

## **Student Entrepreneurship and Perceptions on Social Norms and University Environment : Evidence from a Developing Country**

### **Autoria**

Gabriela Trindade Pinheiro - gabrielatpinheiro@gmail.com

Outro (Mestrado no PPGA - FCA - UNICAMP) - Outra (Universidade Estadual de Campinas)

Outro - Outra

Gustavo Hermínio Salati Marcondes de Moraes - gustavosalati@gmail.com

Outro (PPGA) - Outra (Unicamp)

Outro - Outra

Bruno Brandão Fischer - bruno.fischer@fca.unicamp.br

Outro (FCA/UNICAMP) - Outra (FCA/UNICAMP)

Outro - Outra

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### **Resumo**

Social contexts and academic environments are key elements in the debate about drivers of entrepreneurial intention and behavior in tertiary students. Nonetheless, the underlying dynamics of student entrepreneurship remain elusive. In this article we contribute to this discussion by creating an original model that addresses the perception of entrepreneurs and potential entrepreneurs regarding the relationship between social norms, the university environment of support to entrepreneurship, and their perceived satisfaction about universities' conditions to nurture entrepreneurial orientation. Through multivariate data analysis using Partial Least Squares Structural Equation Modeling (PLS-SEM) applied to a sample of 595 students from 66 Brazilian universities, our results indicate that social norms affect how students perceive their university environment in terms of entrepreneurial support. In turn, students' impressions about such environment shape their levels of satisfaction. However, in contrast with the theory of intention-action gap, differences between entrepreneurs and potential entrepreneurs could not be identified.

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### Abstract

Social contexts and academic environments are key elements in the debate about drivers of entrepreneurial intention and behavior in tertiary students. Nonetheless, the underlying dynamics of student entrepreneurship remain elusive. In this article we contribute to this discussion by creating an original model that addresses the perception of entrepreneurs and potential entrepreneurs regarding the relationship between social norms, the university environment of support to entrepreneurship, and their perceived satisfaction about universities' conditions to nurture entrepreneurial orientation. Through multivariate data analysis using Partial Least Squares Structural Equation Modeling (PLS-SEM) applied to a sample of 595 students from 66 Brazilian universities, our results indicate that social norms affect how students perceive their university environment in terms of entrepreneurial support. In turn, students' impressions about such environment shape their levels of satisfaction. However, in contrast with the theory of intention-action gap, differences between entrepreneurs and potential entrepreneurs could not be identified.

**Keywords:** entrepreneurial intention, intention-action gap, university environment, social norms, perceived student satisfaction

### 1. Introduction

In the last decades, the scientific debate on student entrepreneurship has increased and became a prosperous scholarly field. Although universities are currently engaging in the promotion of entrepreneurial activities, undergraduate students' entrepreneurial behavior has received scant attention from academic literature (Alves *et al.*, 2019). This is an odd situation, considering the large number of student entrepreneurs that emerge from higher education institutions and who maintain bonds with their respective *alma maters* (Politis *et al.*, 2010).

One key theme of interest in this debate concerns how diverse aspects of social and academic contexts interact to effectively foster entrepreneurial intentions and behavior in students (Wright *et al.*, 2017). Shedding light on these phenomena can ultimately lead to more efficient initiatives targeting at nurturing entrepreneurship in academic settings.

To dig deeper into these conditions - and how they are associated - this research addresses a new look at the relationship between the students and their social and university environment. Our guiding research questions can be stated as follows: What is the influence of social norms on students' perceptions about the university environment in terms of entrepreneurial support? How does the perception of the university environment affect students' satisfaction with academic initiatives targeted at nurturing entrepreneurship? And, lastly, are there significant differences in these dynamics for the case of individuals demonstrating entrepreneurial behavior and entrepreneurial intention? To answer these inquiries, we develop a model that relates the social context influencing students' entrepreneurial identities, the university environment in terms of entrepreneurial support, and students' perception of these dimensions. The analysis also captures differences between groups of students that are entrepreneurs (entrepreneurial behavior) and those who see themselves as potential entrepreneurs (entrepreneurial intention).

This approach offers insights on two complementary fronts. First, it assesses the consistency of Entrepreneurial Intentions' (EI) models (Krueger, 2009; Krueger *et al.*, 2000; Liñán & Chen, 2009), appending the importance of studying antecedents or context changes and their influence on the intention as a dynamic process. Second, our analysis contributes to the discussion on indetermination in measuring the real impact of prior entrepreneurial exposure on EI (Zapkau *et al.*, 2017), an important factor related to the intention-action gap

(Bogatyreva *et al.*, 2019). Consequently, studying the perception of students who already are entrepreneurs in contrast to those who see themselves as *potential* entrepreneurs can help understanding the underlying dynamics that take place between the intention and the individual's actual foundation of a new firm.

## 2. Social Norms and University Environment Driving Entrepreneurial Intentions

Building on prior research on cognitive psychology, Ajzen (1991) developed the Theory of Planned Behavior (TPB), in which three main attitudes that precede intention are identified: the personal attitude toward outcomes, the subjective norms, also named Social Norms (SN), and the perceived behavioral control of individuals (Ajzen, 1991; Krueger *et al.*, 2000). Ajzen's (1991) theory provided the predominant specification of entrepreneurial intention models, followed by research that consolidated the compatibility of the intention-based model (Fayolle & Liñán, 2014).

Meanwhile, in the entrepreneurship field, a guide reference is Shapero & Sokol (1982) model of Entrepreneurial Event (SEE), (Fayolle & Liñán, 2014), in which the Entrepreneurial Intention (EI), an individual state of mind that precedes behavior (Saeed *et al.*, 2015), depends on three main factors: perceived feasibility, perceived desirability, and propensity to act (Krueger *et al.*, 2000). An understanding of EI can be guided by both models, as two distinct approaches with comparable interpretations (Krueger *et al.*, 2000). Thus, it is possible study social norms comprehending both theories' approaches.

The construct of Social Norms (SN) has been exemplified by Ajzen (1991) as the individual's family expectations and the strength of the motivation to comply with them, but comprehends all the social relationships and cooperation for entrepreneurial intentions (Liñán & Chen, 2009). The perceived social pressure from society, in a macro level, as well as from family, friends, significant-others, coworkers, and mentors in a meso and micro level (Krueger *et al.*, 2000), is responsible for either performing or not a given behavior (Ajzen, 1991).

For TPB, SN directly influence entrepreneurial intentions (Ajzen, 1991), although, subsequently, the SN construct having shown a non-significant correlation with intentions (Krueger *et al.*, 2000). Prior research also developed models with SN as a predictor of perceived desirability or perceived feasibility, not directly correlated with intention, considering SN with a moderate level of influence on EI, while Liñán and Chen (2009) argued about the presence of interactions and indirect effects to explain the weak relationship between SN and EI. In turn, Kuratko *et al.* (2020) defend that external influences of contextual factors and relationships affect the entrepreneurial mindset of individuals, framing choices that may foster or hinder entrepreneurial behavior.

Thus, the study of social norms in relation to entrepreneurial intention is lacking in conclusive results, and there are assumptions that this is due to the multiple methods applied to measure the construct (Heuer & Liñán, 2013). It is also not common to find models that associate SN with contextual variables, not directly linked to EI but with an enabling environment for entrepreneurship and for training, as the University Environment (UE) (Miranda *et al.*, 2017).

Guerrero *et al.* (2015) point out that entrepreneurial culture happens at the institutional level, underscoring the role played by academic institutions in potentially driving the emergence of new ventures. In fact, universities have been sheltering an increasing demand to address not only science and technology producing, but also to drive innovation and commercial issues (Alves *et al.*, 2019). Besides traditional approaches to entrepreneurial learning, other forms of academic support can allow students to learn, research and experiment entrepreneurship, but these initiatives, creating academic ecosystems conducive to student entrepreneurship is a non-deterministic, complex matter, involving multiple stakeholders both internal and external to the university (Beyhan & Findik, 2018; Fischer *et al.*, 2019).

In order to locate UE in entrepreneurial intention theories, the construct is seen as a predictor contextual variable of perceived behavioral control, in TPB (Miranda *et al.*, 2017), as well as a predictor variable of perceived feasibility, in SEE (Krueger *et al.*, 2000; Saeed *et al.*, 2015), often segregated into more specific constructs, such as training, supportive environment, business environment, among others. In both theories, the UE may emphasize academic experiences focused on increasing EI, but students also may expand their perception of UE including social experiences, whether personal (from their individual social context) or available on campus (Elliott & Shin, 2002).

Studies including SN and UE mainly presents results about these constructs, individually, related to entrepreneurial intention or behavior (Gieure *et al.*, 2019; Miranda *et al.*, 2017; Shirokova *et al.*, 2016). Research about the direct relationship between SN and UE is not usually observed, but García-Rodríguez *et al.* (2017) tested the influence of UE in SN, with no significant results. In this work, we assume as hypothesis that social norms influence the student's perception of support for entrepreneurship given by the university environment. Such assumption is exploratory, but it is based on (a) the fact that SN and UE are constructs related and have, occasionally, influence on entrepreneurial intention, (b) Kuratko *et al.* (2020) conjecture that external influences of relationships (such as SN) affect the entrepreneurial mindset of individuals, and (c) the academic experiences be tied to internal and external social experiences (Elliott & Shin, 2002). Thus, our first hypothesis can be described as follows:

*Hypothesis 1: The social norms influence positively the importance of the university environment as support to entrepreneurship.*

Through SN as an influencer of the interest in entrepreneurship and with UE as a mean encompassing experiences such as the development of skills and training (Saeed *et al.*, 2015), catalyzing regional economy transforming itself into natural incubators (Guerrero *et al.*, 2015), and fomenting the knowledge production and dissemination (Moraes *et al.*, 2020), the student's perception about the university support and evaluation of satisfaction can also be considered a good indicator of educational effectiveness for entrepreneurship. Thus, there is relevance in understanding the Perceived Students Satisfaction (SS).

A contemporary assessment of this subject is consider the student as a costumer (Finney & Finney, 2010), but discussing the student satisfaction as an antecedent to service quality, and strictly linked to trust and expectation. In the higher education context, this means that SS about the university environment and the academic experiences is positively related to the expectations derived from SN on how the university could increase a specific knowledge or skill (Bordean & Sonea, 2018).

Another perspective justifies that student engagement predicts learning outcomes and the flow of SS is preceded by student interactions, mainly with the content during the course and with other students, and by student engagement (Nasirun *et al.*, 2017). The student engagement, according to the EI theories, is an individual dimension influenced by SN. Thereby, it is expected that students entering college influenced by SN to assign greater value to entrepreneurship support initiatives. Accordingly, this student is prone to better evaluate these initiatives as well, considering the heterogeneous experiences that individuals can be exposed to even in similar academic settings (Alves *et al.*, 2019; Fischer *et al.*, 2019). Consequently, the second hypothesis can be states as:

*Hypothesis 2: The importance attributed by students to the university environment's support for entrepreneurship influences positively the perceived satisfaction with said university environment.*

The first and second hypotheses deal with the relationship between the constructs social norms, university environment and perceived student satisfaction. The third hypothesis, presented in the next section, concerns the difference between groups of entrepreneurs and potential entrepreneurs regarding these relationships.

## 2. The Intention-Action Gap

Intention has been shown to be the best predictor of planned behavior (Ajzen, 1991; Joensuu-Salo et al., 2020; Liñán & Chen, 2009), particularly when “*behavior is rare or difficult to observe, intentions offer critical insights into underlying processes such as opportunity recognition*” (Krueger et al., 2000). Starting from these assumptions and extending the underlying notion to the entrepreneurial process, EI can be deemed as crucial to identify the relationship between ideas and action (Shirokova et al., 2016).

The venturing endeavor requires planned behavior preceded by intentions (Kautonen et al., 2015). Thus, considering the starting point of entrepreneurial actions through the formation of entrepreneurial intention, it is important to assess factors that influence the conversion of intention into behavior, a phenomenon named Intention-Action Gap (IAG) (Shirokova et al., 2016). Kautonen et al. (2015) point to moderate results for individuals who have EI and transform it into action. In addition, Bogatyreva et al. (2019) point out that the link to action on EI's models is still unknown, addressing the studies about the entrepreneurial IAG to the influence of the Prior Entrepreneurial Exposure (PEE) research. Therefore, the effects of PEE on attitudinal variables that guide EI are still in an incipient stage, with the existence of ambiguity in the results and with shortcomings in theories (Zapkau et al., 2017).

It is possible to relate PEE mainly to the group of entrepreneurs (all with previous or current experience), and assume the positive relationship reported in the PEE studies with EI for this group, with a greater degree of influence than for the group of potential entrepreneurs (in which 68.6% of the sample has previous experience in a small size company), (Endeavor, 2016). In contrast to the expected difference between the groups, (Blair & Shaver, 2020) focused on seeking differences between entrepreneurs and non-entrepreneurs, in which TPB was concerned, and not finding significant differences between samples .

Also, recognizing the importance of influential factors on EI, PEE includes an essential group of SN, the business network members, who are seen as more influential on intention than family and friends (Krueger et al., 2000). Based on this argument, it can be inferred that the SN of students who are already entrepreneurs and have this specific network have more support than the ones of potential entrepreneurs' students, therefore, a difference between the two groups is expected in the relationship between SN and UE.

Hence, based on the notion of the existence of an intention-action gap, our next set of hypotheses introduce the expectations of differential associations among dimensions of interest when comparing student entrepreneurs with those who only see themselves as potential entrepreneurs in the future:

*Hypothesis 3a: There are differences in perception between students that already are entrepreneurs and students that are potential entrepreneurs when analyzing the relationship between the social norms and the university environment.*

*Hypothesis 3b: There are differences in perception between students that already are entrepreneurs and students that are potential entrepreneurs when analyzing the relationship between the university environment and the perceived satisfaction of the university environment.*

## 3. Methodological Approach

This study addresses the issue proposed by using a dataset collected by Endeavor Brazil in partnership with SEBRAE, the Brazilian Micro and Small Business Support Service, and the Data Popular Institute and made available for the purposes of this research. The dataset, covering students connected to entrepreneurship, consists of 595 respondent university students from 66 higher education institutions across 17 Brazilian states (Endeavor, 2016). The sample was separated into two groups for the multigroup analysis: those who were already



entrepreneurs by the time of data collection (N= 127), and students that seem themselves as potential entrepreneurs (N=468). Questionnaires were administered between April and May 2016, using the intercept research methodology (randomly selected face-to-face interviews), with questions mainly consisting of a 5-point Likert scale to measure satisfaction or agreement. This survey portrays a representative sample of university students in the country, with a 95% confidence interval (Endeavor, 2016).

Due to the nature of the current study, the empirical research was developed through a quantitative methodology, with the use of Partial Least Squares Structural Equation Modeling (PLS-SEM) (Hair *et al.*, 2019) using SmartPLS 3 application (Ringle *et al.*, 2015). The model's indicators are reflective and, according to Hair *et al.* (2019), it was necessary to test the following criteria for evaluation: internal consistency, convergent validity, and discriminant, as well as perform a CFA in order to test the indicators of each construct, followed by the evaluation of the structural model and the multigroup analysis. To evaluate the sample size and its relevance an analysis with G\*Power 3.1 software was conducted. Considering one predictor, a significance level of 5%, statistical power of 0.80, the minimum size of the sample required is 55. As the final sample used, divided by the groups of entrepreneurs and potential entrepreneurs, are 127 and 468 respondents, respectively, it is suitable for estimation by PLS-SEM.

#### 4. Findings and Results Analysis

In order to validate the hypotheses presented as the direction of this research, firstly a Confirmatory Factor Analysis (CFA) was performed to test and justify an *a priori* determined variable and its assigned indicators (Hair *et al.*, 2019). All measures were tested in the same model and were restricted to load on their respective factor, and the results of CFA shown outer loadings greater than 0.70 (Hair *et al.*, 2019), considered acceptable.

The cross-loading analysis revealed that discriminant validity has been established, once all indicators showed high factor loads in their correlated latent variables and low in the other latent variables, being all of them greater than 0.70. The Fornell-Larcker criterion, as exposed in the upper quadrant of Table I, results the square root of AVE greater for each latent variable than for the correlation between latent variables (Hair *et al.*, 2019).

As a convergent validity, the Average Variance Extracted (AVE) value is equal or higher than 0.50 and indicates that, on average, the construct explain more than half of the variance of its indicators (Hair *et al.*, 2019), as shown in the lower quadrant of Table I.

**Table I.** Summary of evaluation measurement models

<b>Constructs</b>	<b>SN</b>	<b>UE</b>	<b>SS</b>
<b>SN</b>	<b>0.728</b>		
<b>UE</b>	0.290	<b>0.839</b>	
<b>SS</b>	0.517	0.131	<b>0.713</b>
<b>AVE</b>	0.509	0.529	0.704
<b>Cronbach's Alpha</b>	0.686	0.887	0.790
<b>Composite Reliability</b>	0.803	0.909	0.877

Note: SN = Social Norms; UE = University Environment; SS = Perceived Student Satisfaction; AVE = Average Variance Extracted

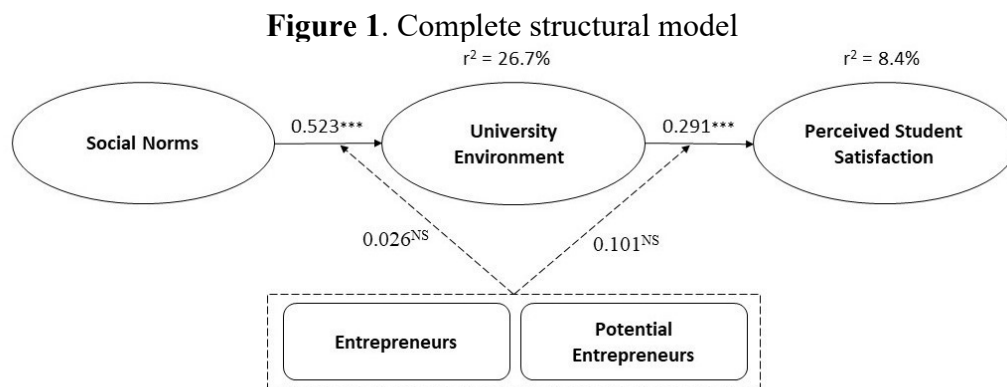
Table I also presents the Cronbach's Alpha and the Composite Reliability (CR), both testing the internal consistency of the measurement model and assessing its reliability (Hair *et al.*, 2017). For the current models, the Cronbach's Alpha and CR can be considered satisfactory since the real reliability is usually between the two indicators, therefore it is understood that the internal consistency is validated.

The structural model assessment procedure involves examining the model's predictive capabilities and the relationship between the constructs, starting with the evaluation of its collinearity. The Variance Inflation Factor (VIF) values for each subpart of the structural model was calculated and found to be within the established parameters, below 5 (Hair *et al.*, 2017). The empirical T-value was analyzed and it is larger than the critical value of 1.96, related to a significant level of 5% and a two-tailed test, meaning that the null-hypothesis is rejected and the path coefficient is considered significant (Hair *et al.*, 2019).

According to the analysis, measuring the Coefficient of Determination ( $R^2$ ) to evaluate the structural model, the university environment construct presented an  $R^2$  of 0.267, considered a high effect, or substantial, and the perceived student satisfaction construct presented an  $R^2$  of 0.084, with a small to medium effect, considered weak to moderate (Hair *et al.*, 2019). Besides using  $R^2$  to evaluate predictive precision, the Stone-Geisser's  $Q^2$  value was also calculated. Regarding SEM models,  $Q^2$  values larger than zero for a specific endogenous construct are indicative of predictive relevance of the path model, and all  $Q^2$  values were above zero.

To test the hypotheses in relation to differences entrepreneurs and potential entrepreneurs, a multigroup analysis was performed. From the results, it is possible to claim that there are no significant differences in the relationships between the constructs regarding entrepreneurs and potential entrepreneurs, due to p-values larger than 0.05.

Therefore, the complete model resulting from the empirical approach is presented in Figure 1.



Note: \* = significant at 5%; \*\* = significant at 1%; \*\*\* = significant at 0.1%; NS = not significant

With the obtained validations, the synthesis of the hypothesis tests of the study are summarized in Table II and discussed in the next section.

**Table II. Hypotheses confirmation**

Hypotheses	Description	Results
H1	SN -> UE	Confirmed
H2	UE -> SS	Confirmed
H3	E ≠ PE	Not confirmed
H3a	E ≠ PE: SN -> UE	Not confirmed
H3b	E ≠ PE: UE -> SS	Not confirmed

Note: SN = Social Norms; UE = University Environment; SS = Perceived Student Satisfaction; E = Entrepreneurs; PE = Potential Entrepreneurs

## 5. Discussion

Through the strong relationship found between the constructs SN and UE, it can be assessed that the greater the family and friends' support (Ajzen, 1991; Williams et al., 2013), the contact with the entrepreneur network (Krueger *et al.*, 2000), and the contact with mentors (Ajzen, 1991), all of them encouraging entrepreneurship, the greater is the importance the student gives to the university environment in terms of support to entrepreneurship.

The composing elements of the social norms influence positively individuals' perception of an important institutional factor as the university environment (Kuratko et al., 2020; Shirokova et al., 2016; Wright et al., 2017), as H1 states. Hence, available evidence indicate that social norms have a high probability of influencing positively aspects related to the university environment, as the choice of the course or disciplines, as well as the perceived support to entrepreneurship given by UE. This finding is in line with the notion that interpersonal relationships have a significant effect on the development of an entrepreneurial identity, an aspect that will ultimately affect how individuals assess the context in which they are embedded (Mosey & Wright, 2007; Wright *et al.*, 2017).

Likewise, the results for the dependent variable of SS presented a small to medium effect of predictive precision, indicating the positive influence of UE in SS, confirming H2. This means that those students who have better perceptions about universities' conditions to nurture entrepreneurship (UE) are also more satisfied with their university environment. This comes in the form of entrepreneurship courses, alumni programs, accessibility to investors, entrepreneurship-related events and competitions, and services to conduct new business opportunities.

Thus, the theories previously presented that suggest that satisfaction is closely linked to student university engagement and expectations (Nasirun et al., 2017), meaning that student satisfaction depends on the importance they give to the university environment of support to entrepreneurship. As an applied contribution, this result indicates the need for universities to establish flexible forms to address initiatives targeted at students, taking into account heterogeneous antecedents of entrepreneurial identity that affect how individuals' perceive and connect to academic settings (Fischer *et al.*, 2019). This is a critical aspect in the Brazilian tertiary education systems that has been traditionally focused on rigid programs with intense in-class training.

Analyzing the three constructs as sequential and their respective relationships with positive and moderate to satisfactory effect results, the suggestion that the social norms directed related to EI leverage the perceived university environment that supports entrepreneurship and, consequently, the perceived satisfaction about the UE is also influenced, is reinforced. This calls for further attention on university-level policies aiming at fostering entrepreneurial engagement in students, since these dynamics appear to be significantly shaped by aspects that lie outside the reach of academic institutions, such as social norms derived from strong ties with family and friends. On the other hand, universities can help establishing linkages between students and the business community, thus acting as a network broker (Burt, 2010).

Despite available evidences suggesting that not all entrepreneurial intentions are translated into actions (Kautonen et al., 2015; Shirokova et al., 2016), concerning the relationship between constructs that influences intention, specifically those contemplated in this research, no significant evidence was found about differences between entrepreneurs and potential entrepreneurs on the importance of social norms, university environment, and perceived student satisfaction. The results ratify the findings of Blair and Shaver (2020), and are also in line with (Zapkau et al., 2017) and Bogatyreva *et al.* (2019) about the existence of ambiguity in terms of differential dynamics involving intention and action. Alternatively, we recognize that the development of an entrepreneurial identity can be better represented by complex interrelationships among several influential vectors that were not considered in our assessment (Ashforth *et al.*, 2008).



## 6. Final Remarks

This research contributes to the literature on entrepreneurship in academic settings by providing a nuanced understanding of the relationship between SN, UE, and SS, regarding the entrepreneurs and potential entrepreneurs' perception. The relationship between the constructs social norms, university environment that supports entrepreneurship and the perceived student satisfaction about the UE showed up relevant, with high effect between SN and UE and with a small to medium effect between UE and SS, confirming H1 and H2. However, perceptual differences between actual and potential student entrepreneurs could not be identified, thus not confirming hypothesis H3. From these findings, some concluding remarks and implications can be drawn.

The non-significant results about differences between entrepreneurs and potential entrepreneurs add to the mass of inconclusive studies on the subject. However, our research reinforces that approaches which use models of entrepreneurial intention in students can be used for planning the university environment in terms of entrepreneurial support. For students at Brazilian universities, the perception between the two groups is similar, facilitating the analysis of the strengths and weaknesses of the entrepreneurial activities in university environment.

Social norms were associated with significant influences on the perception of the university environment. In its turn, this latter dimension affects the levels of perceived student satisfaction with entrepreneurial support. This conclusion features three implications. First, a more applied contribution is thinking activities focused on entrepreneurship in the university environment as elective and voluntary, considering that, for each individual, the greater the family support, the support of friends and the contact with networks of entrepreneurs and mentors, the greater is the importance the student gives to the university environment supporting entrepreneurship. Accordingly, more efficient approaches should take these idiosyncratic features into account.

Second, results show that student satisfaction depends on the importance they give to the university environment of support to entrepreneurship, even if this effect is weak to moderate. Thus, in order to consider the external social context that encompasses the students in advance, it is necessary to adapt the entrepreneurial activities planning in the university environment with the intention to optimize the student involvement and experience. Finally, the topic of student satisfaction could be prospected with another approach, related to the research field of the student entrepreneurship.

Our assessment does not go without limitations. First, by addressing a sample of Brazilian undergraduate students, findings should be validated in other contexts. This is particularly critical considering differences that may arise in terms of overall entrepreneurial orientation in the population and cross-country heterogeneity concerning the structure of tertiary education. A further limitation is related to the questionnaire content, requiring the inclusion of alternative indicators for the dimensions of interest, providing a more nuanced picture of the phenomenon under investigation. Further research can also dedicate focus to addressing prospective features of minority groups, as well as gender differences. Lastly, longitudinal approaches are due in order to shed light on the temporal dynamics of entrepreneurial engagement in students. Achieving in-depth knowledge on the complex mechanisms that engender entrepreneurship in universities can offer beneficial insights for academic management and, ultimately, to the economic systems in which these institutions are embedded.

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