# Financial Education and Sustainability: a conceptual framework

# *Educação financeira e sustentabilidade: um* framework *conceitual*

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**ABSTRACT**

Financial education and sustainability are highly relevant aspects of the contemporary context and for the direction of society. This research stems from the theoretical gap identified between these fields and the research problem sought to understand which dimensions they involved. The study assumes an exploratory nature and a qualitative-descriptive approach since the intention is to deepen the discussions of a little-explored problem and not to carry out objective observations of reality. A conceptual framework was proposed with the dimensions and their relationships, based on Skinner's concept of triple contingency (1969), containing seven dimensions. For the antecedent factor, financial education and sustainability dimensions were assumed and considered attributes of knowledge, understanding, and awareness. As for the behavior factor, the dimensions of personal and domestic budget, credit and indebtedness, savings and investment, and consumption and waste were attributed, considering attributes of practices and behaviors. Finally, the consequent factor included the dimension of future and legacy and considered the attributes of expectations and assessment of consequences. The framework does not intend to predict behaviors but to present dimensions in which they can be structured. This work intends to encourage future research involving financial education and sustainability, simultaneously; preparing a fertile environment for the emergence of better approaches. The main limitation of this study is its strictly theoretical character; therefore, it is suggested that in subsequent research, measurable attributes be listed for the dimensions, making it possible to test the model in different types of samples and contexts.

Keywords: Financial education; Sustainability; Conceptual framework.

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**RESUMO**

A educação financeira e a sustentabilidade são aspectos de extrema relevância para o contexto contemporâneo e para os rumos da sociedade. Esta pesquisa decorre da lacuna teórica identificada entre esses campos e o problema da pesquisa buscou compreender quais as dimensões por eles envolvidas. O estudo assume natureza exploratória e abordagem qualitativa-descritiva, já que o intuito é aprofundar as discussões de um problema pouco explorado, e não realizar constatações objetivas da realidade. Foi proposto um *framework* conceitual com as dimensões e suas relações, baseado no conceito de tríplice contingência de Skinner (1969), contendo sete dimensões. Para o fator antecedente foram assumidas as dimensões de educação financeira e sustentabilidade e considera atributos de conhecimentos, compreensão e consciência. Já para o fator de comportamento foram atribuídas as dimensões de orçamento pessoal e doméstico, crédito e endividamento, poupança e investimento e consumo e resíduos, considerando atributos de práticas e comportamentos. Por fim, o fator consequente contou com a dimensão de futuro e legado e considerou os atributos de expectativas e avaliação de consequências. O framework não pretende prever comportamentos, mas apresentar dimensões nos quais eles podem se estruturar. A pretensão deste trabalho é encorajar pesquisas futuras envolvendo a educação financeira e a sustentabilidade, simultaneamente; preparando um ambiente fértil para o surgimento de melhores abordagens. A principal limitação deste estudo está no seu caráter estritamente teórico; por isso, é sugerido que nas pesquisas subsequentes sejam elencados atributos mensuráveis para as dimensões, tornando possível o teste do modelo em diferentes tipos de amostras e contextos.

Palavras-chave: Educação financeira; sustentabilidade; framework conceitual.

# Introduction

Since the outbreak of the term sustainability (World Commission on Environment and Development [WCED], 1987), science and society have searched for ways to conciliate economic growth with sustainable development (Sharachchandra, 1991; Bettencourt *et al.*, 2007; Murray, Skene & Haynes, 2017).

The term sustainability has its origin in the root "sustain" which means supporting, ensuring, and balancing. This same idea is established in the scientific community since sustainability represents the mutual balance between economy, society, and environment, the three pillars of the Triple Bottom Line (TBL) model (WCED, 1987; Elkington, 1994). In this sense, in order to have sustainability, the tripod must be balanced; if the level of attention and relevance that are given to each pillar is different, It will result in social problems, economic dysfunctions, and environmental catastrophes, among others (Khandelwal & Darbha, 2021).

It is impossible to refute the centrality assumed by the economic pillar in contemporary times. The greatest evidence of this is that nations and individuals must adapt to the preestablished tools of the monetary and market exchange; otherwise, they will be excluded or marginalized from the system (Moro & Hofmann, 2012). The lack of understanding and criticality about such mechanisms and their impacts contribute to individuals internalizing, in a deficient and mistaken way, concepts such: as economic development, quality of life, sustainability, security and financial independence, and many others, resulting in economic, social, and environmental harms that increasingly destabilize the TBL equation.

The less favored strata of society are those closest to the vulnerabilities resulting from economic activity. Adding the environment of financial, social, and environmental insecurity to the lack of financial skills, resulting from the inexistence or insufficiency of universal and democratic channels of teaching and learning about the central resource of this system - money - causes, and consequences of this negative spiral (West & Friedline, 2016). The dissemination of financial education associated with environmental education and sustainability can serve as a coping device for vulnerable individuals to assume a leading role. Thus, managing personal finances becomes a security and longevity tool for achieving individual and collective well-being and quality of life (Anderson *et al.*, 2013).

The exponential growth of discussions on financial education and sustainability, verified in the scientific and social context, incites many pertinent questions. This research investigates "**What are the dimensions involved in the relationship between financial education and sustainability?**"; therefore, its objective is to propose a framework that makes it possible to broaden the discussions, as well as better understand the relationship between financial education and sustainability from the perspective of behavior.

This study is also an invitation to reflect on the shortcomings and deficiencies existing in primary education and in other channels for disseminating financial education and sustainability, as well as their articulated practices, whether in the school, family, or social environment. Considering that one of the responsibilities of the social sciences is to contribute to the continuous improvement of life in society, the findings of this work may contribute to the development of pedagogical practices, public policies, and actions by the private sector and sensitize other interested public.

## Literature review

Education, in general, has a crucial role in society's development since it aims to prepare the individual for life. In this sense, the importance of forming a global citizen emerges (Davies, Evans & Reid, 2005), an individual capable of perceiving, reflecting, understanding, criticizing, and acting under the plural world around him, whether in the social, political, economic, environmental or cultural context (Campos, Teixeira & Coutinho, 2005; Rosseto *et al.*, 2020).

Financial literacy, resulting from internalizing elements of financial education, is considered an essential skill for adult life, given the social, political, and contemporary economic situation (Huston, 2010; Potrich, Vieira, & Kirch, 2015). The topic has been gaining relevance in the scientific community, evidenced by the exponential growth of scientific productions in recent decades (López-Medina *et al*., 2021; Couto, Maracajá & Machado, 2022).

Such interest still needs to translate into conceptual solidity, as researchers still diverge or apply ambiguities in the approach to terms and the application of nomenclatures (Hung, Parker & Yoong, 2009). However, massive research points to the importance of financial literacy in making better consumer decisions, managing personal finances and understanding financial products, their risks and opportunities to improve financial well-being (Organization for Economic Co-Operation and Development [OECD], 2013).

The socialization of financial education aligned with sustainability has the potential to imbue the individual with the essential knowledge to coexist in contemporary times without losing the critical ability to question and transform the environment around him; for Christensen *et al.* (1996) this makes up sustainable development, in the absence of consensus. In this sense, it would be possible to reconcile the objectives of financial literacy with those of sustainability: thinking and exploring the world, meeting the needs, and seeking the well-being of present generations without affecting the ability of future generations to do the same for themselves (Elkington, 1994; Becker, 1995; Oliveira Filho, 2004; Zozzoli, 2008).

Studies that address financial education and sustainability simultaneously are still incipient. However, it is possible to visualize the existence of four blocks of predominant perspectives in research, identified through the co-occurrence of keywords most used in works involving the two fields between 1995 and 2021, present in the Web of Science:

**Figure 1** Current position of co-occurrence of words in financial education and sustainability papers in Web of Science (1995-2021).

| Block 1 - Behavior | Block 2 - Knowledge | Block 3 - Practice | Block 4 - Interdisciplinary |
|---|---|---|---|
| Attitudes<br>Behavior<br>Debt<br>Decisions<br>Information<br>Performance | Education<br>Financial literacy<br>Knowledge<br>Personal finance<br>Risk<br>Wealth | Financial education<br>Financial inclusion<br>Income<br>Savings | Financial behavior<br>Financial capability<br>Financial knowledge |

**Source:** Elaborated by the authors.

The first block addresses the cultural and behavioral elements that influence the practice of personal finance management; much of the research investigates and compares how certain groups manage their finances and prepare for the future and retirement, given the influences around them (Bucher-Koenen & Lusardi, 2011a; Atkinson & Messy, 2011; Morgan & Trinh, 2020; Herrador-Alcaide, Montserrat & Topa, 2021).

The second block covers issues related to the body of knowledge, the composition of contents, and the role and didactic tools of financial education. It is, therefore, the oldest research block with the most significant number of publications in the field, aiming to answer open questions and fill conceptual gaps (Tennyson, Sharon & Nguyen, 2005; Huston, 2010; Fernandes, Lynch & Netemeyer, 2014; Rebello, Harres & Rocha Filho, 2015; Lucey, White & André; 2020).

The third block is the second most traditional in the field. It deals with the transition tools between theory and practice of financial education, involving topics such as financial planning, savings, investment, credit, and the impact of economic aspects on social life (Fox, Bartholomae & Lee, 2005; Gristein-Weiss, Charles & Curley, 2007; Birkenmaier, Curley & Kelly, 2012. Gristein-Weiss, *et. al.,* 2015; Perez, *et. al.*, 2021).

Finally, the fourth block has the lowest volume of research, and its investigations discuss financial education in a more interdisciplinary way; it is precisely in this block that discussions involving sustainability are concentrated (Lyons, Rachlis & Scherpf, 2007; Brennan & Coppack, 2008; Hira, 2012; Kindle, 2010; 2013; Helm *et al.*, 2019; Anderson *et al.*, 2013; Ianole *et al.*, 2020; López-Medina, 2021).

Even with the expansion of discussions and investigations about financial education, there are few records involving this field with sustainability. There are even rarer works that form a balanced bridge with the pillars of TBL, especially the environmental one. Therefore, it is necessary to investigate the aspects in which these fields are interchanged in human behavior, precisely the effort undertaken in this work.

## Methodological proposal

The motivation for this research stems precisely from the scarcity of scientific investigation involving fields so necessary as financial education and sustainability in people's lives today. This work's guiding question (Gil, 2007) is: "**What are the dimensions involved in the relationship between financial education and sustainability?**". The proposal of a conceptual framework (Quivy & Campenhoudt, 1995) answers this question since it facilitates understanding the investigated problem and broadens discussions for future works and, therefore, is the objective of this research.

This research is exploratory, given the objective of understanding a problem that has been little investigated, about which there are many doubts, or has not been previously addressed (Sampieri, Collado & Lucio, 2006). The approach is qualitative-descriptive since it focuses on deepening the discussions and not on objective observations of reality (Gil, 2007; Silveira & Córdova, 2009).

Conceptual frameworks can be narratives or graphic-visual structures representing vital factors, constructs, or variables and their supposed relationships in a fragment of reality, fact, or phenomenon (Le Moigne, 1977; Miles & Huberman, 1994; Shehabuddeen *et al.*, 1999). This representation is often used in scientific research when there is conceptual complexity, theoretical inconsistency, or lack of community consensus; therefore, it fits the purpose of this research (Crossan, Lane & White, 1999; Morgan & Morrison, 1999).

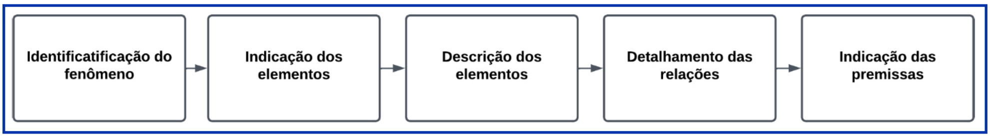
The model proposed is based on the concept of triple contingency, where a behavior, or the lack of it, depends on an antecedent context, formed by environmental factors, and a consequent context, formed by expectations and consequences capable of reinforcing, decreasing, modifying or extinguish the behavior (Skinner, 1969); soon:

$$S_a + R = S_c$$

Where: $S_a$ = Antecedent stimulus,
R = Response, behavior,
$S_c$ = Consequent stimulus.

It is important to emphasize that an individual's behavior results from a multifaceted interactive process through which the individual assembles his behavioral repertoire (Gomes *et al.*, 2019); therefore, it should not be evaluated through a mechanical-deterministic lens (Todorov & Moreira, 2009). In this sense, the development of the model illustrated in **Figure 2** does not intend to expose determinants of an individual's behavior but to point out dimensions in which many factors can influence their behavioral repertoire.

**Figure 2** Framework development process




**Source:** Elaborated by the authors.

Therefore, there are: a) the identification of the phenomenon of interest - the relationship between financial education and sustainability, and b) the identification of the research objective - proposing a conceptual framework involving the dimensions of the relationship between financial education and sustainability. Therefore, in the subsequent section, the elements that make up the model will be indicated and described; subsequently, their relations will be presented. Finally, the key and underlying premises will be assumed, which may be used in future studies.

## Presentation and interpretation of results

Seven dimensions are proposed for the three factors of the framework, distributed according to **Table 1**, considering knowledge, understanding, and awareness about financial education and sustainability to determine the background context. In turn, it conditions the levels, volumes, and profiles of personal and domestic budgets, credit, indebtedness, savings, investment, consumption, and waste production. At the same time, expectations regarding the future, uncertainties, and legacy form the consequent context.

**Table 1** Description of the dimensioned elements of the framework

| Factor | Dimension | Attributes |
|---|---|---|
| **Antecedent** | Financial education | Knowledge, understanding and awareness |
| | Sustainability | Knowledge, understanding and awareness |
| **Behavior** | Personal and household budget | Behaviors and practices |
| | Credit and indebtedness | Behaviors and practices |
| | Savings and investment | Behaviors and practices |
| | Consumption and waste | Behaviors and practices |
| **Consequent** | Future and legacy | Expectations and assessment of consequences |

It is worth mentioning that the investigated relationships occur in a multifaceted and subjective macroenvironment; thus, they will be better understood if evaluated together with the socioeconomic and cultural contexts. Each dimension will be presented individually so that it is possible to justify its allocation in the model.

## FINANCIAL EDUCATION

Financial education is essential for an individual's life, as, throughout his life, he will be responsible for making several financial decisions and carrying out numerous exchanges involving financial resources (Bernheim, Garrett & Maki, 2001; Lusardi & Mitchell, 2007b; Remund, 2010; Hastings, Madrian & Skimmyhorn, 2013). In this sense, obtaining guidance, especially at family and school bases, is essential to minimize vulnerabilities caused by financial illiteracy in adult life, including other teaching-learning channels (Lusardi, Mitchell & Curto, 2010; Huston, 2010; Flores, Vieira & Coronel, 2013).

The socialization of financial knowledge, which culminates in financial behavior (Zhu & Chou, 2018), must consider multiple factors, primarily socioeconomic and demographic factors (Lusardi & Mitchell, 2011a; 2014; Atkinson & Messy, 2012; Brown & Graf, 2013). It is also essential that the practice of management, as well as the search for knowledge that reinforces the understanding of financial management, be perennial in the individual's life, with the aim of not delaying the curve of knowledge over time and maintaining mastery over the subject (Fernandes, Lynch & Netemeyer, 2014).

According to the framework, it is necessary to have a financial education curriculum that involves: notions of economics - the structure of the macroeconomic pillars: monetary, fiscal, and exchange rate, their compositions and central functions, financial mathematics, personal/domestic budget, types of loans, types of financing (movable, real estate and services - in particular, the most common types such as car, house, and student financing), credit card, savings loans, investments, insurance, tax return income, and retirement. These are elements with which the individual interacts when he obtains autonomy over his finances.

## SUSTAINABILITY

The economy and society have been developing from exploiting our planet's finite resources; however, the ecosystem changes caused by this exploitation alarm the need to achieve more sustainable living (Dunlap *et al.*, 2000). Many sustainability scales point out that, in general, age and the level of exposure to environmental issues interfere with the development of environmental awareness; the first is inversely, and the second is directly proportional (Dunlap & Van Liere, 2008; Jones & Dunlap, 2010).

Any human intervention causes impacts that can threaten the quality of life, individual and collective, and human existence (Hines, Hungerford & Tomera, 1987; Kollmuss & Agyeman, 2002). For most researchers, developing individuals and, consequently, environmentally responsible companies is one of the main objectives of environmental education (Gough & Gough, 2010). In this way, the sustainability concepts must be worked on so that the individual feels that he belongs to a biosphere in which different types of life coexist.

Economy and contemporaneity are facets to which environmental education is irremediably linked (Jickling & Wals, 2008; Hursh, Henderson & Greenwood, 2015). Therefore, according to the proposed model, environmental education and sustainability are, in addition to being relevant, essential, and in line with financial education, intending to positively influence the behavior and choices of individuals, whether it be the habits of consumption, the way of producing and dealing with waste and the perception of the world around them.

## PERSONAL AND HOUSEHOLD BUDGET

The domestic budget refers to the calculation and monitoring of personal or family income and expenses, involving wages and salaries, expenses with food, health, education, clothing, leisure, and other expenses with the acquisition of products and services; all this to seek a healthy balance for financial life (Ferreira, 2008; Pereira, 2011). The budget makes up the tripod of financial education (Tomášková, Mohelská & Němcová, 2011), and, as it is one of the main tools for financial literacy and the practice of financial management, it is proposed in a separate dimension.

Using the budget to manage personal finances is the best way to identify times of scarcity or abundance of resources in advance and thus make use of available financial instruments more effectively (Lusardi & Mitchell, 2007a; Deaton, 2019; Kurowski, 2021). The domestic environment is fertile ground for developing most of an individual's habits. Therefore, taking this environment as a starting point for managing finances can be a multiplier factor of knowledge and habits since it considers and involves all people in the household, regardless of age, income generation, and expenses.

The construction and monitoring of a budget consider the notions of planning, logical reasoning, regularity, the whole, and the parts, sources, and applications of resources, waste, teamwork, uncertainty, and many others that contribute to the perspective of sustainable finance. Financially healthy behaviors can provide security and well-being for the individual and his family. Moreover, this gain in financial efficiency can also produce environmental benefits when it generates savings in natural resources resulting from the reduction of waste, levels of impulse consumption, waste production, exposure to vulnerabilities caused by indebtedness, increased consumption consciousness, and reuse, for example.

## CREDIT AND INDEBTEDNESS

Taking credit is immediately having resources, which allows anticipating the enjoyment of goods and services, which automatically generates a future obligation of the debtor to the creditor (Marques & Frade, 2003). There are several categories and types of credit offered to consumers; in this sense, taking credit is positive both for the development of the economy and for people's quality of life (Silva, Silva Neto & Araújo, 2017).

The decision-making antecedents of taking credit by the consumer must consider: the purpose and value of the credit, the associated guarantees, the term, the rates practiced, the forms and conditions of payment, as well as the ability to afford with the terms negotiated; all this requires extensive research on the conditions available in the market (Levine, 2005; Lusardi & Tufano, 2009; Gathergood, 2012).

Often, predatory conditions are intentionally offered to audiences that, for the most part, have not been financially educated or are in a vulnerable position, such as young people, the elderly, and low-income individuals (Hill & Kozup, 2007). By taking credit without prior analysis of the multiple factors that involve it, individuals will be much more likely to fall into over-indebtedness and default, which makes it impossible to transform their individual and collective realities (Stango & Zinman, 2009; Agarwal & Mazumder, 2013; Gerardi *et al.,* 2013; Zinman, 2015).

The damage from indebtedness and default, in addition to the income deficit destined to supply the basic needs of the individual and his financial dependents, still generates more credit for the related public. The impossibility or difficulty of accessing goods and services that depend directly or indirectly on the financial system, such as undertaking, renting, and financing real estate, hunger, and nutritional and psychosomatic illnesses, are examples of the highly complex negative spiral generated by this financial panorama.

## SAVINGS AND INVESTMENT

In the opposite perspective, surplus management of finances generates what we know as savings; that is when an individual accumulates equity from the positive differences between their income and expenses. The accumulation of savings can have different purposes, ranging from mitigating insecurities, retirement, and future planning (Cagetti, 2003) to remunerating idle capital and achieving a specific goal.

Higher levels of financial literacy lead to higher saving tendencies (Cole, Sampson & Zia, 2011; Fun & Zhang, 2021). From an economic point of view, saving is a stabilizing factor (Lusardi & Mitchell, 2011b). However, given their levels of financial literacy, individuals still save inefficiently (Lusardi, 2000; Kaiser & Menkhoff, 2017), making the mission to maximize savings through investing complex.

Investment means the option or opportunity to design and realize some financial resources from smaller resources (Torres & Barros, 2014). Both productive and financial investments share the promise or expectation of remuneration in exchange for taking risks (Trinh, Morgan & Sonobe, 2020).

Briefly, productive investments refer to the decision to open or expand a business and offer products and services to a consumer public in exchange for remuneration (Nugent & Yhee, 2002). On the other hand, financial investments consist of the investment of surplus funds by an investor in assets or derivatives offered by a borrower with a deficit in exchange for or in anticipation of remuneration, all through an intermediated and supervised environment (Santos & Santos, 2005).

The proficiency and practice of managing financial resources influence the quantity and quality of people's savings, which, in turn, is fertile ground for investment. Accordingly, investors with higher levels of financial education are less likely to use naive strategies in their investments (Hibbert, Lawrence & Prakash, 2012). Therefore, on an individual scale, the act of investing can contribute to overcoming vulnerabilities (Lyons & Kass-Hanna, 2019; López-Rodríguez & López-Ordoñez, 2022), and on a broader scale, it has the potential to help break the generational cycle of poverty ( Moreno-García, Santillán & Gutiérrez-Delgado, 2017).

Expanding discussions between financial education and sustainability from an investment perspective is of great value, especially for financially vulnerable populations, as it will directly reflect on their decisions. From the perspective of productive investments, the impacts range from the expectation of better business management, often initiated informally, in the reduction of company mortality, in the search for internal solutions, sustainable products and services that contribute to financial performance, among other possibilities.

Concerning the contributions of the two fields to financial investments, the impacts can influence income dispersion, the expansion of the securities market, the increase in the supply of green financial products, the raising of funds for sustainable companies/initiatives, as well as the emergence of new sustainable financial products and services. The movement of players in the financial market is strongly related to the objectives of their investors; therefore, the declaration of intentions of consistent returns linked to environmental and social benefits can revolutionize the understanding of investments in this generation.

## CONSUMPTION AND WASTE

The act of consuming is highly complex and involves economic, psychological, emotional, and socio-cultural factors, among others (Mancebo, *et al.*, 2002; Aquino & Tomassini, 2009). Currently, research on consumer behavior investigates the nuances of consumption, which is much more involved in desires than needs (Belk, Ger & Askegaard, 2003; Charles-Leija, Aboites & Llamas, 2018).

In the contemporary context, it is impossible to dissociate consumption from environmental factors in addition to economic and social factors, especially regarding natural resources used in producing goods and services and the resulting waste (Grimm, *et al.*, 2008; He, *et al.*, 2020). One of the significant challenges today is precisely to find a point of intersection between the interests of profitability of producers, consumer satisfaction, and environmental balance (Hira, 2012).

Therefore, working on financial education from the perspective of leveraging the consumption process is inefficient and harmful to the individual and collective quality of life (Halilovic, *et al.*, 2019). The management of financial resources and the act of consumption are strongly related to TBL, which is why it is essential to promote sustainable financial education to guide conscious consumption. This citizen's way of consuming is an expression of values, as the option to consume, reduce or renounce certain products and services takes into account whether their production, distribution, and impacts are in line with sustainability or social justice, for example. example (Willis & Schor, 2012; Anderson *et al.*, 2013).

The problems involving the sustainable triple in the current context require changes in the attitude of all the players involved - consumers, producers, governments, and other institutions. Sustainable financial education can increase conscious consumption levels through budgeting and purchase planning (prices, terms, shelf life, payment methods, and conditions), mitigating the risks of impulse consumption and waste risks, and even modifying individuals' relationships with their solid waste.

Solid waste reflects preferences and how society thinks and acts concerning consumption and the environment (Silva, Barbieri & Monte-Mór, 2012). This can be interpreted as a response to the productive behavior of companies, be it positive or negative (Stock & Mulki, 2009). Public health problems, social disturbances, and environmental imbalances arising from problems generated by solid waste directly interfere with the quality of life. So, the existence of plans and actions that integrate companies, governments, and consumers/citizens is crucial since everyone is part of the problem and, therefore, of the solution.

Changes related to consumption habits and the volume and disposal of solid waste can pressure the market to develop connections based on more aligned values between company-customer. This change in posture can be expressed, for example, through R&D and increasingly sustainable engineering applied to products and services, increased consumer involvement in sustainability actions, and the structuring of its production chain involving reverse logistics. Governments and institutions, on the other hand, need to adapt to the new social, economic, and environmental conditions through legislation and inspection and control mechanisms, contributing to the harmony of the TBL so that entrepreneurship, consumption, and financial management can be practiced and leveraged in an increasingly sustainable perspective.

## FUTURE AND LEGACY

The actions the individual practices in the present depend on his context of influence and on what he yearns for and hopes for his future; this idea is valid for managing personal finances (Hastings, Madrian & Skimmyhorn, 2013) and for quality of life in aging (Pillemer *et al.*, 2010). The way people manage their finances, honor their commitments, and prepare to face the uncertainties of the future is even defended as an attribute of the character of the financial actor (Maman & Rosenhek, 2019).

Around the world, the debate involving social security systems and the future of individuals' finances has been amplifying (Hibbert, Lawrence & Prakash, 2012). Families with the lowest incomes in the social security system have the lowest level of financial literacy, so they are the ones that most lack financial education to face increasingly complex economic contexts as technology advances and age maturity (Berry, Karlan & Pradhan, 2018). Furthermore, to make matters worse, the tightening of retirement rules is progressively transferring responsibilities for provisions for old age to individuals themselves and taking them away from the State and employers (Bucher-Koenen & Lusardi, 2011; Sekita, 2011).

In turn, the environment is also an indispensable element for the quality of life, especially in aging, when it becomes essential to enjoy a pleasant and healthy environment (Pillemer *et al.*, 2010). Changes in the demographic context, which include the increase in life expectancy, need to be considered when designing public policies, private initiatives, and the third sector. Aging encompasses many factors, whether social, cultural, biological, or psychological, directly affected by the environment (Filiberto *et al.*, 2010).

Another relevant factor is the development of new habits and lifestyles that a population assumes as it ages, contributing to environmental problems (Rosenbloom, 2001; Wright, Caserta & Lund, 2003). Therefore, how individuals interact with their finances and environment corroborates their present and future context formation. Therefore, having aligned financial and environmental purposes will provide the individual with a healthy environment to grow old enjoying tranquility and quality of life, perpetuating a virtuous circle by setting an example for future generations, and thus, leaving their contribution to posterity.

## THE FRAMEWORK

Given the above, it is possible to conclude that the seven dimensions of the model can develop a relationship of mutuality, and the processes of reinforcement,

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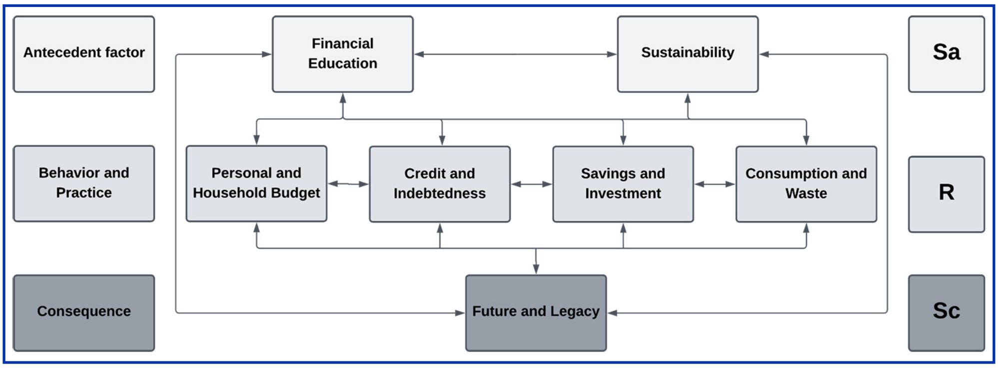
modification, reduction, or extinction of behaviors are free to occur in any of the three contingency factors, as shown in Figure 3. In this sense, the behavioral structures depend on the agent's perception of each dimensional block's benefits, losses, and context fit.

**Figure 3** Framework of dimensions between financial education and sustainability.




**Source:** Elaborated by the authors, based on Skinner (1969).

In this sense, the behavior structures depend on the agent's perception of the benefits, losses, and fit of contexts each dimensional block has for his life and goals. When a vulnerable individual obtains expertise about the contingencies surrounding his life and his financial, social, economic, and environmental behaviors, he will be much more capable of developing self-knowledge, self-control, and autonomy. In a situation where economic power, concentrated in the hands of a few, dictates the rules and directions of life for many, gaining more control over the reins of life can be synonymous with revolution.

## Final Remarks

This research stems from the theoretical gap identified between the fields of financial education and sustainability, both of extreme relevance in the scientific and social environments. The research problem sought to understand the dimensions involved in the relationship between financial education and sustainability; thus, a conceptual framework was proposed, proposing such dimensions and their relationships through Skinner's concept of triple contingency (1969).

The model understands that an individual's affinity with financial education and sustainability influences the context that precedes behavior through knowledge, the internalization of concepts, and the formation of their conscience. This panorama reinforces or not behaviors and practices regarding budgeting, taking credit and indebtedness, savings and investment, consumption and production, and waste disposal.

This whole process culminates in the perspectives of quality of life that the individual hopes for his future and in the construction of his legacy. Moreover, once the individual becomes aware of his anxieties and expectations, the perception of the consequences of his actions will have the potential to reinforce, reduce, modify or extinguish certain behaviors that benefit or harm his present, future, and estate. , be they financial, social, or environmental.

Therefore, the framework does not intend to be a behavioral prediction, where individuals under identical antecedent factors reproduce the same behaviors and obtain the same consequences and perceptions; conversely, similar behaviors and consequences derive from the same sine qua *sine qua non*. It is an initial effort to understand the interdisciplinarity of the two fields and a stimulus for reflection and the development of future studies.

Given that the economy is a social construction that impacts the environment, it is pertinent to work on financial education and sustainability with TBL as they coexist. Financial literacy, by itself, has the role of making the individual perform better in the management of their financial resources and obtaining economic leadership. Now, when instructed from a sustainable financial education, in addition to efficiency gains, they will be increasingly able to perceive, criticize and become an active contributor to the continuous improvement of society and the planet of finite resources surrounding it.

Every effort undertaken here advances the discussion of the management of financial resources with sustainability, two fields treated in a very incipient way by the scientific community. Therefore, the main intention assumed in this research is to simultaneously encourage future research involving financial education and sustainability, simultaneously; preparing a fertile environment for the emergence of better approaches to the problems involved. The limitation of this work lies in its strictly theoretical character and, therefore, is incapable of providing precise cuts and inferences. Thus, in subsequent research, measurable attributes should be listed for the framework's dimensions, making it possible to test the model in different samples and contexts.

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