Available online at www.sciencedirect.com

Revista de Administração

Revista de Administração 52 (2017) 285–303

http://rausp.usp.br/

Education, Research and Academic Production

Financial education level of high school students and its economic reflections

Nível de educação financeira de estudantes do ensino médio e suas reflexões econômicas

Nivel de educación financiera de estudiantes de la escuela secundaria y sus reflexiones económicas

Tarcísio Pedro da Silva [a,*], Cristian Baú Dal Magro [a], Marcello Christiano Gorla [a], Wilson Toshiro Nakamura [b]

[a] *Universidade Regional de Blumenau, Blumenau/SC, Brazil*
[b] *Universidade Presbiteriana Mackenzie, São Paulo/SP, Brazil*

Received 1 June 2016; accepted 19 December 2016
Available online 15 May 2017
Scientific Editor: Wesley Mendes-Da-Silva

Abstract

This research contributes to the understanding of the level of financial education of high school students from public schools, as well as verifying how their financial knowledge has been generated, providing a view of the gaps in financial education with which these students are able to attend undergraduate courses later. The objective of the research was to determine the level of financial education of high school students from public schools, according to individual, demographic and socializing aspects. The research methodology was characterized as descriptive regarding procedures such as survey and the approach of the quantitative nature of the problem. The research population included 4698 high school students from 14 public schools in the city of Blumenau. In the data processing, the *Kruskal–Wallis* and chi-square tests were used. The results indicate that there is an effective financial education among young high school students, which can be noticed in findings such as: some of the young are not obliged to explain to parents where they are spending their financial resources; students have acquired, largely, their financial knowledge with parents and relatives, and in day-to-day practices, but there is little dialog in the family on financial matters. The financial knowledge coming from the school is low, requiring an improvement in the quality of this knowledge at this stage or in the future, including undergraduate courses. Finally, potential workers may cause social problems through their inability to manage their resources and/or the expenses of their families.

Keywords: Financial education; Individual characteristics; Demographic characteristics; Socialization characteristics; High school

Resumo

A presente pesquisa contribui com o entendimento do nível de educação financeira de estudantes de nível médio da rede pública, do mesmo modo que verifica como tem sido gerado o conhecimento financeiro destes, e, proporciona uma visão das lacunas em educação financeira com as quais estes estudantes podem chegar aos cursos de graduação, posteriormente. O objetivo da pesquisa foi verificar o nível da educação financeira de estudantes do ensino médio da rede pública, segundo aspectos individuais, demográficos e de socialização. A metodologia da pesquisa foi enquadrada como descritiva, quanto aos procedimentos como de levantamento/*survey* e a abordagem do problema de cunho quantitativo. A população da pesquisa compreendeu 4.698 alunos do ensino médio de 14 escolas da rede pública do município de Blumenau. No tratamento dos dados foram empregados os testes de *kruskall-wallis* e qui-quadrado. Os resultados indicam que não há uma educação financeira efetiva entre os jovens estudantes do ensino

* Corresponding author at: Rua Antônio da Veiga, 140 – CEP 89012-900, Blumenau/SC, Brazil.
E-mail: tarcisio@furb.br (T.P. Silva).
Peer Review under the responsibility of Departamento de Administração, Faculdade de Economia, Administração e Contabilidade da Universidade de São Paulo – FEA/USP.

http://dx.doi.org/10.1016/j.rausp.2016.12.010

médio, o que transparece em achados como: parte dos jovens não são obrigados a explicar aos pais em que estão gastando seus recursos financeiros; os alunos têm adquirido, em boa parte, conhecimentos financeiros com pais e parentes, e na prática do dia-a-dia, porém há pouco diálogo, no ambiente familiar, sobre assuntos financeiros. O conhecimento financeiro advindo da escola é baixo, sendo necessário uma melhoria na qualidade deste conhecimento, nesta fase ou futuramente, inclusive na graduação. Por fim, os trabalhadores em potencial podem causar problemas sociais pela incapacidade de administrar seus recursos e/ou os gastos de suas famílias.

Palavras-chave: Educação financeira; Características individuais; Características demográficas; Características de socialização; Ensino médio

Resumen

Este estudio contribuye a la comprensión del nivel de educación financiera de estudiantes de secundaria de escuelas públicas; se examina cómo se desarrolla su conocimiento financiero y se ofrece una perspectiva de las deficiencias en la educación financiera con las que estos estudiantes pueden llegar a los cursos de grado más tarde. El objetivo del trabajo es determinar el nivel de educación financiera de estudiantes de secundaria de escuelas públicas, de acuerdo con aspectos individuales, demográficos y concernientes a la socialización. Se utiliza una metodología descriptiva para los procedimientos de recopilación/*survey* y el enfoque del problema de tipo cuantitativo. La población de estudio se compone de 4.698 estudiantes de secundaria de 14 escuelas públicas de la ciudad de Blumenau. En el tratamiento de los datos se han utilizado las pruebas de Kruskal-Wallis y chi cuadrado. Los resultados indican que no existe una educación financiera eficaz entre los jóvenes estudiantes de secundaria, lo que se observa en hallazgos tales como: parte de los jóvenes no está obligada a explicar a los padres en qué está gastando sus recursos financieros; los estudiantes han adquirido conocimientos financieros en gran medida con los padres y familiares, y en la práctica del día a día, sin embargo hay poco diálogo en la familia sobre asuntos financieros. El conocimiento financiero oriundo de la escuela es bajo, lo que requiere una mejora en la calidad de tal conocimiento en esta etapa o en el futuro, incluso en el curso de grado. Por último, los trabajadores potenciales pueden causar problemas sociales debido a la incapacidad para administrar sus recursos y/o los gastos de sus familias.

Palabras clave: Educación financiera; Características individuales; Características demográficas; Características de socialización; Educación secundaria

Introduction

Throughout history, people have daily taken a number of complex financial decisions about expenditures, savings and/or investments. In this sense, so that the expenses are controlled and investments are assertive in terms of profitability, people need financial information and knowledge, partly provided by financial education (Campbell, 2006; Lusardi & Mitchell, 2007).

Financial education has a preventive and controlling role of debt, increasing savings and investment. As such, the teaching of financial education helps to leverage the knowledge of individuals regarding financial transactions, giving them useful tools for decision-making (Potrich, Vieira, & Mendes-da-Silva, 2016). In this sense, financial education should cover the investment options, and convey the correct understanding of the concepts related to inflation, interest and taxation (Lusardi, 2009).

For the application of financial knowledge to provide financial well-being to individuals it is necessary to have a combination of skills, attitudes and behaviors (OECD, 2013). Such complexity makes financial education central to the social and economic context of Brazil, where political and economic reforms, especially in social security and school education patterns, have taken account of the discussion in the National Congress, institutions and organized civil society.

With the Provisional Measure (MP 746/2016), the Brazilian government intends to ensure a development policy for full-time schools through the gradual increase in high school hours from 800 to 1400, as well as a more flexible curriculum which would be 50% linked to the common national basis; the other half would be defined by the educational networks, with emphasis on: languages, mathematics, natural sciences, humanities and technical and vocational training. In this sense, the time is ripe for further reflection on the inclusion of financial education as a specific discipline or the spreading of its contents through their insertion in some of the subjects to be offered that will complement the common national basis. This research seeks to contribute, with its findings, to support such discussions and future decisions.

In addition, the federal government has indicated that the increase in the minimum contribution and the minimum age for retirement, as well as changes in pension rules will be voted on very soon and that all workers who are not retired yet will be affected. By investigating the *status* of financial education in high school and possibly highlighting the need for better and deeper supplies of such knowledge, this article is in line with the future of Brazilians who will face the challenge in managing their income, investments and savings due to, among other reasons, the changes that approach regarding social security, which should also be planned by people.

The above economic and legal factors are associated with individuals who use financial education as part of education and training; however, there are some prospects also worth mentioning in the process of absorption and application of financial knowledge in daily practice. In this case, evidence indicates that an adult will be effective in his financial decisions through the construction of economic concepts from his childhood, from money handling, from social interaction with parents and society, education, practical experience as well as demographic and individual aspects (Bessa, Fermiano & Coria, 2014; Chen & Volpe, 1998; Lusardi & Mitchell, 2011; Norvilitis et al., 2006; Norvilitis & Mendes-Da-Silva, 2013; Oehler & Werner, 2008; Pires, Lima, Dalongaro, Silva, & Silveira, 2013; Potrich, Vieira, & Kirch, 2015; Potrich et al., 2016; Robb, 2011; Santos, Mendes-Da-Silva, Flores, & Norvilitis, 2016; Shim, Xiao, Barber, & Lyons, 2009; Sohn, Joo, Grable, Lee, & Kim, 2012; Webley & Nyhus, 2006; Worthy, Jonkman, & Pike, 2010; Xiao, Tang, & Shim, 2009).

The social and educational factors are predictive of financial well-being, although the role of financial knowledge cannot be overlooked, because it has a protective effect on the decisions of individuals (Norvilitis et al., 2006; Robb, 2011). Similarly, Denegri, Palavecinos, Ripoll, and Yáñez (1999) point out that socialization beginning in early childhood education tends to persist throughout adolescence and adulthood. Therefore, at this stage there is a strong economic socialization as for values, attitudes, information and skills that can lead to the formation of financial habits lasting for a lifetime.

From this, it is inferred that the involvement of parents and school education, among other factors, have key roles in the formation of financial characteristics of individuals. In addition, personal characteristics (gender), demographic and socialization characteristics (family group, income), when understood jointly can exert influence on children and adolescents' financial attitudes.

The development of positive financial behavior during the years of study increases the chances of an individual to achieve a better quality of life (Worthy et al., 2010; Xiao et al., 2009). Robb (2011) provides evidence that financial education can improve the behavior of the conscious use of financial resources, especially for young adults who are at the right age to develop skills that they will carry for life; financial education is then an essential subject in school teaching.

Given the above, the study has the following research question: What is the financial education level of high school students from public schools, assessed according to individual, demographic and socialization aspects? The study on financial education with high school students is relevant because, despite its social importance, this financial topic has been little discussed by the Brazilian population, and has received little attention in educational media. In addition, there is a need to expand the development of knowledge on the determinant and consequent factors of financial education (Vieira, Battaglia, & Sereia, 2011).

Bessa et al. (2014) point out that the last decades have been marked by social, cultural, political, economic and technological changes that affect the behavior of adolescents and young adults. In this respect, this generation needs investigation of the intensity in understanding the economic world and the role of the family in the financial socialization process. Oehler and Werner (2008) and Bessa et al. (2014) denote the study relevance applicable in public high schools, in order to contribute from an early age with financial knowledge reflecting strong future social values.

In addition, the study offers a vision that encompasses not only the financial education level of high school students, but also adds individual, demographic and socialization characteristics as determinants of creating financially conscious individuals. The study explores the individual, demographic and socialization aspects of young adults regarding financial education, directing such attributes to social relevance, on the grounds that inadequate management of personal finances, dependent on the characteristics of young adults, exposes the population to economic and social risks of unemployment, delinquency and lack of sufficient retirement resources.

Faced with the facts, the findings of this research may contribute to the explanation of the factors that have led to the high level of indebtedness of Brazilian families and the high welfare dependency on retirement. The findings may contribute to the planning of public policies, suggesting that in the form of Brazilian education, discussed in the National Congress, one must emphasize and create opportunities for teaching financial education. Moreover, the findings contribute in the social level with the holistic view of financial well-being improving quality of life.

The study seeks to answer if the financial education level of the sample favors a view of savings. It also allows deriving if the respondents – still in intermediate-stage studies – have an interest in financial matters, being able to collaborate in financial decisions or even decide themselves on the management of their resources. Such discussions have been the core research in the academic scenario of different countries, which denote the level of financial education and its determinants in different situations and populations.

Financial education in different conceptual aspects and its practical implications

Financial education refers to the process of improvement in the understanding of consumers/investors on the concepts and financial products, through information, education and advice, promoting awareness of financial risks (Lusardi & Mitchell, 2007). Savóia, Saito, and Santana (2007) report that financial education is understood as the knowledge transfer process, which allows the development of skills for making informed and safe financial decisions, improving the management of personal financial resources.

A term concerning the financial education process is the economic socialization, which deals with the study of how children build economic concepts, and in which developmental stages they are designed. Economic socialization is about the financial learning process of young adults for handling money, social interaction, interaction with parents and the school, and the demographic aspects of financial education (Bessa et al., 2014). The importance of the family in financial education was portrayed by Scott, who gives to the family example a center role in the construction of individuals that have better rationality on spending and on the saving philosophy.

To the Organization for Economic Cooperation and Development (OECD, 2013), financial education is important for consumers, investors and families who seek daily to control their finances. According to the OECD (2013), individuals with financial knowledge can balance the budget, and select the best financing options, to purchase a property, ensure the education of their children and even plan their retirement.

Braunstein and Welch (2002) and Perry (2008) emphasize that often people do not have adequate financial knowledge and therefore the objective of financial education is to promote awareness about opportunities and consequences arising from financial choices. In addition, financial education can contribute to the development of skills designed to accumulate funds for savings (Clancy, Grinstein, & Schreiner, 2001).

Lusardi and Mitchell (2011) report that consumers with greater financial knowledge have the ability to make their personal budgets, savings account and future financial planning. Financial education can also help families with financial discipline, creating opportunities to increase resources to spare, which will then be used for children's education, health plans, among other several investments, which can offer a comfortable future (OECD, 2013).

In particular, individuals with financial education make mistakes to a lesser extent, and are exposed to dynamic, flexible and profitable investments (Campbell, 2006). However, some studies with students from universities in the United States showed that university education has not been a major factor for proper financial knowledge (Lusardi, 2007). Fox, Bartholomae, and Lee (2005), comment that the challenge of educational institutions is to demonstrate that their programs offer a differential for the financial education of their students.

For Soares and Sobrinho (2008) the availability of financial resources must be accompanied by services that allow people to better manage their income and assets. Diniz, Birochi, and Pozzebon (2012), through a study on financial inclusion in a district in the Amazon region, found out that individuals with greater availability of financial resources leftovers interact with financial inclusion mechanisms (education).

Before the exhibition, financial management not only considers the individual's knowledge, but also the personal values and assumptions (Frankenberg, 1999). In an additional view, Bernheim and Garrett (2003) point out that financial education can be spread by the experience gained in the workplace. Similarly, Bayer, Bernheim, and Scholz (2009) identify the participation and contributions in voluntary savings plans were higher among people who work in companies that offered seminars on retirement.

Another important aspect is the inclusion of children in financial practices; according to Pires et al. (2013), the sooner the insertion of individuals to controlling their money happens, the better their learning about decisions on spending and savings in adulthood is. In addition, the determining factor of the financially aware individual is related to their upbringing and education. According to Pires et al. (2013) the episodes experienced during the life of an individual, voluntary or not, influence the financial experience and contribute to the formation of his financial profile.

The importance of establishing an effective financial education from childhood, according to Bernheim and Garrett (2003), contributed to the increase in savings in the post-war by Japanese families, and this may have been attributable to the spread of financial education, while Faleiro, Führ and Kronbauer assume that people who had access to financial guidance since childhood have better conditions for financial decision making. Moreover, Fox et al. (2005) state that the Americans also suffer from a deficiency in financial education, noted through the high bankruptcy, high debt and low savings rates.

Mandell (1997), in a study with high school students in the United States, indicates that these are leaving schools without the ability to make financial decisions that affect their lives. Shim et al. (2009) suggest that formal education would be likely to increase financial knowledge, leading students to having positive attitudes toward decision making on investments and savings. Hofmann and Moro (2013) state that the development of financial education programs in schools seeks to help students cope with the daily challenges and realize their dreams through the proper use of financial tools, contributing to a better future.

Lusardi and Mitchell (2007) argue that financial education is linked to retirement plans (synonym for savings), while for Bernheim, Garret, and Maki (2001), the declared level of savings increases significantly with education and income. Lusardi (2009) found evidence that females, the black and Hispanic race, as well as the low educational level of individuals were determinant for worse levels of financial knowledge.

Norvilitis and Mao (2013) report that parental education is associated with increased financial self-reliance. Costa and Miranda (2013) investigated whether financial education influences the savings rate chosen by individuals. The results indicated that while the level of education does not influence the savings rate, the financial level of education has a direct influence on the decision to save money.

Moreover, the involvement of parents in financial education of children is a major factor and, therefore, in the absence of this critical component, financial education in school, by itself, does not carry enough impact to develop the financial knowledge of an individual (Shim et al., 2009). Webley and Nyhus (2006) showed that parents' behavior (such as discussing financial issues with children) and parental guidance (awareness, future orientation) have an impact on the economic behavior of children in adulthood.

Kiyosaki and Lechter (2004) comment that formal education does not prepare children for real life, and good grades are not enough to ensure the success of someone. The current school system allows children to leave school without any financial foundation. Regarding Brazil, Savóia et al. (2007) and Brasil (2013) show that public policies and MEC guidelines, even not contemplating financial education as a requirement for the development of the population, are seen by the government as a multidisciplinary basis that would be enough for individuals to develop knowledge to manage their financial resources.

Thus, in Brazil, in addition to financial education not being part of the school environment, it does not make part of the family educational universe. Therefore, the child does not learn to handle money at home, let alone at school. This may lead to consequences of economic fluctuations in adulthood with serious repercussions to family members and to the country (Pires et al., 2013). The negative consequences of reckless financial behavior of young adults can pose great difficulty in their school performance and compromise their physical and mental health, as well as their life satisfaction (Xiao, Noring, & Anderson, 1995).

According to Hofmann and Moro (2013), in mid-2007, the Brazilian government composed a working group consisting of representatives of the Central Bank of Brazil, the Brazilian Securities and Exchange Commission (CVM), the Secretariat for Pension Plans (SPC) and the Superintendence of Private Insurance (SUSEP). The main objective was to develop a proposal for a "National Strategy for Financial Education (NSFE)" contemplating the realization of a national stock inventory and financial education projects. At NSFE, a set of measures aimed at financial education in schools was provided, as well as actions aimed at adult education (Brasil, 2010a, 2010b).

For Hofmann and Moro (2013) the National Strategy for Financial Education "NSFE" is still new, but guarantees a wide range of discussion on the potential interaction between school mathematics and financial education. The NSFE assumes that financial education is exercised in schools, excelling in formulating mathematical and financial daily problems in the classroom. However, although there are isolated attempts of NSFE to develop and disseminate financial education, Savóia et al. (2007) and Brasil (2013) outline a misalignment of public policies and guidelines of MEC, with little government interest for the negotiations of NSFE.

Thus, the proposal of the National Strategy for Financial Education has not covered, in a generalized way, all grade levels of basic education, and has not been widespread among schools across the country. Therefore, it is most necessary to encourage government public policies, and that rulers take advantage of the discussion of basic education reform proposal, which is being processed in the National Congress, to insert a curriculum that mandatorily links financial education to elementary subjects.

In fact, the importance of financial education needs to be considered, given the constant evolution and ease of credit, which favors the increase in consumption, that when combined with the absence of effective financial education, favors family debt. The financial issue is present throughout the daily lives of human beings, and personal finances have a basic impact in the economy of any country (Saleh & Saleh, 2014).

As proof that Brazilian families are suffering from the lack of knowledge about financial management, Ruberto, Silveira, Vieira, and Bender Filho (2013) state that currently 59.8% of families have debts, and a strong increase in defaults. Fernandes and Candido (2014) mention that the current generation of teenagers cannot manage their own financial resources. Messias, Silva, and Silva (2015) show that most young adults who are at university have high levels of debt, and cite unpreparedness as a motivating factor in finance management.

Hofmann and Moro (2013) state that the implementation of the National Strategy for Financial Education, sprouted reflections about potential didactic and conceptual interfaces between Mathematics Education and Financial Education in the light of solving contextualized mathematical problems within and outside the school environment. Based on this evidence, the authors concluded that one of the ways to promote reconciliation between school and daily life in the context of mathematics education could include the strengthening and improvement of its relation with Financial Education.

In this sense, this research is extremely important to determine the level of financial education with proposals that encourage society, the government, non-governmental and non-profit institutions to implement joint actions that change the current view of basic education, and adding understanding of other behavioral, social and demographic factors.

Financial education studied in a Brazilian and global perspective

Financial education in Brazil and globally was studied on different perspectives that will be presented later in this topic. The studies present empirical, theoretical and practical arguments that provide the basis for questions, discussions and contributions, especially regarding the combination of individual, demographic and socialization that interfere with financial education, not only focusing on the family involvement premise and high school education.

Chen and Volpe (1998) examine the link between financial knowledge and economic decisions of college students. Students were categorized according to their level of financial experience. These findings showed that the experience was a major factor for students with more advanced financial knowledge in consumption and investment decisions. Similar evidence was observed in the use of credit cards, in which students financially literate and experienced in the financial sector did not have low levels of debt on credit cards.

Mori and Lewis (2001) studied 637 English people between 16 and 60 years of age, showing some useful methods to increase the level of financial education, which are here described: monthly allowance for children; incentive to carry out banking operations; and support to short-term savings with the use of piggy banks. However, the methods will only be effective if there is discussion and guidance from parents to children. In this premise, the authors indicate that only 1/3 of families discuss, talk and guide their children about personal finances, and this occurrence is prevalent in low-income families.

Bernheim and Garrett (2003) analyze the effectiveness of financial education, based on the involvement of the employer, by families from the United States. The authors note the effects of savings programs, established by employers, in the financial education of employees and their families. The results suggest increases in pension plans for employees and spouses who have been involved with financial education in the workplace.

Norvilitis et al. (2006) report that lack of financial knowledge, age and number of credit cards are related to increase in debts with credit cards. On the other hand, gender and family income were not predictors of debts with credit cards. The findings suggest that personal characteristics are determinants of education and financial well-being among students in the United States.

Shim, Barber, Card, Xiao, and Serido (2010) while examining a model of financial socialization to explain how young adults acquire attitudes, behaviors and financial knowledge state that the greater involvement of parents, especially in financial knowledge tasks, develops self-confidence in young adults, reflecting on healthy financial attitudes and behavior.

Gutter and Copur (2011) show the exploration of the relationship between financial performance and financial well-being of college students when establishing control of demographic, financial, and personality characteristics. The results indicate that debt is a result of social, demographic and personality aspects, as well as education. In addition, they determine that high school is a determining factor of the financial profile of young adults and adults.

Robb (2011) examines the relationship between financial knowledge and behavior in the use of credit cards for college students. The study included a sample of 1354 students, and the results suggest that a greater personal financial knowledge affects the propensity for the responsible use of credit cards. Heckman and Grable (2011) investigated 80 students at a university in the Midwest of the United States, and the results indicate a strong correlation between the income level and the level of financial education.

Vieira et al. (2011) analyzed the learning of financial education in undergraduate courses in the attitude of consumption, savings and investment. The study comprised a sample of 303 undergraduate students, in the first and last stage of the Administration, Economics and Accounting courses at a public university in Northern Paraná. The results suggest that academic education contributes to improving the attitude of consumption, investment and savings of individuals. However, they highlight that the factors related to practical experience and family may exert a joint influence.

Mendes-da-Silva, Nakamura, and Moraes (2012), while evaluating university students from the city of São Paulo find associations between personal characteristics and habits of credit card utilization involving risky financial behavior. The findings demonstrate the need to provide students with information on the use of financial products, taking into account the high interest rates that are charged. In addition, they suggest that financial education can contribute to positive behavior in the use of credit cards.

Sohn et al. (2012) in the analysis of the forms of financial socialization of Korean teenagers find that teens who have chosen the media as the primary agent of socialization, and who had a bank account, have higher levels of financial knowledge. Already those associated money with some good or some reward, report higher levels of financial knowledge. Finally, adolescents with monthly subsidies provided by parents (allowance), have high levels of financial knowledge.

Bessa et al. (2014) point out the verification of the comprehension intensity of teenagers about world economy and the role of the family in the economic socialization process. The sample included 830 students living in São Paulo, aged from 10 to 15 years, from different social levels. The results indicate that the economic socialization of the studied generation is insufficient regarding the demands of the contemporary world and therefore the family should be proactive in disseminating financial practices that contribute to young adults getting into adulthood.

Medeiros and Lopes (2014) observe the behavior of Accounting students of a private institution in Santa Maria – RS, regarding their personal finances. The results indicate that students demonstrate awareness of financial income, and know how to handle their personal finances. They also suggest that students usually pay cash for their purchases, not with credit cards. Thus, the study of Medeiros and Lopes (2014) provides evidence that courses in the business area can improve the financial education of individuals.

Fernandes and Candido (2014) corroborate the worrying factors on the level of education among young adults and suggest that the current generation cannot manage their own finances. Thus, the main hope collides with a school curriculum that does not address the financial practices of everyday life in the elementary subjects.

Lizote and Verdinelli (2014), while analyzing the knowledge about personal finance in the university environment point out there is a strong association between knowledge on personal finance and professional experience. Students with higher financial income tend to a better management of loans, financing and assets.

Conto, Faleiro, Führ, and Kronbauer (2016) point out that only a third of respondents saves money, only a quarter carries out control of their personal finances, and less than half of the students have some sort of financial planning.

Potrich et al. (2015) study the level of financial education through socioeconomic and demographic variables. They highlight there is evidence that male individuals with no legal dependents and with higher levels of education and income have higher levels of financial education. Moreover, the vast majority of researchers classified themselves as with low financial education, corroborating with the need to promote national actions to address the issue.

Miotto and Parente (2015) focus on understanding how lower middle class Brazilian families are managing their household finances. Results reveal the mediating role that financial management plays in the relationship between personal characteristics and savings. Compared with consumers in developed countries, the authors identify that lower middle class Brazilian consumers do not give due attention to control, just focus on the short and long term planning and generally lack the use of budget and suffer influence of critical events in episodes of default.

Potrich et al. (2016) develop and compare models for evaluating the financial literacy of college students. In order to do this, the model links integrate knowledge, performance and financial attitude. The results suggest that the level of *financial literacy* is founded on behavior, knowledge and financial attitude, with a greater impact on attitude. As the vision of Potrich et al. (2016), points out, currently the proposed study does not contribute to focusing on *financial literacy* due to the fact that it only highlights the extent of financial knowledge in financial education.

Kühl, Valer, and Gusmão (2016) highlighted that financial education helps develop skills, which facilitate assertiveness in making financial decisions to the cooperative members. Santos et al. (2016) examine the predictors of financial well-being of university female students living in São Paulo and New York, focusing on the behavior in the use of credit cards. The results suggest that financial self-reliance and social comparison have an impact on the use of credit cards, and influence the financial well-being. Despite the social comparison being a stronger indicator of use of credit cards among Brazilian women, the behavior in the use of credit cards has a major impact on the financial well-being of American women.

Faced with the scenario presented in the theoretical framework, it is possible to realize the importance of financial education in the economic, social and personal dimension. Moreover, it is noticeable through previous studies the growing social and academic interest in the subject, and with the increasing of individual, demographic and socialization variables on financial education, it can offer important contributions to the political, economic and government reforms that are being discussed in the national congress.

Methods

This research is characterized as for the objectives with a descriptive nature, and as for the procedures, such as the survey and approach of the problem, as quantitative. The population of the research included 4698 high school students and 14 vocational public schools in the city of Blumenau. Access to application of the research was obtained on request from the Secretariat of State, appointed to the office of the Regional Development in Blumenau, education management (SE/SDR/GERED-Blumenau). The sample was designed in view of the number of respondents, totaling 1937 students.

The research instrument was built in order to absorb information about the financial education level of high school students, incorporating individual, demographic and socializing issues. The instrument was validated by applying it in a class with 30 high school students. For the construction, first were established six issues related to individual, demographic and socialization aspects of students (QAP1 to QAP6). Such issues have been associated in previous studies as being essential to determine the level of financial education of young adults, according to Chen and Volpe (1998), Lusardi and Mitchell (2011), Norvilitis et al. (2006), Norvilitis and Mendes-Da-Silva (2013), Robb (2011), Oehler and Werner (2008), Pires et al. (2013), Potrich et al. (2016), Santos et al. (2016), Shim et al. (2009), Sohn et al. (2012), and Webley and Nyhus (2006).

Then eight questions were established seeking to capture the level of financial education of students, absorbing information on: how to manage financial resources (QEF1) the responsibility to present financial reports (QEF2), the time dialog deciding on the purchase of a product (QEF3), the frequency in which there is talk about money with their parents (QEF4), financial issues that are questioned in the family (QEF5), the way it has acquired financial knowledge (QEF6) the financial profile (QEF7), and the decision about what to do with money (QEF8).

The financial education questions were adjusted considering the implications of previous studies (Pires et al., 2013; Potrich et al., 2015, 2016; Santos et al., 2016; Shim et al., 2009; Webley & Nyhus, 2006), and built in accordance with the vision of teenagers, who mostly do not receive remuneration from employment and are at a time of transition from their financial profile.

The questionnaires were made *in loco* during the second semester of 2015. The study limitation was related to a partial coverage of the population, in which about 41.23% answered the questionnaire. The explanation for the fact is that there were groups having tests or recovering important content, and thus could not be applied to the research.

The questionnaire was transcribed in *Google docs* for data tabulation, and later spreadsheets and SPSS *software* were used for the correct statistical analysis. In analyzing the data, frequency was adopted for descriptive results and then in order to identify differences between the individual, demographic and socialization aspects of financial education, the *Kruskal–Wallis* and *chi-square tests* were applied.

The *Kruskal–Wallis* test was applied to the individual, demographic and socialization aspects of ordinal order (QAP1, QAP2, QAP3, QAP4), and on financial education questions of nominal order (QEF1, QEF2, QEF3, QEF4, QEF5, QEF6, QEF7, QEF8). As Fávero, Belfiore, Silva, and Chan (2009, p. 176) states, "the *Kruskall–Wallis* test checks out the probability that "k" independent samples are from the same population. The variable used in the test should be measured in a quantitative or ordinal scale."

On the other hand, the chi-square test was applied to the individual, demographic and socialization aspects of nominal order (QAP5 and QAP6), and on financial education questions of nominal order (QEF1, QEF2, QEF3, QEF4, QEF5, QEF6, QEF7, QEF8). According to Fávero et al. (2009, p. 149) "the chi-square test can be used as an extension of the binomial test and is applied to a sample in which the nominal variable assumes two or more categories. The test compares the observed frequencies with the expected ones in each category."

Discussion and analysis of results

First, the description, coding and theoretical basis concerning the questions used in the survey and the analysis of the frequency of the responses are shown. The s individual, demographic and socialization aspects are presented in Table 1.

Table 1 shows that most respondents attend the 2nd year of high school (42.90%). In relation to age, 54.98% are younger than or are 16, and 44.50% are between 17 and 20 years of age. As for the amount of members in the family group 34.80% have 4 people and 36.76% have more than 4 people. The average monthly family income is an important factor to be observed, in which the majority (42.13%) of respondents have a household income of Rs. 788.00 to Rs. 2364.00. The findings indicate that in relation to gender there is a certain proximity in the number of male and female respondents.

Regarding the financial gains, it appears that most respondents need their family financial support because they do not receive a salary for not having any kind of employment, i.e. 39.65% of the students have no salary but receive financial help from their families. Moreover, it appears that 20.96% of respondents receive some income arising from work. In this sense, it can be inferred that a large proportion of students

Table 1
Frequency and codification of questions on individual, demographic and socialization aspects.

Codes	Questions/results					Authors base
QAP1	High school level					Chen and Volpe (1998), Norvilitis et al. (2006), Shim et al. (2009), Robb (2011), Norvilitis and Mendes-Da-Silva (2013), Potrich et al. (2016).
	(1)	(2)	(3)			
	1 year	2 year	3 and/or 4 year			
	29.74%	42.90%	27.36%			
QAP2	Age					
	(1)	(2)	(3)			
	Under 16 years	Between 17 and 20 years	Over 20 years			
	54.98%	44.50%	0.52%			
QAP3	Number of members in the family group					Webley and Nyhus (2006), Norvilitis et al. (2006), Robb (2011), and Norvilitis and Mendes-Da-Silva (2013).
	(1)	(2)	(3)	(4)		
	2 members	3 members	4 members	Over 4 members		
	6.51%	21.94%	34.80%	36.76%		
QAP4	Monthly average income of the family group (R$)					Norvilitis et al. (2006), Robb (2011), Sohn et al. (2012), and Potrich et al. (2016).
	(1)	(2)	(3)	(4)	(5)	
	Up to R$ 788.00	From R$ 789.00 to R$ 2364.00	From R$ 2365.00 to R$ 3940.00	From R$ 3941.00 to R$ 5516.00	Over R$ 5516.00	
	8.72%	42.13%	27.52%	13.11%	8.52%	
QAP5	Genre					Chen and Volpe (1998), Lusardi and Mitchell (2011), Sohn et al. (2012), Norvilitis and Mendes-Da-Silva (2013), and Santos et al. (2016).
	(1)	(2)	(3)			
	Male	Female	Do not wish to declare			
	46.62%	52.14%	1.24%			
QAP6	With respect to financial gains					Chen and Volpe (1998), Norvilitis et al. (2006), Robb (2011), Sohn et al. (2012), Pires et al. (2013), and Potrich et al. (2016).
	(1)	(2)	(3)	(4)	(5)	
	I have a salary	I have a salary and I financially support the family.	Although I have a salary, I get financial help from the family	I do not have a salary, and I do not receive financial support from the family	I do not have a salary, but I get financial help from the family	
	20.96%	15.44%	6.14%	17.81%	39.65%	

Source: Research data.

working with a salary pays for their personal expenses, but do not financially help their family group.

Table 2 shows the frequency, coding and theoretical basis of the questions on financial education of high school students as well as the frequency of their responses.

In Table 2 it can be seen that, in the way of managing resources, 37.89% of respondents tend to save a part to spend as they have planned, demonstrating a certain level of financial education. On the other hand, a significant amount (27.16%), keeps their money only when there are leftovers, and a few of them have some type of investment (4.85%). The factors observed indicate some level of financial education in young adults. However, we highlight the fact that spending everything that is obtained does not necessarily mean a lack of financial education, but may be linked to other economic factors such as unemployment, low income, individual, family, demographic and socialization aspects of individuals.

These findings converge with Bessa et al. (2014), indicating that there is insufficient economic socialization of the current generation of young adults. More specifically, the lack of awareness about savings had also been linked to a low financial knowledge by Lusardi and Mitchell (2007). It also corroborates Fernandes and Candido (2014), who suggest that the current generation has no priority for financial management.

Another point that calls for reflection is the fact that 15.85% of respondents save part of their resources, but without planning. This attitude suggests lack of knowledge, insecurity and/or lack of concern with the application of the resources saved. This lack of strategy, to Halfeld (2006), comes from the lack of ability to manage personal finances, which prevails in the difficulty of maintenance and accumulation of assets.

Regarding the responsibility of presenting financial reports to parents and/or partners, it appears that the majority of students (39.44%) have no obligation to justify their use of financial resources. Regarding the dialog when deciding about the purchase of a product for family use, it is observed that most have their opinion considered by parents, with 54.47%. In addition, 25.30% of students, while not having their opinion requested, infer on the matter within the family.

The results indicate that only 20.75% of the students talk daily with their parents about financial matters, and a significant portion (23.23%) does not have the habit of talking about the subject, and there is little interest in the treatment of financial matters in the family context. This finding confirms

Table 2
Frequency and codification of financial education issues.

Codes	Questions/results							Authors base
QEF1	Regarding how I manage my financial resources, I usually:							Potrich et al. (2015) and Potrich et al. (2016).
	(1) 15.85% Save part of resources but without future plans	(2) 27.16% Save money only when possible	(3) 37.89% Save resources partially to spend as planned	(4) 14.25% Save and invest part of my income	(5) 4.85% Have some kind of investment on my behalf			
QEF2	About the responsibility to submit financial reports to parents and/or partners:							Shim et al. (2009), Pires et al. (2013), Potrich et al. (2015), and Santos et al. (2016).
	(1) 23.18% I have an obligation to explain how I am using my financial resources	(2) 16.73% I have to give some kind of explanation only when the resources spent are very high	(3) 20.65% I have to give some kind of explanation only when I need to ask for more money	(4) 39.44% No need to explain how I am using the financial resources				
QEF3	About the dialog when deciding to buy a product for family use, I usually:							Pires et al. (2013), Potrich et al. (2015), and Santos et al. (2016).
	(1) 54.47% When prompted, I give my opinion and it is considered	(2) 6.45% When prompted, I give my opinion and it is not considered	(3) 5.11% When prompted, I do not give my opinion	(4) 25.30% Even when not prompted, I give my opinion	(5) 8.67% I do not have my opinions requested by my parents or partner			
QEF4	How often do you talk to your parents about money?							Shim et al. (2009), Pires et al. (2013), Potrich et al. (2015), and Santos et al. (2016).
	(1) 23.23% I do not usually talk	(2) 29.79% I spontaneously talk	(3) 26.23% I regularly talk	(4) 20.75% I talk daily				
QEF5	Which financial issue is most discussed with the family:							Shim et al. (2009), Pires et al. (2013), and Santos et al. (2016).
	(1) 11.09% I do not usually talk to my parents.	(2) 14.14% About consumerism	(3) 29.48% About studies and career	(4) 10.43% About investments	(5) 34.85% On the conscious use of money			
QEF6	If you have some financial knowledge, how did you get it?							Webley and Nyhus (2006), Shim et al. (2009), Pires et al. (2013), and Santos et al. (2016).
	(1) 45.38% Family and Relatives	(2) 8.11% Media, TV, internet and newspapers	(3) 24.73% Day-to-day practice	(4) 2.58% Friends and acquaintances	(5) 9.09% School	(6) 5.01% I have no knowledge	(7) 5.11% Work, specific courses	
QEF7	In relation to my financial profile, I consider myself:							Santos et al. (2016)
	(1) 22.72% A spender, I spend almost everything I get	(2) 10.33% Conservative, I do not take the risk to earn more	(3) 41.77% Cautious, shopping only when needed	(4) 18.84% A saver, I avoid spending my savings	(5) 6.35% Careless, I have no control over my expenses			
QEF8	How do I decide what to do with my money?							Webley and Nyhus (2006), Shim et al. (2009), Pires et al. (2013), Potrich et al. (2015), and Santos et al. (2016).
	(1) 56.07% Alone	(2) 33.56% Talking to parents or partner	(3) 3.46% Talking to other people	(4) 3.10% My parents decide on what I should spend my money with	(5) 3.82% I do not receive any money			

Source: Research data.

what had been pointed out by Mori and Lewis (2001), who reported that only 32% of families show some kind of concern to talk and guide their children about everyday financial issues.

It can be noticed that the conscious use of money (34.85%), studies and career (29.48%) are the most discussed topics in the family environment. Furthermore, in relation to how financial knowledge can be acquired, the findings indicate that 45.38% comes from the family and relatives and 24.73% from daily practices. Although such findings refer to the family financial knowledge obtained by young adults, many of them realize that there is lack of dialog. Thus, in order to improve the level of financial knowledge among young adults, according to Mori and Lewis (2001), Webley and Nyhus (2006), Shim et al. (2009, 2010), Pires et al. (2013), increased family involvement is necessary in the day-to-day financial lessons.

Table 3
Results of the Kruskal–Wallis test on financial education issues with individual, demographic and socialization aspects.

Financial education issues	Level of education	Age	Number of family members	Family income
QEF1	0.003*	0.081	0.292	0.000*
QEF2	0.003*	0.000*	0.269	0.937
QEF3	0.011*	0.866	0.007*	0.000*
QEF4	0.002*	0.821	0.440	0.391
QEF5	0.024*	0.057	0.382	0.000*
QEF6	0.002*	0.250	0.123	0.205
QEF7	0.002*	0.165	0.020*	0.956
QEF8	0.049*	0.135	0.263	0.072

Source: Research data.
* $p < 0.05$.

Important findings are acquired on school integration in the teaching of financial education, where only 9.09% of students recognize the transfer of financial knowledge through the school. This shows that the school needs to enter the financial issues and pass on to the students, specific cases of the practical day-to-day.

In general, it is shown that families have greater involvement in financial education of young adults than school does. However, corroborating Shim et al. (2009), family education alone cannot meet the financial literacy needs of the contemporary world and, therefore, besides being required greater involvement of the family, the school also need to enter this process so there is a mutual commitment.

The findings on low frequency talk about financial matters in the family environment, and the recognition that there is no financial affairs of teaching at school, cause concern for the future of the country, with regard to social and economic aspects. It can be noticed that the performance of the NSFE has not been effective yet, and that in reality Savóia et al. (2007) and Brasil (2013) had already mentioned the low adherence of public policies and directives of the MEC on the inclusion of financial education in human development requirements. The results point to a mismatch between school teaching and the student's daily life. The inclusion of case studies on finance in mathematical education is initially suggested because there is a didactic and conceptual interface between them as in (Hofmann & Moro, 2013).

Regarding their financial profile, most students (41.77%) have caution with financial decisions. On the other hand, a large percentage of students (22.72%) spends everything they receive, demonstrating little knowledge about financial matters. These findings bring out the discussion that the school should interfere in the formation of financial education of adolescents. They are the future breadwinners and need to have financial awareness to make decisions that contribute to the collective environment of socialization.

Finally, it is observed that most students (56.07%) decide by themselves what to do with their money. This result causes concern, since a significant portion of students do not have enough financial knowledge to decide on their spending. Therefore, a greater involvement of parents in dialoguing with their children and monitoring of their financial expenses is suggested.

Based on this evidence, we can infer that parents and schools should have greater involvement in the formation of financial education of the students, as they are too young and need guidance for the formation of a financially conscious adult.

Table 3 shows the results of the *Kruskal–Wallis* test between the questions on financial education with individual, demographic and socializing aspects.

The results observed in Table 3 demonstrated that the series studied in high school impacts on financial education. Therefore, there should be a greater interest in the training of high school students, inserting in this phase knowledge and experiences that promote financial empowerment, which tends to be impacted in this period. The evidence corroborates with the inferences that formal education has a positive impact on the level of financial knowledge (Shim et al., 2009), and higher education increases the level of financial education and savings (Bernheim et al., 2001; Lusardi, 2009).

On the other hand, the student's age presented significance in relation to the responsibility of presenting financial reports to the parents and/or companion. In addition, the number of members of the family group has an impact on the dialog when deciding on the purchase of a product for use by the family, and in relation to the financial profile of the student.

Finally, the average monthly income of the family group was relevant in the way students manage their financial resources, in the dialog when deciding on the purchase of a product for the family's use and in the financial matters questioned in the family environment. These assumptions contribute to the results already found in the literature, which Bernheim et al. (2001), point to a relationship between the level of savings (how to manage resources) and family income. Potrich et al. (2015), positive effects between family income and the level of financial education.

Table 4 shows the synthetic presentation of the results of significant variables of the Kruskall–Wallis test between financial education issues and individual, demographic and socialization aspects.

In relation to how to manage financial resources, it is observed that the option to save part of the funds to spend as planned presented the highest ranking (1017.88), for the grade mode, studied in high school. This finding indicates that the progress of the student in the upper grades of high school affects the option to save part of funds to spend as planned.

Similarly, students who usually save part of the funds with no future plans are studying in the early grades of high school.

Table 4
Summarized presentation of results of significant variables of the *Kruskall-Wallis* test between the questions on financial education and the individual, demographic and socialization aspects.

QEF1	Level of education Average rank	Family income Average rank	QEF2	Level of education Average rank	Family income Average rank
(1)	896.81	919.60	(1)	918.08	931.56
(2)	938.33	896.20	(2)	963.93	949.15
(3)	1017.88	1031.88	(3)	931.23	901.56
(4)	996.29	1000.10	(4)	1020.85	1034.73
(5)	914.61	955.36			

QEF3	Level of education Average rank	Number of family members Average rank	Family income Average rank	QEF4	Level of education Average rank
(1)	996.36	933.40	990.11	(1)	884.15
(2)	933.63	1056.89	941.75	(2)	1007.01
(3)	809.57	1002.50	779.74	(3)	983.56
(4)	957.76	985.26	998.77	(4)	959.51
(5)	950.24	1060.02	881.40		

QEF5	Level of education Average rank	Family income Average rank	QEF6	Level of education Average rank
(1)	895.87	855.90	(1)	945.18
(2)	952.35	901.31	(2)	994.66
(3)	1002.45	994.14	(3)	1004.91
(4)	1038.47	1100.27	(4)	917.93
(5)	949.97	971.95	(5)	1012.10
			(6)	797.09
			(7)	1083.68

QEF7	Level of education Average rank	Number of family members Average rank	QEF8	Level of education Average rank	Age Average rank	Number of family members Average rank	Family income Average rank
(1)	903.41	917.04	(1)	975.64	974.73	973.81	987.61
(2)	912.98	943.88	(2)	989.43	970.02	953.69	952.93
(3)	1002.10	999.80	(3)	880.55	1009.08	915.66	1037.16
(4)	1022.46	946.67	(4)	824.75	984.23	957.23	844.96
(5)	918.42	1059.40	(5)	889.18	827.34	1090.78	875.89

Source: Research data.

Such evidence refers to the inference that there is a maturing of the students in relation to financial planning as they proceed their studies in high school, confirming what has been exposed by Bernheim et al. (2001), Lusardi (2009), Xiao et al. (2009), and Worthy et al. (2010).

Furthermore, in relation to the average monthly income of the family group, it is perceived that the option to save part of the funds to spend as planned, and saving/investing part of the income, had higher rankings respectively (1031.88 and 1000, 10). Therefore, it is suggested that students from families with higher incomes have a higher level of financial education, as they save their resources and spend them as planned, and part of the resources are reinvested. The evidence supports the findings of Bernheim et al. (2001), Lusardi (2009), and Heckman and Grable (2011), Lizote and Verdinelli (2014) and Potrich et al. (2015) in which the level of savings increases in families with higher incomes.

On the responsibility of presenting financial reports to parents and/or partners, the findings indicate that most students who attend the upper grades of high school and older students do not need to give explanations on the use of their financial resources. These findings demonstrate that the maturation according to education level and age makes the parents less demanding on young adults in explaining the use of financial resources.

Regarding the dialog in deciding on the purchase of a product for family use, it was found that when students are prompted, they give their opinion and it is considered, had a better ranking (996.36) with respect to the grade studied in high school. Thus, the average level of education makes students have greater interference on family purchase decisions.

Regarding the number of members in the family group, it is possible to infer that the highest rankings were related to students who do not have their opinion requested, give their opinion but it is not considered, and when requested do not give their opinion, respectively (1060.02, 1056.89 and 1002.50).

In this perspective, results suggest that families with more members do not collaborate for a greater participation and interaction in conversations about finances with their children (youth). Such evidence suggests a lower contribution of larger family groups, contrary to Scott's expectations that the family can have, through the example obtained from the family, the condition of an ally in building a better rationality on spending.

In addition, in families with higher family income students have greater interference in purchasing decisions, since "when prompted, the students give their opinion and it is considered" and "even not having their opinion requested, students express their opinions" have higher average rankings respectively (990.11 and 998.77). This improved participatory status from students in financial matters in families with higher income may favor financial education, supporting the work by Heckman and Grable (2011), which found a strong correlation between the level of family income and the level of financial education.

Regarding the frequency with which students talk to their parents about money, it appears that those who attend the final years of high school had higher rankings (1007.01) with respect to spontaneous dialog. On the other hand, as these are the early high school grades, there is greater likelihood of students not talking about financial aspects, with a ranking of (884.15).

About the most questioned financial matters with families, there are studies and career, and investments, with rankings of (1002.45 and 1038.47), in relation to the grades they are in high school. Furthermore, the findings indicate that the most affluent families tend to discuss with the students issues related to investments, with a ranking of (1100.27). It was also observed that students of upper grades in high school acquire financial knowledge at work and in specific courses ranking (1083.68), at school ranking (1012.10), and in the day-to-day practices ranking (1004.91).

Regarding the financial profile, the findings indicate that students in upper grades in high school have a saver profile ranking (1022.46), and cautious ranking (1002.10). On the other hand, students with lower average levels of education have a spender profile ranking (903.41).

Finally, regarding the decision of what to do with the money, the results indicate that students in upper grades in high school have a higher intensity on deciding by themselves what to do with their money ranking (975.64). Moreover, it is observed that as the students' age increases, there is a greater tendency to decide what to do with their money talking to other people, that is, seeking other people's opinions.

The preponderance to decide by themselves how to apply resources are dangerous in vision that approximately 70% of the respondents said they acquire financial knowledge through their families and day-to-day practices, but about 55% do not usually talk about finances with their families or do not do this regularly.

These data causes concern because, as stated by Campbell (2006), the most informed choices among the various financial products can be made only by individuals possessing skills and knowledge. Financial qualification must occur in a formal and informal manner through the integration between school and family (Hofmann & Moro, 2013), for the young adults studied tend to decide by themselves about expenses and financial resources applications, although their age and practical experience in some cases minimizes erroneous decisions.

Table 5
Results of significance of the chi-square test of individual, demographic and socialization aspects on financial education issues.

Facts (Dependents)	Sig. Chi-square Independent variables	
	Gender (QAP5)	Financial gains (QAP6)
QEF1	0.162	0.241
QEF2	0.024*	0.000*
QEF3	0.000*	0.000*
QEF4	0.000*	0.000*
QEF5	0.008*	0.000*
QEF6	0.000*	0.001*
QEF7	0.000*	0.683
QEF8	0.001*	0.000*

Source: Research data.
* $p < 0.05$

Otherwise, the increase in the number of members in the family group makes that young adults do not receive financial resources from their parents in the form of allowances. This may relate to losses in financial teaching of young adults, as Mori and Lewis (2001) and Sohn et al. (2012) outline that the allowance, with correct monitoring from parents, causes an increase in the financial knowledge level of young adults. On the other hand, in higher-income families students showed greater intensity to decide what to do with their money talking to other people.

In the variables of individual, demographic and socialization aspects that were measured by nominal variables, we used the chi-square test to observe differences between gender and financial gains on financial education issues. Table 5 shows the variables of personal aspects with significance in relation to financial education issues.

Results in Table 5 indicate that gender proved to be predominant for the different view of students on: the responsibility of giving financial reports, the dialog when deciding on the purchase of products, the frequency they talk to their parents about financial matters, financial matter more discussed with the family, the acquisition of some financial knowledge, financial profile and the decision of what to do with their money, all of them with a significance level of 5%.

Finally, the financial gains did not had impact only on how to manage their financial resources and in relation to the financial profile of the respondent. For all other issues financial gains were significant at 5%. Table 6 shows the results of the chi-square test of individual, demographic and socialization aspects regarding the responsibility to present financial reports.

Table 6 shows that female students are more pressured to give some kind of explanation to ask for money. In addition, the findings indicate that males have less need to explain the fate of their financial resources.

Regarding financial gains, the findings indicate that students with paid jobs have less obligations in presenting explanations about the use of their resources; however, those who do not have a salary and receive financial help from their families have a greater obligation to provide explanations. This result confirms that there are sometimes parental monitoring on the fate of the allowance given to the children, corroborating Mori and Lewis

Table 6
Chi-square test of individual, demographic and socialization aspects on the responsibility of presenting financial reports.

		QEF2				
		(1)	(2)	(3)	(4)	
Gender	Male	Score	204	162	160	377
		Exp. Score	209.3	151	186.50	356.2
	Female	Score	242	160	233	375
		Exp. Score	234.1	168.9	208.6	398.4
	Undefined	Score	3	2	7	12
		Exp. Score	5.6	4	5	9.5
Financial gains	I have a salary	Score	79	69	53	205
		Exp. Score	94.1	67.9	83.8	160.1
	I have a salary and I help my family.	Score	69	67	48	115
		Exp. Score	69.3	50	61.7	117.9
	Even though I have a salary, I get help from my family	Score	26	20	29	44
		Exp. Score	27.6	19.9	24.6	46.9
	I have no salary, and I do not get help from my family.	Score	77	52	72	144
		Exp. Score	80	57.7	71.2	136.1
	I do not have a salary, but I get help from my family.	Score	198	116	198	256
		Exp. Score	178	128.5	158.6	302.9

Source: Research data.

Table 7
Chi-square test of individual, demographic and socialization aspects about the dialog in deciding the purchase of a product for family use.

		QEF3					
		1	2	3	4	5	
Gender	Male	Score	473	76	62	207	85
		Exp. Score	491.8	58.3	46.2	228.4	78.3
	Female	Score	573	45	34	281	77
		Exp. Score	550.1	65.2	51.6	255.5	87.6
	Undefined	Score	9	4	3	2	6
		Exp. Score	13.1	1.5	1.2	6.1	2.1
Financial gains	I have a salary	Score	241	28	14	89	34
		Exp. Score	221.1	26.2	20.8	102.7	35.2
	I have a salary and I help my family.	Score	156	22	17	78	26
		Exp. Score	162.9	19.3	15.3	75.6	25.9
	Even though I have a salary, I get help from my family	Score	69	6	9	29	6
		Exp. Score	64.8	7.7	6.1	30.1	10.3
	I have no salary, and I do not get help from my family.	Score	154	32	30	86	43
		Exp. Score	187.9	22.3	17.6	87.3	29.9
	I do not have a salary, but I get help from my family.	Score	435	37	29	208	59
		Exp. Score	418.3	49.6	39.3	194.3	66.6

Source: Research data.

(2001) and Sohn et al. (2012) that parents should encourage their children to work with money, provided that there is monitoring of their spending.

Table 7 shows the results of the chi-square test of individual, demographic and socialization aspects in relation to dialog when deciding about the purchase of a product for family use.

Table 7 shows that, in relation to the dialog when deciding to purchase a product for family use, female students are more prone to giving their opinion when requested and it being considered, and even when their opinion is not requested, they give it anyway. Results indicate that female students dialog more when deciding on the purchase of a product for family use.

In financial gains, the main findings indicate that the students with a salary and those without any salary but receiving family help are more likely to give their opinion when prompted, and it being considered. On the other hand, the students with no salary or financial help from their families do not have their opinion considered.

Table 8 shows the results of the chi-square test of individual, demographic and socialization aspects regarding the frequency with which students talk to their parents about money.

The results in Table 8 demonstrated that male students are more likely to not usually talk about money. Nevertheless, female students dialog more on financial matters daily. In addition, the findings indicate that students with a salary are less likely to not talk routinely about financial matters, and those with no salary and no financial help from their families are less likely to customarily talk about financial issues. In addition, the spontaneous dialog on finances is the way chosen by those who

Table 8
Chi-square test of individual, demographic, and socialization aspects of how often students talk to their parents about money.

		QEF4				
		1	2	3	4	
Gender	Male	Score	252	229	257	158
		Exp. Score	207.7	266.8	235.2	186.3
	Female	Score	187	338	241	238
		Exp. Score	232.7	299.0	263.5	208.7
	Undefined	Score	7	6	7	4
		Exp. Score	5.6	7.1	6.3	5.0
Financial gains	I have a salary	Score	82	108	125	90
		Exp. Score	93.9	120.6	106.3	84.2
	I have a salary and I help my family.	Score	50	90	79	75
		Exp. Score	68.2	87.6	77.2	61.1
	Even though I have a salary, I get help from my family	Score	21	41	28	29
		Exp. Score	27.6	35.4	31.2	24.7
	I have no salary, and I do not get help from my family.	Score	117	86	75	63
		Exp. Score	79.0	101.6	89.5	70.9
	I do not have a salary, but I get help from my family.	Score	176	248	198	143
		Exp. Score	177.3	227.8	200.8	159.0

Source: Research data.

Table 9
Chi-square test of individual, demographic and socialization aspects in relation to the financial question that is most questioned with the family.

		QEF5					
		1	2	3	4	5	
Gender	Male	Score	115	130	230	107	321
		Exp. Score	100.2	127.7	266.2	94.2	314.7
	Female	Score	95	142	333	94	346
		Exp. Score	112.1	142.9	297.7	105.3	352.0
	Undefined	Score	5	2	8	1	8
		Exp. Score	2.7	3.4	7.1	2.5	8.4
Financial gains	I have a salary	Score	36	68	104	42	156
		Exp. Score	45.1	57.4	119.7	42.3	141.5
	I have a salary and I help my family.	Score	30	40	85	44	100
		Exp. Score	33.2	42.3	88.1	31.2	104.2
	Even though I have a salary, I get help from my family	Score	9	12	43	17	38
		Exp. Score	13.2	16.8	35.1	12.4	41.5
	I have no salary, and I do not get help from my family.	Score	71	48	95	31	100
		Exp. Score	38.3	48.8	101.7	36.0	120.2
	I do not have a salary, but I get help from my family.	Score	69	106	244	68	281
		Exp. Score	85.2	108.6	226.4	80.1	267.6

Source: Research data.

have a wage and also by those who receive financial help from their families.

Table 9 shows the results of the chi-square test of individual, demographic and socialization aspects for the financial issue that is more discussed within the family.

It is observed in Table 9 that male students are more likely to discuss financial issues related to consumption and investment. On the other hand, female students are engaged in issues about studies and career, as well as on the conscious use of money.

Regarding financial gain, it is observed that students with no salary or family help are more likely to not discuss financial matters with their parents; on the other hand, those with no salary but with financial help from their families are less likely to not discuss financial matters with their parents.

It can also be seen that students with earnings are likely to question issues related to consumerism, and has less intense questioning about issues related to studies and career; however, those with no salary but with family help are likely to talk about studies and career.

Table 10 shows the results of the chi-square test of individual, demographic and socialization aspects about how financial knowledge was acquired.

Results in Table 10 indicate that female students are more prone to acquiring financial knowledge with their families and relatives, in day-to-day practices, at school, at work and/or at specific courses. Male students are more prone to learning about financial matters through the media, TV, internet, newspapers, friends and acquaintances.

Table 10
Chi-square test of individual, demographic and socialization aspects on how financial knowledge was acquired.

		QEF6							
		1	2	3	4	5	6	7	
Gender	Male	Score	392	88	212	40	81	50	40
		Exp. Score	409.8	73.2	223.3	23.3	82.0	45.2	46.2
	Female	Score	480	67	257	9	93	46	58
		Exp. Score	458.3	81.9	249.8	26.1	91.8	50.6	51.6
	Undefined	Score	7	2	10	1	2	1	1
		Exp. Score	10.9	1.9	5.9	0.6	2.2	1.2	1.2
Financial gains	I have a salary	Score	176	23	113	8	31	23	32
		Exp. Score	184.2	32.9	100.4	10.5	36.9	20.3	20.8
	I have a salary and I help my family.	Score	125	21	87	13	23	11	19
		Exp. Score	135.7	24.2	73.9	7.7	27.2	15.0	15.3
	Even though I have a salary, I get help from my family	Score	60	6	29	4	11	2	7
		Exp. Score	54.0	9.6	29.4	3.1	10.8	6.0	6.1
	I have no salary, and I do not get help from my family.	Score	144	38	77	12	37	26	11
		Exp. Score	156.6	28.0	85.3	8.9	31.3	17.3	17.6
	I do not have a salary, but I get help from my family.	Score	374	69	173	13	74	35	30
		Exp. Score	348.5	62.2	189.9	19.8	69.8	38.5	39.3

Source: Research data.

Table 11
Chi-square test of individual, demographic and socialization aspects in relation to the financial profile.

			QEF7				
			1	2	3	4	5
Gender	Male	Score	183	123	362	182	53
		Exp. Score	205.1	93.2	377.1	170.2	57.3
	Female	Score	252	74	438	180	66
		Exp. Score	229.4	104.3	421.8	190.3	64.1
	Undefined	Score	5	3	9	3	4
		Exp. Score	5.5	2.5	10.0	4.5	1.5

Source: Research data.

On the financial gains, students with a salary acquire financial knowledge through family and relatives, but those with no salary but receiving financial help from family acquire financial knowledge with family and relatives. The acquisition of financial knowledge through the media, TV, internet and newspapers happens with greater intensity by students with no salary, and not receiving financial help from their family.

Students who acquire financial knowledge through day-to-day practices have a salary and family help, and the practice for financial capacity is less used by those who have no salary.

Table 11 shows the results of the chi-square test of individual, demographic and socialization aspects for the financial profile.

It appears in Table 11 that female students are prone to the spender, careless and cautious financial profiles. In contrast, male students tend to have a conservative and saver profile. These findings suggest a convergence with the study by Potrich et al. (2015), which indicated that male individuals without dependents, with higher levels of education, and with their own income as well as family income have a tendency to group with the highest level of financial education.

In general, it is clear that the financial profile of males shows financial education characteristics. Females tough tend to overspending without saving part of the resources, as evidenced by the ratio of 252 respondents who considered themselves spenders, against 180 who presented themselves as savers.

Table 12 shows the results of the chi-square test of individual, demographic and socialization aspects in relation to the decision on what to do with the money.

The results in Table 12 indicate that males have a higher tendency to decide by themselves what to do with their money. Regarding decision making through conversations with parents or partners, females do so with greater intensity. Moreover, females have a greater tendency for parents deciding on what to spend.

Overall, the results contradict the notion that there is no difference in the perception about financial issues between men and women (Norvilitis, Szablicki, & Wilson, 2003; Norvilitis et al., 2006). The findings corroborate with Lyons (2004), Yilmazer and Lyons (2010), where women are more likely to spend more than necessary. Reports by O'Guinn and Faber and O'Guinn (1989), D'Astous (1990) and Norum (2008) on the compulsive consumption of women were also found in this study. Finally, the evidence of lower financial education for women is confirmed, according to (Lusardi, 2009; Potrich et al., 2015).

The findings of this research contribute to governments and/or trade because of the interest in approaches that improve

Table 12
Chi-square test of individual, demographic and socialization aspects in relation to the decision to make with money.

		QEF8					
		1	2	3	4	5	
Gender	Male	Score	540	276	39	25	23
		Exp. Score	506.3	303.0	31.2	28.0	34.5
	Female	Score	529	370	28	34	49
		Exp. Score	566.3	338.9	34.9	31.3	38.6
	Undefined	Score	17	4	0	1	2
		Exp. Score	13.5	8.1	0.8	0.7	0.9
Financial gains	I have a salary	Score	246	135	12	10	3
		Exp. Score	227.6	136.2	14.0	12.6	15.5
	I have a salary and I help my family.	Score	165	114	8	12	0
		Exp. Score	167.6	100.3	10.3	9.3	11.4
	Even though I have a salary, I get help from my family	Score	72	41	3	2	1
		Exp. Score	66.7	39.9	4.1	3.7	4.5
	I have no salary, and I do not get help from my family.	Score	200	78	11	18	38
		Exp. Score	193.4	115.8	11.9	10.7	13.2
	I do not have a salary, but I get help from my family.	Score	403	282	33	18	32
		Exp. Score	430.6	257.7	26.6	23.8	29.3

Source: Research data.

the understanding of financial education of the population, with the purpose of creating or perfecting national strategies in order to offer financial learning opportunities at various levels of education. Moreover, according to Trindade, Righi, and Vieira (2012), financial knowledge reduces default and brings effects in the macroeconomic point of view, reducing the risk of financial operations and products, as well as from the individual's point of view, improving their social relations, psychological state and family life.

Faced with the facts, the findings of this research highlight that financial education, the multidisciplinary dialog with regional approaches of the economy can contribute, in the future, by reducing the level of debt of Brazilian families, where the theme of socialization helps to clarify the public about the need to plan on resource consumption and to set priorities in relation to the necessary and the superfluous consumption. From the government point of view, the establishment of public policies contribute to regional and national education, through the emphasis on the teaching of financial education in schools. In addition, the findings contribute with the social sphere, with the holistic view of financial well-being, providing opportunities for an improved quality of life.

The research highlights the interest on the subject of financial education; nevertheless, a lot still needs to be built so that effectively multidisciplinarity may happen at school. The multidisciplinary approach contributes to a possible dialog with several school subjects without burdening the State with specific training, and the financial part involves all areas of knowledge. Interest in the topic discussion falls on aspects such as savings, as a multidisciplinary subject, which allows a long term planning vision without the need to resort to the financial environment for educational training as a key point in the decision making, personal and family or professional environment. The repercussion of the theme has been the core research in the academic scenario of different countries, which denote the level of financial education and its determinants in different situations and populations.

Conclusions, discussions and recommendations

Given the results, we conclude that there is a maturing of the students as for financial planning, with their advance in upper grades in high school. In addition, young adults from families with higher incomes had higher levels of financial education, which was also noted with young adults from families with fewer members.

In addition, the evidence showed that male students have a higher prevalence of not explaining the destiny/use of financial resources, less dialog with family members about studies, career and conscious use of money; however, they have a conservative and saver profile with respect to financial expenses. However, despite the conservative profile, male young adults may have financial education hampered by a lack of family dialog on financial matters, a characteristic that has a strong influence on the logical construction of financial knowledge.

As for financial education, it is clear that part of high school students tend to save resources only to spend them when needed, but a significant portion saves money only when possible, and few have investments. The result indicates that there is an effective financial education among high school students. An important factor noted is that a significant proportion of young adults, while not having financial knowledge for decision-making, are not obliged to explain to their parents where they are spending their financial resources. Moreover, although young adults do not explain their spending and do not have an effective knowledge of financial education, they still have their opinions considered by parents in deciding on the purchase of a product for family use.

The findings provide evidence that there is no financial education among young school students, which shows in findings such as: students have largely acquired financial knowledge with their parents and/or relatives and day-to -day practices, but there is little dialog in the family environment on financial matters; young adults do not recognize the school as a disseminator of financial education; lack of awareness of savings; and lack of knowledge about investments.

It also inferred that the school transmits few lessons on financial education, referring to the need for involvement in the process of financial education of individuals, particularly in children and adolescents. It is suggested that the non-inclusion of financial knowledge in the curriculum may result in adults incapable of managing their resources and family expenses, causing serious social and economic barriers.

The findings contribute to the determination of the factors that may have influenced the current level of indebtedness of Brazilian families, according to observations by Ruberto et al. (2013) and Messias et al. (2015). They provide evidence that implementation is necessary, assertively, of specific public policies for the teaching of financial education, a fact that may interfere with improving the quality of life and having a prosperous future, with equal conditions of maintenance of the family financial resources, reducing social problems arising from poor financial management.

The leading factor has been the lack of a school curriculum that explicitly work with financial management mechanisms, offering training to form individuals aware that the best option is investments and not uncontrolled consumerism. The findings of Fernandes and Candido (2014) confirm the fact that the current generation of young adults and adolescents cannot manage their own financial resources, a result of the hope of a school curriculum that does not yet exist.

The current economic, political and social changes together with tight public budgets and cuts in public spending suggest a reduction in the generosity of welfare plans for retirement, thus transferring to individuals the responsibility of having an early retirement and adequate compensation. Only in recent years, these issues have emerged on the political agenda, causing concern for political leaders.

Therefore, the domestic environment transfers to individuals the responsibility for rational financial decisions in long-term savings; nonetheless, the low level of financial education detected in this study inhibits people from making informed choices and increasing the likelihood of a safe retirement. These findings refer responsibilities to the social and political organizations in order to prevent poverty among the elderly in the coming years, and avoid an increasing number of older people having to rely on social security.

In general, individual, demographic and socialization aspects are central to the problems of financial education in the country. Thus, the results indicate that the improvement in financial education of young adults in the study area would only be effective with the involvement of school, family and work actions, corroborating with Hite, Slocombe, Railsback, and Miller (2011). The research also shows that joint decisions of previously exposed factors should focus on financial education activities to the following groups: (a) low-income families; (b) larger family groups; (c) female youth; (d) male youth with little family dialog; (e) families who do not usually monitor the financial expenditures of their children and have no dialog on the subject; (f) young adults without work experience and without the habit of dealing with money.

In addition, there is guided strengthening through financial education of young adults by means of non-governmental organizations, government, schools, financial institutions, which can make young adults aware in their adulthood to transfer their knowledge in the future family environment and thus improving financial education, creating individuals aware of their investments and savings, relieving the social commitment of the state. Another highlight is the need for credit card companies, commercial establishments, banks and other consumer security and protection organizations, as well as educators, families and the users themselves should be involved in the discussion of responsibilities, and the links of these chain should undertake specific roles in the guidance and education of the participants also highlighted by Veludo-de-Oliveira, Ikeda and Santos (2004).

The findings of this research may stimulate changes in national high school policies, allowing greater openness and effective involvement of the National Strategy for Financial Education (NSFE) throughout the territory. Brazil would have the option of entering the financial education content in different school subjects, but with an emphasis on mathematics, as has been done by France and England. According to the Advisory Committee of the French Financial Sector (CCSF, 2016) this effort would not be related to the transformation of individuals into finance experts, but to provide proper contact with the fundamental notions of economic practice in their financial dimension.

The findings pose arguments of social and economic reflection, which address the following: (a) seeking alternatives to increase the income of Brazilians will bring financial well-being, since its acquisition depends on financial education; (b) the facts show that families with lower incomes can get better financial well-being if they have instruments and effective implementation of financial knowledge. According to the OECD (2013), individuals with financial knowledge can balance the budget, and select the best financing options, to purchase a property, to ensure the education of their children and even plan their retirement. The income is responsible for financial savings, but financial education can contribute to the development of skills designed to accumulate funds for savings (Clancy et al., 2001).

Financial education can offer suitable planning for the future of young adults, the effective management of personal finances, in the same way as highlighted by Norvilitis and Maclean (2010) and Xiao Tang, Serido, and Shim (2011). Financial education goes beyond the similarity with savings and/or investments, transcending the school and family environment, but with social aspects that impact in a financially educated society with discernment of priorities in planning the use of available financial resources to the needs of the family. For this, we suggested that a thorough study of *financial literacy*, which according to Huston (2010) covers the dimensions of understanding and the use of financial knowledge acquired through financial education tools. In this context, Potrich et al. (2016) state that the individual could have financial knowledge, but in order to be considered literate, he must have the ability and confidence to implement it in decision-making.

Conflicts of interest

The authors declare no conflicts of interest.

Acknowledgments

The authors are grateful for the Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPQ) and the Fundação Fritz Müller.

References

Bayer, P. J., Bernheim, B. D., & Scholz, J. K. (2009). The effects of financial education in the workplace: Evidence from a survey of employers. *Economic Inquiry*, *47*(4), 605–624.

Bernheim, B. D., & Garrett, D. M. (2003). The effects of financial education in the workplace: Evidence from a survey of households. *Journal of Public Economics*, *87*(7), 1487–1519.

Bernheim, B. D., Garrett, D. M., & Maki, D. M. (2001). Education and saving: The long-term effects of high school financial curriculum mandates. *Journal of Public Economics*, *80*(3), 435–465.

Bessa, S., Fermiano, M. B., & Coria, M. D. (2014). Compreensão econômica de estudantes entre 10 e 15 anos. *Revista Psicologia & Sociedade*, *26*(2).

Brasil. (2010a). *Vida e dinheiro*. Educação financeira nas escolas. Available in: http://www.vidaedinheiro.gov.br/EducacaoFinanceira/Default.aspx Accessed in: 20 Nov 2016.

Brasil. (2010b). Vida e dinheiro. Instituições envolvidas. 2010b. Available in: http://www.vidaedinheiro.gov.br/Instituicoes/Default.aspx. Accessed in: 21 Nov 2016.

Brasil. (2013). *Ministério da Educação.* Diretrizes Curriculares Nacionais Gerais da Educação Básica/Ministério da Educação. Secretaria de Educação Básica. Diretoria de Currículos e Educação Integral. Brasília: MEC, SEB, DICEI. 562 p. Available in: http://portal.mec.gov.br/docman/junho-2013. Accessed in: 24 Oct 2016.

Braunstein, S., & Welch, C. (2002). Financial literacy: An overview of practice, research, and policy. *Federal Research Bulletin*, *88*, 445.

Campbell, J. Y. (2006). Household finance. *The Journal of Finance*, *61*(4), 1553–1604.

CCSF – Comité Consultatif du Secteur Financier. L'éducation financière et l'école: Rapport 2008–2009. Available in: http://www.banquefrance.fr/ccsf/fr/telechar/publications/rapport_annuel_2008_2009/CCSF_2008-09_Sommaire.pdf. Accessed in: 23 Nov 2016.

Chen, H., & Volpe, R. P. (1998). An analysis of personal financial literacy among college students. *Financial Services Review*, *7*(2), 107–128.

Clancy, M., Grinstein-Weiss, M., & Schreiner, M. (2001). *Financial education and savings outcomes in individual development accounts. Working Paper 01-2*. St. Louis, MO: Center for Social Development, Washington University.

Conto, S. M. D., Faleiro, S. N., Führ, I. J., & Kronbauer, K. A. (2016). O Comportamento de Alunos do Ensino Médio do Vale do Taquari em Relação às Finanças Pessoais. *Revista Eletrônica de Estratégia & Negócios*, *8*(2), 182–206.

Costa, C. M., & Miranda, C. J. (2013). Educação Financeira e taxa de poupança no Brasil. *Revista de Gestão, Finanças e Contabilidade*, *3*(3), 57.

D'Astous, A. (1990). An inquiry into the compulsive side of normal consumers. *Journal of Consumer Policy*, *13*(1), 15–31.

Denegri, M., Palavecinos, M., Ripoll, M., & Yáñez, V. (1999). Caracterización psicológica del consumidor de la IX Región. *Consumir para Vivir y no Vivir para Consumir*, 7–31.

Diniz, E., Birochi, R., & Pozzebon, M. (2012). Triggers and barriers to financial inclusion: The use of ICT-based branchless banking in an Amazon county. *Electronic Commerce Research and Applications*, *11*(5), 484–494.

Faber, R. J., & O'Guinn, T. C. (1989). Classifying compulsive consumers: Advances in the development of a diagnostic tool. *NA - Advances in Consumer Research*, *16*, 738–744.

Fávero, L. P., Belfiore, P., Silva, F. D., & Chan, B. L. (2009). *Análise de dados: modelagem multivariada para tomada de decisões*. Rio de janeiro: Elsevier.

Fernandes, A. H. D. S., & Candido, J. G. (2014). Educação financeira e nível do endividamento: relato de pesquisa entre os estudantes de uma instituição de ensino da cidade de São Paulo. *Revista Eletrônica Gestão e Serviços*, *5*(2), 894–913.

Fox, J., Bartholomae, S., & Lee, J. (2005). Building the case for financial education. *Journal of Consumer Affairs*, *39*(1), 195–214.

Frankenberg, L. (1999). *Seu futuro financeiro* (8 ed). Rio de Janeiro: Campus.

Gutter, M., & Copur, Z. (2011). Financial behaviors and financial well-being of college students: Evidence from a national survey. *Journal of Family and Economic Issues*, *32*(4), 699–714.

Halfeld, M. (2006). *Investimentos: como administrar melhor seu dinheiro*. São Paulo: Fundamento Educacional.

Heckman, S. J., & Grable, J. E. (2011). Testing the role of parental debt attitudes, student income, dependency status, and financial knowledge have in shaping financial self-efficacy among college students. *College Student Journal*, *45*(1), 51.

Hite, N. G., Slocombe, T. E., Railsback, B., & Miller, D. (2011). Personal finance education in recessionary times. *Journal of Education for Business*, *86*(5), 253–257.

Hofmann, R. M., & Moro, M. L. F. (2013). Educação matemática e educação financeira: perspectivas para a ENEF. Zetetiké. *Revista de Educação Matemática*, *20*(38), 37–54.

Huston, S. J. (2010). Measuring financial literacy. *The Journal of Consumer Affairs*, *44*(2), 296–316.

Kiyosaki, R. T., & Lechter, S. L. (2004). *Pai Rico Pai Pobre: o que os ricos ensinam a seus filhos sobre dinheiro* (59ª ed). Rio de Janeiro: Campus.

Kühl, M. R., Valer, T., & Gusmão, I. B. (2016). Alfabetização Financeira: Evidências e Percepções em uma Cooperativa de Crédito. Sociedade. *Contabilidade e Gestão*, *11*(2), 53–80.

Lizote, S. A., & Verdinelli, M. A. (2014). Educação Financeira: um Estudo das Associações entre o Conhecimento sobre Finanças Pessoais e as Características dos Estudantes Universitários do Curso de Ciências Contábeis. In *Anais, XIV Congresso USP de Controladoria e Contabilidade* , 21-23 July 2014

Lusardi, A., & Mitchell, O. S. (2011). Financial literacy and retirement planning in the United States. *Journal of Pension Economics and Finance*, *10*(4), 509–525.

Lusardi, A. (2007). 401 (k) pension plans and financial advice: should companies follow IBM's initiative? *Employee Benefit Plan Review*, *62*(1), 16–17.

Lusardi, A. (2009). The importance of financial literacy. *NBER Reporter*, *2*, 13–16.

Lusardi, A., & Mitchell, O. S. (2007). Baby boomer retirement security: The roles of planning, financial literacy, and housing wealth. *Journal of monetary Economics*, *54*(1), 205–224.

Lyons, A. C. (2004). A profile of financially at-risk college students. *The Journal of Consumer Affairs*, *38*(1), 56–80.

Mandell, L. (1997). Personal financial survey of high school seniors. In *Jump start coalition for personal financial literacy*. Washington, DC: March/April.

Medeiros, F. S. B., & Lopes, T. D. A. M. (2014). Finanças pessoais: um estudo com alunos do Curso de Ciências Contábeis de uma IES privada de Santa Maria – RS. *Revista Eletrônica de Estratégia & Negócios*, *7*(2), 221–251.

Mendes-Da-Silva, W., Nakamura, W. T., & Moraes, D. C. D. (2012). Credit card risk behavior on college campuses: Evidence from Brazil. *Brazilian Administration Review*, *9*(3), 351–373.

Messias, J. F., Silva, J. U., & Silva, P. H. C. (2015). Marketing, Crédito & Consumismo: Impactos sobre o endividamento precoce dos jovens Brasileiros. *Revista Eniac Pesquisa*, *4*(1), 43–59.

Miotto, A. P. S., & Parente, J. (2015). Antecedents and consequences of household financial management in Brazilian lower-middle-class. *Revista de Administração de Empresas*, *55*(1), 50–64.

Mori, E., & Lewis, A. (2001). Money in the contemporary family. *Nestle Family Monitor*, *20*, 3–21.

Norum, P. (2008). The role of time preference and credit card usage in compulsive buying behavior. *International Journal of Consumer Studies*, *32*(3), 269–275.

Norvilitis, J. M., & MacLean, M. G. (2010). The role of parents in college students' financial behaviors and attitudes. *Journal of Economic Psychology*, *31*(1), 55–63.

Norvilitis, J. M., & Mao, Y. (2013). Attitudes towards credit and finances among college students in China and the United States. *International Journal of Psychology*, *48*(3), 389–398.

Norvilitis, J. M., & Mendes-Da-Silva, W. (2013). Attitudes toward credit and finances among college students in Brazil and the United States. *Journal of Business Theory and Practice*, *1*(1), 132–151.

Norvilitis, J. M., Merwin, M. M., Osberg, T. M., Roehling, P. V., Young, P., & Kamas, M. M. (2006). Personality factors, money attitudes, financial knowledge, and credit-card debt in college students1. *Journal of Applied Social Psychology*, *36*(6), 1395–1413.

Norvilitis, J. M., Szablicki, P. B., & Wilson, S. D. (2003). Factors influencing levels of credit-card debt in college students. *Journal of Applied Social Psychology*, *33*(5), 935–947.

OECD – Organisation for Economic Co-operation and Development (OECD). (2013). *Financial literacy and inclusion: Results of OECD/INFE survey across countries and by gender*. Paris, France: OECD Centre.

Oehler, A., & Werner, C. (2008). Saving for retirement—a case for financial education in Germany and UK? An economic perspective. *Journal of Consumer Policy*, *31*(3), 253–283.

Perry, V. G. (2008). Is ignorance bliss? Consumer accuracy in judgments about credit ratings. *Journal of Consumer Affairs*, *42*(2), 189–205.

Pires, D., Lima, O., Dalongaro, R., Silva, P. S., & Silveira, J. (2013). Educação Financeira como Estratégia para Inclusão de Jovens na Bolsa de Valores. *Encontros Científicos-Tourism & Management Studies*, *3*, 720–730.

Potrich, A. C. G., Vieira, K. M., & Kirch, G. (2015). Determinantes da Alfabetização Financeira: Análise da Influência de Variáveis Socioeconômicas e Demográficas. *Revista Contabilidade & Finanças*, *26*(69), 362–377.

Potrich, A. C. G., Vieira, K. M., & Mendes-Da-Silva, W. (2016). Development of a financial literacy model for university students. *Management Research Review*, *39*(3), 356–376.

Robb, C. A. (2011). Financial knowledge and credit card behavior of college students. *Journal of Family and Economic Issues*, *32*(4), 690–698.

Ruberto, I. V. G., da Silveira, V. G., Vieira, K. M., & Bender Filho, R. (2013). A influência dos fatores macroeconômicos sobre o endividamento das famílias brasileiras no período 2005–2012. *Estudos do CEPE*, 58–77.

Saleh, A. M., & Saleh, P. B. O. (2014). O elemento financeiro e a Educação para o Consumo Responsável. *Educação em Revista*, *29*(4), 189–214.

Santos, D. B., Mendes-Da-Silva, W., Flores, E., & Norvilitis, J. M. (2016). Predictors of credit card use and perceived financial well-being in female college students: A Brazil–United States comparative study. *International Journal of Consumer Studies*, *40*(2), 133–142.

Savóia, J. R. F., Saito, A. T., & Santana, F. D. A. (2007). Paradigmas da educação financeira no Brasil. *Revista de Administração pública*, *41*(6), 1121–1141.

Shim, S., Barber, B. L., Card, N. A., Xiao, J. J., & Serido, J. (2010). Financial socialization of first-year college students: The roles of parents, work, and education. *Journal of Youth and Adolescence*, *39*(12), 1457–1470.

Shim, S., Xiao, J. J., Barber, B. L., & Lyons, A. C. (2009). Pathways to life success: A conceptual model of financial well-being for young adults. *Journal of Applied Developmental Psychology*, *30*(6), 708–723.

Soares, M. M., & Sobrinho, A. D. (2008). *Microfinanças: O papel do Banco Central do Brasil e a importância do cooperativismo de crédito*. Brasília: BCB.

Sohn, S. H., Joo, S. H., Grable, J. E., Lee, S., & Kim, M. (2012). Adolescents financial literacy: The role of financial socialization agents, financial experiences, and money attitudes in shaping financial literacy among South Korean youth. *Journal of Adolescence*, *35*(4), 969–980.

Trindade, L. D. L., Righi, M. B., & Vieira, K. M. (2012). De onde vem o Endividamento Feminino? Construção e Validação de um Modelo PLS-PM. *Revista Eletrônica de Administração*, *18*(3), 718–746.

Veludo-de-Oliveira, T. M., Ikeda, A. C. A., & Santos, R. D. C. (2004). Compra compulsiva e a influência do cartão de crédito. *Revista de Administração de Empresas*, *44*(3), 89–99.

Vieira, S. F. A., Bataglia, R. T. M., & Sereia, V. J. (2011). Educação financeira e decisões de consumo, investimento e poupança: uma análise dos alunos de uma universidade pública do norte do Paraná. *Revista de Administração da Unimep*, *9*(3), 61–86.

Webley, P., & Nyhus, E. K. (2006). Parents' influence on children's future orientation and saving. *Journal of Economic Psychology*, *27*(1), 140–164.

Worthy, S. L., Jonkman, J., & Pike, L. B. (2010). Sensation-seeking, risk-taking, and problematic financial behaviors of college students. *Journal of Family and Economic Issues*, *31*(2), 161–170.

Xiao, J. J., Noring, F. E., & Anderson, J. G. (1995). College students' attitudes towards credit cards. *Journal of Consumer Studies & Home Economics*, *19*(2), 155–174.

Xiao, J. J., Tang, C., & Shim, S. (2009). Acting for happiness: Financial behavior and life satisfaction of college students. *Social Indicators Research*, *92*(1), 53–68.

Xiao, J. J., Tang, C., Serido, J., & Shim, S. (2011). Antecedents and consequences of risky credit behavior among college students: Application and extension of the theory of planned behavior. *Journal of Public Policy & Marketing*, *30*(2), 239–245.

Yilmazer, T., & Lyons, A. C. (2010). Marriage and the allocation of assets in women's defined contribution plans. *Journal of Family and Economic Issues*, *31*(2), 121–137.