**Effects of the Brazilian University Context on Students’ Entrepreneurial Intentions of Students: What Can HEIs Do Differently?**

**ABSTRACT**

Defining how universities can encourage entrepreneurship is an emerging topic. Students learn not only with educational programs but also with the context in which they are inserted. The objective of this study is thus to investigate the effect of the Brazilian university context on the entrepreneurial intention (EI) of college students. Accordingly, we collected data from 248 Brazilian students and then analyzed these using the model of Oftedal et al. (2018), which describes the university context as a three-dimensional institutional construct that includes the following structures: regulatory (the rules and regulations that support initiatives related to entrepreneurship), normative (including values and norms), and shared and cognitive (the types of knowledge among students and teachers). Our hypotheses were tested by confirmatory factor analysis (CFA) using structural equation modeling (SEM). Our findings indicate that two structures in the university context, regulatory and normative, impact students’ entrepreneurial intention. In contrast to previous research results, we also find that while the regulatory dimension has an indirect relationship to EI, the cognitive dimension has no effect on entrepreneurial intention—an important contribution of this study. Moreover, we reveal how Brazilian entrepreneurship sponsorship policies and programs can actually discourage students from entrepreneurship.

**KEYWORDS:** Entrepreneurial Intention; Universities; Education; Entrepreneurship; Institutional Theory

**1. INTRODUCTION**

Entrepreneurship is generally associated with the economic progress of a nation and has been a topic of interest in several institutions. Universities, encouraged by their third mission to enhance their impact on society (Gimenez, 2017) while seeking to diversify their forms of financing and ensure their sustainability (Audy, 2006), search for ways to encourage their students to become entrepreneurs. In Brazil, up to 36% of the adult population between 18 and 64 years of age are entrepreneurs, and there is a high level of engagement with new ventures by individuals with a complete higher education (GEM, 2017); these are the reasons that this study was conducted in Brazil.

The development of entrepreneurial intention (EI) is one of the first steps toward the establishment of a new business (Hessels et al., 2011). The literature in the field of entrepreneurship has presented an important theoretical framework that correlates EI with entrepreneurial education (Liñán and Fayolle, 2015). In the bibliometric study conducted by Liñán and Fayolle (2015), the main drivers of entrepreneurial intention are identified. Most of these are personality traits, such as risk propensity, ambiguity tolerance and internal locus of control. In addition, gender, family history and professional experience have also been shown to have an impact on entrepreneurial intention.

However, personal and behavioral factors alone are not sufficient to explain entrepreneurial behavior, since individuals can be influenced by the sociocultural environments in which they are inserted (Oftedal et al., 2018). Specifically, in the university environment, there are existing studies on the effectiveness of entrepreneurial education (Ceresia, 2018), and the inclusion of activities and disciplines within this theme concerning universities is increasing in Brazil.

Seeking to understand how a university can help an individual to undertake entrepreneurship, Oftedal et al. (2018) move beyond the classical view of an entrepreneur as an unrestricted and distinct agent who organizes resources in his or her environment to find an opportunity. In an exploratory study, these authors have proposed analyzing the university as a contextual framework of action, following the suggestion of Tolbert et al. (2011) to relate the research on entrepreneurship and institutional theory. Institutional theory provides a basis for the contextual analysis of three dimensions—the regulatory, normative and cultural-cognitive—which, together with associated activities and resources, provide stability and meaning to social life (Scott, 2014).

The originality and timeliness of the model developed by Oftedal et al. (2018) to measure the university context and relate it to the entrepreneurial intention of students, based on their research in developed countries, has aroused the interest in testing its application in the environment of developing or emerging countries. Therefore, the research question that guides this study is as follows: What is the effect of the university context of a developing country on the entrepreneurial intention of college students?

To answer this question, the objective of this article is to measure the effect of the Brazilian university context on the entrepreneurial intention of college students through the three dimensions suggested by institutional theory, i.e., the regulatory, normative and cognitive.

The performance of this study is justified by at least three arguments. First, despite the large number of theoretical and empirical studies on entrepreneurial intention, there is still a shortage of research on the salient role of the institutional context in developing countries. A few studies have used the "university context" as a concept and measure. However, most of the articles that analyze the efforts of higher education institutes (HEIs) to promote entrepreneurship are descriptive and use case studies of good practices.

Recently, academics and public policy-makers have increasingly promoted entrepreneurship education programs (Oftedal et al., 2018). Rooted in these proposals are principles about companies and entrepreneurship, which raises important questions about how entrepreneurship education should be institutionally positioned. These questions concern theoretical and philosophical challenges, strategic choices and institutional capacities.

Finally, the third argument is directly linked to the sustainability of HEIs, as the results of this study can guide the decision-making of both public policy managers and the managers of HEIs themselves. The world of higher education is in flux because not only the number of students but also the method of teaching has been impacted by the COVID-19 pandemic (Sars-Cov-2), especially in developing countries. Most public HEIs canceled their academic activities in the first semester of 2020 (Paixão, 2020). In the institutions that maintain their functioning, teachers are being challenged to reallocate their teaching methods, and students must continually adapt to platforms for remote classes.

In the private education sector, the greatest impact, however, has been financial; both on students, since many face the impossibility of working amid the closure of nonessential services—a measure adopted to contain the spread of COVID-19—and on private educational institutions, which have faced high delinquency and dropout rates (SEMESP, 2020).

To meet our proposed objectives, we used a quantitative research method, i.e., a survey of students from Brazilian higher education institutions. Our questionnaire was an adapted version of that of Oftedal et al. (2018), although we excluded its opportunity recognition aspect, which was not relevant to this study. Specifically, this study is based on our assertion that it is important for HEIs to promote a context that does not hinder the entrepreneurial behavior of their students.

**2. ENTREPRENEURSHIP IN BRAZILIAN HEIS**

In several countries, especially in North America, the importance of entrepreneurial education in universities for economic development, especially for the increase in the gross domestic product (GDP), has already been recognized. This topic is part of a list of priorities in political, economic and academic agendas in several countries and international organizations (Mello et al., 2017). However, in Brazil, such initiatives are few and isolated, which naturally hinders the possibilities for a student to undertake entrepreneurship (SEBRAE and Endeavor, 2016).

According to this study, one in four higher education students has or desires to have their own business. Among them, 5.7% are already entrepreneurs, 21% have thought about entrepreneurship in the future and 73.3% have no intention of opening a business. For those who do not want to undertake entrepreneurship, the main career option is to work in the public sector (43%) or in a large company (27%). These professional goals are justified by financial insecurity (15.3%), lack of interest (16.9%) and lack of resources (17.6%). An interesting finding of this study is therefore that university students tend to take longer to undertake entrepreneurship (GEM, 2017; SEBRAE and Endeavor, 2016).

Among the students who undertake entrepreneurship, there is no great ambition regarding the generation of jobs and innovation. Only 10% of them aspire to have more than 25 employees in five years. The others are content to remain microentrepreneurs. Innovation is also not an objective, since only 4% of student entrepreneurs have considered offering a new product or service in the national market. The same is true for potential entrepreneurs, 75% of whom do not intend to offer a new product or service to Brazil.

This survey also reveals that only 36% of students are satisfied with the entrepreneurship initiatives within their university, leaving a clear gap from the point of view of students, universities and professors. For teachers, their level of satisfaction is approximately 65% (SEBRAE and Endeavor, 2016).

In addition, the HEIs do not have a structure that can support the full journey of entrepreneurs. Only 54.4% of the institutions offer courses on entrepreneurship. These disciplines only motivate a student to take the first step toward entrepreneurship, leaving something to be desired in relation to their support for the following steps. Only 6.3% of the HEIs offer programs that broaden students’ vision and innovative bias (SEBRAE and Endeavor, 2016).

**3. ENTREPRENEURIAL INTENT: A PROGRESSIVE VISION**

The literature has discussed the “progressive” views of entrepreneurship, where starting a new venture is a process that consists of several steps, from cognition and intention to nascent entrepreneurship and then the eventual creation of a venture (Minola et al., 2016). Grilo and Thurik (2005, 2008) introduce the concept of levels of engagement to differentiate the various stages of the entrepreneurship process. Levels of engagement can therefore be analyzed in an ordered context (Hessels et al., 2011), which means that each level or step represents a growing level of engagement in the entrepreneurial process. Emerging entrepreneurs or potential entrepreneurs climb the "ladder" of entrepreneurship (Hessels et al., 2011; Minola et al., 2016; Oosterbeek et al., 2010).

One of the initial levels of engagement is the development of EI. Intention is a mental state that refers to one’s attention, experience and behavior in relation to a specific object or method of behavior (Bird, 1988). Intention captures the motivational factors that influence a behavior, indicating how much effort people plan to exert to perform that behavior, which is an immediate antecedent of it (Ajzen, 1991).

The literature on EI has grown rapidly since the publication of Shaper’s seminal work approximately 36 years ago (Liñán and Fayolle, 2015). In 2015, Linãn and Fayolle published a bibliometric study of articles published between 2004 and 2013 on this topic, identifying two initial strands of research in this field: one in social psychology and the other in entrepreneurship.

 Social psychology aims to analyze behaviors in general and shed light on the mental processes that range from attitudes and beliefs to effective actions (Liñán and Fayolle, 2015). The second strand is specific to the field of entrepreneurship (Bird, 1988; Liñán and Fayolle, 2015; Shapero, 1984; Shapero and Sokol, 1982). The convergence of these two initial lines of research has served to definitively establish the applicability and utility of the theory of planned behavior (TPB) of Ajzen (1985, 1991) in the field of entrepreneurship.

 The crucial aspects of the TPB include personality traits, such as risk propensity, ambiguity tolerance and internal locus of control, which are also associated with the intention to undertake entrepreneurship (Ang and Hong, 2000; Davey et al., 2011, 2016). Gender, family history and experience have also been shown to have an impact on entrepreneurial intention (Liñán and Fayolle, 2015; Wang and Wong, 2004). Looi and Lattimore (2015) cite the importance of history, region, culture, level of economic development, and ethnic, social, legal and political factors, in addition to the technologies, institutions and effects of the countries previously mentioned by Arenius and Minniti (2005). Saeed et al. (2015) indicate that the EI of an individual reflects the institutional structure and the economic and political stability of his or her country. Therefore, entrepreneurship will occur in low levels where its incentives are weak.

Rauch and Hulsink (2015) have found a positive relationship between entrepreneurial education and entrepreneurial intention. Bae et al. (2014) apply a meta-analysis technique to 73 studies and find that entrepreneurial education increases entrepreneurial intention. After correcting for the motivations prior to an entrepreneurship course, these authors find no effect of entrepreneurial education on entrepreneurial intention. In a study on the levels of entrepreneurial intention at two Brazilian universities, one with traditional education and the other with activities to encourage entrepreneurship, the authors also observe no differences (Wegner et al., 2019). Still other authors report contradictory results, indicating that participating in entrepreneurship courses dampens entrepreneurial intention among students (Oosterbeek et al., 2010) while having a positive effect on the skills and attitudes concerning entrepreneurship.

Nabi et al. (2017) have found that research on the impact of entrepreneurial education still focuses predominantly on measures of subjective and short-term outcomes while describing the actual pedagogies being tested. Solesvik et al. (2014) explore the links between education and participation in entrepreneurship, perception, and risk-taking skills and the intensity of one’s entrepreneurial intention to become an entrepreneur. In addition, Westhead and Solesvik (2016) find that women are significantly less likely to report a high intensity of entrepreneurial intention. Liñán and Fayolle (2015) also argue that cultural and personal values are relevant in the formation of entrepreneurial intention. Walter et al. (2013) have shown that the presence of support and education programs that focus on entrepreneurship is associated with entrepreneurial intention among male but not female respondents.

Oftedal et al. (2018) have tested a series of control variables in addition to the constructs related to the university context. These authors show that gender, previous experience as an autonomous or entrepreneur, education level and mandatory discipline of entrepreneurship impact entrepreneurial intention.

Given the rather diverse set of research attempts, mainly performed with students who are involved in very different types of programs in terms of their duration, intensity and purpose, it is not surprising that the extant results are mixed. However, attitudes toward entrepreneurship, social norms, perceived behavioral controls and self-assessed competencies have been shown to be reliable predictors of entrepreneurial intention (Oftedal et al., 2018).

In this study, we therefore define student EI as the potential of students to start a new business. High EI is thus characterized by “a propensity to act autonomously, a willingness to innovate and take risks, and a tendency to be aggressive with competitors and proactive in relation to market opportunities” (Frank et al., 2010: 177).

**4. UNIVERSITY CONTEXT: AN APPLICATION OF INSTITUTIONAL THEORY**

Institutional theory has been used as a theoretical lens in research on various areas of knowledge, such as social sciences, institutional economics, international business and organizations (Ronaldo et al., 2008). It reflects transformations that have occurred in the area of organizational studies, especially since the mid-1970s (Scott, 2014). This approach differs from classical studies of organizations by failing to conceive the environment as an entity external to an organization. There is a focus on environmental attributes that are more specific to an interorganizational relationship; the level of analysis has been extended to studies involving populations, communities and organizational fields, which are considered symbolic environmental facets due to the social and cultural elements that act together within the economic and material dimensions (Ronaldo et al., 2008).

From this perspective, institutions can strongly influence the goals and beliefs of individuals, groups and organizations. Attention is focused on the relationships of mutual influence to organizations and organizational fields on the one hand and on broader normative and cultural structures on the other. This perspective is attentive to the way in which institutionalized values ​​in society permeate organizational structures and forms; it considers it necessary to enrich an analysis of instrumental aspects with reflections on cultural and symbolic elements in an organizational study (Ronaldo et al., 2008). Institutionalization is a process conditioned by the logic of conformity to socially accepted norms and by the incorporation of a knowledge system built on social interactions, which are the parameters for the conception of reality by social actors and for actions. Organizations, in this sense, articulate their actions and structures in relation to the characteristics of their institutional context in search of legitimation and social acceptance.

Oftedal et al. (2018), seeking to understand how entrepreneurial education should be institutionally positioned, construct scales based on this theory that are capable of measuring the effect of the university institutional context. The authors adopt the definition of Scott (2014: 56), whereby institutions are “regulatory, normative and cultural-cognitive elements that, together with associated activities and resources, provide stability and meaning to social life”. Scott (2014) places great emphasis on the limitations or demands that the institutional environment imposes on any organizations that try to ensure their own survival, whether through regulatory, normative or cognitive-cultural elements. The author also defines the institutional environment as the set of rules and requirements that organizations must respect to obtain the expected support and legitimacy of the environment where they operate.

Thus, applying this lens to higher education institutions, these institutions enable or prevent agents from creating paths within their existing system (Oftedal et al., 2018). Universities are therefore institutional structures where contexts are balanced in a network of ideals, rules and formal and informal norms, in addition to the beliefs that may shape behaviors and provide the contours of their organization.

Interestingly, Oftedal et al. (2018) refer to the different types of agencies existing within a structure and how they can be relevant to the interaction of students with their context. Mutch (2007) suggests that entrepreneurs are able to take an autonomous stance and, as such, are further removed from their institutional structure in terms of the shaping of their intentions. However, the university system is a unique context because of its limited time and its high importance to an agent. Students, therefore, have a limited impact on their university context and fit the description of iterative agents (Emirbayer and Mische, 2002). An iterative agent carefully reiterates the agents of past patterns of thought and action based on context. These activities help sustain identities, interactions and institutions over time. At the university level, this means that an agent accepts the institutional structure and strives to adapt. As such, the structuring process shifts from institution to agent; in the formation of their intention, students are influenced by the context of their institutional structure (Oftedal et al., 2018).

Given that the extant results are mixed, a few statistically significant relationships are not surprising. The work of Oftedal et al. (2018) is a pioneer in this sense, since it establishes a model that has statistical validity. The following subsections review the theoretically oriented hypotheses that have guided the validation of this instrument. Notably, these hypotheses are similar to those of Oftedal et al. However, the aspect of opportunity recognition is excluded, as we have explained.

***4.1. Regulatory structure***

The regulatory structure entails a critical realistic perspective in which students deal with the formal structures that were established before these agents interact with it. Here, the rules and regulations exist separately and objectively from a student. Nevertheless, students will respond to their perception of the rules. A student interacts with the regulatory dimension, following or breaking the formal rules and regulations. Thus, the interaction with formal rules and regulations should affect a student. According to Scott (2014), formal rules can affect interaction through the constitution and regulation of activities. In this conception, regulatory processes involve the ability to establish rules, inspect others according to them and, when necessary, manipulate sanctions, rewards, or punishments in an attempt to influence future behavior. Regarding the iterative nature of student agency, it is therefore expected that the formal rules that support entrepreneurial activities lead to greater entrepreneurial intention. This leads to the following hypothesis:

**H1.** *There is a direct and significant relationship between agents’ perception of their regulatory structure and their entrepreneurial intention.*

***4.2. Normative structure***

Normative legitimacy is based on informal rules and norms. Even if formal procedures are conducive to entrepreneurship and there is contextual knowledge, studies on entrepreneurship can influence students. Normative systems include values ​​and norms. Values ​​are conceptions of the preferred or desirable, along with the construction of the standards that existing structures or behaviors can be compared to and evaluated against. Norms specify how things should be done and not only define goals or objects but also designate the appropriate ways of pursuing them. Some values ​​and norms are applicable to all members of the collective; others try to select types of actors or positions. The latter gives rise to the roles, goals and skills that are appropriate for certain individuals or specific social positions (Scott, 2014). If entrepreneurial behavior is respected and observed, students who follow this path can be rewarded in the university context. Therefore, we offer the following hypothesis:

**H2.** *There is a direct and significant relationship between agents’ perception of their normative structure and their entrepreneurial intention.*

***4.3. Cognitive structure***

Cognitive legitimacy addresses how acceptable behavior is based on knowledge of what is within a given context. Scott (2014: 67) describes cognitive structures as the shared conception that constitutes the nature of social reality and creates the structures by which meaning is made. The cultural-cognitive dimension reveals the cognitive structures and social information shared by people in a particular country or region. The cognitive elements of institutions are thus the shared ideas representing the structures by which meaning is made (Scott, 2014). As part of the most informal of the three dimensions (Bruton and Ahlstrom, 2003), cultural-cognitive elements indicate individual perception. However, the salient points assume a context in which both faculty and colleagues have sufficient knowledge of developing ideas, investing in a market and creating a business. Thus, the following hypothesis is proposed:

**H3.** *There is a direct and significant relationship between agents' perception of their cognitive structure and their entrepreneurial intention.*

Based on the institutional view of Scott (2014), Oftedal et al. (2018) state that the university context establishes premises through the regulatory, cognitive and normative pillars of influence and that students’ perception of their university context shapes their entrepreneurial intention. Their model therefore establishes the effect of influence on the first part of the structuring process. The structure of the university also indicates a strong positive link between the university context and students’ intention (Oftedal et al., 2018). This is illustrated in Figure 1.

[insert Figure 1.]

This model focuses on establishing the influence of institution on student. The feedback loop of entrepreneurial intention in relation to university structures is an important part of the structuring process. This aspect of the model is, however, beyond the scope of the present study.

**5.** **METHODS**

The scales we selected for measuring entrepreneurial intention (dependent variable) and the perception of their university context among Brazilian higher education students (independent variable) were the same as those used by Oftedal et al. (2018). Both the dependent variable and the independent variables were measured using a seven-point Likert scale from 1 (strongly disagree) to 7 (strongly agree).

As the original scale was developed in a project concerning ten universities in five developed countries (USA, Finland, Norway, United Kingdom and Sweden) and was applied only to business school students at the participating universities, it was necessary for us to adapt it before proceeding with its validation in the Brazilian context. Thus, the opportunity recognition aspect of the original model was excluded.

We chose to specifically study the entrepreneurial intention variable because it is considered the best predictor of potential entrepreneurial behavior by the TPB (Ajzen, 1985). The recognition of opportunity is a cognitive process that leads an individual to develop or in some cases discourage (given the Brazilian regulatory context) his or her entrepreneurial intention (Baron and Ensley, 2006). Therefore, although they are related, there is no need to study opportunity recognition as well. In addition, with the exception of the cognitive dimension, Oftedal et al. (2018) have not obtained results that demonstrate a significant relationship between the recognition of opportunity in more than one dimension of the university context.

The dependent variable is entrepreneurial intention. To measure it, four indicators were used: "I seriously think about creating a company"; "My professional goal is to become an entrepreneur”; “I intend to found a company within five years after completing my degree”; and “I would prefer to be self-employed than be someone's employee”.

The independent variables correspond to the three dimensions that form the concept of the university context in the model—regulatory, normative and cognitive—whose indicators are presented in Table 1.

**Table 1.** Indicators of the independent variables

| **Regulatory dimension:** Sponsorship and policies |
| --- |
| My university sponsors the business activities of students (support for business plans, pitch competitions, etc.) |
| My university financially supports the opening of start-ups by students and professors |
| My university encourages students to engage in entrepreneurial activities |
| My university supports new ideas and innovative approaches |
| The forms of incentives are created from feedback at all levels of the university |
| **Normative dimension:** Image of entrepreneurs perceived by students |
| Colleagues who start their own business are respected |
| My colleagues admire those who are starting their own companies |
| My colleagues admire those who develop their own ideas |
| My colleagues see entrepreneurial initiatives as the “path to success” |
| My colleagues admire those who have many ideas |
| Having your own business is a respected career |
| " **Cognitive dimension:** “Knowledge of colleagues” and "advice from teachers" |
| My colleagues know how to deal with the risks associated with a start-up |
| My colleagues have the necessary skills to start their own business |
| My colleagues know who can be useful in launching a start-up |
| My colleagues know where to get information on how to start their own business |
| My colleagues know the procedures to start their own businesses |
| My colleagues know how to develop their own business ideas |
| I receive good advice from my teachers in the development of my business ideas |
| My teachers are open to my ideas |
| My teachers have good knowledge of how to commercialize an idea |

Source: Oftedal et al. (2018).

**Table 1.** Model fit indices

| GFI | AGFI | IFN | TLI | CFI | RMSEA | Q2/GL | p |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| >0.800 | >0.800 | >0.900 | >0.900 | >0.800 | Up to 0.08 | <5 |  |  |
| 0.868 | 0.839 | 0.900 | 0.952 | 0.958 | 0.051 | 1.652 | 0.000 | \*patterns |

 \* patterns for the adjustment indices, according to Hair et al. (2005).

We used the four control variables that are significant in the original study by Oftedal et al. (2018): gender, entrepreneurial experience, type of course (undergraduate or graduate) and participation in compulsory entrepreneurship discipline or elective. Dummy variables were adopted for these categories.

***5.1. Sample and data collection***

Data collection occurred between December 2019 and January 2020 through an online form that was sent to groups related to various professions, to scholarship recipients of interest in entrepreneurship, to Brazilian HEIs, and to others present on social networks, especially Facebook, LinkedIn and Twitter. A total of 265 questionnaires were obtained, of which 17 were discarded because the respondents were not enrolled in a higher education course.

The final sample comprised 248 valid responses from students from 75 Brazilian HEIs in the 5 geographic regions of Brazil. It was mostly composed of undergraduate students in the natural sciences who were linked to public and private universities. Approximately 78% of respondents were less than 30 years old, and the number of students per gender was balanced. Less than 40% of the respondents had already taken an entrepreneurship course at the institution where they were enrolled, with almost the same proportion of students having a compulsory academic activity in their curriculum. Most students worked (53.6%), but only approximately 28% of them had or were obtaining professional experience as an entrepreneur or by being self-employed.

***5.2. Data treatment and hypothesis testing***

The data were initially analyzed to verify the existence of missing data, outliers, normality, linearity and homoscedasticity. This procedure is necessary before any reliability analysis of scales and hypothesis testing (Hair Jr. et al., 2005).

The validation of the scales and hypotheses was performed through confirmatory factor analysis (CFA) using structural equation modeling (SEM). The maximum likelihood estimation method and the covariance matrix were adopted as the data inputs, following the suggestions of Hair Jr. et al (2005).

The scales were adequate in terms of reliability in all their dimensions. They presented composite reliability (CR) above 0.7 and extracted variance (EV) above 0.5. We also evaluated whether the independent variables were discriminant among themselves. Based on Fornell and Larker (1981), to be considered discriminant, the variance extracted from each construct must be greater than the variances shared between them (squared correlation). The results that we obtained showed discrimination between the variables.

**6.** **ANALYSIS AND DISCUSSION OF DATA**

Our hypotheses were evaluated by CFA using SEM.

Figure 2, below, illustrates the tested model.

[insert Figure 2.]

Before verifying the obtained results, the fit indices of the model were tested to evaluate its adequacy, and the following results were obtained:

Based on the indices we obtained, we found the model adequate to validate the results of the proposed relationships between the variables.

Below, Table 2 shows the obtained results.

**Table 2**. Results of the standardized loads of the regression

| Relationship | Standardized load |
| --- | --- |
| DR - IE (Hypothesis 1) | - 0.118\*\* |
| DN - EI (Hypothesis 2) | 0.347\*\*\* |
| CD - IE (Hypothesis 3) | -0.092ns |
| G - IE Control | 0.142\*\* |
| EE - IE Control | 0.324\*\*\* |
| NE - IE Control | -0.232\*\*\* |
| DE - IE Control | 0.094\* |

These results show statistical significance for H1; however, in contrast to the direct relationship originally proposed in H1, the relationship is indirect. On the one hand, this finding differs from the results for other countries (Cooter, 2000; Ofteda et al., 2018) in terms of the meaning of the relationship; on the other hand, they reinforce the importance of regulatory institutions and the impact of the rule of law on behavior (Busenitz et al., 2000; Oftedal et al., 2018; Scott, 1995), in addition to supporting the literature that identifies the effects of institutions (i.e., the formal rules of the game) on the intentions that precede human behaviors (Gneezy and Rustichini, 2000). Perhaps this difference in the direction of the relationship can be explained by the environment in which the studies were conducted. The study by Oftedal et al. (2018) was conducted in developed countries, which are characterized by their more consolidated and lasting institutional environments. This study, however, was conducted in Brazil, where the institutional environment is confusing and turbulent in almost all sectors. Thus, we find that the formal rules and laws of the Brazilian university context negatively influence entrepreneurial behavior.

Our results indicate a direct and significant relationship between the normative dimension and entrepreneurial intention, supporting Hypothesis 2. The normative dimension refers to the “collective norms” within a certain institutional structure. It is based on values and the respected and admired ways of behaving. This finding corresponds to the role of “social norms” in the theory of planned behavior, which is an antecedent of business intention (Iakovleva and Kolvereid, 2009; Kruger et al., 2000). The normative dimension in the institutional structure is specific to each case and is focused on the behavioral “routes” respected by the collective. Hence, our results suggest that students learn by adopting contextual social norms. Based on the view of their colleagues, the attractiveness of an entrepreneurial career has a great impact on the formation of their positive entrepreneurial intention. The obtained results therefore corroborate the findings of Oftedal et al. (2018).

 Hypothesis 3, however, is not supported because we find no statistical significance. This result also resonates with those obtained by Oftedal et al. (2018) and may have several explanations. First, it can be explained by the general absence of academic activities on entrepreneurship or lack of interest of the group of respondents in these activities. As observed in our characterization of the sample, only 36.29% of respondents had attended some academic activity on entrepreneurship. In addition, the sample was composed of students from very diverse courses where entrepreneurship is not recognized as a common career goal.

Another explanation could be that students who want to start their own entrepreneurial project feel that they have more insight into the process that they are about to undertake than their colleagues and teachers. They may therefore be in search of knowledge that is specifically related to the project they want to start while being disillusioned by the level of knowledge of their colleagues and teachers.

Finally, grasping the pros and cons of being an entrepreneur can lead to a decrease in the entrepreneurial intention of those who are not particularly interested in becoming an entrepreneur. More than half of our respondents indicated that they did not aim to become an entrepreneur (52.82%). The cognitive dimension focuses on the available knowledge and skills that surround an individual. Understanding the challenges of the initialization process can thus lead to a decrease in the relevant attitudes and intentions among those with low levels of motivation.

Regarding the adopted control variables, all of them showed a significant relationship with the dependent variable. First, being male is correlated with greater entrepreneurial intention. This result corroborates one in the original study, although it is not as strong (Oftedal et al., 2018).

Unlike the direct relationship found by Oftedal et al. (2018), we find that graduate students are no longer inclined toward greater entrepreneurial intention. This disparity in the results can be explained by the characteristics of graduate education in Brazil. Such training remains mostly academic, as do the career expectations of the graduates (Andrade, 2014).

As predicted by our analysis of the results of the original study (Oftedal et al., 2018), we find that the greatest predictive factor is previous experience with entrepreneurial activity, since this is a step taken after the emergence of entrepreneurial intention.

The model also shows that the existence of the mandatory entrepreneurship discipline positively influences the development of entrepreneurial intention. This result differs from the negative relationship obtained by Oftedal et al. (2018). Therefore, in the Brazilian context, there is no support for the argument of Oosterbeek et al. (2010) that there is a negative association between entrepreneurial education and the intention to start a business. This suggests that while students who attend classes with high levels of motivation can increase their start-up intention, those who attend these compulsory courses because they are formally required to do so may experience a decrease in EI.

Hence, after analyzing our hypotheses, it is clear that the normative dimension (values and norms shared among colleagues) is the strongest predictor of the dependent variable. The second strongest predictor is the regulatory dimension (sponsorship of activities and support policies); however, its effect is indirect in the Brazilian context. Finally, the cognitive dimension (knowledge and skills of fellow students and faculty councils) has a null effect on entrepreneurial intention.

**7. FINAL CONSIDERATIONS**

We have tested the model of Oftedal et al. (2018) in the Brazilian context, showing how the institutional context influences students’ entrepreneurial intention. While the relationship of the normative structure of the Brazilian university context suggests that it increases the entrepreneurial intention of students, our results for the regulatory structure indicate that it decreases or discourages the entrepreneurial intention of students. Regarding the effect of cognitive structure, our results demonstrate that this dimension has no statistically significant relationship with entrepreneurial intention.

The tested model also implies that the gender of respondents, their previous experience with entrepreneurship, their level of education (undergraduate or graduate), and their engagement with specific entrepreneurship disciplines influence their propensity to undertake entrepreneurship in the future in different ways.

Treating an entrepreneur and his or her context as a duality enriches business theory and provides a better understanding of the nature of the studied phenomenon. For example, it can be assumed that in the long term, a positive normative structure improved by regulatory support can provide a positive spiral, encouraging more students to consider entrepreneurial careers. On the other hand, a discouraging university culture in relation to entrepreneurship creates a negative effect by decreasing entrepreneurial intention and thus restricts interested individuals from publicly expressing their intention and becoming a model for their peers. Institutional theory thus allows us to discover how students interpret and influence their world to achieve their goals.

This theory suggests how social systems restrict and empower entrepreneurs during the discovery, evaluation and exploitation of entrepreneurial opportunities. Our study is based on the premise that “entrepreneurial candidates” do not exist separately from their structural context. Hence, attempts to understand them outside this context cannot fully capture their nature. We have shown that the instrument of Oftedal et al. (2018) is valid and reliable, allowing a better evaluation of the environment where students work through three constructs that involve sponsoring entrepreneurial activities, images of entrepreneurs among fellow students, knowledge and skills of colleagues, and faculty councils. In line with previous findings, Oftedal et al. (2018) have argued that the university creates a contextual environment that affects students in a way that extends beyond their individual behavioral characteristics. Our study has confirmed the association between encouraging entrepreneurship through different institutional dimensions of the university context and individual results, e.g., increased entrepreneurial intention.

By defining the university context as three-dimensional, this study allows the suggestion of different measures to guide HEI managers and public policies for the development of an environment that is more conducive to entrepreneurship. We have found that the formal regulatory dimension is considered important in supporting the development of entrepreneurial intention, but its perception is negative. Therefore, it is advisable to create forms of financing for on-campus business plan competitions and activities that aim to promote entrepreneurship. HEIs that are inserted or have technology parks can take advantage of this structure to enhance this type of action by incubating student companies or facilitating the interaction between students and entrepreneurs through mentoring programs. In HEIs without technology parks, an approximation of business associations can be initiated by senior management and by professors representing different areas of knowledge. Simply presenting a scenario of local entrepreneurship may open up opportunities to foster activities that are aimed at students.

We have revealed that the impact of the normative dimension is even greater. It is therefore suggested to build a positive image of entrepreneurs among students. Supporting students who show interest in entrepreneurial activities and encouraging them to become a model for their peers is one of the ways to enhance students’ EI. In addition, the expansion of the number of academic activities and the provision of disciplines with greater specificity in specific areas, such as technoentrepreneurship, social entrepreneurship, female entrepreneurship, or family entrepreneurship, among undergraduate and graduate students from all areas of knowledge can also contribute to the construction of an entrepreneurial university culture.

The convergence toward an entrepreneurial university culture may also bring benefits at the level of HEI sustainability; the current research funding system and the institutions themselves indicate the need to search for new sources of revenue. This need has been aggravated by the COVID-19 pandemic, and the private education system is already feeling the relevant financial effects. Public HEIs also face difficulties in obtaining public resources because due to the pandemic, the budget of several portfolios has been reallocated to health initiatives.

HEI leaders can thus identify the innovative potential of their university and develop it through the institutionalization of a new vision and the institutional mechanisms that will enable it. Institutional policies and the development of innovation environments are important for creating the conditions for the development of a climate focused on innovation and entrepreneurship. A clear and shared strategic vision in the institution is the starting point for the process of transformation and renewal of an academic environment.

As a limitation of the study, although our questionnaire collected data on the area of knowledge and institution that the respondents were linked to, these were not used as control variables or for comparison purposes. Additionally, due to the small size of our subsamples, it was not possible to determine any differences between the HEIs. Future research can address this problem and provide empirical evidence for how differences in university context can lead to differences in entrepreneurial intention by using this instrument to compare HEIs.

Finally, we have shown that the relationship between entrepreneurial intention and the university context is weak. Perhaps the entrepreneurial intention of students may not be determined only by their entrepreneurship education or university context but may also be formed by the beliefs they hold before enrolling in a university. Future research may therefore emphasize the role of a student's individual characteristics and previous business experience in their interaction with their university context. The ongoing debate in the literature on entrepreneurship shows that there are different types of entrepreneurs. For example, whether students are new, serial or portfolio entrepreneurs—based on gender or even family business tradition—plays a significant role in how the university context affects individuals. These moderators can change the relationship between the university context and the entrepreneurial intention of a student, and thus this topic deserves more attention.

**DATA AVAILABILITY STATEMENT**

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**FIGURES**



**Figure 1.** Analysis model: An institutional model for evaluating student EI

Source: Oftedal et al. (2018)



**Figure 2.** Research model