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Mental Accounting Theory In Personal Finance Decision-Making: An Exploratory Study With University Students

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Abstract:
Learning human behaviors related to finance allows people to better understand how to organize financial budgets so that they can better manage their finances. Mental accounting refers to the way people organize, record and analyze their economic transactions, and many do not know how to control their income and expenses in the form of accounting records. The aim of this research is to analyze the relationship between the area of knowledge of university students and the control of personal finances, from the perspective of Mental Accounting. The methodology used is a survey, characterized as descriptive, with a quantitative approach. The electronic form was sent to university students and 203 respondents were obtained. The results of the study indicate that the practice of controlling personal finances is related to the area of knowledge of university students, i.e. training contributes to better decision-making in relation to personal finances, with university students in the area of applied social sciences behaving differently from other areas. This can be proven through variables such as how personal finances are monitored, in which 42.5% of university students use spreadsheets, and 54.8% carry out their personal budget considering income, expenses and surpluses - which would be the most complete form. However, it is not possible to limit ourselves to the field of education as the sole determinant of university students' financial lives. Even so, the results of the survey show the possible existence of other elements that interfere with the rationalization of personal finances.

***Key Word**:Behavioral finance. Personal finance. Mental accounting theory.*

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I. Introduction

Accounting was born and developed in a simple and basic way in the Mesopotamian civilizations, today called the age of knowledge and information (IUDÍCIBUS; MARTINS; CARVALHO, 2005). Although it was primitive, accounting initially dealt with personal finances, dealing with barter between individuals, which was the form of business at the time (NUNES, 2006).

In reality, finances are part of people's lives every day. In this respect, personal financial planning is not something immaterial, much less static or rigid; on the contrary, it is a plan that people make, according to their own values and objectives, in order to achieve certain ambitions. Therefore, it is possible to highlight the importance that personal finances have for individuals (LIZOTE et al., 2016).

Sometimes, due to a lack of knowledge or interest in finance, people become defaulters and incur debts, thus affecting their social relationships, their psychological state and even their relationship with their family (CAMARGO et al., 2015). For this reason, knowledge related to finance and personal financial planning can be an important choice for those who wish to save resources and invest in a comfortable future. In this case, a good investment plan is considered an important ally in the search for a peaceful and stable future (CHEROBIM; ESPEJO; PALUDO, 2010).

Finally, individuals who lack financial education tend to sacrifice a significant part of their income, as they are unable to meet all their obligations and end up in debt (LIZOTE et al., 2016). In this respect, financial education develops skills that make it easier for people to make good decisions and manage their personal finances (VIEIRA; BATAGLIA; SEREIA, 2011).

In this respect, learning about human behaviours related to finances and debt levels allows people to better understand how to organize their financial budgets so that they can manage their finances and avoid large debts. In parallel, behavioral finance is an area of study that plays an important role in the current scenario and its main characteristic is to explain people's choices in the financial area, combining concepts from different areas, such as psychology, sociology and economics (CANTO; TRETER; CAVALLI, 2017).

The theory of mental accounting is considered a line of behavioral finance related to the process of codification, categorization and evaluation of financial events by individuals. This process includes mental models, perceptions, specific situations, emotions, previous experiences and other variables that can escape the rationality of decision-making (THALER, 1999). In this sense, mental accounting refers to the cognitive way of dividing resources according to their origin, that is, making compartments separated by purpose, which is known as mental accounts (GROTA, 2019).

The study therefore focuses on the following research question: what is the relationship between the area of knowledge of university students and the control of personal finances, from the perspective of Mental Accounting Theory? Therefore, the aim of this research is to analyze the relationship between the area of knowledge of university students and the control of personal finances, from the perspective of Mental Accounting.

In this perspective, this research aims to provide that personal financial planning is a tool that reduces the uncertainty involved in the decision-making process, and consequently increases sustainable control of personal finances (SANTOS et al., 2019). In 2017, American Richard H. Thaler was awarded the Nobel Prize in Economics for developing the theory of mental accounting, explaining how people make financial decisions more easily.

In turn, this study will show the importance of rationally understanding daily financial spending and, in this way, becoming aware of strategies for controlling one's own personal accounts. This research is important because the study of human behavior in relation to finances makes it possible to know better ways of controlling the financial budget.

The assumption is that the rationality of teaching accounting is related to the process of personal finance. The study is therefore justified as it will contribute to a better understanding of the behavior of university students when it comes to finances, making them think more appropriately about their financial controls, in other words, having the discernment to make better decisions.

In addition to this introductory part, this article is structured in four more sections. The second explains brief concepts about finance, behavioral finance, personal finance, personal financial planning, personal investment, personal debt, financial education and mental accounting theory. The third section aims to present the methodological procedures used in this research. The fourth section analyzes the results. The fifth section explains the conclusion of the study.

II. Theoretical Reference

Finances

The term finance is a branch of economics and is defined as the art and science of managing money, in which all people and companies earn or raise, spend or invest. In other words, finance is related to the science of money management, and therefore concerns the process and instruments involved in transferring money between people, companies and government agencies (GITMAN; ZUTTER, 2017).

Therefore, learning about finance is the key to making correct personal financial decisions. It can be said that both corporate finance and personal finance follow the same premises (GITMAN; ZUTTER, 2017). It should be noted that the use of the study of finance goes far beyond the use of companies alone, covering everything from business management to the management of personal resources. Finance is present every day in people's lives, and is in fact the study of how people allocate scarce resources over time (BODIE; MERTON, 2006).

Financial theory is a set of concepts that help organize thinking on the allocation of resources based on quantitative models used to evaluate alternatives and make decisions. As such, the area of finance studies how people, individually or as a group, allocate their resources over time. However, finance demands attention, and no aspect of management seems to be as complex, which means that financial management is important for all types of business (BITENCOURT, 2004).

Finance is understood as an area of knowledge and the initial concept is expanded by subdividing it into three major segments: the financial market, corporate finance and, a new segment that is gaining importance with the study of investments and financing for individuals, personal finance, which is closely related to the financial market area. This interest in investor behavior has led the world of finance to create a large field of study known as Behavioral Finance (ASSAF NETO; LIMA, 2014).

One of the first financial theories is the traditional one, which seeks to understand financial decision-making and the financial market itself based on a model in which the agent is totally rational, without considering the psychological factors involved in decision-making by these agents (LUCCHESI, 2010). As such, it is possible to divide finance theories into traditional finance theory, also known as old finance; modern finance theory; and lastly and more recently, behavioral finance (MACEDO JUNIOR, 2003).

In this respect, the problems resulting from the old and modern theories of finance led to the emergence of a new field of research - behavioral finance. Associated with this, this new theory attempts to improve modern financial theory by adding behavioral factors that interfere with investor decision-making. However, behavioral finance researchers have made important contributions to previously existing financial theories, especially those investors who are no longer considered completely rational as they were originally proposed (HALFELD; TORRES, 2001).

Therefore, the area of behavioral finance is one of the most controversial in the study of finance. It emerged on the scene as an experiment to improve the Modern Model of Finance. In turn, in behavioral finance, man is considered to be simply normal and not a rational man, as proposed by the modern model of finance (HALFELD; TORRES, 2001).

Behavioral Finance

The emergence of behavioral finance in academic circles dates back to the late 1970s, when Kahneman and Tversky published their research on human behavior and decision-making in risky situations. From this research came one of the most important concepts in behavioral finance: loss aversion. According to this concept, people suffer much greater losses than the happiness obtained from the same benefits (HALFELD; TORRES, 2001).

In the late 1980s and early 1990s, with the discovery of anomalies in the financial market, modern financial models began to show signs of wear and tear. The qualitative changes to the modern model of finance proposed by the proponents of behavioral finance are numerous and important in some respects because they relate to the most important part of the financial market: investors (HALFELD; TORRES, 2001).

There are two different types of investors in the market, the totally rational and the quasi-rational. Quasi-rational investors, for example, try to make correct investment decisions, but often make predictable mistakes. Most of these errors result from flaws in the rational process due to interference from intrinsic human motivations. The main objective of behavioral finance is to study, discover and show investors how these motives can harm them (THALER, 1999).

Behavioral finance is a field of finance dedicated to the study of human psychology in making investment decisions. The field of behavioral finance research aims to determine how emotional and cognitive errors affect investors' decisions and how these behaviors determine various market phenomena (CANELLA; GIRÃO, 1967). Behavioral finance is a branch of finance research that aims to revise and improve current financial and economic models, including proving the irrationality of investors (HALFELD; TORRES, 2001).

The behavioral finance individual is not totally rational. He is just a normal person. This normality means that a person often behaves irrationally, with decisions affected by emotional and cognitive errors, leading to a different understanding of the same issue based on analysis (HALFELD; TORRES, 2001).

Cognitive errors are one of the largest areas of psychology incorporated into mental behavior. They indicate that people tend to make certain types of decision-making errors due to distorted reality. Therefore, it can be concluded that, on the one hand, if traditional financial theories state that investors' decisions are generally rational, on the other hand, behavioral finance shows that rationality is limited and does not prevent decision-makers. In other words, emotions and cognitive abilities play an important role in human decision-making (CANELLA; GIRÃO, 1967).

Behavioral finance seeks to explain and improve understanding of investors' mentality, including the emotional process involved and the degree of influence it has on decision-making. When studying the concept of behavioral finance, traditional finance is still considered a central element. However, psychology and sociology are indispensable catalysts in this field of research. Therefore, those studying behavioral finance should have a basic understanding of the concepts of psychology, sociology and finance (RICCIARDI; SIMON, 2000).

In this regard, there are three main themes in behavioral finance: the heuristic bias; subordination to form; and inefficient markets. The heuristic bias refers to the fact that financial agents make mistakes by believing hypotheses. Therefore, behavioral finance recognizes that people use heuristic assumptions to process information. As for form bias, behavioral finance believes that the form or structure of the problem will affect the decision-making process, which is contrary to traditional financial theory. And finally, for an inefficient market, errors and various problem structures will affect the price set in the market and cause the market price to deviate from the basic value (LIMA, 2003).

The main objective of behavioral finance is to combine economic and financial research with behavioral and psychological research to determine the path consumers take when making decisions (MOSCA, 2009). In this respect, the biggest challenge facing behavioral finance researchers is to prove that certain behavioral anomalies are in fact predictable and can change the market in a definitive way (FAMA, 1997).

Behavioral finance and mental accounting show that emotions play an important role in the brains of consumers who do not use rationality to manage expenses (MARION, 2008). Related to this, a lack of control over personal finances can lead to serious debt problems, influencing not only the population, but also the entire market. Without partial or total control of an individual's personal finances, debt problems can occur, affecting the population and the financial market (HALFELD; TORRES, 2001).

Personal Finance

With the economic stability that began with the implementation of the Real Plan in Brazil in the mid-1994s, there was a need to adapt to this new reality, so issues related to personal finance and indebtedness became increasingly important in Brazil. The recovery of the Brazilian economy, coupled with the increase in the supply of credit, led to people with no financial knowledge getting into debt. However, these debtors who did not have the money to pay off their debts had difficulties in their personal, family and professional relationships and, in addition to economic problems, showed social instability (LIZOTE; VERDINELLI, 2014).

In reality, personal financial knowledge is becoming increasingly important nowadays, as few people really understand the subject (VERDINELLI; LIZOTE, 2014). In this sense, the basic principle of accounting states that capital control is also very useful for managing personal assets, known as personal finances. It should be noted that, in an economy based on money and credit, personal finance involves managing one's own money and that of other people to obtain goods and allocate tangible resources (human and assets) for the purposes of raising funds and credits (PIRES, 2005). The term personal finance refers to a science that studies the application of financial concepts to the monetary decisions of a family or individual. In order to carry out personal financial planning, financial events and the stages of a person's life must be taken into account. Therefore, personal finance is the study of how people allocate limited resources over time (BODIE; MERTON, 2006).

Personal finance is also conceptualized as the art and science of managing people's assets. Thus, it can be understood that personal financial management is a planning pattern and method for organizing people's economic resources (FERREIRA, 2006). In fact, the principles of personal finance should be known by everyone, not just financial specialists (SEGUNDO FILHO, 2003).

From a more detailed perspective of personal finance, just as the management principles of financial analysis, capital budgeting, financing, cash flow and credit analysis work in the business environment, these also apply in the field of personal finance (GITMAN; ZUTTER, 2017). In short, the aim of studies in personal finance is to develop financial concepts so that knowledge can actually be passed on to people, so that it can be applied in decision-making. Therefore, it seems that when planning finances, people are faced with the need to allocate resources that meet basic needs and consumption (FOULKS; GRACI, 1989).

Personal Financial Planning

Financial planning is an important aspect of companies and families because it defines how to manage, coordinate and monitor companies and families to achieve their goals. As such, the financial planning process begins with a long-term strategic financial plan, which in turn defines a short-term or operational plan (GITMAN; ZUTTER, 2017).

Long-term planning is a long-term action that can anticipate your financial response. It should be reiterated that these plans are generally designed to last from two to ten years. The short-term financial plan, on the other hand, refers to measures planned to be implemented in just two years, and is accompanied by a forecast of its economic considerations (GITMAN; ZUTTER, 2017).

Under these conditions, the financial plan formally defines the method for achieving the financial objectives of the company and the family. Therefore, the financial plan itself can answer three important questions: how to take advantage of the investment opportunities offered by the market; determine the acceptable level of debt and determine the measurable part of the profit (ROSS; WESTERFIELD; JAFFE, 1995). Drawing up a financial plan then becomes an important tool for the individual, as it guides the control of inflows and outflows in personal finances and not just in companies (MEDEIROS; LOPES, 2014).

Personal financial planning consists of planning your finances, understanding the maximum amount you can spend today without compromising future living standards. Associated with this, the first step to saving is putting money away, and this is possible thanks to the analysis and planning of the personal budget (CERBASI, 2005). In this way, the aim of personal planning is actually the ability of citizens or family groups to adjust their income according to their basic needs. Personal plans are similar to business plans, and in both cases the aim is to create and increase wealth (LEAL; NASCIMENTO, 2008).

It can be concluded that a personal budget can be the first step towards a peaceful financial life. However, to be successful you need to understand the importance of planning your finances and maintaining discipline to achieve your goals (CHEROBIM; ESPEJO, 2010). Without financial planning, there will be unnecessary spending, nullifying the opportunity to save or make profitable investments in personal life in order to have guarantees for the future (LIZOTE; SIMAS; LANAS, 2012). That's why the sooner people understand how their financial budget works and control the uncertainties that occur, the better the results of personal financial management will be. In this way, it will be possible to see the importance of money and how its management is indispensable (LIMA; LEVINO; SANTOS, 2017).

Successful financial self-management is necessary to maintain balance and reduce social inequality, as personal financial success can guarantee quality of life and the enjoyment of consumer products and services, as well as bringing prosperity to the country (PIRES et al., 2013). Financial planning therefore becomes an essential tool for people to save money, invest in the future and prevent unforeseen events (MEDEIROS; LOPES, 2014).

Personal Investment

In a limited sense, investment refers to resources used in the form of cash or credit instruments that can generate higher returns than the resources originally used (GITMAN; ZUTTER, 2017). Investment can also be considered the investment in assets that bring the investor expectations of profit on the resources that were spent on them. Therefore, this would be a broader meaning of investments - seeking means that are apparently profitable, causing the individual to invest their resources in order to capture them with gains in the future and thus make other investments (LIZOTE et al., 2016).

Making a profitable investment is a difficult task, especially if investors are not confident. Depending on the situation, for example, the resources to be invested may be high, leaving the individual uncertain of taking a risk due to the representation of the amount to be invested. However, without facing these risks, the opportunity to allocate resources that benefit them can also be lost (FRANKENBERG, 1999).

It should be noted that investment management is an important task and must be carried out so that resources are used effectively, i.e. managing credit in an organized and balanced way in order to make basic investment decisions and achieve financial success (ASSAF NETO, 2005). To start managing investments, individuals must first organize their personal finances. Debt control and a consistent plan must prove their financial situation and resources, as well as the expenses associated with them and the financial situation available for investment. The important step to take is to clearly define the investment objectives, deciding where to use the available resources (ALFEST, 2004).

Financial success lies in the correct management of personal finances. Those who can organize and plan their financial lives effectively can also build up important reserves and guarantee long-term security and sustainability in difficult times (COSTA, 2004). In fact, many people are in debt due to factors such as status, which leads to the search for social position, professional fulfillment and material value. However, if no action is taken, it can also lead to a lack of control and severe debt, causing enormous economic and emotional damage (VILAIN; PEREIRA, 2013).

Personal Debt

The main characteristic of modern society is the culture of consumption, in which people associate happiness and social status with the purchase of goods. Debt reflects the consumer society and is described as a social problem rather than a personal problem affecting consumers and suppliers (TOLOTTI, 2007). It is therefore necessary to find a way of understanding the economic world in which individuals live and to teach them to develop consumer skills, attitudes and habits, as well as to adopt more rational and effective behaviors when using their money (DENEGRI, 1995).

It is common for people to make financial commitments in various everyday situations. The term indebtedness refers precisely to the installments of any purchase made over time. However, it is important to be aware that debts can jeopardize the financial integrity of a family, affect the physical and mental health of its members and cause a series of obstacles to the realization of current and future projects, if they are not well managed or if they get out of control and are paid off on time (SPC, 2019).

According to current studies, the number of people in debt is increasing every day. Given this increase, it is clear that people need psychological intervention, as this type of debt can cause depression, anxiety and compromise people's self-esteem (TRINDADE; RIGHI; VIEIRA, 2012). Debt causes individuals to compromise their family budget, causes mental health risks and problems and makes people vulnerable to events such as health problems, job loss and even restrictions on daily tasks (ZERRENNER, 2007). Debt is the result of a lack of financial control. Therefore, before making a purchase, it is essential to consider whether buying this good is really a necessity (RASSIER, 2010).

In recent years, due to the high level of indebtedness among Brazilians, the country's interest in personal financial management has increased. With this in mind, it is important to distinguish between the concepts of indebtedness and default. Indebtedness is characterized by the person who takes on the debt and uses most of their income to pay it off, while default happens when the person who takes on the debt cannot pay it off. Given this logic, it is understood that indebted people are not necessarily defaulters, but can become so (OLIVATO; SOUZA, 2007). There are several factors that can help explain personal indebtedness, so the financial decisions that lead to high debts may be related to the inefficient use of resources and a lack of financial knowledge (PONTES, 2018).

In short, the study of financial behavior generally analyzes debt problems and connects them to cultural aspects of society, as well as psychological and educational issues (SILVA et al., 2020). Under these conditions, Brazil's debt is directly related to a lack of financial education, as individuals end up taking on debts that are often beyond their ability to pay. The explanations for this phenomenon are linked to the ever-increasing stimulus to consumption, through incisive advertising programs, and the lack of preparation to reflect on their income, investments, needs and spending (FRANKENBERG, 1999).

Financial Education

In relation to financial knowledge, the term "education" refers to understanding the practices, rights, social norms and attitudes needed to understand and achieve financial goals. On the other hand, the term "finance" applies to all types of monetary transactions in daily life (JACOB; HUDSON; BUSH, 2000).

Associated with this, financial education is conceptualized as a topic that deals with the importance of money for people, considering how to manage, spend, earn and save rationally (LELIS, 2006). In this respect, financial knowledge is conceptualized as a stepping stone to understanding the main financial concepts and having the ability and confidence to manage their personal finances (REMUND, 2010).

There are many explanations for the meaning of the term "financial education". Some people understand it to be related to earning money and being successful, but experts believe that the term means knowing where to spend money and applying what is left over. Financial knowledge and financial education means knowing how to use the money that is left over, paying off debts, investing and acquiring goods (PIRES et al., 2013). One of the elements of financial education is finding a balance between the resources provided and the cost to consumers. In addition, it is important to remember that people are not always able to successfully manage their financial resources (SPC, 2019).

The use of financial education is becoming increasingly important because it addresses issues of consumer protection and economic sustainability (WISNIEWSKI, 2011). Financial education is a way in which people hope to acquire the knowledge necessary to continuously manage their finances and make the right decisions. In fact, it is the ability to manage income appropriately, deliberating on how to use available resources and focusing on current events, while thinking about the future. For this reason, financial education is essential for consumers because it can help them plan and manage income, as well as save and invest (HALFED, 2006).

In fact, financial education has an important value and this includes the ability to read and interpret figures. This knowledge is important for organizing a financial plan and ensuring healthy consumption and a balanced personal financial future. When this education is obtained and improved, people plan their future to increase their wealth and obtain a satisfactory income (LIZOTE; VERDINELLI, 2014). Usually, people are not willing to manage, increase and enjoy their wealth, nor are they prepared for personal financial management. With this in mind, it is necessary to understand how money works in order to have an understanding of personal finances (PEREIRA, 2003).

It is important to note that people with good financial knowledge have greater decision-making power. Obviously, financial literacy must begin in the early stages of human development in order to achieve better results in the future, because when people have the opportunity to acquire knowledge about financial education, they are able to better manage their personal finances (ZERRENNER, 2007).

Finally, financial education encourages learning and re-education in the area of financial management, and helps to change habits and behaviors for a more peaceful and planned future. These changes in behavior do not happen overnight, so it is necessary to continually study changes in concepts and habits (TEIXEIRA; KISTEMANN JUNIOR, 2017).

Mental Accounting Theory

Accounting science is a basic tool for business management, providing as much useful information as possible for decision-making inside and outside the company. Accordingly, the aim of accounting is to enable users to assess a company's economic and financial situation and how this will affect its economic future. In this way, knowledge of accounting records and the control of events that affect capital can be applied to individuals and companies that own and manage assets (MARION, 1995).

Accounting originated in the applied social sciences and, when considering the decision-making process, behavioral principles borrowed from psychology are used, giving rise to a new field of thought related to behavioral accounting. Accordingly, this new field of accounting brings together all aspects of human behavior applicable to accounting. However, this new knowledge is not only inherent to accounting, but is also widely known in other areas, such as: behavioral finance, behavioral economics, neuroeconomics, business psychology, among others (LUCENA; FERNANDES; SILVA, 2011).

Through the behavioral conception of individuals and its link to finance, the theory of mental accounting emerges, which considers the process by which individuals code, categorize and evaluate financial events. This process includes mental models, perceptions, specific situations, emotions, previous experiences and other variables that can escape the rationality of decision-making (THALER, 1999).

In other words, the theory of mental accounting basically assumes that people organize their thoughts and reasoning in a "mental" model to make economic and financial decisions, just as in a company with an information system, i.e. they mentally carry out a process of accounting operations, something similar to what companies do in a way that allows them to organize and evaluate their economic and financial decisions (THALER, 1999).

Mental accounting is a term used to describe how people solve financial problems. Therefore, this is a cognitive exercise in psychological financial "control", since people do not know how to control their income and expenses in the form of accounting records and then finally form a complete chart of accounts in their minds, instead of describing the organization on paper (THALER, 1999).

Therefore, mental accounting is a series of cognitive operations that people use to organize, evaluate, monitor and record the financial activities in which they participate (THALER, 1999). It can be concluded that mental accounting is the process of dividing assets into different psychological parts. In other words, people divide their wealth into these parts without analyzing the assets as a whole. Therefore, mental accounting is considered one of the cognitive illusions discussed in the literature (SILVA, 2014).

Mental accounting is associated with a cognitive process that people use to collect, separate and combine information about the various outcomes they encounter (MORENO; SALBADOR; BHATTACHARJEE, 2006). It is defined as the process by which people tend to divide their current and future assets into non-transferable parts and consider the investment separately (BARBEDO; SILVA, 2008).

It goes on to say that mental accounting refers to people's tendency to distribute their assets based on personal objectives (DELBEN, 2008). In other words, every consumer has the right to choose how to organize their personal finances. Thus, each individual organizes their accounts mentally and, if they are mental, individual differences can certainly be expected, since each mind has its own pattern (FERREIRA, 2011).

Associated with this, mental accounting is present in people's daily lives, as it addresses the behavior of individuals in relation to equity. In this way, it is assumed that people divide their income into different categories, such as current salaries, property income and future income, and plan to use these sources of income in a way that differs from one category, even if it harms all the others (THALER, 1985). Based on this understanding, mental accounts are defined as a series of cognitive operations that people use to code financial activities, classify them into different mental accounts and then evaluate them (THALER, 1999).

The characteristics of decision-making in mental accounting are considered to include three components: I) the way results are perceived and experienced, as well as the way decisions are made and evaluated; II) the attribution of activities to specific accounts, such as expenses grouped into categories, like housing and food, among others; and, III) the frequency in which such accounts are evaluated (THALER, 1999).

In this sense, a simplified way of understanding mental accounting bias is to connect the way people manage their personal finances and business budgets. When preparing a budget, the company divides expenses and income into accounts that are responsible for recording the value of transactions for a given period. Each account has a maximum cost and a minimum income, meaning that individuals also control and manage funds in the same way through budgets, grouping amounts in specific accounts (THALER, 1999).

One way of avoiding the inappropriate use of mental accounting is to always remember that assets need to be analyzed in a unique way (DELBEN, 2008). In turn, organizing individuals' income and expenses is extremely important for success at the end of the period. Finally, recording is the easiest way to establish an organization and properly control people's financial lives, because once they have mastered the calculations in simple spreadsheets or notebooks, many people will no longer face mountains of debt at the end of each month (RIBAS; FRANCO; ANDRADE, 2013).

Related Works

Other studies have also been carried out using a theme similar to that of this research. The research by Santos et al. (2019, p. 92), entitled "Personal Finances: a study with academics under the mental accounting theory approach", for example, aimed to "identify aspects of the personal finances of undergraduate students in Accounting, Design, Fashion and Pedagogy under the aspect of Mental Accounting Theory". As for the results, the research shows that, when relating the indication of the current degree as the main driver, 53.3% refer to Accounting students, reflecting the perception that these individuals have a differentiation that this course offers to personal finances.

It is important to highlight the study by Grota (2019, p. 18), entitled "Mental Accounting and Behavioral Finance: consumption habits and investments", which aims to "analyze consumer behavior and financial decisions from the perspective of mental accounting theory". The research was carried out with Business Administration and Accounting students and concluded that, in terms of knowledge, 80.8% of the participants had no knowledge of the subject, showing a lack of interest in effective financial education.

The study by the author Fioravante (2015, p. 13), called "Behavioral Finance: a study on the profile of undergraduates in the Bachelor of Arts and Bachelor of Science in Accounting", aimed to "identify the behavioral financial characteristics of students in Accounting and Bachelor of Arts". The conclusion is that around 75% to 80% of respondents control their spending and, of these, an average of 50% to 60% say that they analyze their results.

The author Braido (2014, p. 38), in his article "Personal Financial Planning of students in Management courses: a study at a Higher Education Institution in Rio Grande do Sul", sets out to "identify how students in management courses at a Higher Education Institution (HEI) in Rio Grande do Sul carry out their personal financial planning". With regard to personal finances, it was observed that on a scale of 1 to 5, where 1 represents "I have no knowledge of personal finances" and 5 "I have solid knowledge of personal finances", the students rated their knowledge at 3.63.

It is also worth mentioning the article by the authors Canto, Treter and Cavalli (2017, p. 141), entitled "Mental Accounting and Behavioral Finance: a study with employees of a higher education institution in the city of Cruz Alta/RS", which aimed to "discover the influence of mental accounting on the financial decisions of employees of a higher education institution in the city of Cruz Alta/RS". The study was carried out in such a way that the employees were divided into two groups: teaching staff and technical-operational staff. It was concluded that both groups are in debt and attribute this to easy access to credit, since 67.19% of teachers and 78.63% of technical-operational staff have outstanding debts.

III. Methodological aspects

Research Design

This study used articles, theses, dissertations and other works on mental accounting and personal finance. Various methods of collecting quantitative scientific data include survey research. It should be noted that some authors refer to research with this design as descriptive. Political parties, educational organizations, as well as public and private institutions, identify patterns of behaviour and attitudes and answer the researchers' own questions, usually using research tools, mainly questionnaires (BAPTISTA; CAMPOS, 2016). In this way, people's characteristics were identified in relation to university students and the control of personal finances, from the perspective of mental accounting.

This type of research allows researchers to better understand the behavior of various factors and elements that affect a particular phenomenon (OLIVEIRA, 1999). With regard to the nature of the objective, the research is characterized as descriptive and, through the data that was collected, it was possible to describe the relationship between the area of knowledge of university students and the control of their personal finances. As for the approach to the problem, this research is quantitative in nature, i.e. it seeks to quantify data and normally uses some form of statistical analysis (MALHOTRA, 2012). Therefore, the data was collected using a questionnaire and measured using statistical techniques. The average was derived from the interviewees' responses.

Procedures for data collection and analysis

Subsequently, as a data collection and analysis tool, a survey was developed, the results of which were analyzed using a questionnaire adapted from Santos et al. (2019). The questionnaire had objective questions and was sent online to university students and was administered by the researcher. In this respect, questionnaires to collect data and which contain a series of ordered questions must be answered in writing, without the presence of the interviewer, in order to achieve the objectives proposed in this research (MARCONI; LAKATOS, 2002).

Once all the questionnaires had been received, the data obtained was analyzed. In this respect, tabulation aims to organize the data in a table so that the relationship between them can be verified (MARCONI; LAKATOS, 2002). With this in mind, tables were created in order to analyze the average responses, i.e. with statistical treatment, and thus obtain the expected results.

IV. Research results

This topic shows the results obtained by applying the online questionnaire to university students from different areas of knowledge. After collecting the data with structured and objective questions, it was possible to verify the relationship between the area of knowledge of university students and the control of personal finances, from the perspective of Mental Accounting Theory, as well as to obtain results on the profile of the respondents.

This section is separated into five blocks, initially analyzing questions relating to the profile of the respondents (variables 6, 7, 8, 9 and 15), in the second block we analyze the income and standard of living of university students (variables 10, 11, 12, 13 and 14) and then, in the third block, we look at what the respondents think about financial education (variables 16, 17, 18 and 19). Block four shows the relationship between generation (variable 7) and personal finances (variables 23, 24 and 26), and finally, the last block shows the results of the relationship between the area of knowledge (variable 3) and the theory of mental accounting, subdivided into two sections: financial (variables 13 and 16) and investment (variables 19, 21, 22, 27 and 28). The results were analyzed and discussed according to the theories presented throughout the article.

Profile of respondents

In order to get to know the respondents better, we sought information on the gender, marital status, generation, type of housing and schooling of the university students' parents, as shown in Table 1.

Table1 – Profile of respondents

Profile of respondents							
	Characteristics	**%**	**Qtde.**		**Characteristics**	**%**	**Qtde.**
Gender	Female	74.9	152	Form of housing	Alone	7.4	15
	Male	25.1	51		With parents	56.7	115
Marital Status	Single	74.9	152		Spouse	33	67
	Married	24.1	49		Other	3.0	6
	Other	1.0	2	Parents' education	Incomplete primary education	34.0	69
Generation	Generation X	49.3	100		Complete primary education	15.8	32
					Secondary school incomplete	7.4	15
	Generation Y	48.3	98		Complete secondary education	21.7	44
					Higher education incomplete	4.4	9
	Generation Z	2.5	5		Higher education completed	11.3	23
					Postgraduate - complete or incomplete	5.4	11

Source: data from research.

Among the answers obtained from the questionnaire, it is possible to see in the respondent profile table, which includes some aspects and within them the gender classification, that the majority within the sample of 203 respondents are female - 152, with only 51 males, representing 74.9% and 25.1% respectively. This data shows that there were more female respondents, as was the case for the 2019 Enade, where 55% of participants were women, while 45% were men. With regard to marital status, 74.9% were single and 24.1% married. This was also evident in the Enade 2019 results, where 80% of participants were single and only 15% married.

As for the age of the respondents, data was collected by generation, so it was observed that most of the respondents, i.e. 49.3% are from generation X, followed by 48.3% from generation Y and only 2.5% from generation Z, which are those born after 2001. The majority of respondents were university students born between 1990 and 2001.

Through the study by Silva (2018), it is possible to learn a little more about the characteristics of each generation, so generation X is the generation of most of the survey respondents and is characterized by working with more informal relational attitudes based on trust, they have a shorter posture and distrust the hierarchy, they do not show much loyalty to the company in which they work to value the work of the team rather than the status. Generation Y, the second most prominent, represents those who are new to the use of "new technologies". They bring characteristics of energy and creativity and are always in search of professional improvement, seeking knowledge and keeping up to date. And finally, generation Z, which is distinguished by its ease of dealing with technology, i.e. the learning process is based on technology, a common difficulty being able to separate real and digital life.

In terms of living arrangements, 56.7% (115 respondents) still live with their parents, while 33.0% live with their spouse (67 respondents). Looking at the schooling of the university students' parents, it stands out that 34% have incomplete primary education, followed by 21.7% who have completed secondary education, it is clear that a large part of the university students' parents have not attended a higher education course, just like the target audience of the survey. When asked about their parents' schooling, 61% of Enade 2019 participants said that neither of their parents had a degree, followed by 15% who said that both had higher education.

Income and standard of living

The aim of this block was to show the main income, monthly family income, monthly personal income, satisfaction with income and the length of time that the respondents' standard of living would be maintained, with a view to exploring a little more information in relation to the income and standard of living of each respondent, this data is shown in Table 2.

Table 2 - Income and standard of living

MAIN INCOME	Qtde.	%	PERSONAL MONTHLY INCOME	Qtde.	%
Informal work	14	6.9	No income	7	3.4
Formal work	163	80.3	Up to R$1,100.00	18	8.9
Internship / scholarship	22	10.8	From R$ 1,101.00 to R$ 3,300.00	132	65
Allowance	4	2	From R$ 3.301,00 to R$ 5.500,00	33	16.3
			From R$ 5,501.00 to R$ 7,500.00	6	3
			Above R$ 7.501,00	7	3.4
Total	**203**	**100**	**Total**	**203**	**100**
MONTHLY FAMILY INCOME	**Qtde.**	**%**	SATISFACTION INCOME	**Qtde.**	**%**
Not applicable	3	1.5	Very dissatisfied	19	9.4
From R$ 1,101.00 to R$ 3,300.00	30	14.8	Dissatisfied	48	23.6
From R$ 3.301,00 to R$ 5.500,00	62	30.5	Neutral	72	35.5
From R$ 5.501,00 to R$ 7.500,00	53	26.1	Satisfied	49	24.1
Above R$ 7,501.00	44	21.7	Very satisfied	15	7.4
I don't know	11	5.4			
Total	**203**	**100**	**Total**	**203**	**100**
WOULD MAINTAIN THE STANDARD OF LIVING					
	Qtde.	**%**		**Qtde.**	**%**
It wouldn't stay	35	17.2	7 to 9 months	16	7.9
1 to 3 months	65	32	10 to 12 months	18	8.9
4 to 6 months	45	22.2	more than 12 months	24	11.8
Total				**203**	**100**

Source: data from research.

On the question of the main source of income, 163 respondents, 80.3%, get their income from formal work. It can be seen that the personal monthly income of university students is concentrated between R$1,101.00 and R$3,300.00, representing 132 respondents, just over half 65%. Only 7 respondents have an income above R$7,501.00, 3.4%.

Given this, the results of this variable are similar to the research by (LIZOTE et al., 2016) in which the student respondents are 59%, who receive between R$1,000.00 and R$3,500.00. Regarding monthly family income, the result presented was that for 62 respondents, 30.5%, the income is between R$3,301.00 and R$5,500.00. With this, it is possible to note a similarity with the research by (BUENO, 2018), in which 58.2% of respondents said that their family income ranges from R$2,005.00 to R$8,640.00. This shows that family income is above two minimum wages.

Regarding the level of satisfaction with income, it can be seen that only 7.4%, 15 respondents, feel very satisfied with their income, followed by 24.1% 49 respondents who say they are satisfied and 23.6% who are dissatisfied with their income. Allied to this, the data pointed out in the survey draws our attention to the issue that Scalon and Salata (2016) addressed in their work, verifying that income directly affects the way people perceive their lives and the world around them. Accordingly, life satisfaction is one of the things that can be influenced by income inequality. This implies that the perception of 'life satisfaction' can be defined as a process of cognitive judgment in relation to certain aspects of life (LIMA-NUNES; ANDRADE; CUNHA, 2021).

Also, in order to ascertain their standard of living, when asked how long they would maintain their standard of living if they lost their income, 22.2% said they would maintain it for 4 to 6 months, followed by 17.2% who would not be able to maintain it if they lost their job. This shows that there are people who don't carry out personal financial planning, i.e. they don't control their earnings and expenses for any interviews. This data is in line with the research by (BRAIDO, 2014), in which the respondents would also maintain their standard of living for only 1 to 3 months. This shows us that efficient management of personal resources is capable of generating wealth and making significant contributions in the future.

Financial education

After showing the relationship between the respondents' income and standard of living, this section presents the data from the questions that sought to measure financial education in relation to items such as the importance of this topic, the way in which personal finances are monitored, the driver of financial education and the knowledge obtained through the university course. These data are shown in Table 3.

Tabela 2 – Educação financeira

FINANCIAL EDUCATION	Qtde.	%	MONITORING FINANCES	Qtde.	%
Very important	184	90.6	Paper sheet	52	25.6
Important	18	8.9	Electronic spreadsheet	76	37.4
I don't know anything about it	1	0.5	Mobile application	42	20.7
			I don't monitor	30	14.8
			Other	3	1.5

Total	203	100	Total	203	100
PROPULSOR	**Qtde.**	**%**	KNOWLEDGE OBTAINED THROUGH THE COURSE	**Qtde.**	**%**
Elementary / high school	67	33	Helpful, I'm satisfied	68	33.5
Higher education	27	13.3	It helped, I'm not very satisfied	39	19.2
I don't know about the subject	53	26.1	It helped, but I'm dissatisfied	17	8.4
Other	56	27.6	It didn't help, because the subjects didn't cover the topic	79	38,9
Total	**203**	**100**	**Total**	**203**	**100**

Source: data from research.

With regard to the importance of financial education, 184 respondents, 90.6%, consider it to be very important, with only 1 respondent, 0.5%, reporting that they don't know anything about it. Accordingly, financial education helps consumers to plan and manage their income, as well as save and invest, preventing them from becoming victims of fraud. In short, it is believed that financial education can benefit everyone, regardless of income level (OECD, 2005).

As for where this topic was promoted, a large proportion identified it as being in primary/middle school, with 33%, 67 respondents, followed by 13.3%, 27 respondents, higher education, but a very significant 26.1%, i.e. 53 respondents reported that they were unaware of the topic. This raises alarm bells among university students, as everyone should have the basic knowledge to manage their financial life, i.e. their personal finances, efficiently and calmly. Duarte (2012) reveals that several countries are developing integrated financial education programs at different levels of education, one of the countries that stands out is the United States.

With regard to monitoring personal finances, the result was that 37.4%, 76 respondents, monitor their finances using electronic spreadsheets. This proves that university students are paying attention to their spending and doing their own accounting using spreadsheets, so it is possible to visualize their expenses and maintain proper financial planning. On the other hand, those who monitor their finances using a sheet of paper accounted for 25.6%, 52 respondents. Although the cell phone is an electronic device that most people have nowadays, monitoring using a cell phone app was reported by 20.7%, 42 respondents, and 14.8%, 30 respondents, do not monitor their personal finances. This data should be analyzed carefully, as it shows that a large proportion of respondents are still not in the habit of taking care of and effectively controlling their personal finances. Cherobim and Espejo (2010) estimate that all debts, large or small, due or not due, should be recorded separately in a personal budget spreadsheet.

They were also asked about the knowledge they had obtained during their course, and 38.9% of the respondents said that it had not helped, as the subjects did not cover financial education; 33.5% of the university students said that it had helped, and that they were satisfied with the knowledge they had obtained, and only 8.4% said that it had helped, but that they were dissatisfied with the subject covered in their course.

Duarte (2012) states that people with a high level of financial literacy are better able to plan, save and plan their financial future, so it can be inferred that the students surveyed could be better prepared to effectively manage their financial future.

Generation x personal finances

The purpose of this section is to analyze the relationship between the generation of the respondents and their personal finances, including some variables such as the form of payment they use, the types of investment they make and, lastly, the reason for making the investment. These data are shown in Tables 4, 5 and 6.

Table3 – Form of payment

FORM OF PAYMENT USED * BIRTH YEAR Cross-tabulation								
PAYMENT METHOD USED	**BIRTH YEAR**						**Total**	
	Generation X		Generation Y		Generation Z			
	Nº	%	Nº	%	Nº	%	Nº	%
Debit card/ PIX/ Cash/ Transfer	45	45.00	39	39.80	3	60.00	87	42.90
Credit card	8	8.00	6	6.10	1	20.00	15	7.40
Both	47	47.00	53	54.10	1	20.00	101	49.80
Total	**100**	**100.00**	**98**	**100.00**	**5**	**100.00**	**203**	**100.00**

Source: data from research.

The relationship between the generation of university respondents and the form of payment they use shows that 54.1% of respondents are from generation Y and use both forms of payment, while 47.0% of generation X also use both forms, while among generation Z university students, 60.0% prefer to use debit cards, PIX, cash and transfers as forms of payment.

With this data presented, we can see that the current generation, "generation Z", is already opting to use a new form of payment, which would be PIX, in addition to the others mentioned, such as transfers. This is due to the practicality and agility of the new technologies that this generation is interacting with.

According to Consumidor Moderno magazine, this generation has easier access to the internet and digital inclusion policies. It's a much more connected generation with greater ease of interaction with any electronic device. In this respect, the ability to use money can come from the search for emotional well-being, as this type of payment reduces the psychological pressure to close mental accounts that persists during the debt settlement period. It is understood that psychological problems interfere with financial behavior and that the benefits of buying are increased (CHATTERJEE; HEATH; MIN, 2009; PRELEC; LOEWENSTEIN, 1998).

Table 5 - Types of investment

TYPE OF INVESTMENT * BIRTH YEAR Cross-tabulation								
TYPES OF INVESTMENT	**BIRTH YEAR**						**Total**	
	Generation X		Generation Y		Generation Z			
	Nº	%	Nº	%	Nº	%	Nº	%
None	25	25.00	28	28.60	1	20.00%	54	26.60
Savings accounts	27	27.00	36	36.70	1	20.00%	64	31.50
Real Estate and Consortium	6	6.00	3	3.10	0	0.00%	9	4.40
Investment Funds	15	15.00	15	15.30	0	0.00%	30	14.80
Savings accounts and investment funds	15	15.00	12	12.20	3	60.00%	30	14.80
Investment Funds, Consortium and Real Estate	6	6.00	3	3.10	0	0.00%	9	4.40
Savings accounts, real estate and consortiums	6	6.00	1	1.00	0	0.00%	7	3.40
Total	**100**	**100.00**	**98**	**100.00**	**5**	**100.00**	**203**	**100.00**

Source: data from research.

The results show that 36.7% of generation Y university students choose savings accounts as their investment, followed by generation X, 27.0%, who also prefer the same type of investment. In generation Z, 60.0% prefer to invest in savings books and investment funds.

These results are similar to the research by (FREITAS, 2014), which showed that the type of investment best known by the study's target audience is savings accounts, with 34.3%. In turn, it highlights the importance of seeking knowledge of investments as a way of increasing income, so better financial education leads to better management of personal finances.

Table 6 - Reason for investing

REASON FOR INVESTING * BIRTH YEAR Cross-tabulation								
REASON TO INVEST	**BIRTH YEAR**						**Total**	
	Generation X		Generation Y		Generation Z			
	Nº	%	Nº	%	Nº	%	Nº	%
Buying your own home	17	17.00	24	24.50	2	40.00	43	21.20
Travel	11	11.00	13	13.30	0	0.00	24	11.80
I don't invest	22	22.00	30	30.60	1	20.00	53	26.10
To pay off future debts	18	18.00	11	11.20	0	0.00	29	14.30
Invest in education	14	14.00	12	12.20	2	40.00	28	13.80
Buy a car	9	9.00	8	8.20	0	0.00	17	8.40
Make renovations	9	9.00	0	0.00	0	0.00	9	4.40
Total	**100**	**100.00**	**98**	**100.00**	**5**	**100.00**	**203**	**100.00**

Source: data from research.

When researching behavioral evidence, the students were asked about their reasons for investing, and the reason for investing variable showed that 30.6% of Generation Y students do not invest, and 22.0% of Generation X students do not invest at all.

These results raise concerns about the way university students plan their finances, because according to research by Halfed (2010), the practice of saving has many advantages for managing personal finances. Therefore, building up a financial reserve for unforeseen events, accumulating capital to start an investment plan and even planning a major purchase are just some of these advantages. However, it is also shown that in generation Y, 24.5% think about investing in order to buy their own home, as well as in generation Z, where 40.0% invest to buy a home and another 40.0% choose to invest in education. This result shows that generation Z is concerned about the future, so investing in education is an excellent plan that will bring great results for these university students.

Knowledge area x mental accounting theory

This final section will analyze the relationship between the area of knowledge of the university students who took part in the survey and the theory of mental accounting. It will be divided into two sections. The first deals with finance and the second is related to investments.

The division of courses cited by the respondents was used in the survey by area of knowledge. Thus, the areas used with their respective courses were as follows:

- applied social sciences: administration, accounting sciences, economics, architecture and urbanism, law and journalism;
- human sciences: psychology, pedagogy;
- health sciences: biomedicine, dentistry, nutrition, physical education, nursing and pharmacy; and
- engineering: engineering.

Financial

This subsection aims to present the analysis and results between the area of knowledge and the financial behavior of university students, through Tables 7 and 8.

Table 7 - Financial education

FINANCIAL EDUCATION * AREA OF KNOWLEDGE Cross-tabuation										
PERCEPTION OF FINANCIAL EDUCATION	**AREA OF KNOWLEDGE**									
	Applied Social Sciences		**Human Sciences**		**Health Sciences**		**Engineerings**		**Total**	
	Nº	%	Nº	%	Nº	%	Nº	%	Nº	%
Very important	136	93.20	22	78.60	16	94.10	10	83.30	184	90.60
Important	9	6.20	6	21.40	1	5.90	2	16.70	18	8.90
I don't know anything about the subject	1	0.70	0	0.00	0	0.00	0	0.00	1	0.50
Total	**146**	**100.00**	**28**	**100.00**	**17**	**100.00**	**12**	**100.00**	**203**	**100.00**

Source: data from research.

Table 7 shows the results for each area of knowledge in relation to their perception of financial education. In general, the university students answered that they considered the topic to be very important: 93.2% applied social sciences, 78.6% humanities, 94.1% health sciences and 83.3% engineering, and finally, only 0.7% (1 respondent) from the applied social sciences area did not know anything about the topic.

It can be seen that the area of applied social sciences was the area that most chose the "very important" option, with 136 respondents. In this way, it is possible to verify that university students in this area have the same rationality disseminated in the academic environment and that this acts as a dissipating element of the subjectivity related to finance and attributes a different condition to university students. Therefore, it is clear that the field of professional training is related to the individual's rationality, given the theory of mental accounting (SANTOS et al., 2019).

Table 8 - Satisfaction with income

SATISFACTION INCOME * AREA OF KNOWLEDGE Cross-tabulation										
SATISFACTION WITH INCOME	**AREA OF KNOWLEDGE**									
	Applied Social Sciences		**Human Sciences**		**Health Sciences**		**Engineerings**		**Total**	
	Nº	%	Nº	%	Nº	%	Nº	%	Nº	%
Very dissatisfied	12	8.20	5	17.90	1	5.90	1	8.30	19	9.40
Dissatisfied	37	25.30	5	17.90	5	29.40	1	8.30	48	23.60
Neutral	51	34.90	8	28.60	7	41.20	6	50.00	72	35.50
Satisfied	37	25.30	7	25.00	3	17.60	2	16.70	49	24.10
Very satisfied	9	6.20	3	10.70	1	5.90	2	16.70	15	7.40
Total	**146**	**100.00**	**28**	**100.00**	**17**	**100.00**	**12**	**100.00**	**203**	**100.00**

Source: data from research.

Satisfaction with income in relation to the area of knowledge showed that in the area of applied social sciences, 8.2% (12 respondents) are very dissatisfied with their income, followed by the area of humanities, with 17.9% (5 respondents). Those who are only dissatisfied are from the applied social sciences, with 25.3% (37 respondents), followed by the health sciences, with 29.4% (5 respondents).

When analyzing these university students who consider themselves dissatisfied with their income, it is noticeable that they have higher financial expectations than the others, thus justifying the hypothesis of Mental Accounting Theory, that the way results are observed and experienced are based on the individual's financial reasoning (PRADO, 2015). In the "neutral" option, applied social sciences stand out with 34.9% (51 respondents), health sciences with 41.2% (7 respondents) and engineering with 50.0% (6 respondents).

In the "satisfied" category, we have 25.3% (37 respondents) from applied social sciences, and 25.0% (7 respondents) from the humanities. With regard to the "very satisfied" option, it can be seen that no area had a significant number of respondents, with only 6.2% from the social sciences, 10.7% from the humanities, 5.9% from the health sciences, i.e. only 1 respondent from the area considered themselves very satisfied with their income, and only 16.7% from the engineering area. Thus, in this item, the distinction between the study by Xian, Chen and Chen is evident, indicating that financial literacy certainly helps in relation to financial satisfaction.

Investment

The results of the survey between the variables involving investment and the respondents' area of expertise are shown in Tables 9, 10 and 11.

Table 9 - How personal finances are monitored

FINANCE MONITORING * AREA OF KNOWLEDGE Cross-tabulation										
HOW TO MONITOR PERSONAL FINANCES	AREA OF KNOWLEDGE									
	Applied Social Sciences		**Human Sciences**		**Health Sciences**		**Engineerings**		**Total**	
	Nº	%	Nº	%	Nº	%	Nº	%	Nº	%
Sheet of paper	31	21.20	13	46.40	6	35.30	2	16.70	52	25.60
Electronic spreadsheet	62	42.50	6	21.40	4	23.50	4	33.30	76	37.40
Mobile application	27	18.50	5	17.90	6	35.30	4	33.30	42	20.70
I don't monitor	26	17.80	4	14.30	1	5.90	2	16.70	33	16.30
Total	**146**	**100.00**	**28**	**100.00**	**17**	**100.00**	**12**	**100.00**	**203**	**100.00**

Source: data from research.

Table 9 shows the relationship between the area of knowledge and the way in which personal finances are monitored. It can be seen that the university students who use spreadsheets the most are those in the applied social sciences, with 42.5%, while university students in the humanities choose to use paper spreadsheets, with 46.4%. In the area of health sciences, there are two tied options: 35.3% paper and 35.3% mobile application. The same is true for engineering, with 33.3% using spreadsheets, while 33.3% prefer mobile apps.

From these results, it can be seen that the applied social sciences area uses the most sophisticated form of monitoring to monitor and analyse its finances, i.e. they use tools that organizations use to review their mental accounts. This shows us that the lessons learned in class end up becoming part of students' daily lives, making them apply them to their personal finances (SANTOS et al., 2019).

Table 10 - How the personal budget is carried out

REALIZATION PERSONNEL BUDGET * AREA OF KNOWLEDGE Cross-tabulation										
HOW TO MAKE A PERSONAL BUDGET	**AREA OF KNOWLEDGE**									
	Applied Social Sciences		**Human Sciences**		**Health Sciences**		**Engineerings**		**Total**	
	Nº	%	Nº	%	Nº	%	Nº	%	Nº	%
I only consider expenses	20	13.70	8	28.60	1	5.90	2	16.70	31	15.30
I consider income and expenses	33	22.60	1	3.60	1	5.90	1	8.30	36	17.70
I take into account income, expenses and leftovers	80	54.80	15	53.60	14	82.40	8	66.70	117	57.60
I don't do it	13	8.90	4	14.30	1	5.90	1	8.30	19	9.40
Total	**146**	**100.00**	**28**	**100.00**	**17**	**100.00**	**12**	**100.00**	**203**	**100.00**

Source: data from research.

When analyzing the results in terms of how they carry out their personal budget, 54.8% (80 respondents) of university students in the applied social sciences area of knowledge carry it out considering income, expenses and surpluses, followed by 53.6% (15 respondents) in the humanities area, 82.4% (14 respondents) in the health sciences area and 66.7% (8 respondents) in the engineering area.

It can be seen in this analysis that the majority of university students in these areas use the most complete form of budgeting, considering income, expenses and cash surpluses, using this form for systematized means of controlling financial information, with less chance of being manipulated by irrational issues in the decision-making process, as stated by Kich (2013) and Prado (2015).

Table 11 - Existence of surplus cash

CASH SURPLUS * AREA OF KNOWLEDGE Cross-tabulation										
EXISTENCE OF SURPLUS CASH	**AREA OF KNOWLEDGE**									
	Applied Social Sciences		**Human Sciences**		**Health Sciences**		**Engineerings**		**Total**	
	Nº	%	Nº	%	Nº	%	Nº	%	Nº	%

In some months of the year	62	42.50	11	39.30	10	58.80	6	50.00	89	43.80
Only in December	1	0.70	0	0.00	0	0.00	0	0.00	1	0.50
Every month	70	47.90	12	42.90	6	35.30	5	41.70	93	45.80
Never	13	8.90	5	17.90	1	5.90	1	8.30	20	9.90
Total	**146**	**100.00**	**28**	**100.00**	**17**	**100.00**	**12**	**100.00**	**203**	**100.00**

Source: data from research.

The results show that the cash surplus variable obtained 47.9% in applied social sciences, where there is a cash surplus every month. In the humanities, 42.9% also have a surplus every month. In the area of health sciences, 58.8% have surpluses in some months of the year, while only 35.3% have surpluses every month, and the same occurs in engineering, where 50.0% have surpluses in some months of the year and 41.7% every month.

This shows that the financial behavior of university students in the area of applied social sciences differs from that of students in other areas. This is evidenced in the results with the greater existence of surplus cash in this area, as these university students have formal and systematized control of their finances. Therefore, knowledge of business finance contributes to organization and peace of mind in personal finances (XIAO; CHEN; CHEN, 2014).

Table 12 - Value of debts

DEBT AMOUNT * AREA OF KNOWLEDGE Cross-tabulation										
VALUE OF DEBTS	**AREA OF KNOWLEDGE**									
	Applied Social Sciences		**Human Sciences**		**Health Sciences**		**Engineerings**		**Total**	
	Nº	%	Nº	%	Nº	%	Nº	%	Nº	%
R$ 0,00	30	20.50	4	14.30	1	5.90	5	41.70	40	19.70
Até R$ 1.000,00	39	26.70	14	50.00	12	70.60	2	16.70	67	33.00
De R$ 1.000,01 a R$ 5.000,00	54	37.00	8	28.60	4	23.50	3	25.00	69	34.00
De R$ 5.000,01 a R$ 10.000,00	6	4.10	0	0.00	0	0.00	0	0.00	6	3.00
De R$ 10.000,01 a R$ 20.000,00	0	0.00	1	3.60	0	0.00	0	0.00	1	0.50
De R$ 20.000,01 a R$ 50.000,00	6	4.10	1	3.60	0	0.00	1	8.30	8	3.90
Acima de R$ 50.000,01	11	7.50	0	0.00	0	0.00	1	8.30	12	5.90
Total	**146**	**100.00**	**28**	**100.00**	**17**	**100.00**	**12**	**100.00**	**203**	**100.00**

Source: Source: data from research.

When analyzing the value of debts by area of knowledge, it was found that 37.0% of applied social sciences students have debts of between R$1,000.01 and R$5,000.00, while only 20.5% of university students in this area have no debts. In the humanities, 50.0% have debts of up to R$1,000.00 and 14.3% have no debt at all. Followed by 70.6% in the health sciences who have debts of up to R$1,000.00 and 5.9% who do not. And finally, in the area of engineering, 41.7% of university students have no debts.

In this analysis, the results show that there is no difference between university students in the area of applied social sciences and those in other areas, i.e. there is no difference in the start of indebtedness between students in the business area and those in other areas, indicating that mental accounting in relation to this element is developed by subjectivist tendencies. Thus, the results of the research share the research of (SANTOS et al., 2019).

Table 13 - When you run out of money

WHEN THERE IS NO MONEY * AREA OF KNOWLEDGE Cross-tabulation										
WHAT YOU DO WHEN YOU RUN OUT OF MONEY	**AREA OF KNOWLEDGE**									
	Applied Social Sciences		**Human Sciences**		**Health Sciences**		**Engineerings**		**Total**	
	Nº	%	Nº	%	Nº	%	Nº	%	Nº	%
Financial investment redemption	37	25.30%	6	21.40%	3	17.60%	6	50.00%	52	25.60%
Credit card / overdraft / Loan	103	70.50%	20	71.40%	14	82.40%	6	50.00%	143	70.40%
Sale of goods	6	4.10%	2	7.10%	0	0.00%	0	0.00%	8	3.90%
Total	**146**	**100.00**	**28**	**100.00**	**17**	**100.00**	**12**	**100.00**	**203**	**100.00**

Source: data from research.

In the last variable analyzed, the results indicate that 70.5% (103 respondents) from applied social sciences use a credit card / overdraft / loan when they are short of cash, followed by the other areas where the majority of university students use the same option, 71.4% (20 respondents) from the humanities, 82.4% (14 respondents) from the health sciences and finally engineering with 50.0% (6 respondents).

With these results, no differentiation was identified between the areas of knowledge of university students, i.e. it is clear that other factors are determining this specific decision making. Related to this, Fioravante; Szeremeta demonstrate the theory of behavioral finance, in the sense that human beings are influenced by their emotions to make financial decisions, without always choosing the reason. Although they have similar behavior patterns, each person evaluates and solves a problem in their own way.

Therefore, mental accounting is of fundamental importance to each individual's daily life. Irrational attitudes lead to major consequences, as they end up getting into unnecessary debt because they don't have adequate control over what they really need. Under these conditions, people get into the habit of doing their accounts mentally thinking that they are making a profit from something, acting rashly, and thus getting into debt without the slightest need to think about the future.

V. Final considerations

O objetivo da pesquisa foi analisar a relação entre a área de conhecimento dos universitários e o controle das The aim of the research was to analyze the relationship between the area of knowledge of university students and the control of personal finances, from the perspective of Mental Accounting. To this end, a study was carried out with 203 university students from four different areas of knowledge and institutions.

In an attempt to determine the relationship between the university students' areas of knowledge, the results significantly indicate that 93.2% of the students in the applied social sciences area of knowledge recognize the topic of financial education as very important. In this variable, the other areas of knowledge also had a significant result, with 78.6% in the humanities, 94.1% in the health sciences and 83.3% in engineering.

With regard to satisfaction with income, the result shows that both areas of knowledge chose to be neutral about income. In terms of how the budget is carried out, using spreadsheets as a means of monitoring, the area of applied social sciences stood out, with 42.5% of university students. In addition, this area also stood out when it came to having a surplus of cash, with 47.9% of university students having a surplus every month. The results also show that all areas had a significant number of students using the most complete form of budgeting, with 54.8% in applied social sciences, 53.6% in humanities, 82.4% in health sciences and 66.7% in engineering.

With the data presented, it is possible to consider that the area of knowledge in which each university student is inserted interferes in the financial decisions of their particular life. Finally, with regard to the amount of debt, it was possible to see among university students that the percentage of young people who have no debt is low, with only 20.5% in applied social sciences, 14.3% in humanities, 5.9% in health sciences and 41.7% in engineering. There is a significant number of young people in debt in the area of applied social sciences, with 37.0%, but this issue doesn't affect the results, bearing in mind that in this area university students have surplus cash every month.

In the last variable analyzed, it can be seen that when they run out of money, university students in all areas choose to use a credit card / overdraft / loan, with 70.5% in applied social sciences, 71.4% in humanities, 82.4% in health sciences and 50.0% in engineering.

The aim of the study was achieved, and the analyses developed by the study indicate that the practice of controlling personal finances is related to the area of knowledge of university students, i.e. academic training contributes to better decision-making in relation to personal finances, with university students in the area of applied social sciences showing different behavior in relation to other areas of knowledge.

However, some decision-making aspects related to satisfaction with income, how personal budgeting is carried out, what they do when they run out of money and the amount of debt, did not show such a significant difference between the responses obtained from the various areas of knowledge.

From the perspective of Mental Accounting Theory, it can be understood that contact with knowledge of organizational finance can condition some of the behaviours of individuals and that this relationship acts to improve the organization of the personal finances of university students who study this area of knowledge. However, the field of education cannot be limited to being the sole determinant of university students' financial lives. The results of the research show the possible existence of other elements that interfere with the rationalization of personal finances, as well as the possibility of other arguments transposing the financial behavior of the academics in the sample studied.

Therefore, it can be concluded that mental accounting is of fundamental importance to each individual's daily life. Irrational attitudes lead to major consequences, as people end up getting into debt unnecessarily because they don't have adequate control over what they really need.

What's more, people are used to doing the math mentally, thinking that they're going to benefit from something, acting hastily and getting into debt without the slightest interest in thinking about the future. Associated with this, irrational thinking is often spontaneous and has consequences directly related to regrets. It is often easier to find justifications for irrational actions than to seek solutions and act correctly and rationally.

As seen in the study, accounting science is an essential tool in the management of a company. Organizing personal finances and controlling budgets are not difficult tasks and should be followed by everyone to avoid financial difficulties. The survey showed that the respondents' financial management is in line with what is expected of good people management, but there are still areas for improvement

The research was extremely important, as it validates the importance of studying human behavior in relation to personal finances, thus making it possible to learn about better ways of controlling the financial budget. However, criticism persists of the lack of education in personal finance at all stages of Brazilian education, which, through the results presented, reflects the financial practices of adult citizens.

That's why it's a good idea for children and young people to learn the importance of financial planning from an early age, since as this notion is assimilated, the young person will be somewhat better prepared to deal with financial management. The inclusion of subjects dealing with financial education and personal finance is another point that should be analyzed and treated seriously.

It is important that everyone is encouraged to take part in extracurricular courses on personal finance knowledge, and the incentive should come from university leaders and students, as this subject should be part of the academic community's discussions, given the implications for citizens' practices. In this way, it is possible to generate a beneficial social impact, allowing students to share this knowledge with their families and social circles.

These actions collaborate with mental accounting processes and this is reinforced by the results of this research, which identified that students who access formal financial content are at more advanced stages in personal finance control practices. Therefore, if individuals have contact with and knowledge of this subject from an early age, in the future we will have a population that is less indebted and has the knowledge to manage their financial lives with peace of mind.

As a limitation, few materials were found that addressed research in relation to the area of knowledge of university students, so that most of the studies observed dealt with a specific course and institution.

For future research, some topics could be mentioned: analyzing a larger population in the research instrument; using a questionnaire with specific knowledge questions about personal finance and mental accounting, which would analyze how financial education is being applied in higher education courses, regardless of the area of knowledge; and conducting the research with university students from different states. These are suggestions for more complete and detailed data and analysis in order to obtain a survey with more information on the subject presented here.

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