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THE IMPACT OF FINANCIAL LITERACY IN THE FINANCIAL HEALTH OF THE UNIVERSITY YOUTH

O IMPACTO DA EDUCAÇÃO FINANCEIRA NA SAÚDE FINANCEIRA DA JUVENTUDE UNIVERSITÁRIA

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ABSTRACT

This study aimed to analyze the impact of the level of financial literacy on the financial health index of undergraduates in Business Administration, Accounting and Economics at the Federal University of Santa Catarina. By applying an online questionnaire, 185 valid responses were obtained by the investigation, distributed between the courses. After analyzing the data using descriptive statistics and the Multiple Linear Regression method using Microsoft Excel and Statistical Package for Social Sciences (SPSS) software, it was concluded that there is a relationship between the participants' level of financial literacy and their financial health index, i.e., the more in-depth they are on the subject, the more likely they are to have better financial health. The undergraduate respondents have a high level of knowledge, especially those in Economics Science, which provides them critical awareness of their finances, preparing them to manage their resources. In addition, there was a wide gap between the financial health classification bands, with no homogeneity in the positive indices, and it is worth mentioning that a considerable proportion of the respondents still have low scores.

Keywords: Financial Literacy; Financial health; Students.

RESUMO

O presente trabalho visou analisar o impacto do nível de educação financeira no índice de saúde financeira dos graduandos de Administração, Ciências Contábeis e Ciências Econômicas da Universidade Federal de Santa Catarina. Por meio da aplicação de um questionário online, foram obtidas 185 respostas válidas distribuídas entre os cursos. Após análise dos dados através da estatística descritiva e aplicação do método de Regressão Linear Múltipla com auxílio dos softwares Microsoft Excel e Statistical Package for Social Sciences (SPSS), conclui-se que existe uma relação entre o nível de educação financeira dos participantes com o índice de saúde financeira apresentado por eles, ou seja, quanto mais aprofundamento no tema, mais chances de ter uma saúde financeira melhor. Os graduandos respondentes possuem em sua maioria um nível alto de conhecimento, principalmente os de Ciências Econômicas, o que proporciona a todos uma consciência crítica acerca de suas finanças, preparando-os para administrar seus recursos. Além disso, verificou-se uma grande amplitude entre as faixas de classificação de saúde financeira, não possuindo uma homogeneidade com índices positivos, cabendo citar que uma grande parcela dos respondentes ainda se encontra com baixos escores.

Palavras-chave: Educação Financeira; Saúde Financeira; Estudantes.

1 INTRODUCTION

The growing influence of financial capital in the globalized world has directly impacted the economic reality of nations and the management of personal finances. Thus, with easy access to financial products and credit, it is essential that people are prepared to deal with complex issues and manage their financial resources. However, the lack of knowledge about financial issues has led many families to face debt and economic difficulties, through less rational and effective decisions. In this context, the relevance of financial literacy stands out to provide a better quality of life, prepare for the future and avoid financial crises (FERRARI et tal, 2017; DREBEL et al., 2023).

It is essential that society understands the importance of financial literacy for the effective management of personal finances (PEIC, 2021a; PEIC, 2021b). With the Covid-19 pandemic, financial challenges have worsened, making access to financial literacy even more necessary for better management and economic stability (PEIC, 2021a). Therefore, the Brazilian Federation of Banks (Febraban) and the Central Bank of Brazil have developed the Brazilian Financial Health Index, a tool to diagnose and monitor people's financial health and identify vulnerabilities, enabling improvements through financial literacy (FEBRABAN, 2020). Financial literacy is a powerful tool for improving quality of life and economic development, enabling more efficient management of financial resources and better preparation to face economic challenges (Murakami et al., 2020; FEBRABAN, 2020). In this regard, it's worth mentioning that financial literacy isn't something unique to the 21st century; it's been practiced since the Middle Ages, even without a scientific study on the subject (DREBEL et tal, 2023).

This makes it clear that young people need to be trained in financial management skills right from the start of their education. In this sense, organizations are acting to insert financial knowledge in the life of the Brazilian youth, mostly brought by the Brazil's Association of Financial Literacy and the "Orientation for Financial Literacy at Schools" program (SANTOS et al., 2022). From this perspective, as young people become more aware of their financial situation and possible courses of action, their chances of achieving both a more prosperous and stable present and future increase. Thus, the tendency for young people to get into debt, and consequently reduce their quality of life, is reduced as

their financial knowledge becomes more advanced. What's more, a better quality of life reduces the likelihood of developing mental illnesses such as depression and anxiety, which together cost a trillion dollars in lost productivity (ARAÚJO et al., 2022). In this sense, it is worth mentioning that the socio-economic context also plays a big role in determining the financial future, however, regardless of this, financial literacy can improve the lives of millions of Brazilians. It is also the case that although young people have a certain amount of financial knowledge about, for example, what they would spend on services and products that are appropriate for their situation, they often end up letting this practice go to waste. In other words, they let the situation happen without actively influencing the direction of their financial future (Drebel et al., 2023).

It is crucial to consider the significance of financial literacy as regards retirement. As forecasts suggest that by 2060, every retiree will be supported by just two workers, it is essential to implement well-prepared programs to address such challenges. Therefore, becoming knowledgeable in these areas is paramount for a fulfilling old age, avoiding common issues such as depression and anxiety. These issues also have an impact on the efficient functioning of the financial market, presenting challenges to the development of a country (Vieira et al., 2023). In the same sense, financial literacy is also essential as managing personal finances reduces the risk of excessive consumption and financial imbalances. In this regard, it has advantageous outcomes not only for the individual's personal life but also for society, influencing bank rates, inflation, the credit market, and investments (KAROLINY et al., 2023)

In this context, we seek to analyze this context within the established focus population and determine the objective of this work in answering the following research problem: what is the impact of the level of financial literacy on the financial health index of students on the Business Administration, Accounting and Economics courses at the Federal University of Santa Catarina? Therefore, to answer the research question presented, the general objective is to analyze the impact of the level of financial literacy on the financial health index of undergraduates in Business Administration, Accounting and Economics at the Federal University of Santa Catarina.

The proposed research seeks to highlight the importance of financial literacy in early adulthood. According to the Organization for Economic Cooperation and Development (OECD), financial literacy helps all individuals, regardless of income and age group, by providing basic control, planning and savings tools to ensure comfort and security in their purposes (OECD, 2013). In addition, Bernheim, Garret and Maki (2001) point out that financial literacy can encourage individuals to save their personal resources, bringing benefits to society in the long term. In this context, this research aims to analyze the levels of financial literacy among students on these specific courses, in addition to applying the methodology of the Financial Health Index, a tool made available by the Central Bank of Brazil in conjunction with Febraban, which was developed in 2020. By analyzing the impact of the level of financial literacy on this index, the main trends and possible future improvements will be identified. This research aims to contribute to a greater understanding and development of financial literacy, especially among young people who are at the point of making decisions that will affect their future (Bernheim, Garret & Maki, 2001).

2 DEVELOPMENT

2.1 THEORETICAL FRAMEWORK

This section provides a brief recap of some of the terms that are essential to understanding the work.

2.1.1 Financial literacy

In the foreground, financial literacy has been a hot topic since the last century, with different visions and applications. Thus, Potrich et al. (2015) point out that it develops skills for proper financial management, avoiding getting into financial debt and protecting individuals from financial risks (Reifner; Schelhowe, 2010). Similarly, Gadotti and Baier (2017) advocate its inclusion in schools, preparing young people for more assertive financial decisions. In this way, investing in this education benefits society by providing a foundation and confidence in financial decisions, promoting personal growth and development (BCB, 2012).

According to the OECD (2013), financial literacy is "the process by which individuals and societies improve their understanding of financial concepts and products so that, with information, education and guidance, they can develop the values and skills needed to become more aware of the opportunities and risks involved and then be able to make well-informed choices, know where to seek assistance and take other actions that improve their well-being." According to Robb, Babiarz and Woodyard (2012), financial literacy is simply remembering a set of facts, i.e., financial knowledge. Financial literacy, on the other hand, involves the ability to understand financial information and make effective decisions using that information. That said, it can be considered that financial literacy is related to technical knowledge, while financial literacy goes further, including the application of this knowledge. Financial literacy is essential for achieving financial balance and preparing individuals to face unforeseen events (BCB, 2013). However, there are challenges in relation to low levels of knowledge and a lack of evaluation measures in this area (Remund, 2010). Considering the current socio-economic context, with high levels of indebtedness and a lack of financial knowledge, it is important to analyze the influence of other variables on the population's financial literacy (COSTA et al., 2020) In the case of this research, the analysis is limited to schooling and field of study.

According to the literature, regarding the course and semester in which individuals are studying, the level of financial literacy among young undergraduates is related to the number of subjects related to finance that they have taken, and Peng et al. (2007) showed that taking a finance subject at university improves individuals' knowledge, especially regarding investments. According to Amadeu (2009), higher levels of financial knowledge are found in individuals with a higher level of education and access to financial information, and undergraduates who have financial or economic subjects in their curriculum are more likely to have positive financial practices in their daily lives. Along the same lines, a study carried out with students at a public university in Paraná by Vieira et al. (2011) shows that undergraduates studying Business Administration, Accounting and Economics have a better level of knowledge about finance as they progress through their studies.

2.1.2 Financial health

The term "financial health" refers to the management of personal finances, involving planning that considers people's behaviors, habits, and customs (Murakami, Souza & Caron, 2020). The definition of the concept of financial health was based on theoretical models of financial well-being and financial ability, such as the CFPB Well Being Scale/Skill Scale (Consumer Financial Protection Bureau) and the CFSI Financial Health Score (Center for Financial Services Innovation), along with the dimensions suggested in the FEBRABAN survey (FEBRABAN, 2020). Based on this research, five main dimensions were identified that make up the concept of financial health (FEBRABAN, 2020), as follows: ability, behavior, freedom, security, and financial proficiency. Financial skill is the ability to seek out and understand relevant information to make financial decisions. It refers to the knowledge and understanding of financial concepts necessary for informed decision-making (I-SFB/FEBRABAN, 2020). Financial behavior is the way individuals deal with money in their lives. It reflects the financial balance or imbalance in their actions (OECD, 2013). Financial freedom is the ability to have options in life in relation to money, without feeling limited by it. Next, financial security means the ability to meet your financial obligations (I-SFB/FEBRABAN, 2020). Finally, financial proficiency is the ability to read and understand financial statements, identifying business strengths and weaknesses (Kiyosaki & Lechter, 2000).

These concepts are interlinked with financial skill providing the basis for understanding, financial behavior reflecting practical actions, financial freedom seeking options in life, financial security providing stability and financial proficiency deepening the knowledge needed to make informed financial decisions.

The concept of financial health, established by the I-SFB (Brazilian Financial Health Index), covers cognitive and behavioral issues related to financial proficiency, as well as the individual's perception of security and financial freedom (FEBRABAN, 2020). Based on the data presented, a person with a good financial health index is characterized by the ability to meet their financial obligations, make appropriate financial decisions, have discipline and self-control to achieve goals, feel secure about their financial future and have the freedom to make choices that allow them to enjoy life as they wish, considering the context in which they are inserted.

These dimensions are addressed and measured through a set of questions in the survey instrument, to determine everyone’s index in these specific areas (FEBRABAN, 2020). The methodology of the I-SFB/FEBRABAN survey and its development and application will be discussed below.

The Brazilian Financial Health Index (I-SFB), developed by FEBRABAN in partnership with the Central Bank of Brazil and other financial institutions, aims to provide a tool for analyzing the individual diagnosis of Brazilians' financial health and identifying gaps to improve public and private financial literacy policies (FEBRABAN, 2020). The index was built based on previous research and international knowledge, adapting it to Brazil's socioeconomic context. It is an easy-to-apply tool with a reliable methodology, used by financial planners, educators, academics, and researchers in different contexts. The survey instrument consists of a questionnaire divided into two main parts, addressing dimensions of security, behavior, ability, and financial freedom, as well as the individual's financial base. The score obtained from the answers makes it possible to determine the participant's level of financial health, ranging from "poor" to

"excellent". Below are the ranges of individuals' level of financial health according to their score on the questionnaire:

The I-SFB methodology, through the answers obtained in the questionnaire, makes it possible to identify the structure of the target audience's financial life and identify their weaknesses, which can be improved through practical financial literacy guidelines (FEBRABAN, 2020). In this way, the indicator can understand the subtleties of the reality of the individuals taking part in the survey and the dynamics of their finances.

2.1.3 Financial literacy and financial health

In the United States, recognized studies show the relationship between these topics and young people's personal finances. According to researchers Danes and Hira (DANES; HIRA, 1987), in a study with students at the University of Iowa, they analyzed that the respondents had a low level of financial knowledge in general, especially on issues related to credit cards and insurance. In addition, they concluded that demographic characteristics and the gender of the students had an impact on the answers, so that older students had more knowledge about financial issues; men had more knowledge about insurance and personal loans, while women had more affinity with financial planning.

In line with these conclusions, a survey carried out by Robb (2007) with students at the University of Missouri found that the degree of financial knowledge of individuals is related to the way they use their credit cards. In addition, a study carried out by McKenzie (2009) with university students in the southwest of the United States concluded that business students have a higher level of financial literacy compared to other courses, and that the level of student indebtedness is directly related to the level of financial literacy received. Finally, a study carried out by Gilligan (2012) with American university students concluded that their financial literacy is directly influenced by psychological and sociological factors, such as socioeconomic status, education received by parents, age and origin of the individuals analyzed.

In Brazil, studies on financial literacy have drawn relevant conclusions about how individuals, especially young people, behave with their personal finances. In their work on financial literacy and consumption decisions in university students, Vieira, Bataglia and Sereia (2010) conclude that academic training is of paramount importance when it comes to making financial decisions, but that there are also other sources of knowledge available, such as practical experience and family teachings.

Along these lines, the study carried out with students at a public university in Paraná by Vieira *et al*. (2011) concluded that undergraduates in Business Administration, Accounting and Economics show better knowledge about investments, savings, and consumption as they progress in their studies. Corroborating this, Medeiros, and Lopes (2014) analyzed that accounting students in Rio Grande do Sul are more aware of their personal finances in terms of earnings, expenses, and income, even without using financial control methods. The author Azevedo et. al (2012) argues that university students, especially those studying Business Administration, are less likely to develop debt habits and can budget better, given that they follow subjects that help build a good personal financial literacy. Finally, the authors Verdinelli, Lizote and Olivares (2014) concluded in their research that university students have greater knowledge of financial

literacy when they work, compared to those who only study. In addition, they found that personal income also has an impact on the management of financing, so that having greater purchasing power influences better management of one's assets.

Chen and Volpe (CHEN; VOLPE, 1998), in their study of university students, reached important conclusions regarding the level of financial knowledge. For them, there is a relationship between the individual's level of occupation and their ability to understand financial information. Individuals with a longer period of service have more financial experience and consequently acquire greater knowledge, which makes it easier for them to understand more complex information and make decisions about their assets. Corroborating this, Research (2003) argues that low-skilled and/or unemployed workers tend to underperform in financial matters because they don't have as much contact with them.

2.3 RESEARCH METHODS

First, the population and sample were defined to carry out the data collection required for the analysis. To analyze the impact of the level of financial literacy on the financial health index, the sample population was defined based on non-probabilistic and accessibility criteria.

Considering the total number of regular students enrolled in each course in the semester surveyed and the percentage of their representation in relation to the total number of students enrolled in the three courses at the Socio-Economic Center, a total of 2,932 undergraduates is the survey population. Next, the sample was defined. For this, a 90% confidence level and a tolerable sampling error of 7% were considered, resulting in a final sample of 185 students. After defining the overall survey sample, the number of respondents to be reached in each course was determined by multiplying the percentage of representativeness of each in relation to the total by the total number of the sample, rounding the results up. The distribution of the total survey population among the courses and the stratification of the sample are shown in Table 1.

Table 1. Percentage distribution and sample stratification

Representativeness Per Course and Sample			
Courses	**Total Enrolled**	**Percentage**	**Sample**
Administration	1035	35,30%	51
Economic Sciences	961	32,78%	48
Accounting	936	31,92%	46
TOTAL	**2932**	**100%**	**145**

Source: prepared by the authors

The final data collection instrument consists of 20 questions, divided into three blocks, which will be explained below. All the blocks were based on the FEBRABAN or other authors, except for the first, which was developed by the authors of this article.

The first block has eight questions designed to gather information about the respondents. It also seeks to draw up a common profile among them, covering issues such as gender, marital status, dependents, and occupation.

The second block covers seven questions on financial literacy. The questions in this last stage are based on a financial literacy scale developed by the authors Vieira, Potrich and Bressan (2020). The complete instrument consists of 24 items that aim to explore the respondent's level of knowledge in relation to questions about inflation, interest rates, the time value of money, risk, return, diversification, the stock market, credit, government bonds, among others. The model applied in this questionnaire is a shorter model with seven questions, conceived by the authors cited as an alternative for those who wish to apply a shorter survey, but with the same basis and quality of the subject, to measure the level of financial literacy of individuals (VIEIRA; POTRICH; BRESSAN, 2020).

Finally, the last block includes five questions on financial health, divided into two parts. The first part contains three questions focused on understanding the respondents' economic profile. The second part focuses on the dimensions of financial health and is made up of questions that cover the income and spending situation, as well as the dimensions of Security, Behavior, Ability and Financial Freedom. Based on the answers obtained from this section of the questionnaire, it will be possible to measure the level of financial health of the undergraduates, using the methodology developed by I-SFB/FEBRABAN.

When it came to analyzing the data collected, the techniques used were Microsoft Excel and the *Statistical Package for Social Sciences* (SPSS). Using this software, statistical analyses were carried out and the mean and standard deviation of the constructs investigated in the study questions were calculated, as well as the frequency and percentage of responses for each alternative in the multiple-choice questions, with the aim of generating conclusions about the results found.

To measure the level of financial literacy, a factor was constructed from the average score of the multiple-choice questions. To do this, for each of the questions applied, a value of zero was assigned for wrong answers and a value of one for correct answers. From the results obtained, the frequency and percentage of correct answers were calculated. According to the score obtained, respondents with a score of less than 60% were considered to have a low level of financial knowledge, an intermediate level between 60% and 79% of the maximum score and a high level of education above 80% of the maximum score, this classification being based on the study by Chen and Volpe (1998).

When it came to analyzing the level of financial health, the four dimensions were tested on a Likert scale that considered: not at all, a little, a lot and totally. According to the I-SFB/FEBRABAN method, the options on the scale must be reversed into values from 0 - 4. The first block of research was on financial security, a reverse intensity scale, in which 0 represents the index "Totally" and 4 "Not at all". The same procedure was used for the following blocks of research, on ability, behavior, and financial freedom, but with a regressive intensity scale, in which 0 = "Nothing", 1 = "Little", 2 = "More or Less", 3 = "A lot" and 4 = "Totally". After the substitution, the average and standard deviation per course were calculated for each proposed situation.

After calculating the individual answers to each question, the financial health index per individual was calculated. The index is calculated from the corresponding subtotal of Part 1 - Financial Life and Part 2 - Financial Basis, linking the summed values

with their corresponding index (which ranges from 0 to 100). The first step in determining the index is to calculate the subtotal of the two parts of the questionnaire and find in the corresponding column your index proposed by the I-SFB Scorer. At this stage, the value of the total sum of Part 2 will be conditional - if the sum is between 0 and 6, there will be a specific column to identify the index, and another column if the sum is between 7 and 12. The scorer that should be used to analyze the data obtained is shown in Figure 1.

Figure 1. Financial health index score

SUBTOTAL FINANCIAL SELF-PERCEPTION	SUM OF PART 1
	0
	1
	2
	3
	4
	5
	6
	7
	8
	9
	10
	11
	12

TOTAL PART 2 BETWEEN 0 AND 6	TOTAL PART 2 BETWEEN 7 E12
4	0
12	8
24	16
32	20
40	28
48	36
56	44
64	52
72	60
80	68
84	76
92	88
100	96

TOTAL PART 2

WHAT IS THE SCORE IN FINANCIAL SELF-PERCEPTION?

Source: Manual for the Use of the I-SFB Methodology (FEBRABAN, 2021).

Next, it was necessary to link the index to its respective classification range (from "bad" to "excellent"), as proposed by the I-SFB/FEBRABAN methodology. Figure 2 shows the financial health level ranges according to the score obtained in the questionnaire.

Figure 2. Financial health bands by I-SFB score

Level	INDEX score	Description
Excellent	83 a 100	Financial life without financial stress. Finance provides security and freedom.
Very Good	69 a 82	Mastery of day-to-day life, but need to build assets for greater security and access to financial opportunities.
Good	61 a 68	Finances stabilized, but there are often no surpluses at the end of the month.
OK	57 a 60	Balanced finances, but at the limit - there is little room for error.
Low	50 a 56	First signs of imbalance and risk of entering into high financial stress.
Very low	37 a 49	In a negative spiral. Risk of reaching an unsustainable situation.
Bad	0 a 36	Great fragility, stress and financial disorganization.

Source: Translated from I-SFB/FEBRABAN (2020).

Finally, in line with the aim of this study, to verify the influence of financial literacy on the level of financial health, a multiple linear regression was carried out using the Ordinary Least Squares (OLS) method. The dependent variable was the Financial Health Index score, which can vary between 0 and 100, while the independent variable was the number of correct answers to the financial literacy questionnaire, to reflect the individual's level of financial literacy. As the instrument contains 7 questions, this variable can vary from 0 (no correct answers) to 7 (all questions correct). In addition, 10 more control questions were included in the model: gender (1 = male and 2 = female), age, course, semester, marital status, whether the individual has financial dependents (1 = yes and 2 = no), whether the individual is financially dependent on someone (1 = no and 2 = yes), total family income and occupation. The variable relating to the course was included by means of two *dummies, with* business students being considered as the basis for comparison. Thus, the variable "Accounting" has accounting students as 1 and the other students as 0. For the "Economics" variable, students on the economics course were given 1 and the other students 0. A *dummy* variable was also constructed for marital status, where 1 represents married individuals and 0 represents single or separated/divorced individuals. Thus, the model can be represented by the equation:

$$Saúde Fin_i = \beta_1 EduFin_i + \beta_2 Gen_i + \beta_3 Idade_i + \beta_4 Contábeis_i + \beta_5 Economia_i + \beta_6 Semestre_i + \beta_7 Casado_i + \beta_8 Depend_i + \beta_9 DeFin_i + \beta_{10} Renda_i + \beta_{11} Ocupac_i + \varepsilon_i$$

Where:

$Saúde Fin_i$ = level of financial health of the i individual;

$EduFin_i$ = level of finance education of the i individual;

Gen_i = gender of the i individual (1=male e 2=female);

$Idade_i$ = age of the i individual;

$Contábeis_i$ = *dummy* course (1=Accontability Science e 0=others);

$Economia_i$ = *dummy* course (1=Economic Science e 0=others);

$Semestre_i$ = semester attended by the i individual;

$Casado_i$ = *dummy* civil state (1= married e 0=single/separated/divorced);

$Depend_i$ = if the i individual has economic dependents (1=yes e 2=no);

$DeFin_i$ = if the i individual is financial dependent of someone (1=no e 2=yes);

$Renda_i$ = total income of the i individual i;

$Ocupac_i$ = individual i occupation;

ε_i = error.

To identify the assumptions of normality, autocorrelation, multicollinearity and homoscedasticity, the Kolmogorov-Smirnov (KS), Durbin Watson (DW), Inflation Factor (FIV) and Pesarán-Pesarán tests were used, respectively. To verify the normality of the error, the KS test was used under the null hypothesis that the distribution of the tested series is normal. Autocorrelation was tested using the DW, which is the most appropriate test for identifying the presence of serial correlation (GUJARATI & PORTER, 2011). About multicollinearity, the FIV test was applied, where up to 1 means the absence of multicollinearity (HAIR *et al*., 2010). Finally, to test for homoscedasticity, the Pesarán-Pesarán test was used to identify whether the variance of the residue remains constant, where the null hypothesis that the residues are homoscedastic is accepted when the significance is greater than 0.05 (CORRAR; PAULO; DIAS FILHO, 2007)

2.4 RESEARCH RESULTS

Data collection resulted in 185 valid responses from participants. Of these responses, 85 were from Business students, representing 46% of the total. For the Accounting course, 48 responses were obtained, corresponding to 26% of the total number of respondents. For the Economics course, there were 52 responses, totaling 28% of the participants. Considering all the courses, the minimum sample established was 133 respondents, and the total number of respondents was 185, representing 100% of the sample collected.

When analyzing the profile of the participants, most Business Administration and Accounting students are women (55% and 69%, respectively), while in Economics the opposite is true, with the majority being male (63%). About age, the courses have the same predominant age range of 18 to 23, representing percentages of 67%, 75% and 63% for Administration, Accounting and Economics, respectively. The average age of the participants was 20, indicating a young population entering university. Regarding the semester of study, the Administration students are concentrated in phases eight and nine (16% and 18% respectively), while in Accounting the majority are in the second phase (19%).

In Economics, there was no predominance of a single semester, with greater participation in phases two and nine (both with 15%). In terms of occupation, Business Administration students are predominantly trainees/scholars (42%), followed by salaried employees (32%) and self-employed professionals/entrepreneurs (13%). In Accounting, the majority are trainees/scholars (42%), followed by salaried employees (27%) and self-employed professionals (13%). In Economics, the majority are salaried employees (31%), followed by freelancers/entrepreneurs/self-employed (25%) and trainees/scholars (21%). As far as marital status is concerned, most students are single in all courses, with a small percentage being married/stable union. Concerning financial dependence, many students have no financial dependents and are partially dependent on third parties. Analysis of the social profile shows that most respondents are female students, aged between 18 and 23, studying between the 6th and 10th phases, mainly in trainee/scholarship positions, single, with no financial dependents and partial financial dependence on third parties.

The next step was to explore the respondents' knowledge of issues related to inflation, interest rates, the time value of money, risk, return, diversification, the stock market, credit, government bonds, among others, to measure their level of financial literacy. Table 2 shows the results.

Table 2. Frequency distribution of correct answers to the Financial Literacy scale

Level of Financial Literacyn	Item	Correct Answer	Administration	Accounting Sciences	Economic Sciences
Basic	Suppose you saw the same television set in two different stores for the starting price of R$1,000.00. Store A offers a discount of R$150.00, while store B offers a discount of 10%. Which is the better alternative?	Buy at store A (discount of R$ 150.00).	95%	100%	98%
	Suppose you borrowed R$100.00 from a friend and after a week you paid back R$100.00 (one hundred reais). How much interest are you paying?	0%.*	91%	96%	94%
Intermediate	Suppose you put R$100.00 in a savings account that earns 2% a year. You don't make any other deposits or withdraw any money from this account. How much would you have in this account at the end of the first year, including interest?	R$ 102,00. *	80%	92%	96%
	Imagine that the interest rate on your savings account is 6% per year and the inflation rate is 10% per year. After 1 year, how much will you be able to buy with the money in this account? Consider that no money has been deposited or withdrawn.	Less than today. *	73%	81%	90%
	Which asset usually shows the biggest fluctuations over time?	Actions. *	84%	81%	94%
	An investment with a high rate of return will have a high rate of risk. That statement is:	True. *	81%	88%	96%
Advanced	José takes out a loan of R$1,000.00 with an interest rate of 20% per year compounded annually. If he makes no payments on the loan and at this interest rate, how many years would it take for the amount owed to double?	Less than 5 years. *	51%	56%	83%

Source: prepared by the authors

Table 2 shows the hit rates for each of the questions used in the survey, divided by the levels of financial literacy to which each question belongs. In the first set, which addresses the basic level of financial literacy, the results show high hit rates, with percentages above 90% in all questions for the Administration, Accounting and Economics courses. Participants in the Accountancy course had the highest percentage of correct answers at this level. In the second group, which represents the intermediate level, the success rates were lower. The questions on the value of money over time, inflation, financial products and risk and return showed different levels of accuracy between the courses. The Economics group obtained the highest average number of correct answers at this level. Finally, the question at the advanced level, which deals with compound interest and return over time, had 51%, 56% and 83% correct answers for Business Administration, Accountancy and Economics, respectively.

Given the responses, the results show the expected trend that as the level of financial knowledge progresses, the percentage of correct answers to the questions is reduced. Thus, for the questions that make up basic knowledge, the average percentage of correct answers between the courses is 95.67%, while for the intermediate level the average is 86.35% and for the advanced level 63.18%.

By assigning a value of zero to wrong answers and one to correct answers, it is possible to classify the respondents according to Chen and Volpe's (1998) classification. Looking at the students on each course, Administration had 22.35% of its sample with a low level, 14.12% with an intermediate level and 63.53% with a high level of financial literacy. Of the 48 Accountancy students, 6 (12.50%) have a low level, 8 (16.67%) have an intermediate level and 34 (70.83%) have a high level of education. Finally, from the point of view of the Economics participants, only 1.92% had a low level of education, 5.77% had an intermediate level and the significant majority (92.31%) had a high level of financial knowledge. In the sample, the Economic Sciences group had the highest percentage of participants with a high level of financial literacy, followed by Accounting Sciences and finally the Administration respondents.

The last block of questions aims to analyze the economic profile of the respondents and their financial health, through questions that cover the dimensions of Security, Behavior, Ability and Financial Freedom. The financial health index of the participants was measured using the methodology developed by I-SFB/FEBRABAN. Based on the results, it will be ascertained whether there is a relationship between the participants' level of knowledge and their practical relationships with money, as seen through the health indices obtained.

Firstly, different aspects of the undergraduates' financial lives were addressed, including their income and spending situation, their ability to deal with financial issues and their prospects. Table 3 shows the results.

Table 3. Income and Expenditure Situation

Alternatives	Administration		Accounting Sciences		Economic Sciences	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Spending was much higher than income	5	6%	3	6%	1	2%
Expenses were slightly higher than income	16	19%	7	15%	9	17%
Spending was more or less equal to income	24	28%	12	25%	15	29%
Expenses were slightly lower than income	27	32%	18	38%	22	42%
Spending was much lower than income	13	15%	8	17%	5	10%
Total	**85**	**100%**	**48**	**100%**	**52**	**100%**

The data collected reveals that most participants describe their spending as slightly lower in relation to their income over the last 12 months. Looking at the individual courses, in Business Administration, 32% of the respondents mentioned spending a little less, followed by 28% who said their spending was the same as their income, and 19% described spending as a little more. In Accounting, 38% reported spending a little less, followed by 25% who said it was the same, and 17% said spending was much less than income. Similarly, in Economics, 42% of participants mentioned slightly lower spending, 29% said it was the same, and 17% described slightly higher

spending. These results reveal a challenge for students to have money left over at the end of each month, which indicates the difficulty of building up an emergency reserve. Subsequently, the participants' responses were analyzed in relation to the dimensions of financial health, using a 5-option scale, the results of which are shown in Table 04.

Table 4. Dimensions of Financial Health

Dimensions	Variables	Administration		Accounting Sciences		Economic Sciences	
		Average	Standard Deviation	Average	Standard Deviation	Average	Standard Deviation
Financial security	Worrying about expenses and financial commitments is a source of stress in my house;	2	1,17	2	1,04	2	1,04
	Because of the financial commitments made, the standard of living in my home has been greatly reduced;	3	1,05	2	0,93	3	1,19
	I'm tight financially;	2	1,21	3	1,04	3	1,21
Financial Skills	I know how to make complicated financial decisions;	2	1,05	2	1,23	3	0,94
	I can recognize a good investment;	2	1,07	2	1	2	0,96
	I know how to make financial decisions;	2	0,98	2	1,06	3	0,91
Financial Behavior	I know how to control myself, so I don't spend too much;	3	1,03	3	0,89	3	0,89
	I know how to make myself save;	3	1,12	3	1,01	3	1,21
	I know how to force myself to meet my financial goals;	2	1,03	3	1,07	3	0,86
Financial Freedom	I'm securing my financial future;	2	1,24	2	1,25	3	1,26
	The way I look after my money allows me to enjoy life.	2	1,03	2	1,01	2	1,15

Source: prepared by the authors

In the financial security dimension, the average of the participants indicates that financial life is stressful in the family environment. Regarding the impact on family living standards due to financial commitments, participants from Business Administration and Economics report a greater impact, while those from Accounting describe a more or lesser impact. Regarding the current financial situation, participants from Accounting and Economics mentioned being financially tight, while those from Administration reported being roughly tight.

As far as financial ability is concerned, the participants in Business Administration and Accounting have average ability to make complicated financial decisions, while those in Economics are very capable. As for recognizing good investments, the result indicates that participants have average knowledge in this area. In terms of accessibility, the participants from Business Administration and Accountancy can inform themselves to make better financial decisions, while those from Economics have a good level of information.

In the dimension of financial behavior, participants in all courses have good control over not spending too much. In terms of discipline and self-control to save, the average indicates that participants have a level 3 ("Very") ability to save financial resources. In terms of meeting financial goals, the participants from Business Administration have an average level of 2 ("More or less"), while the other courses have an average level of 3 ("Very much"). In the dimension of financial freedom, concerning looking to the future, the participants from Business Administration and Accountancy have an average level of 2 ("More or less"), while those from Economics are at level 3

("Very much"). Relating to the present outlook, all groups have an average of level 2, indicating that taking care of financial resources makes it possible to enjoy life today.

This is followed by a discussion of accessibility to financial products and services and an analysis of participants' income levels. The questions at this stage make up the "Financial Base" dimension of the I-SFB/Febraban. Table 5 shows the financial products the participants own.

Table 5. Financial Products

Alternatives	Administration		Accounting Sciences		Economic Sciences	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Debit card	75	19,58%	44	19,13%	49	19,52%
Current account	80	20,89%	40	17,39%	50	19,92%
Credit card	76	19,84%	44	19,13%	47	18,73%
Savings	44	11,49%	27	11,74%	20	7,97%
Investments	31	8,09%	16	6,96%	36	14,34%
Health insurance	37	9,66%	21	9,13%	18	7,17%
Car insurance	19	4,96%	14	6,09%	11	4,38%
Home insurance	5	1,31%	6	2,61%	6	2,39%
Private pensions	5	1,31%	5	2,17%	6	2,39%
Property financing	2	0,52%	5	2,17%	3	1,20%
Vehicle financing	4	1,04%	3	1,30%	3	1,20%
Capitalization bond	2	0,52%	2	0,87%	2	0,80%
Consortium	2	0,52%	2	0,87%	0	0,00%
Student financing	1	0,26%	1	0,43%	0	0,00%
Total	**383**		**230**		**251**	

Sources: prepared by the authors

Table 5 shows that the most common products among the courses are current accounts, credit cards and debit cards, of which 170 of the 185 participants in the survey have an account and 167 have card services. Financing, consortia, and capitalization bonds are the least common, while car and health insurance, investments and savings are at intermediate levels. Furthermore, viewing the accessibility of financial products helps us understand that not all products have equivalent penetration in terms of financial health levels. Car and home insurance, investments and private pension plans have a greater impact on generating a better financial health index. Finally, Table 6 below shows the average number of products/services owned by each respondent.

Table 6. Number of Financial Products per Respondent

Alternatives	Administration		Accounting Sciences		Economic Sciences	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
No product	0	0%	0	0%	0	0%
1 or 2 products	7	8%	7	15%	1	2%
Between 3 and 5 products	59	69%	22	46%	38	73%
Between 6 and 8 products	16	19%	18	38%	13	25%
9 products or more	3	4%	1	2%	0	0%
Total	**85**	**100%**	**48**	**100%**	**52**	**100%**

Source: prepared by the authors

Table 6 shows that the predominant range of products owned by the participants is between 3 and 5, and that no one owns any products.

Then, to finalize the calculation of the respondents' financial base, the last question in the second stage of the questionnaire asked about total monthly family income. According to the data presented, the Administration, Accountancy and Economics courses have a higher proportion of participants with an average family income of between 5 and 10 minimum wages. Specifically, the Administration course has 24% of participants in this bracket, followed by 16% in the 10 to 20 minimum wage bracket and an intermediate bracket. For Accounting and Economics, the highest incidence is between 5 and 10 minimum wages, representing 25% and 29% respectively, followed by 17% of participants in a specific income bracket. This data corroborates research by Verdinelli, Lizote and Olivares (2014), who state that personal income influences individuals' financial management. Based on these results, it will be possible to assess the general financial health of the participants using the Brazilian Financial Health Index (I-SFB/FEBRABAN).

After the descriptive statistics of the variables analyzed, the participants' individual financial health indices were calculated, considering parts 1 and 2 of the questionnaire. The results were classified into rating bands ranging from "Poor" to "Excellent". After calculating the individual indices, the predominant classification ranges in the three courses were analyzed. The results are shown in Table 6.

Table 7. Sample Financial Health Index Classifier

Classifier	Administration		Accounting Sciences		Economic Sciences		Total	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Bad	12	14,12%	4	8,33%	3	5,77%	19	10,27%
Very low	15	17,65%	11	22,92%	5	9,62%	31	16,76%
Low	12	14,12%	6	12,50%	12	23,08%	30	16,22%
Ok	6	7,06%	7	14,58%	5	9,62%	18	9,73%
Good	18	21,18%	6	12,50%	8	15,38%	32	17,30%
Very good	11	12,94%	10	20,83%	9	17,31%	30	16,22%
Great	11	12,94%	4	8,33%	10	19,23%	25	13,51%
Total	**85**	**100%**	**48**	**100%**	**52**	**100%**	**185**	**100%**

Source: prepared by the authors

The data analyzed shows that, individually in each course, the predominant rating varies. In the Administration course, the highest incidence is in the "Good" range with 21.18% of respondents, followed by the "Very Low" range with 17.65%. For Accounting, the "Very Low" range is predominant with 22.92% of respondents, while the "Very Good" range represents 20.83%. In Economic Sciences, the "Low" range is the most frequent with 23.08%, and the "Good" range is represented by 19.23%. When considering the results of the three courses, the highest percentage is found in the "Good" range with 17.30%, followed by the "Very Low" range with 16.76%. Other ranges include "Low", "Very Good", "Good", "Bad" and "OK". These results reflect the reality of the participants, who are seeking to achieve a structured financial life.

It was also possible to see that the average financial health index for the courses was 58.12 for Business Administration, 58.42 for accounting and 64.17 for Economics. Next, the median index for the three courses was calculated at 60 for Business Administration, 58 for accounting and 61.50 for Economics. Finally, their standard

deviation is 18.33, 16.91 and 17.40 respectively, which shows a wide range between the indices calculated compared to the average for each group.

Finally, we move on to study the determining factors in the financial health index through multivariate analysis using the multiple linear regression method. The Administration Course is not in the table because it is the variable that is being compared with. Table 7 shows the results obtained.

Table 8. Multiple linear regression model for financial health index

Variables	**Financial Health Index**	
	Coefficient	**Sig.**
Financial literacy	0,157	0,044**
Gender	-0,146	0,06*
Age	-0,208	0,055*
Accounting	0,02	0,803
Economy	0,081	0,321
Semester in course	0,094	0,251
Married *Dummy*	-0,119	0,21
Has dependents	0,03	0,729
It depends financially	-0,087	0,316
Family income	-0,124	0,09*
Occupation	0,093	0,243
R^2	0,102	
F-test	2,909	
Sig.	0,002	

Note: * significant at 10%; ** significant at 5%

Source: prepared by the authors

The result shows eleven independent variables, with an adjusted R^2 of 0.102, which means that the independent variables explain 10.2% of the dependent variable in question: financial health. In addition, the significance of the F test (value 2.909 and sig. 0.002) indicates that at least one of the independent variables listed has an influence on the dependent variable and can be considered a significant model.

When analyzing the results of the independent variables individually, the financial literacy factor with a coefficient of 0.157 and sig. of 0.044 has a positive impact on the dependent variable analyzed. Thus, it can be said that the higher the participant's level of financial literacy, the higher their financial health index. Thus, given that the participants have on average, a high level of financial knowledge, and the respective impact on the level of financial health, the individuals surveyed tend to possess fundamental skills that foster the construction of a critical awareness of their finances, preparing them to manage their resources.

It can also be seen that the gender variable has a significant negative impact on the financial health index, with a coefficient of -0.146 and sig. 0.06. Thus, being female reduces the level of financial health. This indication is supported by previous research into the different socialization processes experienced by individuals, which have an impact on behavioural differences. While men are encouraged to participate in financial decision-making, women are protected from doing the same (FALAHATI; PAIM, 2012)

Furthermore, the independent variable age has a negative impact on the financial health index, given its coefficient -0.208 and sig. 0.055. The relationship is that the older

the individual participating in the survey, the lower their level of financial health. The data obtained is corroborated by Bucher-Koenen et. al (BUCHER-KOENEN; LUSARDI, 2011), who argue that the level of financial knowledge follows the life cycle of individuals, being lower among the younger ones, higher among the adult age groups, and lower as they get older, following the so-called inverted U behavior.

Family income is the last independent variable to have a negative and significant impact on the dependent variable. From the regression analysis it can be concluded that the higher the income, the lower the level of financial health of the individuals. The results obtained can explain the nuances of the interviewees' reality and their financial dynamics. Thus, this research shows us in practice that despite having a high socioeconomic reality, individuals are not actually able to engage in healthy financial behaviors and their financial situation in relation to the pillars of ability, behavior, security, and freedom still needs attention.

The other independent variables: course, semester, marital status, dependents, and occupation have no significant impact on the dependent variable. Finally, the assumptions of the regression model were tested. Firstly, the residuals were tested and found to be normal (sig. 0.200). In addition, autocorrelation is not present in the model, as the Durbin Watson (DW) test confirms that the errors in the regression are independent, with values close to 2. As for homoscedasticity, the residuals are homogeneous, confirming the null hypothesis and meeting the assumption. As for multicollinearity, the VIF index was equal to 1, indicating the absence of very high correlations between explanatory variables.

3 CONCLUSION AND RECOMMENDATIONS

This study aimed to analyze the impact of the level of financial literacy on the Financial Health Index of students of Business Administration, Accounting and Economics at the Federal University of Santa Catarina. The study aimed to comprehend the interviewees' profiles, their correlation with various concepts to evaluate their financial knowledge, demonstrate diverse daily financial management scenarios to gauge the financial health index of each participant, and examine the availability of financial products and services to students.

The findings indicated a high level of financial literacy within the sample, with distinction noted among the Economics sample. Also, the participants' financial health index yielded a broad range across the classification thresholds, with no consistency in the favorable indices.

The study attained its primary aim by demonstrating that enhancing financial literacy levels has a favorable influence on the financial health index. A one-point increment in financial literacy equates to a 0.157 increase in the financial health index. Nonetheless, upon scrutinizing the frequency categorization of financial health indices, a significant proportion of respondents still receive a low score. This finding implies that possessing greater financial knowledge does not necessarily result in better financial attitudes and decisions in practice, particularly regarding personal expense control and spending habits.

Comparison with earlier studies supports this conclusion. The findings are in line with the study conducted by Vieira, Bataglia and Sereia (2010), highlighting that academic training tends to enhance financial literacy, albeit in conjunction with other factors.

However, the results also differed from other studies, especially those from countries other than Brazil. Regarding the age factor, a disparity can be seen when comparing the results of this study with those of Danes and Hira (1987) in terms of age, marital status, and gender. While they found that the older the student, the greater their financial knowledge, this study found that the older the student, the lower their financial health index, and because this index is directly connected to financial literacy, the lower their financial knowledge. Also in this respect, while the American study found that marital status matters in financial literacy, in this study this factor is not relevant. Nevertheless, in contrast to Danes and Hira's (1987) assertion that men are more knowledgeable about insurance and personal loans and women are more knowledgeable about financial management as a whole, this research revealed that women simply have less financial literacy, without a counterpart. In addition, unlike McKenzie's (2009) research, although the same courses were not analyzed in this study, it was revealed that Economics students have a deeper knowledge of financial literacy, while the author reported that the Administration course would have a higher performance in this aspect.

In the context of private universities, the results were not very different. Meanwhile, while Dalpiás and Caritá (2023) concluded that individuals with average financial knowledge had satisfactory attitudes towards finance, this article came to an understanding of the heterogeneity and absence of an explicit pattern among the individuals surveyed. Unlike that study, in which those who adopted more positive attitudes towards financial literacy were Accounting students, in this study the Economics students were more successful in this respect, as they had more financial knowledge.

Regarding the limitations of this study, it is not possible to generalize this research and its results to the pluralized context of the educational institution since students from the other courses offered were not approached. In addition, there are a few possible reasons for the differences between the studies: the low sample size and the location of the analysis. In this sense, the low sample size ends up accentuating the disparities between the studies, as it fails to approach several individuals who would provide more concrete data for the research. Furthermore, while most of the other studies in the area were carried out in the United States, the fact that the research took place in another place with such a different socio-economic and cultural context makes differences in the results natural.

The main contribution of this study was to measure the level of financial literacy and the financial health index among the students in the sample, as well as analyzing the data obtained, given the importance of financial literacy in the lives of young people. In this sense, the research in this paper constitutes a gateway to broader investigations, covering other courses and with a larger sample. This study contributes to the understanding that familiarity with financial concepts positively affects levels of financial security, capacity, and freedom, as well as promoting better financial behavior.

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