davahalagigal haalth	men. In such cases, financial literacy also has a significant impact on a person's
r sychological health	psychological health. Thus, raising the financial literacy level of the population should
	improve their psychological health and happiness level, as well as their quality of life.

A financially literate resident is more competent to plan for retirement, more interested in entering the financial market and investing in better credit portfolios, able to save larger amounts, and can avoid high interest rates and additional costs. Advances in financial literacy enable people to achieve higher levels of well-being, help them adapt to life changes and reduce risk, all of which help them reduce anxiety about the future and increase their sense of security. One of the most important indicators of quality of life is material well-being, which makes a person happier. Research has shown that better financial skills have a positive effect on a person's income level, and a person with a higher income feels happier if their aspirations do not exceed their income level. Thus, on average, higher literacy increases income and also increases the overall quality of life. However, no less important factor in measuring quality of life is a person's psychological health, which is negatively affected by stress caused by low financial literacy. Low or no financial literacy contributes to the social exclusion of the population, causes stress and health problems, and for these reasons the quality of life of these people deteriorates. Thus, higher financial literacy has a positive impact on the quality of life of an individual and society, otherwise poor or negative financial education has a negative impact on quality of life, so levels of financial education and quality of life have a demonstrable causal relationship.

## 1.3 EVALUATION OF SURVEYS AND RESULTS OF FINANCIAL LITERACY AND QUALITY OF LIFE STUDIES

This section will explain the methodology and findings of empirical research related to financial literacy. Most studies are based on the same basic survey questions, which are then interpreted in their own way and have different demographic backgrounds.

In order to conduct an empirical study, it is first necessary to define the parameters for assessing the level of financial literacy. Typically, three main research parameters are proposed, covering consumer perceptions of essential parts of the financial market:

1) Basic computational, or more broadly, basic mathematical skills required to understand and calculate financial mechanisms such as interest rates (Lusardi, Mitchell, 2014).

2) Perception and assessment of macroeconomic climate (Hall, 2008). As the macroeconomic context is very broad, a comprehensive assessment of such knowledge would be a separate area of academic research. For the analysis of consumer financial knowledge, this parameter is defined as an understanding of inflation (Lusardi and Mitchell, 2014). (It is important that comprehension is treated differently from the ability to calculate, because the

ability to calculate inflation would automatically include the first parameter of research, user mathematics).

3) Understanding and assessing risk-return on investment (Hall, 2008). In this case, it is an understanding of risk diversification (Lusardi and Mitchell, 2014).

In an empirical study, it is important to formulate questions clearly and simply. It is important to minimize inaccuracies in the results due to the complexity of the formulation. In this case, it would be appropriate to have a control group with differently worded questions defining the same parameters. Lusardi and Mitchell (2008) define these issues as indicated in the following examples:

• Let's say you have € 100 in your savings bank account. The interest rate on the account is 2% per annum. After 5 years you should have a) more than 102 EUR in this account, b) exactly 102 EUR, c) less than 102 EUR, d) I don't know, e) I will not answer.

• Let's say your savings bank account has interest rates of 1% per annum and inflation at 2% per annum. After 1 year you will be able to buy a) less than today, b) as much as today, c) more than today, d) I don't know, e) I will not answer.

• It is safer to buy shares of one company than shares of investment funds. a) True, b) not true, c) don't know, d) don't answer.

The authors also highlight the shortcomings of such wording. In particular, it is impossible to distinguish between users who meet the requirements of the parameters and those who simply guess the answers. In this case, it would be appropriate to include an additional question letting the respondent say if they have guessed the answers and evaluate their knowledge themselves on a scale of 1 to 10.

The 2009 National Financial Capabilities Survey in the United States highlights 2 additional questions in addition to the 3 questions developed by Lusard and Mitchell in 2008. Thus, five questions are used in this study. This study was designed to examine the level of financial literacy of adults at the national level. In addition, the connected issues delve into the perception of interest rates and bond prices on mortgages.

- Answer whether the following statement is correct. A 15-year home loan will typically have higher monthly payments than a 30-year, but the total interest over the life of the loan will be lower. (a)True; b) False; c) I don't know; d) I will not answer;
- How will bond prices change as interest rates rise? a) Will go higher; b) Will go lower; c)
  Will not change; (d) there is no link between them; e) I don't know; f) I will not answer;

Much of the subsequent research in the field of financial literacy relies on these 3 or 5 questions to determine the overall level of financial literacy of the population. It is important to define the demographic data of the respondents as well, such as: age, education, income, gender. In this case, the survey results could be interpreted more deeply statistically.

These questions help to delve into the context of financial literacy skills. As discussed in the first section, financial literacy consists not only of successful financial decisions, but also of understanding mathematical skills, financial knowledge, and concepts, and applying that knowledge to financial decision-making. Thus, the additional 3 questions provide an understanding of the context of existing financial literacy as defined in the key issues, and thus the study may reveal educational gaps in the public education system and explain an area where financial literacy is potentially low.

Finally, even if some respondents guess the correct answer, the results of the empirical research reviewed below show that financial literacy is relatively low in many countries. (Lusardi and Mitchell, 2014). Given that all consumers sooner or later make financial decisions of varying importance and risk, it can be argued that even in Germany, where financial literacy was highest among the countries being compared, in 2009 The results of a survey conducted in 2006 (Bucher-Koenen and Lusardi) revealed that 53.2% of German respondents answered all questions correctly, it did not show a high level of financial education in society. On the other hand, countries that previously operated in a planned economy show the lowest financial literacy; In Russia in 2009 all questions were answered correctly by 3.7% (Klapper and Panos, 2011), in Romania by 3.8% in 2011 (Beckmann, 2013). This shows the importance of such research in Lithuania, whose economic history is similar to that of the least financially literate countries.

To study financial literacy in the context of quality of life, it is important to understand what issues are relevant to determining quality of life. As can be seen in the aspects of quality of life

discussed earlier, the definition and methods of determination are not precise, and this is a broad concept that depends on many factors. The European Statistical System Council has introduced a survey on quality of life in several dimensions, which are defined as:

- 1) Material living conditions (income, wealth and consumption)
- 2) Health
- 3) Education
- 4) Productive and valuable activities (including work)
- 5) Governance and fundamental human rights
- 6) Leisure and social skills
- 7) Nature and living environment
- 8) Economic and physical security
- 9) General well-being in life.

The list includes not only measurable material or educational aspects of quality of life, but also subjective areas of life, as one's own well-being is also studied, as it also affects a person's overall quality of life. In 2013, the OECD raises the following subjective issues of quality of life assessment:

- 1) Overall lifetime assessment. For example: How satisfied are you with your overall life including all areas?
- 2) Measurement of impact (positive or negative), which defines the feelings felt by the respondent over a period of time. Eg: How often have you been sad in the last 4 weeks?
- 3) The eudaimonic aspect (psychological "prosperity"), which reveals a person's feelings of meaning and duty. For example: Do you feel that what you do in life is meaningful and valuable?

These types of questions allow you to take into account individuals' well-being and assessment of their own lives, which reveals their views on how they feel in their lives. Subjective areas of quality of life are becoming an increasingly important part of quality of life research and are often included in official statistics (De Smedt, 2013).

In order to empirically study the levels of financial literacy and quality of life in Lithuania and the relationship between them, the survey should consist of the above 5 major areas of financial literacy, objective and subjective questions defining quality of life and demographic information, including self-assessment questions. With such a survey, it would potentially be possible to find out what the financial literacy of the respondents is, what their quality of life is and whether these factors are statistically correlated as defined in the theoretical aspect.

# 2. THE METHODOLOGY FOR RESEARCHING THE INTERACTION BETWEEN FINANCIAL LITERACY AND QUALITY OF LIFE

**The object of the research -** the influence of the level of financial literacy on the level of quality of life.

**The aim of the study** - to find out the levels of financial literacy and quality of life in a certain defined groups of people, to find out whether a higher level of financial literacy directly means a higher quality of life, what correlation exists as well as what is the variety in different age groups.

Research method - empirical quantitative research, statistical data analysis.

A quantitative nature of the research was chosen, the main method of the research is statistical analysis and correlation calculation. The survey method was chosen in order to accumulate the data for the further research as such research hasn't been accumulated by the Lithuanian statistics department.

The survey was put together with the previously discussed research of the areas of financial literacy and quality of life in mind. The first block of questions is in order to decern a respondent's financial literacy level, the 5 questions previously used in research done by Lusardi and Mitchel as well as the USA federal government: 1) Let's say you have 100 EUR in your savings bank account. The interest rate on the account is 2% per year. How much will be in the account in 5 years? Answer options: a) More than 102 EUR; b) Exactly 102 Eur; c) Less than 102 Eur; d) Don't know; e) Can't answer. 2) Your savings bank account rates are 1% per annum and inflation is 2% per annum. After 1 year with the money in the account you will be able to purchase: a) Less than today; b) Same as today; c) More than today; d) I don't know; e) Can't answer. 3) Answer, is the following statement correct? Buying shares of one company is safer than investment fund shares. Answer options: a) True; b) False; c) Don't know; d) Can't answer. 4) Answer, is the following statement correct? A 15-year home loan will typically have higher

monthly contributions than a 30-year loan, but the total interest over the life of the loan will be lower. Answer options: a) True; b) False; c) Don't know; d) Can't answer. 5) How will bond prices change as interest rates rise? Answer options: a) Will rise; b) Will fall; c) Will not change; d) There is no connection between the two; e) Don't know; f) Can't answer. As suggested in the previously talked about research, answers include options of unwillingness to answer in order to lessen the number of people who answer correctly by chance. There are 3 more questions in the block of financial literacy in order to ascertain the person's confidence in their knowledge and answers as it has been established, that financial literacy is not only possessing the knowledge, but having confidence in your choices and knowledge as well. Questions 6 through 8 as the respondents to evaluate their financial knowledge, mathematical skills and the ability of make optimal financial decisions in their lives on a scale of 0 (being very low) to 5 (being exemplary).

The following block of questions in the survey exist in order to compile the quality of life level of each participant. This consists of 11 questions ascertaining to a one's material life as well as emotional and social life: 9) Describe the material aspects of your life. This is a multiple choice question as many options can be picked as apply, options given: I live comfortably; I don't have any savings; I have enough for myself and my family; I save additionally for retirement; I have almost no assets; I invest in the stock market; I invest via investment portfolios; I own my own home; I have debt, loans, credits; I save, but I don't invest. 10) From 1 (bad, I get sick often) to 7 (Excellent, I'm never sick) please evaluate your health. 11) From 1 (Completely no) to 7 (Very much) evaluate your productivity, including work and leisure time activities. 12) Do you feel safe in your day to day life, do you know your rights? Answer options: a) Yes; b) No; c) I don't feel safe all the time; d) I don't know my rights; e) I don't want to answer. 13) How often do you partake in leisure or social activities in your day to day life? On a scale of 1 being never and 7 being every day. 14) From 1 (bad) to 7(amazing) evaluate your living environment. 15) From 1 (completely no) to 7 (very safe) evaluate how financially safe you are. 16) Please evaluate your overall well-being on a scale of 1 (very poor) to 7 (great). 17) On a scale of 1 (completely no) to 7 (very much) please evaluate your overall satisfaction with your whole life. 18) From 1 (never) to 7 (often) how many times have you been sad in the past 4 weeks? 19) From 1 (never) to 7 (often) how many times have you been happy in the past 4 weeks? 20) How often do you feel like what you do in life is a valuable or meaningful activity for both you and in relation to society? Answer options: a) Always; b) Often; c) Sometimes; d)

Seldom; e) Never. The questions are designed to evaluate a person's quality of life from both the material and immaterial perspectives, including health, self-realization and happiness.

The last block of questions in the questionnaire are demographical in order to help process the data and see any patterns within the collected answers: 21) What is your age? Age brackets are given: Below 18; 18-30; 30-50; 50-70; 70-100. 22) What is your income level? Income levels are provided to pick from income earned per month in euros: <600; 600-1000; 1000-1500; 1500-2000; 2000-3000; >3000. 23) What is the highest level of education finished? Answers provided: Basic school; High School; Vocational or trade school; Bachelor's degree; Master's degree; PhD. 24) What is the area of your profession or degree? 25) What is your gender? This data is collected in order to measure the results in comparison to the respondent's income level, education level as well as to control the sample of people selected and eliminate the ones that don't meet the set age or profession sector requirement.

For the purpose of this research, it was chosen to question and examine the data of 3 age groups of Lithuanians who haven't pursued an education or profession in the financial sector, drawing a conclusion, that no deeper specific financial knowledge has been pursued previously. The selected age groups are 18 - 30 year old, the youngest age group, this is due to their future potential as consumers in the financial markets, the second group is 31 - 50 year old, this is the majority of the current work force in the country and potentially already invest into the financial markets or save for retirement and lastly a group of 51-70 years old has been picked in order to ascertain the level of financial literacy and how it corresponds with plans for retirement or potentially early retirement.

$$n = \frac{1}{\Delta^2 + \frac{1}{N}}$$

#### Formula 2, Paniotto formula for sample size calculation (Valackiene, 2007)

The samples are calculated according to formula no. 2, where n is the sample size;  $\Delta$  is the magnitude of the sampling error or the marginal sampling error (an acceptable error of 5 to

10%, i.e. 0.05 to 0.1); N is the size of the study population. In the youngest selected age group of 18 - 30 in Lithuania there are around 394 thousand people (according to the Lithuanian Department of Statistics), and since the aim of the research object is to study people who do not pursue professional economic education, the total size chosen for the calculation is 300 thousand people. Applying the formula and choosing a 5% error gives n = 399.5. Therefore the goal is to question 400 people in the age of 18 - 30 group. In the age group of 31 - 50 there are around 729 thousand Lithuanians, 600 thousand of them do not work in the financial sectors, takin in the same calculation n = 399.7, therefore 400 people from this age group is the sample size as well. In the last age group of 51 - 70 year old there are around 770 people in the country, therefore the sample size as well ends up at close to 400, and will be rounded up to 400 respondents. The goal of the survey is to have 1200 responses overall, once the data is compiled and the unfit data, that doesn't meet the criteria is taken out. As the country is currently in a pandemic and lockdown measure an online survey has been made via the website "surveymonkey.com", once the premium version of the website is accessed it allows to limit the survey responses to 1 per 1 IP address, therefore there is a limitation of no more than 1 person per household filling it out once. In order to reach these specific target groups the survey is shared in targeted social media site groups, such as smaller rural are communities on "facebook", in order to reach some of the older needed respondents the survey is shared with family members in those age groups to be distributed in their gardening, knitting and beauty product groups. The survey was made in Lithuanian due to the sample being the Lithuanian population.

An exploratory survey of 100 respondents was done in order to see the validity of the survey and any potential pitfalls the questions may entail. The results while not overall conclusive enough to have any research impact, were promising as there seemed to be no large issues with the questions, however both the education level and income level brackets were adjusted as feedback was received from the respondents of not including the vocational school choice as well as it could be seen that most of the respondents fit into the <1000 euros income bracket, therefore it was decided to split it into smaller more varied parts in order to get a more conclusive correlation. The above answers are already adjusted with this research in mind.

Once the data is collected, it will be statistically analyzed with the use of MS excel in order to define the financial literacy level and quality of life level all answers will be given

numerical values and via extensive "if" functions the overall score will be accumulated for each factor. One of the aims of this study is to conclude whether financial literacy has a direct impact on the quality of life, as well as understand any other correlations financial literacy may have with income level or education level. Regression analyses are performed in MS Excel to determine the correlation coefficients between the main selected research factors: quality of life, financial literacy, and income levels. An additional correlation is calculated between financial literacy and education level. Statistical reliability is demonstrated using p within the same MS excel calculation. Demographic similarities are highlighted, and survey results are expressed in pictorial charts. Resulting data and any ideas surmised from it will be discussed in the conclusion once the research information is analyzed.

#### 3. DATA ANALYSIS AND RESEARCH RESULTS

A total of 1327 respondents responded to the survey, 114 of whom were either underage or their professional life relates in some way to economics and finance. Due to the previously defined targeted sample of the experiment, further statistics, results, and calculations are presented of the responses of the remaining 1213 respondents, aged 18 to 70, working or studying in a field not directly related to economics or finance.

The results obtained as a result of the survey strongly correlate with the aspects considered in the theoretical part of this thesis.

In the picture No. 1 the age distribution of the respondents is visualized. 55 percent of the people who responded to the survey are women, 44 percent are men and 1 percent chose not to disclose their gender, which was also chosen as an option in the survey provided.



Picture 1. Gender distribution of respondents.

The age of the respondents is as followed 406 respondents fall in the age group of 18 to 30 years of age, 402 respondents are 31 to 50 years old the remaining 405 people who answered the survey are 51 to 70 years old. It was decided upon these 3 distinct age brackets for later generational comparison.



Picture 2. Professional work or study areas of the respondents.

In pictures No. 2 and 3 the professional and educational level distribution of the respondents can be seen. Almost half of the respondents work in the field of customer service (i.e. 49%). Other, more frequently chosen branches were engineering and information technology 15 and 13 percent respectively. Concerning education level, 35 percent of respondents have achieved a bachelor's degree, 32 percent have a school diploma, 25 percent have some variety of professional accreditation in a chosen field, 7 percent have achieved a master's degree and 1 percent of the people responding to the survey were PhDs. Since the aim of the study is to find out the level of financial literacy in the part of the society that does not go out of its way to achieve it, this level of education and the respondents working in these fields are the most optimal.



Picture No 3. Level of education of respondents.

One of the most important demographic areas in the survey is depicted in picture no. 4 and this is the distribution of respondents by monthly income levels in euros. The largest group of respondents have from 801 to 1000 euros per month of income, and this is 22 percent of respondents. 21 percent of respondents fall in the share of monthly income between 400 and 800 euros, 13 percent receive between 1001 - 1200 euros of monthly income, 6 percent of respondents receive less than the aforementioned groups, 12 percent receive between 1201 euros a month and 1600 euros, 10 percent receive from 1601 to 2000 euros, 8 percent fall into the 2001 to 2500 bracket, 6 percent have 2501 to 3000 euros monthly and finally, 2 percent of the

respondents receive more than 3001 euros of monthly income. Such a statistical distribution of respondents seems logical, as in 2019, the average monthly salary in Lithuania ranged from 800 to 850 euros.



Picture No. 4. Distribution of respondents by monthly income level in euros.

The financial literacy part of the survey consisted of 5 questions, all of which have a correct answer. In order to assess the level of financial literacy of the respondent, the obtained results are added to a total score, where each question is collectively worth one point. 100 percent in this assessment contains all 5 questions answered correctly and the levels of financial literacy are divided into five levels depending on the number of questions answered correctly: 80 percent means 4 correct answers, 60 percent is 3 and so on.



Picture No. 5. Financial literacy levels in the respondent age group 18 to 30 years old.

Average level of financial literacy of all surveyed respondents is 39.42 percent. In picture No. 5 the division of respondents by literacy level in the first youngest age group 18 to 30 years old can be seen, their overall financial literacy level is 33.3 percent.



Picture No. 6. Financial literacy levels in the respondent age group 31 to 50 years old.

Picture No. 6 shows the financial literacy levels of the middle group aged 31 to 50 years old and the total average of this group is 45.5 percent. Lastly in Picture No. 7 the division in the group aged 51 to 70 years old can be seen and the average financial literacy level in this group is 39.46 percent.



#### Picture No. 7. Financial literacy levels in the respondent age group 51 to 70 years old.

This shows a certain convex curve in the data of financial literacy levels overall as the largest amount of respondents in all age groups either answered all questions correctly or none at all, which indicates that either all the knowledge base needed to make decisions is known or not and in fewer respondents known only to a certain extent. This shows a good assimilation of knowledge if it has been encountered or learned. The survey also asked respondents to self-assess their financial knowledge, mathematical abilities, and ability to make optimal financial decisions. 34 percent rated their financial knowledge 1 - small, 28 percent as 2 - minimum. This shows that most of the correspondents who did not know the answers to the first questions understand that they have a lack of knowledge. More than half of the respondents rated their mathematical abilities as 2 - minimal, which is probably due to distrust of their knowledge, age or level of education. However, 42 percent assessed their ability to make financial decisions as a 3 - average ability, which shows greater confidence in their ability to mention that even

respondents who answered all the questions correctly in the financial literacy part of the survey tended to rate their knowledge 3 or 4 out of 5, ergo respondents tend to be self-critical, even when they have the knowledge a lack of self-confidence in their abilities is seen.

Quality of life is surveyed using 11 questions, most of which require assessment of certain aspects of the respondent's life or one's feelings on a scale of 1 to 7. To determine the overall quality of life level of a respondent, the answers to the questions are summed, the questions regarding bad emotions and sadness are reversed, therefore an answer 1, meaning never, is worth 7 points, and the answer 7, meaning always, is worth 1 point. The questions regarding the feeling of security in one's knowledge of human rights is evaluated on a 3-point scale, where 3 points are given for a positive answer, 2 for the answer: I do not always feel safe, and 1 point is given for an answer - I do not know my rights, but I feel safe. Under this system of questions, the maximum quality of life assessment score is 70, which is equal to 100 percent and so the results are converted to a percentage. The average overall quality of life of all respondents is 45.74%, which is around 6 percent higher than the financial literacy level.



Picture No. 8. Visualization of respondents' financial literacy and quality of life distribution.

Picture no. 8 the levels of financial literacy and quality of life of all respondents are shown together in one chart, although it is clear that higher financial literacy also has a higher quality of life, it never reached the exact 100 percent as a person can never truly be completely happy and content with their lives, 7.14 percent as quality of life level was the lowest gotten answer which is reasonable as quality of life consists of previously defined areas of life and emotional factors, not all of which depend on material well-being, such as health, happiness, a sense of fullness, a sense of significance, and the likelihood of a profession.

Table 6, regression of quality of life level%, financial literacy level% and monthly income level % analysis results, compiled by the author (full analysis in the appendix).

Variable	Correlation coefficient	P-value
X - Level of Quality of life % (Independent		
variable)	0.593963629	1.85E-116
Y - Financial literacy level % (Dependent variable)		
X - Financial literacy level % (Independent		
variable)	0.593963629	1.85E-116
Y - Level of Quality of life % (Dependent variable)		
X - Monthly Income level % (Independent		
variable)	0.474234518	5.56E-69
Y - Level of Quality of life % (Dependent variable)		
X - Level of Quality of life % (Independent		
variable)	0.474234518	5.56E-69
Y - Monthly Income level % (Dependent variable)		
X - Financial literacy level % (Independent		
variable)	0.6410407	3.18E-141
Y - Monthly Income level % (Dependent variable)		
X - Monthly Income level % (Independent		
variable)	0.6410407	3.18E-141
Y - Financial literacy level % (Dependent variable)		

Table number 6 shows the regression analyses between the main 2 core variables of this research financial literacy levels and quality of life, as well as an added research between the main variables and a third – monthly income level. All regressions were run with the variables both as independent and dependent, however no difference was noticed, therefore the correlation must be direct. The largest correlation of 0.64 was seen between financial literacy and monthly income levels, considering anything in the range of 0.5 and 0.7 to be a medium level correlation. Slightly less strong however still significant correlation coefficients calculated for level of

quality of life and financial literacy levels, this being 0.59. The smallest correlation, however still close to the medium of 0.5, was between monthly income levels and quality of life and this was 0.47. The statistical reliability of this regression ("P-value") is very close to zero, with a p <0.05 as very strong reliability, indicating a very low probability that this correlation between quality of life, financial literacy and monthly income levels is random. The relatively strong direct effect between quality of life, financial literacy and monthly income levels shows that these factors are directly related, however all can also be influenced by other factors already discussed in the theory part of this paper.

Table 7, correlation coefficients of financial literacy % and quality of life % in the different age groups compiled by the author (full analysis in the appendix).

Age Group	Correlation coefficient where X - Level of Quality of life % (Independent variable) and Y - Financial literacy level % (Dependent variable)	P-Values
18-30 years old	0.659799919	5.81E-52
31-50 years old	0.634905432	1.23E-46
51-70 years old	0.484475449	3.62E-25

In table 7 the analysis of regressions run between the 2 main variables of this paper, financial literacy levels and quality of life levels in the defined age groups can be seen. The p-values remain close to 0, therefore the regressions are as well statistically reliable. The biggest correlation between the variables can be seen in the first and youngest age group between the ages of 18 and 30 being 0.66, the next group between the ages of 31 and 50 has a correlation of 0.63 and the lowest correlation calculated in the oldest age group in this research 51 to 70 years old, being 0.48. Considering the values lie close to the numbers seen in the overall analysis, however in this analysis a slight indication can be seen, that while the older age group has a higher financial literacy level, the correlation seems to be smaller, ergo in this age group quality of life is more effected by non-financial factors, such as health perhaps.

To a request to describe the material aspects of their lives the respondents were given a variety of choices and they were able to choose how many answers they wanted to pick that corresponded to their lives. A medium proportion of the respondents do not have any major assets or savings, they have loans, but live comfortably and have enough to support themselves and their families. 876 respondents accumulate funds for retirement - such a high number in this area can be explained by the mandatory pension accumulation introduced by the government and the general need to do this as the respondents vary into older age groups. Only 58 respondents invest through investment portfolios and only 118 participate in the stock market. This may indicate the unpopularity of these financial products and areas in Lithuania. As there are almost half as many respondents participating in the stock market as answering all financial literacy questions correctly, it can be argued that the choice not to participate in this market does not depend on a high level of financial literacy. However, the 58 respondents who responded that they choose to invest in stocks are also the majority of those who answered all financial literacy questions correctly, with an average financial literacy rate of 79%. It could be assumed that a higher level of financial literacy encourages people to start investing and helps them to make more optimal financial decisions.



# *Picture No 9, Quality of life levels %, monthly income levels % and financial literacy levels % analysis in all respondents.*

Picture no. 9 shows the three main indicators examined in this study: quality of life level, financial literacy level, monthly income level, the graph shows each respondent's levels of all

three indicators simultaneously. In this graph, it is possible to see the interactions discussed earlier and the results of all three variables are often similar for the respondent. Attempts were made to find other areas of information distribution by analyzing the available results, but no significant differences were observed when comparing respondents' responses by gender or age within the defined age groups. Most of the respondents to the answers about pension accumulation and real estate were older than 25 years old. This may be the case because pension accumulation is made when you start working in the labor market and younger respondents or students are not yet interested in it. Professionals in the area of customer service generally fell into a lower financial literacy and monthly income level and most of these respondents had a relatively lower level of quality of life, this coincides with the regression analyses done previously. The majority of respondents answered positively to the question of the feeling of security and a very small part answered negatively, which shows that even if they are financially insecure, the respondents feel safe living in Lithuania and know their rights quite well.

An empirical quantitative study was conducted to investigate the levels of quality of life and financial literacy of the selected groups of people in Lithuania as well as the interaction between the set out variables. The study revealed that the average level of quality of life in respondents selected for the study is 45.74 percent, the overall level of financial literacy is 39.42%, and the average level of monthly income of all the respondents is 45.43%. Further examination upon these variables discussed the correlation coefficient between quality of life and financial literacy of 0.59, which shows a strong relationship between the variables, the coefficient between quality of life and monthly income levels was 0.47, slightly lower than with quality of life, also shows an average relationship between the variables. The overall correlation between financial literacy and monthly income levels is 0.64 and shows the strongest relationship between these variables out of the picked 3. The statistical reliability of all regressions was checked using the p-values, which was always close to zero, therefor the correlations between the factors are not random. Other research of the study pertained to dividing the respondents into age groups and seeing if there could be seen any trends in the correlation coefficients based on a respondents time in life. This showed a smaller correlation in the oldest research group between the ages of 51 and 70, presumably this is due to other more important factors coming into play for the respondets' quality of life level, such as health or early retirement investment. This research also endeavored to find any other statistical significance in the compiled data, however none was found.

In summary, the study demonstrated a relationship between quality of life, financial literacy and monthly income level in selected age groups as well as overall in Lithuania. Individuals who did not individually pursue vocational education in economics or finance were selected for the study. The age brackets overall for the study were 18 to 70 years of age, as well as later on being divided into smaller sections of 18 to 30, 31 to 50 and 50 to 70 years of age. With the aid of regression analysis of all the data compiled in varied sets, a statistically significant correlation between the main 3 variables in the study was found and proven.

### 4. CONCLUSIONS AND SUGGESTIONS

Today's world is full of complex financial instruments, the fluctuations of the economic cycle, the threat of economic crisis and in this time the future financial perspectives are worrying. For all these reasons, it is important to be able to make sound financial decisions that determine material well-being not only in the short term but also throughout the life cycle. A variety of research in the 21st century has confirmed that there is a strong correlation between financial literacy levels and rational financial decisions. Financial literacy is the ability to process economic information and make complex decisions about financial planning, making a more financially literate individual more secure about the future. Quality of life is perceived as a degree of well-being of both the individual and society, it is often used to assess the effectiveness of public services, it is important for individuals to choose a place to live and make other important decisions. To date, there is no agreed common way in the scientific literature to define or calculate quality of life. The link between financial literacy and quality of life can be seen in a variety of scientific sources. Financial literacy influences financial behavior, more financialy literate people tend to accumulate higher incomes, higher incomes have a positive impact on a person's quality of life. Another important factor in measuring quality of life is physical and psychological health, as well as subjectively perceived quality of life, or well-being, often measured at the level of happiness. Research has also shown that there is a link between financial ability and psychological health. Based on the above-mentioned scientific theory, this work assumes to prove that financial literacy is causally related to quality of life.

The economic statistical research in this paper revealed that the population of Lithuania at a young age (18-30 years old), not related to their profession or science in economic or financial

fields, is quite financially illiterate (average financial literacy rate 33.3 percent). This finding confirms the global trend of low literacy in theory. The age group in between the ages of 31 and 50 years old is the most financially literate group with the percentage at 45.57 percent. This shows a difference in experience and knowledge discussed in theory previously. However, as time passes a lowering in literacy can be seen, as in the age group of 51 to 70 year of age in Lithuania the financial literacy level is at 39.46 percent. This goes in accordance with theoretical work done previously indicating that financial literacy has the most opportune time to be used and later on is forgotten. It was found that the literacy rate of young people in Lithuania is noticeably higher than in other countries with a similar economic history. The absolute majority of respondents rated their financial knowledge and mathematical abilities as minimal or average, so residents rate their knowledge adequately. Respondents rated their life satisfaction with 45.74 percent on average. Consequently, the subjective quality of life is higher than financial literacy by 6 percent. The correlation coefficient between financial literacy and quality of life is medium at 0.59 and statistically reliable (P-value less than 0.05). The finding that there is a correlation between financial literacy and quality of life confirms the main assumption of the study. The self-assessment of the material life aspects of the population revealed that the answers were divided between negative and positive aspects: a large part does not have any major assets, has loans, a part accumulates funds for retirement, has enough self-sufficiency. It is interesting that investing in the financial market is especially unpopular in Lithuania, only a few respondents choose investment portfolios. According to the survey, the average income level of the young Lithuanian population corresponds to the country's average monthly salary in 2019. It has been studied that income also has a positive effect on quality of life, the correlation coefficient between these two factors is equal to 0.47, although this coefficient indicates a weaker relationship, but confirms the causal relationship between these factors found in other economic studies. Other factors that affect quality of life assessment are not defined in this study, but based on the theory could be: physical and psychological health, job satisfaction, education, personal relationships, human rights, social equality. The quantitative study also calculated a linear regression equation, with income chosen as an independent variable and financial literacy as a dependent variable. The correlation coefficient of 0.64 found between monthly income and financial literacy levels shows a slightly higher relationship than between financial literacy and quality of life. This may mean that people with higher incomes have more resources and invest

more in the social capital of their financial literacy. Different social groups have their optimal level of investment in literacy, so it is more beneficial for a higher income group to acquire a higher financial education. This work also analyzed the data in generational age group sets, it was noted the correlation between a person's financial literacy and quality of life seems to go down in as the age gets older. This signifies theoretical idea discussed in other works, that there is the most optimal time of life to use and learn financial literacy and that it may no longer be needed at a later date. Based on the results and conclusions of the economic experiment of this work, it can be stated that there is a strong correlation between financial literacy and quality of life factors.

#### Suggestions:

1. As research directly linking financial literacy and quality of life is not widespread, one of the suggestions for further research is to apply the method of economic experimentation and to investigate levels of financial literacy, quality of life and their relationship in other countries, such as Germany, which is known to have higher financial literacy, and in Russia, where financial literacy is extremely low. Further research in other demographic groups would help to compare how the relationship between financial literacy and quality of life dependence is changing, with strong differences in literacy and well-being levels. Future research could also assess the impact of different educational programs on financial literacy, and at the same time on improving the quality of life, with a stronger focus on tracking different educational programs and the changing well-being of their participants over a number of years. Such research would require considerable resources that could be invested by private research institutions and the public sector, however this would take a long time.

2. At the societal and national levels, economic policy and the public sector should pay more attention to financial literacy education in order to increase the overall state income and the quality of life of the population in the long run. As financial decisions made by young people are crucial for the whole life cycle (young people aged 18-30 choose housing loans, invest in their education), a financial literacy module could be introduced in universities, colleges, vocational schools and possibly employment services. If educational programs were effective and encouraged young people to deepen their financial literacy, good habits developed at a young age would increase their income in the long run and help them achieve a good quality of life. As

the highest correlation between these 2 variables was seen in this particular age group and they are the easiest to reach out to via the education systems.

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#### 6. SUMMARY

Financial literacy has shown to have an impact in many areas of a person's life such as savings, investments, financial planning, and spending patterns, it has become of great importance in the recent years. There is a lot of research into financial literacy and life quality separately, however almost no research investigating the two variables together. Therefore, the goal of this paper is to evaluate what kind of impact if any financial literacy has on quality of life. The main targets are to evaluate other works written in both financial literacy and quality of life and their definitions, aspects and the research results already discovered within the area, taking which into account to then draw a line between the two and the possible effects as well as areas in which financial literacy and quality of life connect. Another target of this paper is to do a quantitative study into both financial literacy and quality of life levels in a defined group of people in Lithuania, analyze the results and make observations. The paper therefor consists of two main parts, the theory, which includes the above mentioned research of financial literacy, its main aspects, quality of life and all the parts going into it, draws a line between the two and distinctly defines life areas in which they corelate as well as research on how studies have already been done and into the questionnaires built for them. The second part contains the methodology for a study, 3 age groups of people were picked and these were Lithuanians aged 18 - 30, 31 - 50 and 51 - 70 years old, that have no professional or educational background in economics or finance, the goal of the study is to define financial literacy within this age group due to their future potential in society as well as them having never seeked out deeper financial literacy knowledge, than naturally acquired and see if there is any differences in the levels based on previous knowledge impacting current income. The sample size for each age group has been calculated to be 400, then the data was be analyzed and correlations between the key variable calculated. Financial literacy has an impact on quality of life, although it is not the only variable affecting it, as a person is capable of living a happy and fulfilled life while not being financially secure, however the majority of people's quality of life is

bettered by a higher material wealth and therefore their life can greatly benefit from higher financial literacy.

#### **Lithuanian Summary**

Finansinis raštingumas yra svarbi kompetencija, nes daro įtaką individų gyvenimams per jų taupymo, investicinius, finansinio planavimo sprendimus. Pastaraisiais metais, sudėtingėjant finansų rinkai, plečiantis ekonomikai, jo svarba išaugo. Daug tyrimų nagrinėja finansinio raštingumo bei gyvenimo kokybės temas atskirai, tačiau beveik nėra tyrimų, tiesiogiai susiejančių šiuos du kintamuosius. Todėl šio darbo tikslas yra įvertinti, kokią įtaką finansinis raštingumas turi gyvenimo kokybei. Vienas pagrindinių šio darbo uždavinių yra iki šiol išleistų darbų apžvalga, pagrindinių sąvokų apibrėžimas, bei sąsajos tarp finansinių žinių ir gerbūvio radimas mokslinėje literatūroje. Kitas šio darbo uždavinys yra, pritaikius impirinio tyrimo metodą, apklausti 18 – 30, 31 – 50 ir 51 - 70 metų Lietuvos gyventojus ir pagal jų atsakymus įvertinti šių gyventojų grupių finansinio raštingumo bei gyvenimo kokybės lygius, taip pat pasitelkus regresinę lygtį įrodyti egzistuojančią šių veiksnių priklausomybę ir apskaičiuoti jos dydį. Finansinis raštingumas turi didelę reikšmę žmogaus gyvenimo kokybei, nors asmuo gali gyventi laimingą ir pilnavertį gyvenima turintis labai mažą finansinę gerovę ir finansinį raštingumą, tačiau visų gyvenimo kokybė gali būti pagerinta didesnės materealinės gerovės, taigi apžvelgtos literatūros visumoje suprantama, kad gyventojų gyvenimas praturtėja nuo didesnio finansinio raštingumo.

SUMMARY OUTPUT								
Regression St	atistics							
Multiple R	0.593912967							
R Square	0.352732613							
Adjusted R Square	0.352198123							
Standard Error	31.74637341							
Observations	1213							
ANOVA								
	df	SS	MS	F	Significance F			
Regression	1	665111.2191	665111.2	659.9424	1.5743E-116			
Residual	1211	1220484.824	1007.832					
Total	1212	1885596.043						
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	-23.9115239	2.628505956	-9.097	3.71E-19	-29.068455	-18.7545927	-29.068455	-18.7545927
X Variable 1	1.384691787	0.053901407	25.68934	1.6E-116	1.278941278	1.490442296	1.278941278	1.490442296

Annex 1 (Regressions of Financial literacy and Quality of life in Excel)

SUMMARY OUTPUT								
Regression S	tatistics							
Multiple R	0.593912967							
R Square	0.352732613							
Adjusted R Square	0.352198123							
Standard Error	13.61644736							
Observations	1213							
ANOVA								
	df	SS	MS	F	Significance F			
Regression	1	122358.3625	122358.4	659.9424	1.5743E-116			
Residual	1211	224528.6506	185.4076					
Total	1212	346887.0131						
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	35.69653097	0.552873573	64.56545	0	34.61183457	36.78122737	34.61183457	36.78122737
X Variable 1	0.254737275	0.009916068	25.68934	1.6E-116	0.235282696	0.274191855	0.235282696	0.274191855

# Annex 2 (Regressions of Monthly income levels and Quality of life in Excel)

SUMMARY OUTPUT								
Regression St	tatistics							
Multiple R	0.474278278							
R Square	0.224939885							
Adjusted R Square	0.224299868							
Standard Error	14.90011578							
Observations	1213							
ANOVA								
	df	SS	MS	F	Significance F			
Regression	1	78028.72	78028.72	351.4594	4.73803E-69			
Residual	1211	268858.3	222.0135					
Total	1212	346887						
	Coefficients	andard Err	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	30.01738558	0.941432	31.8848	1.8E-162	28.17036584	31.86440532	28.17036584	31.86440532
X Variable 1	0.346034393	0.018458	18.74725	4.74E-69	0.309821433	0.382247352	0.309821433	0.382247352

SUMMARY OUTPUT								
Regression S	tatistics							
Multiple R	0.474278278							
R Square	0.224939885							
Adjusted R Square	0.224299868							
Standard Error	20.42225108							
Observations	1213							
ANOVA								
	df	SS	MS	F	Significance F			
Regression	1	146582.6082	146582.6	351.4594	4.73803E-69			
Residual	1211	505069.7587	417.0683					
Total	1212	651652.3668						
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	15.70104862	1.690902073	9.285605	7.2E-20	12.38362583	19.01847141	12.38362583	19.01847141
X Variable 1	0.650050658	0.034674451	18.74725	4.74E-69	0.582021991	0.718079324	0.582021991	0.718079324

# Annex 3 (Regressions of Monthly income levels and Financial Literacy in Excel)

SUMMARY OUTPUT								
Pagrossion	tatistics							
Regression S								
Multiple R	0.641134893							
R Square	0.411053951							
Adjusted R Square	0.410567621							
Standard Error	17.80219989							
Observations	1213							
ANOVA								
	df	SS	MS	F	Significance F			
Regression	1	267864.2801	267864.3	845.2155	2.1555E-141			
Residual	1211	383788.0867	316.9183					
Total	1212	651652.3668						
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	30.57499199	0.722829208	42.29905	8E-241	29.15685541	31.99312857	29.15685541	31.99312857
X Variable 1	0.376906019	0.012964308	29.07259	2.2E-141	0.351471021	0.402341017	0.351471021	0.402341017

SUMMARY OUTPUT								
Rearession St	atistics							
Multiple R	0.641134893							
R Square	0.411053951							
Adjusted R Square	0.410567621							
Standard Error	30.28238062							
Observations	1213							
ANOVA								
	df	SS	MS	F	Significance F			
Regression	1	775081.7036	775081.7	845.2155	2.1555E-141			
Residual	1211	1110514.339	917.0226					
Total	1212	1885596.043						
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	-10.1271343	1.913328498	-5.29294	1.43E-07	-13.880941	-6.37332754	-13.880941	-6.37332754
X Variable 1	1.090600655	0.03751302	29.07259	2.2E-141	1.017002929	1.16419838	1.017002929	1.16419838

## Annex 4 (Regression of financial literacy and quality of life in age group 18-30)

SUMMARY OUTPUT								
Regression Sta	tistics							
Multiple R	0.65979992							
R Square	0.43533593							
Adjusted R Square	0.43393478							
Standard Error	28.523685							
Observations	405							
ANOVA								
	df	SS	MS	F	Significance F			
Regression	1	252784.6349	252784.6	310.6987	5.8069E-52			
Residual	403	327881.0441	813.6006					
Total	404	580665.679						
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	-45.0543507	4.670184898	-9.64723	5.96E-20	-54.2353174	-35.873384	-54.2353174	-35.873384
41.42857143	1.78237483	0.101118202	17.62665	5.81E-52	1.5835898	1.98115986	1.5835898	1.98115986

## Annex 5 (Regression of financial literacy and quality of life in age group 31-50)

SUMMARY OUTPUT								
Regression Sta	tistics							
Multiple R	0.634905432							
R Square	0.403104907							
Adjusted R Square	0.40160893							
Standard Error	31.43719644							
Observations	401							
ANOVA								
	df	SS	MS	F	Significance F			
Regression	1	266305.7784	266305.8	269.4592	1.22613E-46			
Residual	399	394330.6306	988.2973					
Total	400	660636.409						
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	-17.2681849	4.143980002	-4.16705	3.79E-05	-25.4149483	-9.1214215	-25.4149483	-9.1214215
41.42857143	1.246907952	0.075960516	16.41521	1.23E-46	1.0975751	1.396240805	1.0975751	1.396240805

# Annex 6 (Regression of financial literacy and quality of life in age group 51-70)

SUMMARY OUTPUT								
Regression Sta	tistics							
Multiple R	0.48447545							
R Square	0.23471646							
Adjusted R Square	0.23281277							
Standard Error	34.0525405							
Observations	404							
ANOVA								
	df	SS	MS	F	Significance F			
Regression	1	142970.4443	142970.4	123.2955	3.62364E-25			
Residual	402	466149.3577	1159.576					
Total	403	609119.802						
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	-16.8776385	5.357153001	-3.15049	0.001752	-27.4091727	-6.34610432	-27.4091727	-6.34610432
41.42857143	1.31870734	0.118761263	11.10385	3.62E-25	1.085236628	1.552178043	1.085236628	1.552178043

## Annex 7 (Survey)

#### Finansinio raštigumo ir gyvenimo kokybės vertinimas

1. Sakykime turite 100 EUR savo taupomojoje banko sąskaitoje. Sąskaitos palūkanų norma yra 2% per metus. Kiek po 5 metų šioje sąskaitoje turėtumėte?

🕥 Daugiau nei 102 EUR

- 📄 Lygiai 102 EUR
- 🕥 Mažiau nei 102 EUR
- 🔵 Nežinau
- Neatsakysiu

2. Sakykime, kad jūsų taupomosios banko sąskaitos palūkanų normos yra 1% per metus, o infliacija 2% per metus. Po 1 metų su sąskaitoje esančiais pinigais galėsite įsigyti:

- Mažiau nei šiandien
- 🔵 Tiek pat kiek šiandien
- 🕥 Daugiau nei šiandien
- 🔵 Nežinau
- 🔵 Neatsakysiu

3. Atsakykite ar sekantis teiginys yra teisingas? Pirkti vienos kompanijos akcijas yra saugiau nei investicinių fondų akcijas.

- 🔵 Tiesa
- 🔵 Netiesa
- 🔵 Nežinau
- 🕥 Neatsakysiu

4. Atsakykite ar sekantis teiginys yra teisingas? 15 metų būsto paskola tipiškai turės didesnes mėnesines įmokas negu 30-ties metų, tačiau bendros palūkanos per visą paskolos laikotarpį bus mažesnės.

- 🔵 Tiesa
- 🔵 Netiesa
- 🕥 Nežinau
- 🔵 Neatsakysiu

5. Kaip kis obligacijų kainos, kylant palūkanų normai?
⊖ Kils
Kris
Nepakis
Tarp jų nėra ryšio
Nežinau
Neatsakysiu
6. Nuo 0 (labai mažai) iki 5 (labai daug) įvertinkite savo turimas finansines žinias. 7. Nuo 0 (labai mažai) iki 5 (labai daug) įvertinkite savo matematinius sugebėjimus.
8. Nuo 0 (labai mažai) iki 5 (labai daug) įvertinkite savo gebėjimą priimti optimalius finansinius sprendimus gyvenimo scenarijuose.
9. Apibūdinkite savo gyvenimo materialinius aspektus. (Galima pasirinkti kiek reikia atsakymų.)
gyvenu komfortabiliai
neturiu santaupų
turiu pakankamai sau ir šeimai išlaikyti
kaupiu papildomas lėšas pensijai
neturiu beveik jokio turto
investuoju akcijų rinkoje
investiciniuose portfeliuose
esu savo būsto savininkas
turiu paskolų, kreditų, lizingų
taupau, tačiau neinvestuoju
10. Nuo 1 (Prasta, dažnai sergu) iki 7 (Puiki, niekada nesergu) kaip įvertintumėte savo sveikatą?

11. Kaip nuo 1 (visiškai ne) iki 7 (labai) vertintumėte savo produktyvumą, įskaitant darbus ir laisvalaikio veiklas?
12. Ar kasdieniame savo gyvenime jaučiatės saugūs ir žinote savo teises?
Таір
Ne
Ne visada jaučiuosi saugiai
Nežinau teisių, tačiau jaučiuosi saugiai
Nenoriu atsakyti
13. Kaip dažnai užsiimat laisvalaikio veiklomis ar socialiniais užsiėmimais savo kasdieniame gyvenime? 1 (niekada neturiu laiko) iki 7 (kasdien užsiimu veiklomis)
14. Kaip nuo 1 (prasta) iki 7 (nuostabi) vertintumėt savo gyvenamąją ir gamtinę aplinką?
15. Kaip labai ekonomiškai saugūs jūs jaučiatės skalėje nuo 1 (visiškai ne) iki 7 (labai saugūs)?
16. Kaip vertintumėte bendrą savo savijautą? 1 (labai prasta) iki 7 (puiki).
17. Kaip skalėje nuo 1 (visai ne) iki 7 (labai) esate bendrai patenkinti visu savo gyvenimu?
18. Kaip dažnai nuo 1 (niekada) iki 7 (nuolatos) per pastarąsias 4 savaites buvote liūdnas/-a?
19. Kaip dažnai nuo 1 (niekada) iki 7 (nuolatos) per pastarąsias 4 savaites buvote laimingas/-a?

20. Kaip dažnai jaučiatės lyg tai kuo užsiimate gyvenime yra vertinga ar prasminga veikla, tiek jums ar visuomenės atžvilgiu?
Visada
Dažnai
Kartais
Retai
Niekada
21. Koks jūsų amžius?
22. Koks jūsų mėnesinių pajamų lygis
23. Koks aukščiausias baigtas jūsų išsilavinimo lygis?
24. Kokia jusų studijų arba darbo profesijos sritis?
25. Kokia jūsų lytis?