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EFFECT OF FINANCIAL EDUCATION AND ATTITUDES TOWARDS MONEY ON THE PROPENSITY TO INDEBTEDNESS

EFEITO DA EDUCAÇÃO FINANCEIRA E ATITUDES FRENTE AO DINHEIRO NA PROPENSÃO AO ENDIVIDAMENTO

ABSTRACT
The objective of this study was to analyze the effect of financial education and attitudes towards money on the propensity to indebtedness, conducted with a sample of 318 graduate students in Administration and Accounting Sciences in Brazil. The research used a quantitative and descriptive approach, with primary data collection via a cross-sectional survey. The analyses included descriptive statistics, factorial, and linear regression. The results indicated that greater financial education is associated with a reduction in debt propensity and more positive attitudes towards money, while financial attitudes showed a positive correlation with debt propensity. It is noteworthy that financial education not only reduces dependence on non-study-related debt but also improves payment patterns. In addition to its theoretical contributions, by providing a unique perspective on the propensity to indebtedness, this study evidences a practical contribution by associating awareness and improved care with the participants' personal finances, with a lower propensity to indebtedness.

Keywords: Financial Education; Attitudes Towards Money; Propensity to Indebtedness; Behavioral Finance.

RESUMO
O objetivo deste estudo foi analisar o efeito da educação financeira e das atitudes frente ao dinheiro na propensão ao endividamento, conduzido junto a uma amostra de 318 estudantes de pós-graduação em Administração e Ciências Contábeis no Brasil. A pesquisa utilizou uma abordagem quantitativa e descritiva, com coleta de dados primários via survey em corte transversal. As análises incluíram estatísticas descritivas, fatorial e regressão linear. Os resultados indicaram que maior educação financeira está associada a uma redução na propensão ao endividamento e atitudes mais positivas em relação ao dinheiro, enquanto atitudes financeiras apresentaram uma correlação positiva com a propensão ao endividamento. Destaca-se que a educação financeira não apenas reduz a dependência de dívidas não relacionadas aos estudos, mas também aprimora os padrões de pagamento. Além de suas contribuições teóricas, ao fornecer uma perspectiva única acerca da propensão ao endividamento, este estudo evidencia uma contribuição prática ao associar a conscientização e o cuidado aprimorado com as finanças pessoais dos participantes a uma menor propensão ao endividamento.

***Palavras-chave*:** Educação Financeira; Atitudes Frente ao Dinheiro; Propensão ao Endividamento; Finanças Comportamentais.

Jéssica Merco do Nascimento e Silva
Doutoranda em Ciências Contábeis e Administração na Universidade Regional de Blumenau (FURB). Mestre em Ciências Contábeis na FURB. E-mail: jmdnsilva@furb.br. Orcid: https://orcid.org/0000-0001-5633-7743. Lattes: http://lattes.cnpq.br/4044201496552987

Stephan Klaus Bubeck
Doutorando em Ciências Contábeis e Administração na Universidade Regional de Blumenau (FURB). Mestre em Ciências Contábeis na FURB. E-mail: sbubeck@furb.br. Orcid: https://orcid.org/0000-0003-4925-0636. Lattes: http://lattes.cnpq.br/9931965696275450

Moacir Manoel Rodrigues Júnior
Doutor em Métodos Numéricos em Engenharia na Universidade Federal do Paraná (UFPR). Mestre em Ciências Contábeis na Universidade Regional de Blumenau (FURB). Docente do programa de pós-graduação em Ciências Contábeis na Universidade Federal de Santa Catarina (UFSC). E-mail: moacir_ro@hotmail.com. Orcid: https://orcid.org/0000-0003-0309-3604. Lattes: http://lattes.cnpq.br/7547505288125179

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1 INTRODUCTION

Indebtedness, often linked to low-income consumers, has expanded in emerging countries, a phenomenon driven in Brazil by easy access to credit, often offered by digital financial institutions (D'Orazio, 2019; Klapper & Lusardi, 2019). Recent data from the Consumer Indebtedness and Delinquency Survey (PEIC) indicated in November 2023 that about 76.6% of Brazilian households had outstanding debts (CNC, 2022).

The causes of indebtedness are widely explored in the literature, with three main factors that stand out: low-income situations, consumption motivated by high incomes, and lack of incentives to save (Katona, 1975). In this context, the relationship between indebtedness and financial education is widely analyzed, gaining prominence as a global concern mobilizing governments, companies, and individuals to understand the level of financial knowledge of contemporary society (Trento & Braum, 2022).

At the national level, Brazil enacted Decree No. 7,397 of September 22, 2010, establishing the National Strategy for Financial Education - ENEF. However, reports issued by the Organization for Economic Cooperation and Development (OECD) reveal an alarming rate of low financial literacy in the country (Vieira et al., 2019), leading to direct consequences on indebtedness and mental health, which directly affect the personal, professional, and social aspects of indebted individuals (Flores, 2012).

In this field, behavioral finance plays a crucial role in understanding financial decisions, which are deeply influenced by emotions and values, and are decisive in the formation of consumption patterns (Durvasula & Lysonski, 2010; Vitt, 2004). The attribution of meaning to money and subsequent actions are strongly linked to perceptions about materialism and its behaviors (Tang, 1995). Therefore, it becomes essential to understand attitudes towards money, as they delineate human behavior, especially buying habits (Durvasula & Lysonski, 2010).

The relationship between financial education, attitudes towards money, and propensity to indebtedness is justified as a relevant and current topic, with direct implications in the lives of individuals and in the orientation of public policies for the control of personal indebtedness and for the development of effective financial counseling strategies (Hoffman & MacNair, 2018; Vieira et al., 2019). Thus, this study aims to analyze the effect of financial education and attitudes towards money on the propensity to indebtedness among graduate students in Administration and Accounting Sciences in Brazil.

The choice of graduate students as a target audience is justified by its strategic relevance, since these individuals have a high potential for academic and social influence. Many of them will be able to act as future teachers, disseminating knowledge about financial education to new generations, in addition to positively impacting colleagues, family members, and communities through more conscious and grounded financial practices and decisions. Such efforts can reduce debt, encourage savings, and foster safer investment decisions.

By exploring the interaction between financial education, attitudes towards money, and factors that influence indebtedness, this research addresses an issue of great contemporary relevance. In addition to highlighting the importance of financial education, this study plays a preventive role in mitigating the potential negative effects of debt on physical and mental health. Additionally, it offers a solid basis for the formulation of financial guidance, more effective communication strategies, and policy interventions aimed at controlling personal indebtedness, thus contributing to the financial and social well-being of individuals (Hoffman & MacNair, 2018; Vieira et al., 2019).

2 LITERATURE REVIEW

2.1 Effect of financial education on the propensity to indebtedness

Education, according to Law No. 9,394, of December 20, 1996, is understood as a formative process that develops in various contexts, such as the family environment, social life, work, educational institutions, and cultural manifestations (Brasil, 1996). This definition reflects the scope of education, which permeates all social spheres and represents a fraction of the way of life of the groups that continuously shape it (Brandão et al., 2017).

The Organization for Economic Cooperation and Development (OECD, 2005) defines financial education as the process by which consumers and investors develop a deeper understanding of financial products, concepts, and risks, and, through information, develop skills and confidence to make more informed decisions about risks and opportunities, among other actions aimed at improving their financial well-being. This definition highlights that financial education transcends the simple saving of resources, also encompassing the understanding of risks and opportunities.

Financial education can be seen as composed of two fundamental stages: (i) financial literacy, which enables individuals to understand financial concepts and products; and (ii) financial empowerment, in which this knowledge is used to improve financial decision-making (Becchetti et al., 2013). This approach is particularly relevant for people facing financial difficulties, since individuals with less financial knowledge tend to make more mistakes, such as late payment of bills, which can lead to a cycle of increasing debt, aggravated by high interest rates, especially on credit cards (Brown et al., 2016).

Data from the Consumer Indebtedness and Delinquency Survey (CNC, 2022) show that, in 2021, the average level of indebtedness of Brazilian households was the highest in 11 years, with an average of 70.9% of Brazilian households having some type of debt. This increase shows greater use of credit, often associated with financial imbalance. Indebtedness, however, is often misunderstood. According to a survey conducted by SPC Brasil and Meu Bolso Feliz, eight out

of ten consumers (79.0%) have a distorted notion of the term indebtedness (CNDL, 2016). Most respondents associate indebtedness with non-payment of bills on time, especially women (52.3%) and those from Classes A and B (59.6%). Only one in five consumers (20.2%) understands the broad significance of indebtedness.

Studies show that financial literacy is directly related to financial behavior. Gathergood and Disney (2011) identified that families with a low level of financial literacy tend to resort to more expensive credit, have lower assets, and face greater difficulties in paying off debts. In contrast, financially literate families demonstrate greater control and efficiency in the use of credit, evidencing more rational financial behaviors.

At the beginning of adult life, financial education plays a crucial role. Brown et al. (2016) investigated the effects of financial coaching on debt outcomes in young Americans and observed that mathematical knowledge and general financial education reduce reliance on non-school-related debt and improve payment behaviors (Brown et al., 2016).

In addition, Fan and Chatterjee (2019) investigated the role of financial socialization, financial knowledge, and financial education in student loan repayment behaviors. The results indicated that individuals who received financial education, whether in the academic or professional environment, were less likely to be late in payments or worry about debt. Additionally, those who learned about finances from their parents show fewer concerns related to student loans, highlighting the importance of family financial socialization (Fan & Chatterjee, 2019).

It is observed, therefore, that financial literacy, a fundamental result of financial education, plays a fundamental role in effective debt management. It enhances individuals' understanding of financial products and services, enabling them to make informed decisions and avoid excessive debt. For example, financial literacy has been shown to reduce risk propensity, which can lead to more cautious lending behaviors (Iannario et al., 2024; Jumady et al., 2024).

In addition, financial education influences financial behavior by instilling better budgeting and financial planning skills, which are essential for managing personal finances. In this sense, financial education can improve budgeting behavior among college students, which is a critical skill for managing personal finances and avoiding debt (Tan et al., 2024). Financial education also promotes financial self-efficacy by motivating individuals to engage in proactive financial behaviors that mitigate debt accumulation (Jumady et al., 2024).

Aforementioned, it is assumed that the higher the level of people's financial education, the lower their propensity to indebtedness. Thus, the first research hypothesis was formulated:

H_1: Financial education is negatively related to the propensity to indebtedness.

2.2 Effect of financial education on attitudes towards money

The literature points out those attitudes towards money are multifaceted, capable of evoking both positive emotions, such as freedom and quality, and negative ones, such as distrust and inadequacy (Medina et al., 1996). Tang (1995) observes that the search for money and the expansion of its possession are common objectives among people, who tend to adjust their consumption patterns as their income increases. This increasing focus on money shapes significant aspects of consumer behavior, turning it into a psychological force that can be associated with materialism or vanity (Durvasula & Lysonski, 2010).

To investigate these nuances, Yamauchi and Templer (1982) developed the Money Attitudes Scale (MAS), a multidimensional tool that assesses perspectives on money, such as power-prestige, retention, distrust, quality of purchases, and anxiety. The scale is based on psychological and psychoanalytic foundations, highlighting three main dimensions: security, retention, and power-prestige.

Medina et al. (1996) applied MAS to Mexican and Anglo-American consumers, identifying cultural differences in the dimensions of retention/time and quality. Consumers in both cultures were less likely to delay spending in exchange for future gratification, challenging the idea that Hispanic consumers prioritize prestige goods. In another study, Dowling et al. (2009) examined how financial problems influence attitudes toward money and seeking financial advice. The sample consisted of 400 young Australian workers, and the results highlighted the importance of educational initiatives aimed at changing financial habits and accepting professional support to cope with economic hardship.

Durvasula and Lysonski (2010) examined the attitudes of young Chinese consumers towards money and its impact on elements of consumer behaviour, especially about materialism and vanity. Using MAS, the results indicated that materialism was associated with the dimensions of power-prestige and anxiety, while vanity was influenced only by power-prestige.

Financial education is a transformative factor in the formation of healthier attitudes towards money. Becchetti et al. (2013), for example, conducted a randomized experiment in 36 Italian schools to assess the impact of a 16-hour course on financial literacy. The results demonstrated significant improvements in participants' financial understanding, increasing their propensity to interpret economic articles and improving attitudes towards investments.

Qamar et al. (2016) delved into the relationship between attitudes towards money and financial behavior, highlighting the moderating role of financial knowledge and self-efficacy. In a study of employed college students, the results revealed that positive attitudes toward money and greater financial literacy were associated with better personal financial management practices. Financial knowledge also had a moderating effect, intensifying the impact of attitudes on financial behavior.

Kaiser et al. (2022) contributed to a comprehensive review on the impact of financial education in 76 randomized experiments, involving more than 160,000 individuals. The findings confirmed significant positive effects on financial knowledge and behavior, reinforcing the effectiveness of educational programs to change attitudes towards money.

Based on this theoretical foundation, the following research hypothesis is formulated:

H_2: Financial education is negatively related to the attitude towards money.

2.3 Effect of attitudes towards money on the propensity to indebtedness

Watson (2003) examined variations in the propensity to spend or save and in attitudes related to borrowing, considering different levels of materialism among individuals. The survey, conducted through questionnaires applied to residents of the state of Pennsylvania, in the United States, revealed that highly materialistic individuals are more likely to identify themselves as spenders and demonstrate more favorable attitudes towards the use of loans.

Durvasula and Lysonski (2010) classified consumers into three categories based on their attitudes toward money: those who see it as a tool of power, those who express distrust in financial interactions, and those who consider money a source of anxiety. Consumers who associate money with social power tend to acquire material goods to flaunt status, which can lead to compulsive shopping. Similarly, consumers who perceive money as a source of anxiety tend to turn to compulsive shopping as a means of alleviating that anxiety (Durvasula & Lysonski, 2010).

Sotiropoulos and d'Astous (2013) conducted a study with a sample of 225 university business students, aiming to highlight the influence of the social environment on the behavior of young consumers in relation to the use of credit cards. The results revealed that social factors have a significant impact on excessive credit card spending in general. In other words, the propensity of young consumers to spend more on credit cards is positively influenced by the financial perceptions and behaviors of their personal contacts.

In Brazil, Flores and Vieira (2014) proposed a behavioral model to assess the propensity to indebtedness, based on data from 1,046 residents of Santa Maria (RS). The results indicated a significant association between risk perception, conservative behavior in the face of risks, and levels of indebtedness and materialism. The study also identified differences in debt levels based on sociodemographic variables, highlighting the importance of these factors in financial behavior (Flores & Vieira, 2014).

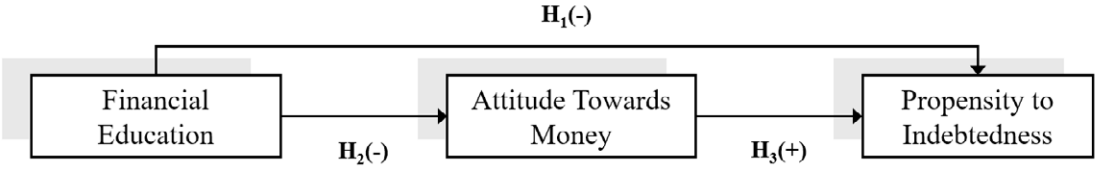
Similarly, Oliveira (2020) investigated the behavioral factors that influence the propensity to indebtedness, using a sample of 319 students from a private university in São Paulo. The results showed that behavior is the main factor associated with the propensity to indebtedness, while sociodemographic variables such as gender, race, marital status, occupation, and income also influence the degree of indebtedness. In addition, the levels of risk perception, materialism, and propensity to indebtedness were similar between the indebted and non-indebted groups, while the levels of behavior and financial rationality differed between these groups.

In this context, it is assumed that attitudes towards money are positively associated with the propensity to borrow. Thus, the following research hypothesis is formulated:

H_3: The attitude towards money is positively related to the propensity to indebtedness.

Figure 1 presents the theoretical model of the study, portraying the hypotheses formulated.

Figure 1 - Theoretical Research Model



3 METHODOLOGY

3.1 Population, sample and data collection procedures

This study adopts a descriptive, quantitative perspective, utilizing primary data collection through a survey with a cross-sectional research design. The target population consists of graduate students in administration and accounting, linked to the stricto sensu level. The identification of graduate programs was conducted through a search on the Sucupira Platform, a reference for the Brazilian National Graduate System.

In the selection of graduate programs, a filter was applied in the evaluation area of the platform, specifically in "Public and Business Administration, Accounting Sciences and Tourism". Although the classification includes the area

of Tourism, the exported list found the absence of any graduate program registered in this domain. In the exported list, it was observed that 7 universities presented graduate programs in administration or accounting sciences, totaling 179 programs.

After this identification, e-mails were sent to the course secretariats, including a detailed description of the research proposal and the request for the questionnaire to be passed on to the enrolled students. During this process, 3 emails were deemed invalid, and one of the listed programs had already been discontinued. Data collection took place between July and August 2022, covering a total period of 21 days. During the period, 318 questionnaires were received and duly answered, constituting a non-probabilistic, intentional sample obtained by accessibility.

To ensure the reliability and anonymity of the answers, an Informed Consent Form (ICF) was provided at the beginning of the questionnaire, in which the participants declared their agreement to participate in the research and authorized the use of the data for scientific publications. At the end of the form, participants were offered the option to provide an email address for participants who wished to receive a summary of the study's key results.

3.2 Measures

The instrument used in this research was developed on the Microsoft Forms® platform and is organized in four blocks, totaling 52 questions. Among these, 20 are related to financial education, 16 address attitudes towards money, 9 explore the propensity to indebtedness, and 12 aim to characterize the respondents.

To measure the level of financial education, the scale validated by Matta (2007) was adopted, consisting of 20 items adapted from the original instrument by Chen and Volpe (1998). The questions were evaluated using a 5-point Likert scale, ranging from 1 (Never) to 5 (Always).

Regarding attitudes towards money, the short version of the Money Attitude Scale (MAS) was used, originally developed by Yamauchi and Templer (1982) and validated for the Brazilian context in its short version by Pimentel et al. (2012). MAS is subdivided into 4 dimensions: power, retention time, distrust, and anxiety, each reflecting different aspects of the individual's relationship with money. These items were answered using a Likert scale, ranging from 1 (Never) to 5 (Always).

To assess the propensity to indebtedness, the scale translated and validated by Moura (2005) was used, adapted from the original scale by Lea et al. (1995). This scale, widely used in studies on the subject, as mentioned by Flores & Vieira (2014), Oliveira (2020), Pinto and Rossato (2019), and Campos and Costa (2021), is divided into three dimensions: degree of self-control, time preference, and moral impact on society. The questionnaire is assessed using a Likert scale, ranging from 1 (Strongly disagree) to 5 (Strongly agree).

The last section of the instrument contains questions to characterize the respondents, including information such as gender, age, marital status, dependents, financial situation, type of scholarship, type of course (master's, doctorate, and post-doctorate), search for financial information, and retirement planning. This section aims to establish the profile of the participants evaluated in the study.

3.2 Data Analysis Procedures

To validate the constructs and explore the relationships between the measured variables, the statistical technique of Exploratory Factor Analysis (EFA) was adopted, as recommended by Hongyu (2018). This approach was considered appropriate for all the constructs investigated, as pointed out by Flores & Vieira (2014). The factor analysis model is represented by Equation 1, as shown below:

$$\boldsymbol{F} = \alpha_1 F_1 + \alpha_2 F_2 + \cdots + \alpha_k F_k + \varepsilon \qquad (1)$$

Where:

$\boldsymbol{F}$ represents the factors extracted from the factor analysis

Next, the Simple Linear Regression technique was applied, which, according to Fávero et al. (2009), allows the study of the linear relationship between an independent variable and a dependent variable. The following are the generated models, along with their corresponding variables.

$$\boldsymbol{ATD} = \alpha_1 + \beta_1 ED + \varepsilon \qquad (2)$$

$$\boldsymbol{PE} = \alpha_1 + \beta_1 EF + \varepsilon \qquad (3)$$

$$\boldsymbol{PE} = \alpha_1 + \beta_1 ATD + \varepsilon \qquad (4)$$

Where:
FE represents Financial Education
ATM represents Attitude Towards Money
PI represents Propensity to Indebtedness

For data analysis, the following software was used: Microsoft Excel® for data tabulation, using descriptive frequency and percentage analysis. The Factor Analysis method was used to reduce the number of items, identifying the most representative variables of each construct, as indicated by Hair et al. (2019) and Kirch et al. (2017). The SPSS (Statistical Package for the Social Sciences) software was used for the statistical analysis of the data, using the linear regression method.

4 RESULTS

4.1 Descriptive analysis

The descriptive analysis of the participants revealed that, at all educational levels (master's, doctorate, and post-doctorate), the female gender predominated, with 62.89% of the respondents being women. Regarding the age group, it was observed that the most common category was between 31 and 40 years old, representing 40.57% of the participants, followed by the 25 to 30 year old group, with 35.22%. Regarding marital status, most participants were single (53.14%), while 46.54% were married. In terms of dependents, most did not have it (65.09%).

With regard to financial situation, most participants were employed (62.58%), while 36.16% received a scholarship or family assistance. The most common scholarship among participants was CAPES (72%), followed by CNPQ and other scholarships (FAPESC, UNIEDU, etc.).

Regarding the search for information related to personal finances, it was found that 38.05% of the respondents sought it only when necessary, 42.14% sought it frequently to stay informed, and 19.81% never or almost never sought it. It was noted that the individuals who did not seek information about personal finances were mostly those without dependents (77.42%), and 87.10% of these were women, of whom 67.74% were single or divorced. The most used means to search for information were the internet (68.87%) and seminars and lectures (13.21%).

4.2 Evaluation of the Measurement Model

In this phase, an evaluation of the measurement model was initially conducted, covering the latent variables of the study through Exploratory Factor Analysis (EFA), allowing the identification of the underlying relationships between the measured latent variables (Hongyu, 2018). As explained by Hongyu (2018), in the EFA model, if one variable demonstrates statistical independence from the others, exhibiting reduced correlations, such variables can be eliminated because they do not contribute to the formation of a common factor.

After the model was executed, the ATM1 indicators of the attitudes towards money construct, PI7 of the debt propensity construct, and the FE3, FE6, FE9, FE11, FE14, FE15, FE16, FE19, and FE20 indicators of the financial education construct were removed, as they did not meet the minimum recommended levels of correlation. Hair et al. (2022) suggest that a correlation value of 0.500 is the minimum acceptable threshold. After excluding the aforementioned indicators, the structural model was evaluated.

4.3 Evaluation of the Structural Model

In the next stage of the research, the simple linear regression method was used to evaluate the structural model. According to Hair Jr. et al. (2022), this model is fundamental to examining the dependency relationships between the investigated constructs, verifying the proposed hypotheses.

Table 1 - Regression Model Statistics

Model	R	R^2	R^2 Adjusted	Standard Error
FE → ATM	0.244	0.060	0.057	0.971
FE → PI	0.350	0.123	0.120	0.938
ATM → PI	0.350	0.107	0.104	0.947

Note: (ATM) Attitude Towards Money; (FE) Financial Education; (PI) Propensity to Indebtedness.

According to Fávero et al. (2009), the R^2 in a regression model is used to express the explanatory power, representing the percentage of variation of an independent variable, ranging from 0 to 1 (0% to 100%). The closer to 1, the greater the explanatory power. As shown in Table 2, when comparing the values of R and R^2 of the three models analyzed

(0.06%, 0.12%, and 0.10%), a small variation is observed in the three relationships. Stock and Watson (2004) and Favero et al. (2009) explain that the value of R^2 is not sufficient to determine whether a variable is the true cause of a change in the dependent variable. However, low values may indicate the presence of other variables influencing these relationships.

For a deeper understanding of the significance of the regression model and the pre-established relationships, other factors are analyzed, as evidenced in Tables 2 and 3.

Table 2 - Analysis of Variance Test - ANOVA

Model		Sum of Squares	df	Medium Square	z	p-value
FE → ATM	Regression	18.899	1	18.899	20.033	0.000
	Residue	298.101	316	0.943		
	Total	317.000	317			
FE → PI	Regression	38.914	1	38.914	44.220	0.000
	Residue	278.086	316	0.880		
	Total	317.000	317			
ATM → PI	Regression	33.773	1	33.773	37.681	0.000
	Residue	283.227	316	0.896		
	Total	317.000	317			

Note: (ATM) Attitude Towards Money; (FE) Financial Education; (PI) Propensity to Indebtedness.

The Analysis of Variance Test (ANOVA) is used to compare the variation between the medians of different groups and is also used to verify the significance of the model (Hair et al., 2022). From the results presented on the significance of the models, which are close to zero, it was possible to reject the null hypothesis of equality between the explained and unexplained variances in the three models. This suggests that, even with low values of R^2, there is an explanatory potential in the models considered, indicating significant differences in the behavior of the dependent variables, given the explanatory variables. As observed in Table 3, the models were significant at the 1% level.

Table 3 - Coefficients

Model		Non-standard coefficients		Standardized coefficients	t-value	p-value
		β	Standard Error	Beta		
FE → ATM	(Constant)	-7.474E-17	0.054		0.000	1.000
	ED	-0.244	0.055	-0.244	-4.476	0.000
FE → PI	(Constant)	1.819E-18	0.053		0.000	1.000
	ED	-0.350	0.053	-0.350	-6.650	0.000
ATM → PI	(Constant)	4.908E-17	0.053		0.000	1.000
	ATD	0.326	0.053	0.326	6.138	0.000

Legend: (ATM) Attitude Towards Money; (FE) Financial Education; (PI) Propensity to Indebtedness.

The analysis revealed varying levels of acceptance of the three hypotheses in the study. The relationships indicated by the results of the p-values suggest that H1 (FE → PI) and H2 (FE → ATM) are interconnected, in the sense that financial education (FE) acts simultaneously on the propensity to indebtedness (PI) and on attitudes towards money (ATM). In addition, H3 (ATM → PI) showed a positive relationship. In general, these results suggest that the increase in the level of financial education is associated with a reduction in the levels of delinquency (Brown et al., 2016). According to the OECD (2015), financial education goes beyond simple economics, encompassing the understanding of money and awareness of financial opportunities and risks.

4.4 Discussion of the results

The findings of this study offer significant contributions to the understanding of the relationships between financial education, attitudes towards money, and propensity to indebtedness. Three hypotheses were examined and confirmed, showing a negative association between financial education and attitudes towards money (H1), as well as between financial education and propensity to indebtedness (H2), and a positive association between attitudes towards money and propensity to indebtedness (H3). The analysis of the influence of financial values reveals that individuals who value the possession of money tend to have a lower propensity to indebtedness due to planned saving and spending practices. In contrast, those who perceive money as an indicator of power and status maintain a high standard of consumption, which is correlated with a greater propensity to borrow. This relationship is additionally associated with the phenomenon of materialism, where high levels of this trait are aligned with a greater propensity to indebtedness.

The results collected corroborate this dynamic, with a considerable portion of respondents (11.63%) expressing agreement with taking on debts to settle bills and a percentage (9.43%) demonstrating a lack of prioritization of savings prior to spending. In addition, 34.27% of respondents prefer to pay in installments instead of paying in cash, and 52.83% see no problem in having debt, as they know they can pay it later. These findings echo previous findings, such as those by Brown et al. (2016), which also indicate that financial education plays a role in reducing dependence on debt and improving payment habits.

The more intensive presence of financial education between business and accounting students suggests a possible reduction in the propensity to indebtedness, as evidenced by the high percentage of respondents who frequently seek information about personal finances. This insight is supported by studies such as Gathergood and Disney (2011), which point out that families with greater financial literacy adopt a more rational approach to financial control.

The analysis of variables such as age, number of dependents, and financial situation coincides with previous investigations (Katona, 1975; Flores & Vieira, 2014; Oliveira, 2020), which report a greater propensity for indebtedness among female individuals. The distinction between groups of students, based on source of income, reveals significant differences in interest in financial information and in the formulation of retirement plans. This highlights the direct influence of income source on the individual's approach to personal finance.

Attitudes towards money influence the propensity to indebtedness, especially when high levels of materialism are observed, as pointed out by Durvasula and Lysonski (2010). However, among graduate students in administration and accounting, a low level of materialism was identified, possibly attributable to the financial education offered. These conclusions reinforce the relevance of financial knowledge in the adoption of responsible financial behaviors and corroborate previous findings, such as those of Qamar et al. (2016), which establish a positive relationship between financial knowledge and more prudent financial practices.

In summary, this study not only confirms previously proposed relationships but also highlights the importance of financial education in the formation of healthier financial attitudes and practices, especially among students with greater exposure to this type of knowledge. These findings have significant implications for educational policies and intervention programs aimed at developing financial skills, aiming to reduce the propensity to indebtedness, and promoting more responsible financial behaviors.

5 FINAL CONSIDERATIONS

The objective of this study was to analyze the effect of financial education and attitudes towards money on the propensity to indebtedness. H1, which proposed a negative relationship between financial education and propensity to indebtedness, was confirmed, indicating that greater financial education significantly reduces the propensity to indebtedness. H2, which explored the negative relationship between financial education and attitudes towards money, was also supported by the data, suggesting that greater financial education is associated with more conscious and balanced attitudes towards the use of money. Finally, H3, which postulated a positive relationship between attitudes towards money and propensity to indebtedness, was confirmed, showing that less conscious financial attitudes contribute to higher levels of indebtedness.

The analysis revealed that financial education plays a central role in shaping healthier financial behaviors, reducing the propensity to indebtedness, and positively influencing financial attitudes. From these findings, it was possible to establish that each specific objective of the study was consistently contemplated, reinforcing the relevance of the relationships between the investigated constructs. These results corroborate the existing literature and highlight the importance of initiatives aimed at financial education to promote financial stability in different contexts.

As can be seen, indebtedness is a complex phenomenon with deep roots that go beyond the mere financial aspect. Studies highlight the relevance of financial education as a crucial preventive element to enable people to manage their resources and prevent the accumulation of debt (Flores & Vieira, 2014; Kaiser, 2022). During this research, a high level of financial awareness was found among the participants, correlated with a lower propensity to indebtedness. This not only opens up new perspectives for investigation but also points to additional areas of study, including a more detailed analysis of adverse impacts such as the stress derived from the intense load of academic activities and the low yields offered by scholarships.

Attitudes towards money play a crucial role in the propensity to get into debt. Individuals with a lack of emotional control in financial matters often spend excessively, making them more susceptible to taking on debt (Durvasula & Lysonski, 2010). Additionally, the absence of financial planning results in impulsive purchases and the inability to honor financial commitments. In this context, financial education offers guidance on how to plan and manage expenses, assisting in decision-making related to finances.

Stone and Maury (2006) identified that behaviors such as obsession, inadequacy, and retention play significant roles in indebtedness. Those who cultivate the habit of saving tend to value their financial resources more, while negative attitudes towards money can generate motivation problems, emotional imbalances, and behavioral changes (Flores & Vieira, 2014). Bad financial habits, excessive consumption, and indiscriminate use of credit are examples of negative attitudes that directly impact the propensity to indebtedness. In addition, other factors such as stress, anxiety, and individual characteristics can influence this dynamic, contributing to improving or worsening the way each person manages their finances.

This study offers significant contributions by debating contemporary issues from different perspectives, aiming to identify other factors that impact the propensity to indebtedness. In addition, it sought to understand the financial behavior of individuals who have greater access to financial education. The findings reveal not only the direct relationship between attitudes toward money and indebtedness but also highlight the crucial importance of factors such as stress, anxiety, and individual characteristics in financial dynamics.

The findings of this study have significant implications both for practice in society and for the theoretical advancement of scientific research. In the practical sphere, they offer a detailed look at the determinants of indebtedness, helping to develop effective financial education strategies and interventions to mitigate excessive indebtedness. These findings can guide public policies aimed at financial awareness, as well as direct educational programs that aim to improve financial literacy from the early stages of education.

On the theoretical level, the findings provide a solid foundation for future research, highlighting the need to consider not only aspects of financial knowledge but also the behavioral, emotional, and psychological factors that shape individual financial decisions. This can stimulate new multidisciplinary studies that further explore the intersection between psychology, human behavior, and finance, thereby enriching the field of academic literature in this area.

The study has some important limitations that should be considered. Although the results revealed a lower propensity for debt among respondents who are more aware and careful with their personal finances, it is crucial to recognize that the variables and relationships established have their limitations. Generalizing specific examples of debt propensity can be challenging due to the diversity of individual contexts and external influences. Therefore, it is suggested that longitudinal experiments be carried out in order to minimize possible measurement errors and ensure a deeper understanding of these phenomena over time.

In addition, the study identified the influence of variables such as stress, anxiety, and individual characteristics on financial behavior but did not delve into their role as mediators of these relationships. These variables can play crucial roles, acting as mediators between financial awareness and financial behavior. Thus, there is a research opportunity to explore the direct and indirect influence of these factors, providing insights into how such aspects impact indebtedness and financial decisions.

Therefore, the inclusion of additional mediating and moderating variables is essential for a more comprehensive and accurate analysis of these phenomena. This will allow for a more holistic understanding of the relationships between financial awareness, attitudes towards money, and propensity to indebtedness, contributing to the evolution of research in this area and the creation of more effective financial education strategies.

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APPENDIX A – RESEARCH INSTRUMENTS

Table A1 - Attitudes Towards Money

Dimension	Code	Indicators
Power	ATM_P1	I buy things that I know will impress other people.
	ATM_P2	Although I should judge people by their actions, I am more influenced by the money they have.
	ATM_P3	I have cool things to impress other people.
	ATM_P4	I use money to influence people to do something for me.
Retention	ATM_R1	I follow a cautious financial budget.
	ATM_R2	I save money now to prepare for old age.
	ATM_R3	I regularly save money for the future.
	ATM_R4	I have money saved in case of an economic crisis
Distrust	ATM_D1	I automatically say that I can't afford it, even if I can.
	ATM_D2	When I buy something, I complain about the price.
	ATM_D3	I argue or complain about the price of the things I buy.
	ATM_D4	After buying something I wonder if I could have bought it cheaper elsewhere.
Anxiety	ATM_A1	I get upset when I miss a sale.
	ATM_A2	I show signs of nervousness when I don't have enough money.
	ATM_A3	I spend money to feel better.
	ATM_A4	It's hard for me to miss a bargain.

Source: Pimentel et al. (2012)

Table A2 - Financial Education

Code	Indicators
FE1	I worry about managing money better.
FE2	I write down and control monthly expenses (e.g., spreadsheet of monthly income and expenses, notebook of financial notes, etc.).
FE3	I set financial goals that influence the management of my finances (e.g. Save an amount in 1 year, get out of overdraft in 3 months).
FE4	I follow a weekly or monthly budget or spending plan.
FE5	I go more than a month without taking stock of my expenses.
FE6	I am satisfied with the financial control system.
FE7	I pay the bills without delay.
FE8	I can identify the costs I pay when buying a product on credit (e.g. embedded interest).
FE9	I use a bank credit card because I don't have money available for expenses.
FE10	When buying in installments, I compare the available credit options (e.g., store financing vs. credit card financing).
FE11	More than 10% of the income I receive the following month is committed to credit purchases (except for real estate or vehicle financing).
FE12	I pay the credit card bill in full in order to avoid financial charges (interest and penalty).
FE13	I check the credit card statement to check for errors and undue charges.
FE14	I save monthly.
FE15	I save with the intention of buying a product of higher value such as a car, real estate, etc.
FE16	I have a financial reserve that is greater than or equal to 3 times my monthly income, which can be used in unexpected cases (e.g., unemployment, health).
FE17	I compare prices when making a purchase.
FE18	I analyze my finances in depth before making any big purchase.
FE19	I buy on impulse.
FE20	I prefer to buy a financed product instead of saving money to buy in cash.

Source: Matta (2007)

Table A3 - Propensity to Indebtedness

Dimension	Code	Indicators
Impact of morality on society	PII1	It is not right to spend more than I earn.*
	PII2	I think it's normal for people to go into debt to pay for their things
	PII3	People would be disappointed in me if they knew I was in debt.*
Time preference	PIT4	It's best to save money first and then spend it.*
	PIT5	I prefer to buy in installments than wait to have money to buy in cash.
	PIT6	I prefer to pay in installments even if in total it is more expensive.
Degree of self-control	PIG7	I know exactly how much I owe in stores, credit card or bank.*
	PIG8	It is important to know how to control the expenses of my house.
	PIG9	It's okay to have debt if I know I can pay.

Source: Moura (2005)
Note: * Reverse items