XXIII SEMEAD
Seminários em Administração

novembro de 2020
ISSN 2177-3866

Now What?! Pandemic Effects on Entrepreneurial Behavior and Education

ANNE KATHLEEN LOPES DA ROCHA
UNIVERSIDADE ESTADUAL DE CAMPINAS (UNICAMP)

GISELA CONSOLMAGNO PELEGRINI
UNIVERSIDADE ESTADUAL DE CAMPINAS (UNICAMP)

GUSTAVO HERMÍNIO SALATI MARCONDES DE MORAES
UNIVERSIDADE ESTADUAL DE CAMPINAS (UNICAMP)

NOW WHAT?! PANDEMIC EFFECTS ON ENTREPRENEURIAL BEHAVIOR AND EDUCATION

1.INTRODUCTION

World War II was the last episode countries had seen schools and educational institutions go into lockdown around the same time, for the same reason (Luthra & Mackenzie, 2020). This changed in December 2019, when Wuhan Health Commission notified the National Health Commission, China Center for Disease Control and Prevention and World Health Organization (WHO) of a cluster of 27 cases of pneumonia of unknown etiology (Kakodkar, Kaka, & Baig, 2020). These patients presented a virus called novel coronavirus 2019 (COVID-19), which rapidly spread out around the globe (Kakodkar *et al*., 2020; Rezaeetalab, Mozdourian, Amini, Javidarabshaihi, & Akbari, 2020; WHO, 2020b). This rapid dissemination led millions of people in quarantine and lockdowns, affecting several pillars of society, such as economy and education. Moreover, the lockdown period forced several institutions into reinventing themselves in order to keep performing their educational role, through distance and online solutions (Luthra & Mackenzie, 2020).

This adaptation, however, might have affected educational spheres, mainly related to disciplines that require practical classes and hands-on activities to enhance their effectiveness, like entrepreneurial education. Rönkkö and Lepistö (2015) have established entrepreneurship is acquired through a learning by doing process, thus it could be affected by distancing and less practical activities caused by the virtual environment. Additionally, entrepreneurship education is considered as one of the influential forces in the venture creation process (Jena, 2020). Another force recognized is entrepreneurial self-efficacy, which refers to an individual's belief in his/her capability to perform tasks and roles aimed at entrepreneurial outcomes (Newman, Obschonka, Schwarz, Cohen, & Nielsen, 2019), it also plays an important role in determining whether individuals pursue entrepreneurial careers (Newman *et al*., 2019)

On the other hand, entrepreneurial intention is a good predictor of the decision to become an entrepreneur (Fragoso, Rocha-Junior, & Xavier, 2020). It represents the first step into a long chain of actions directed towards starting a business (Vodă & Florea, 2019). Scholars have acknowledged a positive relation between entrepreneurial intention and entrepreneurial self-efficacy (Asimakopoulos, Hernández, & Peña Miguel, 2019; Fragoso *et al*., 2020; Moraes, Iizuka, & Pedro, 2018); entrepreneurial intention and entrepreneurial education (Ahmed, Ur Rehman, & Sergi, 2019; Atiya, Bilal, Abulhamid, & Shoaib, 2019; Liu, Walley, Pugh, & Adkins, 2020), as well as entrepreneurial self-efficacy and entrepreneurial education (Amaral, Toledo Hernandez, Henrique, & Bastos, 2018; Newman *et al*., 2019).

However, literature has identified factors that may foster or inhibit entrepreneurial education (Jena, 2020; Pittaway & Edwards, 2012; Rideout & Gray, 2013; Shi, Yao, & Wu, 2020; Stamboulis & Barlas, 2014; Vesper & Gartner, 1997). Such works highlight the effects of interventions in the learning and the new business creation process. Considering that to date, there is no anti-viral therapeutics that specifically targets human coronaviruses (Yang *et al*., 2020), that entrepreneurial education and behavior is individually driven (Caliendo & Kritikos, 2011; Krakauer, Moraes, Coda, & Berne, 2018; Schmidt & Bohnenberger, 2009) and susceptible to environmental changes (Koe, Sa'ari, Majid, & Ismail, 2012; Küttim, Kallaste, Venesaar, & Kiis, 2014; Newman *et al*., 2019), especially in the context of developing countries

(Fischer, Moraes, & Schaeffer, 2019; Guerrero, Urbano, Cunningham, & Gajón, 2018; Moraes, Fischer, Campos, & Schaeffer, 2020), this research addresses the fundamental gap of effects caused by the coronavirus pandemic (Yang *et al.*, 2020) on the relationship amongst entrepreneurial education, self-efficacy and intention in a specific context.

Hence, the research expands the concepts of *entrepreneurship education* and *entrepreneurial self-efficacy – entrepreneurial intention* to encompass *perceived university support* and *entrepreneurial behavior*, as similarly seen on Shi *et al*. (2020). Perceived university support and entrepreneurial behavior represent another light of the education-intention-self-efficacy nexus, differentiating and further evolving entrepreneurship studies. Secondly, this world phenomenon claims for further investigation, especially considering possible outcomes for entrepreneurship (Nassif, Armando, & La Falce, 2020). Thirdly, since WHO states that the outbreak has reached several countries and the situation is still unpredictable (WHO, 2020b) and that Brazil is an intriguing case for entrepreneurship research (Alves, Fischer, Schaeffer, & Queiroz, 2019), this study assesses public university students' comprehension on COVID-19 effects in their entrepreneurial behavior and in the received university assistance, in two main stages: prior and during the confinement.

2. RESEARCH PROBLEM AND OBJECTIVE

The goal of this research is to identify whether the Coronavirus pandemic has influenced students' entrepreneurial behavior and perceived university support in a public university in the state of São Paulo. For this matter, students from the University of Campinas (Unicamp) were selected, since Unicamp is second best teaching and research institution in Brazil and the 214th best in the world, according to the QS World University Rankings (Elsevier, 2021). In the international ranking by the British publication, Times Higher Education, of the World University Ranking 2019, the university is at the 401–500 level in the world and first place in Brazil ("Times Higher Education | World University Rankings," 2020). Unicamp's internal entrepreneurial university pathways have a positive effect on students' start-up actions (Guerrero, Urbano, & Gajón, 2014) and when compared with other universities from emerging countries, it has higher entrepreneurship outputs.

Considering the possible theoretical contributions already mentioned, it should be noted that from a practical standpoint, this study can contribute to the discussion of lockdowns and quarantines repercussions in entrepreneurial behavior. Additionally, results may also serve as support for professors and pedagogical staff in the disciplines remake and university environments. Based on the above-mentioned aspects, this article proposes the research question: *what is the COVID-19 pandemic effect on entrepreneurial behavior and in the supported importance perceived that a university should provide for entrepreneurship?*

3. THEORETICAL DISCUSSION

The theoretical framework of this research is based on three main topics: the entrepreneurial support of universities; the entrepreneurial behavior of students; and the coronavirus pandemic.

3.1 The Support of Universities

Universities are increasingly perceived as agents involved in regional development and are composed by many elements that combined can translate university's attitudes toward entrepreneurship (Guerrero & Urbano, 2012; Schaeffer, Fischer, & Queiroz, 2018). Previous studies suggest that university support can foster entrepreneurship (Shi *et al*., 2020) through, for example, the entrepreneurial education itself (Turker & Selcuk, 2009), support in the form of university incubators (Trivedi, 2016), technology transformation and consultants (Rideout & Gray, 2013) and financial funds (Júnior, Inácio, Gimenez, Antonio, & Dionisio, 2016). In consonance, Kraaijenbrink, Bos and Groen (2010) suggested that to understand the effect of university support on entrepreneurship, it was crucial to measure in which extent they could have an impact on students. Thus, this can be achieved by measuring students' perceptions of the university support that they receive or, as called by Saeed *et al.* (2015, p. 1131), "perceived university support".

According to Saeed *et al.* (2015), universities can play an important role in identifying and developing entrepreneurial traits and inclinations among students and making them capable of starting their own venture; therefore, it is critical for universities to position themselves as a hub of new venture creation. Besides, it is clear that an effective entrepreneurial education program and the entrepreneurial support provided by universities are efficient ways of obtaining the necessary knowledge about entrepreneurship and motivating young people to seek entrepreneurial careers (Saeed *et al*., 2015).

3.1.1 Entrepreneurial Education

According to Schumpeter (1911), the entrepreneurial process is vital in economic development. Many studies have been done to unravel the predecessors of entrepreneurship and amongst them, scholars have found the entrepreneurial education (Bignotti & Le Roux, 2016; Canever, Barral, & Ribeiro, 2017; Küttim *et al*., 2014; Shi *et al*., 2020; Vodă & Florea, 2019).

As widely portrayed in the literature, entrepreneurial education goes beyond traditional classroom methods, and it cannot be dissociated from the practice (Bezerra, Borges, & Andreassi, 2017). Rönkkö and Lepistö (2015) defines entrepreneurial education as a learning by doing process, where the participation, interaction, decision-making and problem-solving skills of the students are developed. Additionally, Vodă and Florea (2019) states that entrepreneurial education provides students with knowledge, skills and additional capacities necessary to apply to the context of setting up a new company or business. Likewise, Ahmed *et al*. (2019) establish four broad components for entrepreneurship education: (i) taught component; (ii) business planning component; (iii) interaction with practice component; and (iv) university support component.

Similarly, Liu *et al*. (2020) follows three modes of entrepreneurship education (i) classroom delivery involving entrepreneurship lectures, student business plan competitions, entrepreneurial projects and social organization; (ii) establishment of experimental centres, university science parks, innovation and entrepreneurship incubator bases and research centres; and (iii) through occasional part-time work placements and work-related internships, which are designed to promote students' awareness of entrepreneurship, improve students' entrepreneurial knowledge and cultivate their entrepreneurial qualities and skills (Liu *et al*., 2020). Hence entrepreneurship education programs reinforce interactive learning, experience-

based learning, role models and community and business links, formed by three main objectives.

It's important to highlight that entrepreneurship education must be at the core of any nation's education policy (Ahmed *et al*., 2019), since the quality of education provision is of crucial importance to the formation of human capital; so entrepreneurship education should focus on supporting the formation of human capital by students, through nurturing their entrepreneurial spirit in combination with career experience and entrepreneurship knowledge and skills (Li, Qu, & Huang, 2018).

3.2 Entrepreneurial Behavior: Entrepreneurial Intention and Self-Efficacy

Intention is a construct which has been acquired attention in entrepreneurship field due to its ability of foreseeing behavior and to understand how intentions are shaped within entrepreneurship (Fayolle & Gailly, 2015). According to Krueger *et al*. (2000), by observing intentions, it enables prediction of any planned behavior and its antecedents. For that matter, entrepreneurial intention can be a state of mind that directs individuals towards a specific goal (Saeed *et al*., 2015).

Several models have been created to deal with entrepreneurial intentions, being the most used in the literature: The Theory of Planned Behavior (Ajzen, 1991) and Shapero's model of Entrepreneurship Event (Shapero & Sokol, 1982). The Theory of Planed Behavior (TPB) considers three behaviors before the intention (Ajzen, 1991). Attitude towards behavior refers to the degree an individual tends to present certain behaviors in question, the second aspect is a social factor named subjective norms, which refers to the social pressures an individual may receive whether to perform certain behavior and perceived behavioral control consists in the perceived ease or difficulty at presenting certain behavior (Ajzen, 1991).

On the other hand, Pihie & Bagheri (2013) states that self-efficacy also plays a motivating role on individuals towards getting into a new career, e.g. opening a new venture. Self-efficacy is considered by some researchers as an influencer of the individual's choice of activities (Fragoso *et al*., 2020; Kusmintarti, Thoyib, Ashar, & Maskie, 2014; Zhao, Hills, & Seibert, 2005). In this fashion, self-efficacy is defined by Bandura (1994) as one's beliefs about their capability. It determines how individuals feel, think, behave and motivate themselves (Bandura, 1994). High levels of perceived self-efficacy would enhance people's behavior in regarding to how they master their challenges, enabling stress reduction, goals accomplishments and higher effort employment (Bandura, 1994).

Entrepreneurship does not involve only risk-taking, creativity, leadership and proactivity, but it also requires passion and persistence, for all that, self-efficacy plays a very relevant role (Newman *et al*., 2019). Therefore, entrepreneurial self-efficacy emerged as a research topic, being considered as an influencer of entrepreneurial intention, behavior and performance, which also led universities to focus on entrepreneurial education and training (Newman *et al*., 2019). In this context, hypotheses 1, 2 and 3 are presented:

H1: Perceived University Support has a positive influence on Entrepreneurial Intention.

H2: Perceived University Support has a positive influence on Entrepreneurial Self-Efficacy.

H3: Entrepreneurial Self-Efficacy has a positive influence on Entrepreneurial Intention.

3.3 Coronavirus Pandemic

COVID-19 is an infectious disease caused by the most recently discovered type of Coronavirus, in Wuhan, China in December, 2019 (WHO, 2020b), which allegedly originated from wild animals (bats, snakes and pangolins) (Yang *et al*., 2020). Its contamination occurs mainly by droplets generated when people cough, sneeze or talk, i.e. a person can be contaminated by breathing it in when staying less than one meter away from the contaminated patient or also by touching contaminated surfaces (Rezaeetalab *et al*., 2020; WHO, 2020b). Its incubation process is estimated to take from 1-14 days, however, 5-6 days is the average period (Rezaeetalab *et al*., 2020; WHO, 2020b)

Due to rapid global spread of the virus, the WHO declared the COVID-19 outbreak a pandemic in March, 2020 (WHO, 2020a). Several countries, in order to avoid a catastrophic crash in their health systems, set up extreme quarantine measures - including sealing off large cities, closing borders and confining people to their homes - to prevent spread of the virus (Yang *et al*., 2020), but the human-human transmission rapidly grew.

Considering the international recommendations of the WHO, the state of São Paulo released the Decree No 64.881, on March 22nd, 2020. This decree marked the beginning of the quarantine in the State of São Paulo, which had the objective of avoiding possible contaminations and virus propagation (Brasil, 2020). The decree stated that activities involving public, such as: malls, nightclubs, gyms and stores in general were forbidden, making it possible for stores and companies to operate through delivery systems and drive thru (Brasil, 2020). These impositions restrained entrepreneurs, since they are social agents only capable of developing regional economy, not able to solve all problems related to the same locality (Nassif *et al*., 2020).

Education wise, measurements were also taken in order to avoid contamination. Unicamp, in agreement with the Decree No 64.881, suspended its presential classes and public events in the Resolution GR 24/2020, initially from March 12th to April 12th, sequentially postponed indefinitely awaiting the situation evolution and improvement (UNICAMP, 2020a, 2020b). Once it is unknown whether entrepreneurs, business owners and public organs are prepared to the emerging demands from this crisis, specifically regarding technology use, the impact on society's spheres persist (Nassif *et al*., 2020). Entrepreneurial education and university support may be placed at stake once students are presented to a new learning environment, which requires adaptation to a new routine and study rhythm. Moreover, as argued, entrepreneurial education has a "learning by doing" process and students' skills are developed through interaction (Rönkkö & Lepistö, 2015), thus perceived university support for entrepreneurship may be differently sensed by the students. In this sense, the following hypotheses are presented:

H4: The relationship amongst Perceived University Support, Entrepreneurial Intention and Entrepreneurial Self-Efficacy before confinement differs to the one presented during the confinement.

H4a: The Perceived University Support prior to confinement presented a better relationship with Entrepreneurial Intention than to the one demonstrated during confinement.

H4b: The Perceived University Support prior to confinement presented a better relationship with Entrepreneurial Self-Efficacy than to the one demonstrated during confinement.

H4c: Entrepreneurial Self-efficacy, prior to confinement, presented a better relationship with Entrepreneurial Intention than to the one demonstrated during confinement.

4. RESEARCH METHODOLOGY AND DATA COLLECTION

This study used Partial Least Squares-Structural Equation Modeling (PLS-SEM), a statistical model used for examining the prediction and explanation of the constructs and, also, it provides a common point between path modeling and confirmatory factor analysis, thus, it is adequate to comprehend the relationship amongst university environment, entrepreneurial intention and entrepreneurial characteristics (Hair, Hult, Ringle, & Sarstedt, 2017).

A survey was conducted between June 1st and June 25th, 2020. The students were invited to participate, being the survey completion voluntary and 100% online. Sample characterization, such as age, gender, marital status, major area of concentration and graduation year, was also collected. One hundred and forty-four (144) respondents were gathered. Out of this sample, 33% were between the ages of 21 and 25 years old, 56% were female, 93% were single and 87% were enrolled at undergraduation majors (in Business and Public Administration, Sports Science, Economy, Agriculture, Transport, Manufacturing, Production, Mechanical and Computing Engineering).

To evaluate the sample size and statistical power of the analysis, an analysis with the G*Power 3.1 software (Faul, Erdfelder, Buchner, & Lang, 2009) was conducted and based on the recommendations by Chin and Newsted (1999), Cohen (1988) and Hair *et al*. (2017). Considering two predictors, a significance level of 5%, a statistical power of 0.8, and an average effect size ($f^2 = 0.15$, which is equivalent to $r^2 = 13\%$), the minimum size of the sample required is 68. As the final sample used comprised 144 respondents, it is suitable for estimation by Partial Least Squares Path Modeling (PLS-PM).

5. ANALYSIS OF RESULTS

As the indicators used in the questionnaire were adapted from previous studies, a first step in the analysis was to perform a Confirmatory Data Analysis (CFA). Table 1 presents the CFA results. All measures were tested in the same model and restricted to load on their respective factor (Brady & Cronin, 2001). Although some few measures present factor loads below to 0.7, it was checked the impact of exclusion on average variance extraction (AVE) and in composite reliability (CR). Then, no indicator needed to be excluded.

Table 1: **Confirmatory Factor Analysis (CFA)**

	Questions	Standardized path loading	Critical ratio	P-value	Mean	Standard deviation
Perceived University Support						
PUS1	Offer entrepreneurship disciplines	0.801	24.814	0.000	0.801	0.032
PUS2	Organize entrepreneurship events	0.888	48.097	0.000	0.887	0.018
PUS3	Contact entrepreneurship students with one another	0.855	31.465	0.000	0.853	0.027
PUS4	Support student organizations	0.567	6.075	0.000	0.552	0.093
PUS5	Offer makerspaces and fablabs	0.752	14.621	0.000	0.746	0.051
PUS6	Develop alumni programs	0.615	7.800	0.000	0.602	0.079
Entrepreneurial Self-Efficacy						
SE1	Confident that I can successfully identify new business opportunities	0.871	52.681	0.000	0.871	0.017
SE2	Confident that I can successfully create new products	0.895	71.778	0.000	0.896	0.012
SE3	Confident that I can think creatively	0.707	14.787	0.000	0.706	0.048
SE4	Confident that I can successfully market an idea or new development	0.895	70.492	0.000	0.896	0.013
Entrepreneurial Intention						
EI1	Be willing to do whatever it takes to be an entrepreneur	0.902	74.155	0.000	0.902	0.012
EI2	Feeling that I would make every effort to start and run my own business	0.930	105.469	0.000	0.931	0.009
EI3	To feel that my greatest achievement would be to have my own business	0.890	51.927	0.000	0.890	0.017
EI4	Intend to start a business in the coming years	0.865	43.347	0.000	0.864	0.020

Source: Based on Rocha, *et al*. (2014); Saeed, *et al*. (2015) and Shi, *et al.* (2020).

The measurement model analysis considered three reflexive constructs. The analysis criteria followed Hair's *et al*. (2017) recommendations, and convergent and discriminant validity, indicator reliability and internal consistency were estimated. As seen in Table 2, all indicators are within established values.

Table 2: **Summary of the Evaluation of Measurement Models**

Constructs	Perceived University Support	Entrepreneurial Self-efficacy	Entrepreneurial Intention
Perceived University Support	**0.756**		
Entrepreneurial Self-efficacy	0.375	**0.846**	
Entrepreneurial Intention	0.363	0.619	**0.897**
Cronbach's Alpha	0.851	0.866	0.919
Composite Reliability	0.886	0.909	0.943
Average Variance Extracted (AVE)	0.572	0.716	0.805

Before evaluating the structural model, the Variance Inflation Factor (VIF) for each subsection of the structural model was analyzed and all values are within those established by Hair *et al*. (2017). Also, the significance of the relationships was analyzed and student's t-test were evaluated. Table 3 presents the values of coefficients between the constructs and their respective Student's t-tests.

Table 3: **Coefficients of the Structural Model – Between constructs**

Path	Sample Mean	Standard Deviation	T-Statistics	P-Values
Entrepreneurial Self-efficacy -> Entrepreneurial Intention	0.562	0.046	12.290	0.000
Perceived University Support -> Entrepreneurial Self-efficacy	0.381	0.058	6.511	0.000
Perceived University Support -> Entrepreneurial Intention	0.156	0.050	3.042	0.002

Results indicate that all relationships are significant, hence p-value at a significance level of 5% supporting hypotheses 1, 2 and 3, in accordance with previous studies (Asimakopoulos *et al*., 2019; Fragoso *et al*., 2020; Moraes *et al*., 2018; Neneh, 2020; Newman *et al*., 2019; Saeed *et al*., 2015; Vodă & Florea, 2019).

To evaluate the coefficient of determination (r^2), we based our analysis on Cohen (1988) and Faul (2007), whose studies established that r^2 values equal to 0.02, 0.15 and 0.35 are considered, respectively, as small, medium and large effects. Regarding our analysis, the model presented r^2 of 0.141 for the construct self-efficacy and r^2 of 0.402 for the construct entrepreneurial intention. For SEM models, values of Q2 higher than zero indicate the predictive relevance of the path model, which means that, in this study, the values are considered adequate (Hair *et al*., 2017).

In order to test whether there are differences between the relationships according to before and during the pandemic periods, a multigroup analysis was performed (Hair, Joseph, Sarstedt, Ringle, & Gudergan, 2018). Table 4 shows analysis in respect to the differences.

Table 4: **Analysis of relationships according to the moment - during and before the pandemic**

Path	Path Coefficients - difference (during - before)	P-Values
Entrepreneurial Self-efficacy -> Entrepreneurial Intention	-0.102	0.218
Perceived University Support -> Entrepreneurial Self-efficacy	0.087	0.491
Perceived University Support -> Entrepreneurial Intention	0.005	0.961

According to Table 4, it is possible to acknowledge that there are no differences prior and during the pandemic concerning the relationships amongst entrepreneurial self-efficacy, entrepreneurial intention and perceived university support. For the time being, it means that even with the confinement scenario and the economic effects perceived in the country and in the world, the entrepreneurial behavior and the students` perception regarding the university support has not changed significantly.

The model is presented in Figure 1:

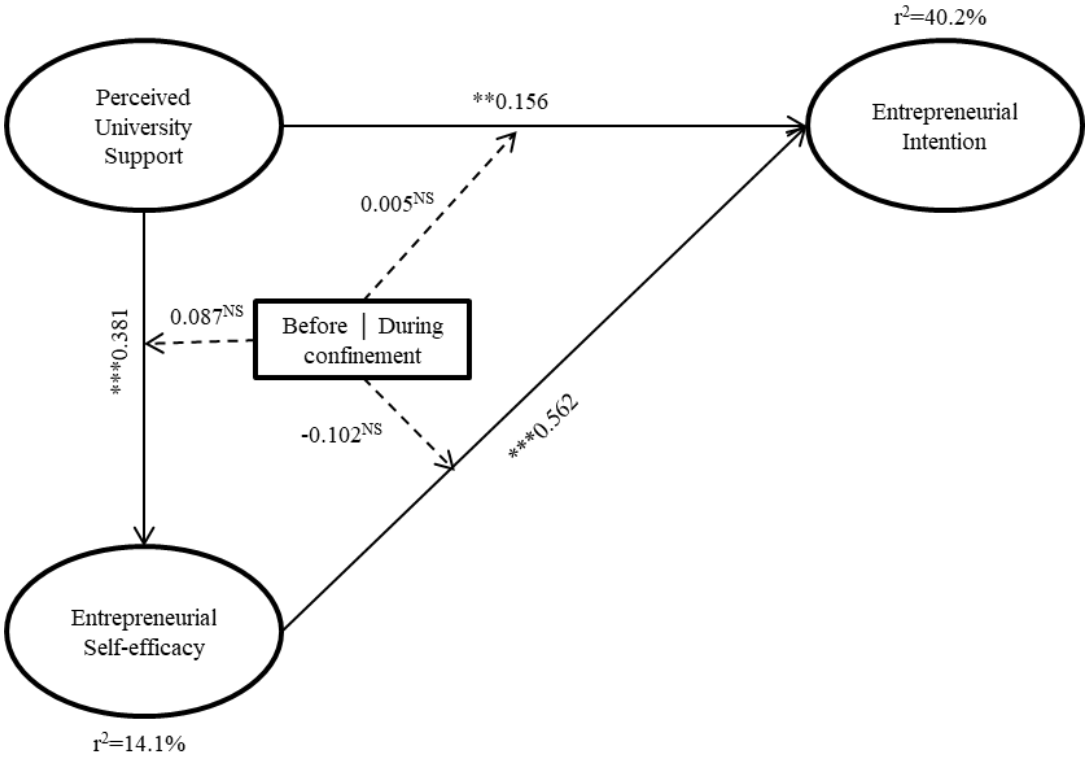

Figure 1: **Empirical Model**
Note 1: * = significant at 5%; ** = significant at 1%; *** = significant at 0.1%; NS = not significant.

The synthesis of the study hypotheses is shown on table 5.

Table 5: **Synthesis of the Study Hypotheses Tests**

Hypotheses	Description	Result
H1	Perceived University Support has a positive influence on Entrepreneurial Intention	Confirmed
H2	Perceived University Support has a positive influence on Entrepreneurial Self-Efficacy	Confirmed
H3	Entrepreneurial Self-Efficacy has a positive influence on Entrepreneurial Intention	Confirmed
H4	The relationship amongst Perceived University Support, Entrepreneurial Intention and Entrepreneurial Self-Efficacy before confinement differs to the one presented during the confinement.	Not confirmed
H4a	The Perceived University Support prior to confinement presented a better relationship with Entrepreneurial Intention than to the one demonstrated during confinement.	Not confirmed
H4b	The Perceived University Support prior to confinement presented a better relationship with Entrepreneurial Self-Efficacy than to the one demonstrated during confinement.	Not confirmed
H4c	Entrepreneurial Self-Efficacy, prior to confinement, presented a better relationship with Entrepreneurial Intention than to the one demonstrated during confinement.	Not confirmed

6. CONCLUSION AND CONTRIBUTION

This research focused on unraveling the effect of Coronavirus pandemic at Unicamp students on entrepreneurship behavior, in specifics self-efficacy and intention, as well as on the entrepreneurial education, particularly perceived university support. Results reassured the positive relationship amongst Perceived University Support, Entrepreneurial Intention and Entrepreneurial Self-Efficacy, as seen previously in literature (Asimakopoulos *et al*., 2019; Fayolle & Gailly, 2015; Rocha & Freitas, 2014; Saeed *et al*., 2015; Vodă & Florea, 2019). This study findings reassured the entrepreneurship triad complementarity and reinforced its determinant factors (Fragoso *et al*., 2020).

Secondly, the effect of the pandemic was also considered through students' perceptions of such elements, prior and during the confinement. In this sense, despite the results showing differences, the relationship amongst perceived university support, entrepreneurial intention and entrepreneurial self-efficacy did not change significantly. This result might be connected to the long-term goals achievement and one's tendency to persevere and sustain effort when confronted with hardships or setbacks in life (Salisu, Hashim, Shehu Mashi, & Galadanchi Aliyu, 2020).

Contrastingly, even though entrepreneurial self-efficacy usually demonstrates high levels of influence on entrepreneurial intention (Fragoso *et al*., 2020; Newman *et al*., 2019), results showed that perceived university support was higher assessed at Unicamp, as they imply entrepreneurial knowledge lead to entrepreneurial intention. Put differently, entrepreneurial education contribution to the development of entrepreneurial intentions can be acknowledged (Küttim *et al*., 2014; Lüthje & Franke, 2003; Peterman & Kennedy, 2003).

Considering the research gaps found, this investigation offers progress. This study enrichens the theories on entrepreneurship. Entrepreneurial education was expanded to perceived university support, while entrepreneurial self-efficacy and entrepreneurial intention were assembled into entrepreneurial behavior; which argues that perceived university support positively influences entrepreneurial behavior, in spite of external changes on the university environment. Secondly, although COVID-19 pandemic offers uncertainty (WHO, 2020a), it is not a strange scenario for entrepreneurship in Latin America, once uncertainty plays a central role, whereas connected to the decision to innovate, continuous experimentation and learning (Guerrero *et al*., 2014; Isenberg, 2010). Finally, data from an esteemed Brazilian university complements the studies on perceived university support, entrepreneurial self-efficacy and entrepreneurial intention, while adds to the body of research, regarding COVID-19 pandemic possible influences.

From a practical standpoint, this study can contribute to the discussion of lockdowns and quarantines repercussions in entrepreneurial behavior. The COVID-19 pandemic sparked fears of an impending economic crisis and recession, and many jobs were lost in all economic sectors (Nicola et al., 2020). Although the period is one of uncertainty and instability, it can also be perceived as a period of accelerated diffusion of digital technologies, micro-level initiatives and consideration of established forms of intensive use of resources (Karabag, 2020). In this context, when verifying that the pandemic has not yet impacted the student's entrepreneurial behavior, there is an opportunity for educational institutions to invest even more in the university environment to support entrepreneurship, preparing the student for the opportunities that will arise and that will be necessary for the economic recovery. The results demonstrate the need to increase students' self-efficacy, and this can be achieved with more

innovative initiatives to promote entrepreneurship in universities, connecting students to markets, and going beyond conventional strategies based on courses and training aimed at entrepreneurship (Moraes, Fischer, Rocha, & Schaeffer, 2019).

Regarding the limitations of this study, it comprises only students enrolled at Unicamp. Therefore, the debate brought evidences of this specific group. This study considered the students perception, which stands as a subjective manner and might not reflect reality. Also, students from all years were approached, therefore the maturation in students' perceptions might differ when considering freshmen and senior students. Additionally, despite the extensive efforts to characterize the periods prior and during the confinement, scholars are still uncovering this theme and there might be more dimensions to be considered.

Future studies should be conducted. Replicating the study with students from other universities and other states, encompassing an array of fields and levels could enrich the analyses. Also, further investigation can focus on students from a specific course or year of graduation to understand their intention on endeavoring, even with external influences. Another possibility is to perform a longitudinal study to evaluate the phases prior, during and posterior of students' perception on entrepreneurial intention, self-efficacy and university environment. Besides, deepening the understanding of these constructs and their relation by performing a qualitative approach could offer further the understanding of these constructs and their interrelations.

REFERENCES

Ahmed, T., Ur Rehman, I., & Sergi, B. S. (2019). A Proposed Framework on the Role of Entrepreneurial Education and Contextual Factors. In *Entrepreneurship and Development in the 21st Century* (pp. 47–68). https://doi.org/10.1108/978-1-78973-233-720191005

Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, *50*(2), 179–211. https://doi.org/10.1016/0749-5978(91)90020-T

Alves, A. C., Fischer, B. B., Schaeffer, P. R., & Queiroz, S. (2019). Determinants of student entrepreneurship An assessment on higher education institutions in Brazil. *Innovation & Management Review*, *16*(2), 2515–8961. https://doi.org/10.1108/INMR-02-2018-0002

Amaral, M., Toledo Hernandez, C., Henrique, M., & Bastos, R. (2018). The entrepreneurial profile of Brazilian business administration students. *International Journal of Innovation Science*, *10*(2), 160–177. https://doi.org/10.1108/IJIS-05-2017-0040

Asimakopoulos, G., Hernández, V., & Peña Miguel, J. (2019). Entrepreneurial Intention of Engineering Students: The Role of Social Norms and Entrepreneurial Self-Efficacy. *Sustainability*, *11*(16), 4314. https://doi.org/10.3390/su11164314

Atiya, T. M. S., Bilal, Z. O., Abulhamid, M., & Shoaib, S. A. (2019). The Impact of Entrepreneurial Characteristics on Entrepreneurial Intention of Sudanese and Omani University Students. *European Scientific Journal*, *15*(4), 1857–7881. https://doi.org/10.19044/esj.2019.v15n4p66

Bandura, A. (1994). Bandura Self-efficacy defined. *Encyclopedia of Human Behavior*.

Bezerra, É. D., Borges, C., & Andreassi, T. (2017). Universities, local partnerships and the promotion of youth entrepreneurship. *International Review of Education*, *63*(5), 703–724.

https://doi.org/10.1007/s11159-017-9665-y

Bignotti, A., & Le Roux, I. (2016). Unravelling the conundrum of entrepreneurial intentions, entrepreneurship education, and entrepreneurial characteristics. *Acta Commercii*, *16*(1), 10. https://doi.org/10.4102/ac.v16i1.352

Brady, M. K., & Cronin, J. J. (2001). Some new thoughts on conceptualizing perceived service quality: A hierarchical approach. *Journal of Marketing*, *65*(3). https://doi.org/10.1509/jmkg.65.3.34.18334

Brasil. *Governo do Estado de São Paulo Decreto 64.881*. , (2020).

Caliendo, M., & Kritikos, A. (2011). Searching for the entrepreneurial personality: New evidence and avenues for further research. *Journal of Economic Psychology*, *33*(2), 319–324. https://doi.org/10.1016/j.joep.2011.06.001

Canever, M. D., Barral, M. R. M., & Ribeiro, F. G. (2017). How does the public and private university environment affect students' entrepreneurial intention? *Education and Training*. https://doi.org/10.1108/ET-12-2016-0187

Chin, Wynne, N. P. (1999). Structural Equation Modeling Analysis with Small Samples Using Partial Least Square. *Statistical Strategies for Small Sample Research*.

Cohen, J. (1988). *Statistical Power Analysis for the Behavioral Sciences* (2nd editio). Hillsdale, NJ: Lawrence Erlbaum Associates.

Elsevier (Ed.). (2021). *QS World University Rankings 2021*. Retrieved from https://www.qs.com/portfolio-items/qs-world-university-rankings-2021/

Faul, F., Erdfelder, E., Buchner, A., & Lang, A.-G. (2009). Statistical power analyses using G*Power 3.1: Tests for correlation and regression analyses. *Behavior Research Methods*, *41*(4), 1149–1160. https://doi.org/10.3758/BRM.41.4.1149

Faul, F., Erdfelder, E., Lang, A.-G., & Buchner, A. (2007). G*Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods*, 175–191.

Fayolle, A., & Gailly, B. (2015). The Impact of Entrepreneurship Education on Entrepreneurial Attitudes and Intention: Hysteresis and Persistence. *Journal of Small Business Management*, *53*(1), 75–93. https://doi.org/10.1111/jsbm.12065

Fischer, B. B., Moraes, G. H. S. M. de, & Schaeffer, P. R. (2019). Universities' institutional settings and academic entrepreneurship: Notes from a developing country. *Technological Forecasting and Social Change*, *147*, 243–252. https://doi.org/10.1016/J.TECHFORE.2019.07.009

Fragoso, R., Rocha-Junior, W., & Xavier, A. (2020). Determinant factors of entrepreneurial intention among university students in Brazil and Portugal. *Journal of Small Business & Entrepreneurship*, *32*(1), 33–57. https://doi.org/10.1080/08276331.2018.1551459

Guerrero, M., & Urbano, D. (2012). The development of an entrepreneurial university. *Journal of Technology Transfer*, *37*(1), 43–74. https://doi.org/10.1007/s10961-010-9171-x

Guerrero, M., Urbano, D., Cunningham, J. A., & Gajón, E. (2018). Determinants of Graduates' Start-Ups Creation across a Multi-Campus Entrepreneurial University: The Case of Monterrey Institute of Technology and Higher Education. *Journal of Small Business Management*, *56*(1), 150–178. https://doi.org/10.1111/jsbm.12366

Guerrero, M., Urbano, D., & Gajón, E. (2014). The internal pathways that condition university

entrepreneurship in latin america: An institutional approach. *Advances in the Study of Entrepreneurship, Innovation, and Economic Growth*, *24*. https://doi.org/10.1108/S1048-473620140000024004

Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2017). A primer on partial least squares structural equation modeling (PLS-SEM). *Thousand Oaks: SAGE Publications*. https://doi.org/10.1080/1743727x.2015.1005806

Hair, Joseph, Sarstedt, M., Ringle, C. M., & Gudergan, S. P. (2018). Advanced Issues in Partial Least Squares Structural Equation Modeling. *SAGE*.

Isenberg, D. J. (2010). *How to Start an Entrepreneurial Revolution*. Retrieved from www.hbr.org

Jena, R. K. (2020). Measuring the impact of business management Student's attitude towards entrepreneurship education on entrepreneurial intention: A case study. *Computers in Human Behavior*, *107*, 106275. https://doi.org/10.1016/j.chb.2020.106275

Júnior, B., Inácio, E., Gimenez, P., Antonio, F., & Dionisio, A. (2016). Desenvolvimento em Questão Universidade Regional do Noroeste do Estado do Rio Grande do Sul. *Analysis of the Brazilian Entrepreneurial Ecosystem Desenvolvimento Em Questão*, *14*, 5–36. https://doi.org/10.21527/2237-6453.2016.37.5-36

Kakodkar, P., Kaka, N., & Baig, M. (2020). A Comprehensive Literature Review on the Clinical Presentation, and Management of the Pandemic Coronavirus Disease 2019 (COVID-19). *Cureus*, *12*(4), 7560. https://doi.org/10.7759/cureus.7560

Karabag, S. F. (2020). An Unprecedented Global Crisis! The Global, Regional, National, Political, Economic and Commercial Impact of the Coronavirus Pandemic. In *Journal of Applied Economics and Business Research JAEBR* (Vol. 10).

Koe, W.-L., Sa'ari, J. R., Majid, I. A., & Ismail, K. (2012). Determinants of Entrepreneurial Intention Among Millennial Generation. *Procedia - Social and Behavioral Sciences*, *40*, 197–208. https://doi.org/10.1016/j.sbspro.2012.03.181

Kraaijenbrink, J., Bos, G., & Groen, A. (2010). What do students think of the entrepreneurial support given by their universities ? Jeroen Kraaijenbrink *, Ger Bos and Aard Groen. *International Journal of Entrepreneurship and Small Business*, *9*(1), 2010. https://doi.org/10.1504/IJESB.2010.029512

Krakauer, P. V. de C., Moraes, G. H. S. M., Coda, R., & Berne, D. de F. (2018). Brazilian women's entrepreneurial profile and intention. *International Journal of Gender and Entrepreneurship*, *10*(4), 361–380. https://doi.org/10.1108/IJGE-04-2018-0032

Krueger, N. F., Reilly, M. D., & Carsrud, A. L. (2000). Competing models of entrepreneurial intentions. *Journal of Business Venturing*. https://doi.org/10.1016/S0883-9026(98)00033-0

Kusmintarti, A., Thoyib, A., Ashar, K., & Maskie, G. (2014). *The Relationships among Entrepreneurial Characteristics, Entrepreneurial Attitude, and Entrepreneurial Intention* (Vol. 16). Retrieved from www.iosrjournals.orgwww.iosrjournals.org

Küttim, M., Kallaste, M., Venesaar, U., & Kiis, A. (2014). Entrepreneurship Education at University Level and Students' Entrepreneurial Intentions. *Procedia - Social and Behavioral Sciences*, *110*, 658–668. https://doi.org/10.1016/J.SBSPRO.2013.12.910

Li, J., Qu, J., & Huang, Q. (2018). Entrepreneurship & Regional Development An International Journal Why are some graduate entrepreneurs more innovative than others? The effect of

human capital, psychological factor and entrepreneurial rewards on entrepreneurial innovativeness. *Entrepreneurship & Regional Development*, *30*(5–6), 479–501. https://doi.org/10.1080/08985626.2017.1406540

Liu, T., Walley, K., Pugh, G., & Adkins, P. (2020). Entrepreneurship education in China Evidence from a preliminary scoping study of enterprising tendency in Chinese university students. *Journal of Entrepreneurship in Emerging*, *12*(2), 305–326. https://doi.org/10.1108/JEEE-01-2019-0006

Lüthje, C. L., & Franke, N. (2003). The "making" of an entrepreneur: testing a model of entrepreneurial intent among engineering students at MIT. *R&D Management*, *33*(2), 135–147. Retrieved from http://epub.wu.ac.at/4612/1/Luethje_Franke-2003-RDM_The-making-of-an-entrepreneur.pdf

Luthra, P., & Mackenzie, S. (2020). 4 ways COVID-19 could change how we educate future generations.

Moraes, G. H. S. M., Fischer, B. B., Campos, M. L., & Schaeffer, P. R. (2020). View of University ecosystems and the commitment of faculty members to support entrepreneurial activity. *Brazilian Administration Review*, *17*(2), 1–26. Retrieved from http://dx.doi.org/10.1590/1807-7692bar2020190013

Moraes, G. H. S. M., Fischer, B. B., Rocha, A. K. L., & Schaeffer, P. R. (2019). The Apple Doesn't Fall Far From the Tree! An Inquiry into the Linkages Between University Environment and Students' Entrepreneurial Behavior. *XLIII Encontro Da ANPAD*, 1–17. São Paulo.

Moraes, G. H. S. M., Iizuka, E. S., & Pedro, M. (2018). Effects of Entrepreneurial Characteristics and University Environment on Entrepreneurial Intention. *Revista de Administração Contemporânea*, *22*(2), 226–248. https://doi.org/10.1590/1982-7849rac2018170133

Nassif, V. M. J., Armando, E., & La Falce, J. L. (2020). O Empreendedorismo e a Pequena Empresa no Contexto do Pós Covid-19: Há luz no Fim do Túnel. *Revista de Empreendedorismo e Gestão de Pequenas Empresas*, *9*(3), I–VII. https://doi.org/10.14211/regepe.v9i3.1940

Neneh, B. N. (2020). Entrepreneurial passion and entrepreneurial intention: the role of social support and entrepreneurial self-efficacy. *Studies in Higher Education*, 1–17. https://doi.org/10.1080/03075079.2020.1770716

Newman, A., Obschonka, M., Schwarz, S., Cohen, M., & Nielsen, I. (2019). Entrepreneurial self-efficacy: A systematic review of the literature on its theoretical foundations, measurement, antecedents, and outcomes, and an agenda for future research. *Journal of Vocational Behavior*, *110*(May 2018), 403–419. https://doi.org/10.1016/j.jvb.2018.05.012

Nicola, M., Alsafi, Z., Sohrabi, C., Kerwan, A., Al-Jabir, A., Iosifidis, C., … Agha, R. (2020). The socio-economic implications of the coronavirus pandemic (COVID-19): A review. *International Journal of Surgery*, Vol. 78. https://doi.org/10.1016/j.ijsu.2020.04.018

Peterman, N. E., & Kennedy, J. (2003). Enterprise Education: Influencing Students' Perceptions of Entrepreneurship. *Entrepreneurship Theory and Practice*. https://doi.org/10.1046/j.1540-6520.2003.00035.x

Pihie, Z. A. L., & Bagheri, A. (2013). Self-Efficacy and Entrepreneurial Intention: The Mediation Effect of Self-Regulation. *Vocations and Learning*, *6*(3). https://doi.org/10.1007/s12186-013-9101-9

Pittaway, L., & Edwards, C. (2012). Assessment: Examining practice in entrepreneurship education. *Education and Training*. https://doi.org/10.1108/00400911211274882

Rezaeetalab, F., Mozdourian, M., Amini, M., Javidarabshaihi, Z., & Akbari, F. (2020). COVID-19: A New Virus as a Potential Rapidly Spreading in the Worldwide. *Journal of Cardio-Thoracic Medicine*, *2020;8(1):* https://doi.org/10.22038/jctm.2020.46924.1264

Rideout, E. C., & Gray, D. O. (2013). Does entrepreneurship education really work? A review and methodological critique of the empirical literature on the effects of university-based entrepreneurship education. *Journal of Small Business Management*. https://doi.org/10.1111/jsbm.12021

Rocha, E. L. de C., & Freitas, A. A. F. (2014). Avaliação do Ensino de Empreendedorismo entre Estudantes Universitários por meio do Perfil Empreendedor. *Revista de Administração Contemporânea*, *18*(4), 465–486. https://doi.org/10.1590/1982-7849rac20141512

Rönkkö, M. L., & Lepistö, J. (2015). Finnish student teachers' critical conceptions of entrepreneurship education. *Journal of Enterprising Communities*. https://doi.org/10.1108/JEC-03-2013-0003

Saeed, S., Yousafzai, S. Y., Yani-De-Soriano, M., & Muffatto, M. (2015). The Role of Perceived University Support in the Formation of Students' Entrepreneurial Intention. *Journal of Small Business Management*, *53*(4), 1127–1145. https://doi.org/10.1111/jsbm.12090

Salisu, I., Hashim, N., Shehu Mashi, M., & Galadanchi Aliyu, H. (2020). Perseverance of effort and consistency of interest for entrepreneurial career success Does resilience matter? *Journal of Entrepreneurship in Emerging*, *12*(2), 279–304. https://doi.org/10.1108/JEEE-02-2019-0025

Schaeffer, P. R., Fischer, B., & Queiroz, S. (2018). Beyond Education: The Role of Research Universities in Innovation Ecosystems. *Foresight and STI Governance*, *12*(2), 50–61. https://doi.org/10.17323/2500-2597.2018.2.50.61

Schmidt, S., & Bohnenberger, M. C. (2009). Perfil empreendedor e desempenho organizacional. *Revista de Administração Contemporânea*, *13*(3), 450–467. https://doi.org/10.1590/S1415-65552009000300007

Schumpeter, J. (1911). Die Theorie wirtschaftlicher Entwicklung. *Duncker & Humblot*, 61–116.

Shapero, A., & Sokol, L. (1982). The Social Dimensions of Entrepreneurship, in The Encyclopaedia of Entrepreneurship. In *Encyclopedia of Entrepreneurship*.

Shi, L., Yao, X., & Wu, W. (2020). Perceived university support, entrepreneurial self-efficacy, heterogeneous entrepreneurial intentions in entrepreneurship education The moderating role of the Chinese sense of face. *Journal of Entrepreneurship in Emerging Economies*, *12*(2), 205–230. https://doi.org/10.1108/JEEE-04-2019-0040

Stamboulis, Y., & Barlas, A. (2014). Entrepreneurship education impact on student attitudes. *International Journal of Management Education*, *12*(3), 365–373. https://doi.org/10.1016/j.ijme.2014.07.001

Times Higher Education | World University Rankings. (2020). Retrieved July 22, 2020, from https://www.timeshighereducation.com/world-university-rankings/2020/world-ranking#!/page/0/length/25/sort_by/rank/sort_order/asc/cols/stats

Trivedi, R. (2016). Does university play significant role in shaping entrepreneurial intention? A cross-country comparative analysis. *Journal of Small Business and Enterprise Development*. https://doi.org/10.1108/JSBED-10-2015-0149

Turker, D., & Selcuk, S. S. (2009). Which factors affect entrepreneurial intention of university students? *Journal of European Industrial Training*, *33*(2), 142–159. https://doi.org/10.1108/03090590910939049

UNICAMP. *Resolução GR n. 24/2020*. (2020).

UNICAMP. *Resolução GR n. 72/2020*. (2020).

Vesper, K. H., & Gartner, W. B. (1997). Measuring progress in entrepreneurship education. *Journal of Business Venturing*. https://doi.org/10.1016/S0883-9026(97)00009-8

Vodă, A., & Florea, N. (2019). Impact of Personality Traits and Entrepreneurship Education on Entrepreneurial Intentions of Business and Engineering Students. *Sustainability*, *11*(4), 1192. https://doi.org/10.3390/su11041192

WHO. (2020a). Director-General's opening remarks at the media briefing on COVID-19. Retrieved from https://www.who.int/dg/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-on-covid-19---11-march-2020

WHO. (2020b). World Health Organization - Q&A on coronaviruses (COVID-19).

Yang, Y., Peng, F., Wang, R., Guan, K., Jiang, T., Xu, G., … Chang, C. (2020, May 1). The deadly coronaviruses: The 2003 SARS pandemic and the 2020 novel coronavirus epidemic in China. *Journal of Autoimmunity*, Vol. 109, p. 102434. https://doi.org/10.1016/j.jaut.2020.102434

Zhao, H., Hills, G. E., & Seibert, S. E. (2005). The mediating role of self-efficacy in the development of entrepreneurial intentions. *Journal of Applied Psychology*. https://doi.org/10.1037/0021-9010.90.6.1265