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# Entrepreneurial intention among students: a bibliometric review and an empirical analysis

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**Objectives.** *Student entrepreneurship has received growing attention from many international scholars (Tomy & Pardede, 2020; Anjum et al., 2021). Within this abundant and recent literatures, some have investigated the role of external factors, such as the environment and the ecosystem of innovation (Anzivino et al, 2020); others have studied academic contexts in-depth, acknowledging their relevance in creating the right context for student entrepreneurship (Grimaldi et al., 2011). Others have focused on micro factors such as personality traits, locus of control and personal values (Bienkowska-Klofsten, 2012). However, despite the relevance of the phenomenon, both in the academic literature and among practitioners, no recent analysis offers a literature perspective on student entrepreneurship. Thus, this paper aims to systematize the scientific production published to date in the business and management fields. Moreover, policy makers and practitioners could find the overview as a useful baseline for fostering the development of an entrepreneurial university and addressing its technological, managerial, and organizational implications. In this vein, a bibliometric analysis has been conducted to answer the following research questions:*

RQ1. How has the business and management literature addressed the evolution of student entrepreneurship?

RQ2. What are the possible future trends for research on student entrepreneurship within the business and management research fields?

*Bibliometric analysis represents an appropriate solution to achieve these objectives since it empowers scholars to identify a discipline's most influential studies and relevant scientific activities (Merigò et al., 2015). Hence, it can become important to understand the role of the territorial context, both as regards regional policies on entrepreneurship and the determination of the scenario in which students operate (Salomaa, 2019; Pugh et al., 2018; Budyldina, 2018). Thus, stemming from the bibliometric analysis, we attempt to answer another research question:*

RQ3. Which are the main factors that impact on EI in developing regions?

*Thus, we propose an empirical assessment by investigating the impact of different key factors, on student Entrepreneurial Intention (EI) in an Italian developing Region (that is Calabria).*

**Methodology.** *We propose a literature review with a bibliometric analysis, to detect the main studies on the topic of student entrepreneurship and identify future emerging research trends. Bibliometric analysis allows to identify changes both in terms of number of published articles and content, within the research on student entrepreneurship, and offer state of the art research, providing useful information for those carrying out scientific activities. Specifically, we propose a Bibliographic Coupling that occurs when a reference is used by two articles as a coupling unit between these two articles (Kessler 1963) and the intensity of the strength of the Bibliographic Coupling depends on the number of references that the two articles have in common (Egghe & Rousseau, 1990). Our analysis has four main steps: First, for this research we used the "Scopus" database as it covers 20,000 main journals. It is also widely used in the field of entrepreneurship to examine a collection of articles (Ferreira, 2018). The second one 'Identification of keywords' were "student" and "entrepreneurship" with the aim of identifying all articles related to the topic of student entrepreneurship. Moving to 'the selection of documents, we considered articles published in English, to ensure international relevance, published in the last ten years (2010-2020), which refer to the managerial area to focus the analysis object only on student entrepreneurship. In the last one, we selected the "VosViewer" software (Van Eck et al., 2010). Through these passages we have selected 1,812 articles, which filtered for a minimum of 4 citations of a document, result in 773 articles. Subsequently, each author independently researched and classified the article*

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abstracts primarily by identifying the keywords for each article; finally, the researchers discussed together and defined five main clusters:

- Cluster 1: Entrepreneurial intentions
- Cluster 2: Personal Characteristics
- Cluster 3: Entrepreneurial education
- Cluster 4: Competence building and soft skills
- Cluster 5: The role of the ecosystem

The bibliometric analysis suggests the identification of 5 cluster and several factors that have an impact on the probability to develop EI. More concretely, stemming from the bibliometric analysis' results, we identified some micro factors that can influence the EI of students (Table 1):

Tab. 1: The cluster and the related factors

CLUSTER	RELATED FACTORS
Cluster 1	Individual creativity refers to the need to create something new (Engle, Mah, and Sadri, 1997).
	Locus of control refers to the believe of entrepreneur who has the ability to affect the success or failure of his venture (Brockhaus, 1975; Ahmed, 1985).
	Needs for achievement that is an individual's desire for significant accomplishment, mastering of skills, control, or high standards (Hansemark, 2003).
Cluster 2	Demographics variables. They are often associated with the male rather than the female gender Gupta et al. (2009).
Cluster 3	Self-efficacy refers to "people's beliefs about their capabilities to exercise control over their own level of functioning and over events that affect their lives" (Bandura, 1992).
Cluster 4	Openness to experiences of individuals can be explained with unconventional and innovative behavior (Van Auken, 2013).
	Conscientiousness considers the level of organization, precision, attention, and efficiency (Gosling et al, 2003).
	Nevroticism that represents emotional stability and different propensity to adapt (Gosling et al, 2003).
	Extroversion in terms of people who tend to settle within groups, seeking for stimuli (Gosling et al, 2003).
	Personal values like "selfish" or "altruistic" orientation (Vuorio et al, 2018). There is also a scale of values and at the same time there are several expressions of the self-concept, therefore values are in a trade-off with personal priorities.
	Environmental responsibility (Qazi et al., 2020) refers to the attention to the environment.
	Family environment (Falck et al, 2012)
	Educational system (Duval and Couetil, 2013)
Cluster 5	Ecosystem and innovation and entrepreneurial infrastructures (Mowery and Ziedonis, 2002)

Source: authors' elaboration

Thus, stemming from the results of the bibliometric analysis, we attempt to propose an explorative analysis to investigate the effect of some key factors on EI. The empirical analysis has the aim to analyze the effect of some key factors on the EI of a sample of university students belonging to University of Calabria. In particular, we sent a structured questionnaire to all the population of students attending University of Calabria in the academic year 2019/20. We get 162 replies from students attending bachelor, masters and PhD programs. The aim was to identify a structure underlying all the observed variables, which were assessed by respondents on Likert 7-point scales, expressing the degree of agreement and disagreement with respect to some statements. The first question asked to the interviewees concerns the EI, coherently with the cluster 1: intention to start a new business; going to become an entrepreneur, going to develop a business idea that is currently in an embryonic state, going to grow a family business (Rueda et al., 2015). The questionnaire takes into consideration the personal characteristics of students, their aspirations and the role they intend to play in 5 years. The educational path was also investigated, as well as participation in business plan competitions, considering them as important factors in determining whether they encourage respondents to build new business activities. As regards entrepreneurship courses, respondents were asked to identify the type of course followed, in order to investigate which, type of courses most influence the student's intention. Respondents were asked if they studied or worked abroad; if they had a reference teacher within the university context; if they had ever attended religious associations and if they had ever held a role of responsibility within those associations if they had ever practiced an individual or team sport. As suggested by the previous literature, the propensity to build an entrepreneurial activity can also be conditioned by the ecosystem and by the family background. There are purely demographic variables such as gender, age, educational qualification, degree course, academic year, as well as the place of birth, the province of birth, the place of residence and the province of residence.

**Factor Analysis.** The Exploratory Factor Analysis is used to obtain a reduction in the complexity of data, resulting from the questionnaires administered . The first index that is taken into consideration is the KMO index, which is constructed by comparing the correlation coefficients with those of partial correlation. This ratio varies between 0 and 1 and the model obtained has a KMO index of 0.7, at the significant level of 0.000. The second value taken into

consideration is the Bartlett Sphericity Test, which is used to test the hypothesis that the correlation matrix is an identity matrix. The significance of this test is 0.000, so we can conclude that the model is adequate. (Table 2).

Tab. 2: KMO & Bartlett's Test Factor Analysis

KMO Test & Bartlett	r	
KMO Test		0,700
Bartlett Sphericity Test	Chi-square	2659,197
	df	703
	Sig.	0,000

Source: authors' elaboration

Therefore, analyzing the factors in this research model is appropriate. After studying the Eigenvalues table and the Extraction Sums of Squared for the dependent variable, the results showed that the total value of extracted variance = 69.987% > 50%, so the study confirms that the extracted variance is satisfactory, and these 12 groups of factors explain 69.987% of the data variation (Table 3).

Tab. 3: Eigenvalues table

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of variance	% cumulative	Total	% di varianza	% cumulativa
1	5,798	15,257	15,257	4,250	11,185	11,185
2	4,014	10,564	25,820	3,825	10,065	21,250
3	3,314	8,722	34,542	2,753	7,246	28,496
4	2,429	6,393	40,936	2,381	6,267	34,763
5	1,916	5,041	45,977	2,122	5,584	40,346
6	1,643	4,324	50,300	1,926	5,070	45,416
7	1,540	4,053	54,354	1,870	4,921	50,337
8	1,367	3,596	57,950	1,843	4,850	55,187
9	1,354	3,564	61,513	1,508	3,967	59,154
10	1,137	2,992	64,506	1,436	3,779	62,933
11	1,056	2,780	67,286	1,399	3,680	66,613
12	1,027	2,701	69,987	1,282	3,374	69,987

Extraction Method: Principal Component Analysis.

Source: authors' elaboration

The factorial analysis extracted 12 factors, which were assigned a name based on the variables related to them:

- **Factor 1: Entrepreneurial Education (EE).** It summarizes all the items related to the student's educational background. These variables express the perceptions about the skills gained through entrepreneurial courses and activities.
- **Factor 2: Personal Value (PV).** It summarizes the variables that express the set of values of an individual, in particular the importance of the social and environmental impact of a business activity.
- **Factor 3: Family Background (FB).** It summarizes all the opinions declared regarding to the family context, in particular the importance that it has in the student's decisions.
- **Factor 4: Neuroticism (NEV).** It summarizes the set of variables that affect the personality; in particular they express the degree of nervousness, anxiety and moodiness.
- **Factor 5: Conscientiousness (CON).** It summarizes the set of items that concern the organization, the hard work and the sense of responsibility.
- **Factor 6: Need of Achievement (NoA).** It summarizes the variables that express the subject's desire to be more independent.
- **Factor 7: Extroversion (EX).** It summarizes inside the variables that express both the trait of friendship, the level of understanding and courtesy and the extroversion.
- **Factor 8: "Open-mind (OM)".** It summarizes the variables that concern openness to new experiences. Therefore, the factor will be called;
- **Factor 9: Self-efficacy (SE)".** It summarizes the variable "I only trust myself in achieving a task".
- **Factor 10: External locus of control (ELC).** It summarizes the statements concerning the attribution of a consequence to external and non-subjective causes.
- **Factor 11: Creativity (CR).** It summarizes a single variable that expresses the degree of creativity of the individual.
- **Factor 12: Non-Environment responsibility (NAR).** It summarizes the statement "business activities should not take into consideration the environment".

**Linear Regression.** Once an acceptable factor model solution is reached, the factor scores are saved and used as input for the linear regression. The linear regression studies the dependence of the EI on the factors that emerged in the factor analysis. The coefficients of the regression line describe the variability of the dependent variable explained by the independent variables, which are represented by the factors. The linear regression model considers as dependent variable the EI and as independent variables it keep all the factors listed above and it is represented as below:

$$EI = \alpha + \beta * EE + \beta * PV + \beta * FB + \beta * NEV + \beta * CON + \beta * NoA + \beta * EX + \beta * OM + \beta * SE + \beta * ELC + \beta * CR + \beta * NAR + \varepsilon$$

### Findings.

#### Descriptive statistics

The descriptive statistics of the sample show that the 50% of the students are female and male; the average age is 26 years old. The sample is made up of 15.4% of students with a high school diploma; about 44% of the individuals have a bachelor's degree, 32% have a master's degree, 1.2% of students took a specialization course and 7.4% have a PhD. Almost the 35% of students belongs to Business Administration disciplines, the 15,4% studies Economics, the 38% studies in the Scientific disciplines and the 12% of students belongs to Management Engineering. Almost the 19% of students have a self-employed father and only the 15,4% is an entrepreneur. Regarding to the employment of the mother, the highest percentage of the women is unemployed, with a percentage of 32%, followed by the 29,6% which is employed. Only the 7% of the mothers started a business independently. The 14,2% of students have participated to Business Plan (BPC) in the province of residence and only the 28% of students have participated to BPC at the University of Calabria. The 16% of students attended to entrepreneurship courses provided by the University TTO and only the 37% of the sample showed interest in patenting. The descriptive statistics show that the 34% of students aspire to the role of manager, followed by 17.9% of the students who intend to become a researcher. The 15.4% aspire to become an employee in a firm, the 6.8% desires to become an entrepreneur; the 6.2% wants to become a freelance professional and the 3.7% a teacher. A number of 22 subjects, equal to 13.6%, are uncertain about the future and cannot identify their future career yet. Therefore, the percentage of subjects who intend to build a business in the future is very low. The study also focuses on personal life experiences, such as playing a sport and religious beliefs. In particular, respondents were asked to indicate if they have ever played a sport, if they have ever practiced it at a competitive level, the type of sport and if they have ever played a team leader role. What emerged is that 92% of the respondents played sports and the 44% at a competitive level. The 53.7% of the sample practiced an individual sport, the 65.4% of students practiced a team sport. Only 32% of respondents played a leading role in a team sport.

#### Bivariate analysis

Bivariate analysis was conducted on pairs of variables, in order to study some relationships of particular interest. T-tests and the One-way anova were conducted in order to assess the relationship between the EI and qualitative variables; the correlation analysis was conducted between the EI and quantitative variables and the crosstab analysis was conducted between qualitative variables. On average, the individuals who are aware of entrepreneurship programs organized in their province of residence have an EI of 5.08 on a scale of 1 to 7. The difference with subjects who are not aware of these programs is 1.272. The students who participated in a BPC in their province of residence have an EI of 4.83 on a scale of 1 to 7 and the difference with the subjects who did not participate is -0.840. On average, the individuals who participated in a BPC in their university have an EI of 4.58 on a scale of 1 to 7. The difference with the subjects who did not participate is -0.655. The ones who participated in entrepreneurship courses in their university have an EI of 4.81 on a scale from 1 to 7. The difference with the subjects who did not participate is -0.915. Those who participated in entrepreneurship courses at the TTO have an EI of 4.92 on a scale from 1 to 7; the difference with the subjects who did not participate is -0.975. Students interested in patenting have an EI of 4.50 on a scale of 1 to 7 and the difference with those who have never been interested is -0.627. Finally, women have an EI of 3.69 on a scale of 1 to 7. The difference with men is 0.827. The analysis of the differences between the means of the quantitative variable "Do you intend to build a business" in the observation groups defined by the qualitative variables has produced one statistically significant result. The students whose mother is a teacher have more EI than the ones who have a mother unemployed. The students who participate the most in Business Plan Competitions are business administration students (17 individuals), followed by Industrial Engineers (14 individuals) and then by Scientific Degree students (9 individuals). Among the Economics students there were only 5 subjects who participated in a Business Plan Competition. The analysis of the correlations between the EI and the quantitative descriptive variables did not produce statistically significant results.

The linear regression model considers as dependent variable the EI and as independent variables it keep all the factors listed above. The variability of the dependent variable explained by the regression model (R-squared) is equal to 0.595, approximately 60%. This result indicates that 60% of the variability of the EI of the students of the University of Calabria is explained by the 12 factors included within the regression model. The following table shows the F test conducted on the coefficients associated with the independent variables of the model (Table 4).

Tab. 4: R-squared Linear Regression Model and F-test

Model	R	R-squared	Adjusted R-squared	Standard Error	F	Sig.
1	,771 <sup>a</sup>	0,595	0,562	1,233	18,239	,000 <sup>b</sup>

- a. Predictors: (constant), Entrepreneurial Education, Personal Value, Family Background, Neuroticism, Conscientiousness, Autonomy, Extroversion, Open-mind, Self-efficacy, External Locus of Control, Creativity, Non environment responsibility
- b. Dependent variable: Entrepreneurial Intention.

Source: authors' elaboration

Below there is the table with the non-standardised and standardised coefficients associated with each factor and the significance level of each beta.

Tab. 5: Standardised and non-standardised coefficients- Linear Regression Model

Variables	Non-standardised coefficients		Standardised coefficients		
	B	Standard error	Beta	t	Sig.
Entrepreneurial Intention					
(Costant)	4,105	0,097		42,376	0,000
Entrepreneurial Education	0,869	0,097	0,466	8,939	0,000
Personal Value	0,306	0,097	0,164	3,152	0,002
Family Background	0,200	0,097	0,107	2,061	0,041
Neuroticism	0,040	0,097	0,022	0,415	0,679
Conscientiousness	-0,077	0,097	-0,041	-0,792	0,429
Need of Achievement	1,023	0,097	0,549	10,525	0,000
Extroversion	0,082	0,097	0,044	0,848	0,398
Open-mind	0,189	0,097	0,101	1,944	0,054
Self-efficacy	0,222	0,097	0,119	2,284	0,024
External Locus of Control	0,063	0,097	0,034	0,653	0,515
Creativity	0,170	0,097	0,091	1,749	0,082
Non environment responsibility	-0,010	0,097	-0,005	-0,100	0,920

Source: authors' elaboration

The empirical analysis suggests that some personal factors, like personality traits, subjective values of each individual, demographic and educational factors, are not significant. According to our results, EI for student is based on four-legged stool consisting of: Open-mind, Self-efficacy, Creativity, Need of Achievement. These characteristics denote skills that are more challenging to teach and learn than more concrete operative areas. Thus, helping students develop these skills is an important endeavor (Kauffman Foundation, 2011). More concretely, open-mind understood as the ability to put together vertical and horizontal skills to achieve entrepreneurial readiness (Rippa et al., 2020). Moreover, students' entrepreneurial self-efficacy is a driving force of students' entrepreneurial intentions (Martiz et al., 2014; Kassean et al., 2015). In addition to self-efficacy, also creativity influence EI. Indeed, according to Zampetakis et al., (2009) the statement has a positive effect on the entrepreneurial intentions of the students. Finally, the needs of achievement in terms of achievement motivation, autonomy, and personal wealth influence EI. Indeed, according to Robert, (2010) the need of achievement is the motivation which can be described as the need, or value, of being successful (McClelland, 1987) and it's as a key motivator of entrepreneurial activity.

Entrepreneurial education is another relevant element that can improve students' skills as well as increase their motivation to start a business (Barr et al., 2009; Chandra et al., 2020). Von Graevenitz, Harhoff and Weber (2010) argue that helping students discover that entrepreneurship is not for them is as valuable as helping students find that they are high in entrepreneurial orientation. Then, the educational programs and the role of university represent crucial issues, since they contribute to enhance soft skills, useful for entrepreneurship. Also, family background and daily life experiences represent crucial issues to develop EI among students, in fact, from the analysis comes out that soft skills such as the ability to be creative, to recognize opportunities, to create network and to be able to work in teams, are particularly important to stimulate EI. As Hamidi et al., (2008, p. 306) state, "There are both theoretical and practical reasons to move beyond the focus on business planning to a focus on other activities that can be key ingredients of future entrepreneurship programs."

**Research limits.** However, the study is not without limitations. The empirical analysis is not exhaustive in terms of variables. It considers only some personal characteristics of students. Further research will focus also on biological factors (Nicolaou and Shane, 2014; Passarelli et al., 2020), by combining biology and entrepreneurial behavior among

students. A recent field of literature, in fact, focuses on the relationship between hormones, physical characteristics, health conditions and entrepreneurial dimensions (Heaphy & Dutton, 2008; White, Thornhill, & Hampson, 2006). The stimulation of such hormones among student could help them to increase their alertness, their motivations, and their entrepreneurial orientation. Another contribution for the analysis would be offered by adding factors related to neuroscience (Gatto et al, 2020), as another microfactor that can influence EI among students.

This study is limited to a single university, but we believe that these conditions may represent the reality of other developing regions as well, not only constrained to the Calabrian case. Further empirical research, in fact, will be applied to a larger sample involving several experiences with a cross-country analysis. Moreover, other further research focus on the role of education and concentrate on new teaching methods, able to enhance student soft skills.

**Practical implications.** The empirical results stimulate important implications for public policies and gave implications for researchers, universities, and public governments that operate in developing countries. Most of EI is related to the building of hard and soft skills, implying that educational programs become crucial for EI of students. This can be strictly related also with innovating teaching methods such as training, case study method, behavioral modeling, play projects, the method of peer feedback, metaphor game, storytelling, the method of action learning, basket-method, design thinking, role playing. Active learning methods, in fact, modify the role of the professor from the translator of information to the organizer and coordinator of the educational process and make it possible to form complex competences in future professional specialties via student activities that manifest as closely as possible the content of professional work. Thus, students have the necessity to acquire both business competences and soft skills, to consider the opportunity to build new ventures based on scientific knowledge. In this perspective, according to Jessop (2017), we are strongly convinced that universities have a crucial role and a high level of responsibility in the innovation ecosystem. Specifically, they can provide specific courses with new methods of teaching and research, exploit new or enhanced information and communication technology infrastructures. They can open new markets, for example, by validating degrees awarded by other institutions at home or abroad or engaging in the internationalization of entrepreneurial education. This occurs by diversifying also the source of students (Wildavsky, 2010), opening international branch campuses (whether alone, through twinning, partnerships, consortia and franchising), introducing courses with 1 or 2 years spent in the home country and 2 in the host country or creating new kinds of regional education hubs (Knight and Morshidi, 2011).

In addition, at the macro level, could be useful to involve successful entrepreneurs also in undergraduate courses to develop new circuits of knowledge that move away from peer review and professional judgement as arbiters of excellence (Slaughter and Cantwell, 2012). In this way, especially in developing regions, University can contribute to the development of regional innovation ecosystem. The quadruple/quintuple Helix model is in fact the best tool to make the entrepreneurial environment grow (Carayannis et al., 2018). Public government should finance students' grants and should also invest in infrastructures to reinforce in entrepreneurial educational programs.

**Originality of the study.** Our studio is one of the first to apply bibliometric analysis with statistical software to the topic of student entrepreneurship. The identification of micro and macro factors encourages scholars to initiate increasingly specific and focused research paths, identifying times that have not yet been adequately investigated. Moreover, according to our results, EI for student is based on four-legged stool consisting of: Open-mind, Self-efficacy, Creativity, Need of Achievement. These characteristics denote skills that are more challenging to teach and learn than more concrete operative areas.

**Key words:** entrepreneurial intention; student entrepreneurship; bibliometric analysis; entrepreneurial education fourth

## References

- AHMED S.U. (1985), "nAch, risk-taking propensity, locus of control and entrepreneurship", *Personality and Individual differences*, vol. 6, n. 6, pp. 781-782
- ANJUM T., FARRUKH M., HEIDLER P., DÍAZ TAUTIVA J.A. (2021), "Entrepreneurial Intention: Creativity, Entrepreneurship, and University Support", *Journal of Open Innovation: Technology, Market, and Complexity*, vol. 7, n. 1, pp. 11.
- ANZIVINO M., CERAVOLO F.A., ROSTAN M. (2020), "The two dimensions of Italian academics' public engagement", *Higher Education*, vol. 80, n. 3, pp. 1-19.
- BANDURA A. (1992), "Self-efficacy mechanism in psychobiologic functioning", *Self-efficacy: Thought control of action*, pp. 2.
- BARR S.H., BAKER T.E.D., MARKHAM S.K., KINGON A.I. (2009), "Bridging the valley of death: Lessons learned from 14 years of commercialization of technology education", *Academy of management learning & education*, vol. 8, n. 3, pp. 370-388.
- BIENKOWSKA D., KLOFSTEN M. (2012), "Creating entrepreneurial networks: academic entrepreneurship, mobility and collaboration during PhD education", *Higher Education*, vol. 64, n. 2, pp. 207-222.
- BROCKHAUS R.H. (1975), "IE locus of control scores as predictors of entrepreneurial intentions", In *Academy of Management Proceedings*, vol. 1975, n. 1, pp. 433-435. Briarcliff Manor, NY 10510: Academy of Management. <https://doi.org/10.5465/ambpp.1975.4990354>
- BUDYLDINA N. (2018), "Entrepreneurial universities and regional contribution", *International Entrepreneurship and Management Journal*, vol. 14, n. 2, pp. 265-277.
- CARAYANNIS E.G., GRIGOROUDIS E., CAMPBELL D.F., MEISSNER D., STAMATI D. (2018), "The ecosystem as helix: an exploratory theory-building study of regional co-opetitive entrepreneurial ecosystems as Quadruple/Quintuple Helix Innovation Models", *R&D Management*, vol. 48, n. 1, pp. 148-162.



- CHANDRA P., TOMITSCH M., LARGE M. (2020), "Innovation education programs: a review of definitions, pedagogy, frameworks and evaluation measures", *European Journal of Innovation Management*, vol. ahead-of-print No. ahead-of-print. <https://doi.org/10.1108/EJIM-02-2020-0043>
- DUVAL-COUEIL N. (2013), "Assessing the impact of entrepreneurship education programs: Challenges and approaches", *Journal of Small Business Management*, vol. 51, n. 3, pp. 394-409.
- EGGHE L., ROUSSEAU R. (1990), "Introduction to informetrics: Quantitative methods in library, documentation and information science", *Elsevier Science Publishers*. <http://eprints.rclis.org/6011/>
- ENGLE D.E., MAH J.J., SADRI G. (1997), "An empirical comparison of entrepreneurs and employees: Implications for innovation", *Creativity Research Journal*, vol. 10, n. 1, pp. 45-49.
- FALCK O., HEBLICH S., LUEDEMANN E. (2012), "Identity and entrepreneurship: do school peers shape entrepreneurial intentions?", *Small Business Economics*, vol. 39, n. 1, pp. 39-59.
- FERREIRA F.A. (2018), "Mapping the field of arts-based management: Bibliographic coupling and co-citation analyses", *Journal of Business Research*, vol. 85, pp. 348-357.
- GATTO A.J., MIYAZAKI Y., COOPER L.D. (2020), "Help me help myself: examining an electronic mental health self-monitoring system in college students", *Higher Education*, vol. 80, n. 5, pp. 1-20.
- GOSLING S.D., RENTFROW P.J., SWANN JR W.B. (2003), "A very brief measure of the Big-Five personality domains", *Journal of Research in personality*, vol. 37, n. 6, pp. 504-528.
- GRIMALDI R., KENNEY M., SIEGEL D.S., WRIGHT M. (2011), "30 years after Bayh-Dole: Reassessing academic entrepreneurship", *Research policy*, vol. 40, n. 8, pp. 1045-1057.
- GUPTA V.K., TURBAN D.B., WASTI S.A., SIKDAR A. (2009), "The role of gender stereotypes in perceptions of entrepreneurs and intentions to become an entrepreneur", *Entrepreneurship theory and practice*, vol. 33, n. 2, pp. 397-417.
- HAMIDI D.Y., WENNERBERG K., BERGLAND H. (2008), "Creativity in entrepreneurship education. Journal of Small Business and Enterprise Development", vol. 15, n. 2, pp. 304-320.
- HANSEMARK O.C. (2003), "Need for achievement, locus of control and the prediction of business start-ups: A longitudinal study", *Journal of economic Psychology*, vol. 24, n. 3, pp. 301-319.
- HEAPHY E.D., DUTTON J.E. (2008), "Positive social interactions and the human body at work: Linking organizations and physiology", *Academy of Management Review*, vol. 33, n. 1, pp. 137-162.
- JESSOP B. (2017), "Varieties of academic capitalism and entrepreneurial universities", *Higher Education*, vol. 73, n. 6, pp. 853-870.
- KASSEAN H., VANEVENHOVEN J., LIGUORI E., WINKEL D.E. (2015), "Entrepreneurship education: a need for reflection, real-world experience and action", *International Journal of Entrepreneurial Behavior & Research*, vol. 21, n. 5, pp. 690-708.
- KEDROSKY P., STANGLER D. (2011), "Financialization and its entrepreneurial consequences", *Ewing Marion Kauffman Foundation Research Paper*, pp. 1-20. <https://dx.doi.org/10.2139/ssrn.1798605>
- KESSLER M. M. (1963), "Bibliographic coupling extended in time: Ten case histories", *Information storage and retrieval*, vol. 1 N. 4, pp. 169-187.
- KNIGHT J., MORSHIDI S. (2011), "The complexities and challenges of regional education hubs: Focus on Malaysia", *Higher Education*, vol. 62, n. 5, pp. 593.
- MARTIZ A., SHIEH C.J., YEH S.P. (2014), "Innovation and success factors in the construction of green ports." *Journal of Environmental Protection and Ecology*, vol. 15, pp. 1255-1263 [https://www.researchgate.net/publication/290861970\\_Innovation\\_and\\_success\\_factors\\_in\\_the\\_construction\\_of\\_green\\_ports](https://www.researchgate.net/publication/290861970_Innovation_and_success_factors_in_the_construction_of_green_ports)
- MATT M., SCHAEFFER V. (2018), "Building entrepreneurial ecosystems conducive to student entrepreneurship: New challenges for universities", *Journal of Innovation Economics Management*, vol. 1, n. 25, pp 9-32.
- MCCLELLAND D.C. (1987), "Human motivation", *CUP Archive*. <https://doi/10.1002/j.2162-6057.1987.tb00479.x>
- MERIGÓ J.M., GIL-LAFUENTE A.M., YAGER R.R. (2015), "An overview of fuzzy research with bibliometric indicators", *Applied Soft Computing*, vol. 27, pp. 420-433.
- NICOLAOU N., SHANE S. (2014), "Biology, neuroscience, and entrepreneurship", *Journal of Management Inquiry*, vol. 23, n. 1, pp. 98-100.
- PASSARELLI M., CUCINO V., DI MININ A., CIONE E., CARIOLA A., CANNATARO R. (2020), "Biology and entrepreneurship: how they can meet?", *Studies Pisa (Italy) - Online Conference*. DOI 10.7433/SRECP.EA.2020.01
- PUGH R., LAMINE W., JACK S., HAMILTON E. (2018), "The entrepreneurial university and the region: what role for entrepreneurship departments?", *European Planning Studies*, vol. 26, n. 9, pp. 1835-1855.
- QAZI W., QURESHI J.A., RAZA S.A., KHAN K.A., QURESHI M.A. (2020), "Impact of personality traits and university green entrepreneurial support on students' green entrepreneurial intentions: the moderating role of environmental values", *Journal of Applied Research in Higher Education*. vol. ahead-of-print N. ahead-of-print. <https://doi.org/10.1108/JARHE-05-2020-0130>
- RÓBERT P. (2010), "The influence of educational segregation on educational achievement", In *Quality and Inequality of Education*, pp. 13-40. *Springer, Dordrecht*. [https://doi.org/10.1007/978-90-481-3993-4\\_2](https://doi.org/10.1007/978-90-481-3993-4_2)
- ROUTLEDGE C., MOWERY D.C., ZIEDONIS A.A. (2002), "Academic patent quality and quantity before and after the Bayh-Dole act in the United States", *Research policy*, vol. 31, n. 3, pp. 399-418.
- RUEDA S., MORIANO J.A., LIÑÁN F. (2015), "Validating a theory of planned behavior questionnaire to measure entrepreneurial intentions", In *Developing, shaping and growing entrepreneurship*, pp. 60-78. *Edward Elgar Publishing*. <https://doi.org/10.4337/9781784713584.00010>
- SALOMAA M. (2019), "Third mission and regional context: assessing universities' entrepreneurial architecture in rural regions", *Regional Studies, Regional Science*, vol. 6, n. 1, pp. 233-249.
- SLAUGHTER S., CANTWELL B. (2012), "Transatlantic moves to the market: The United States and the European Union", *Higher Education*, vol. 63, n. 5, pp. 583-606. DOI:10.1007/s10734-011-9460-9
- TOMY S., PARDEDE E. (2020), "An entrepreneurial intention model focussing on higher education", *International Journal of Entrepreneurial Behavior & Research*, vol. 26, N. 7, pp. 1423-1447.
- VAN ECK N.J., WALTMAN L., DEKKER R., VAN DEN BERG J. (2010), "A comparison of two techniques for bibliometric mapping: Multidimensional scaling and VOS", *Journal of the American Society for Information Science and Technology*, vol. 61, n. 12, pp. 2405-2416.

- VON GRAEVENITZ G., HARHOFF D., WEBER R. (2010), "The effects of entrepreneurship education", *Journal of Economic behavior & organization*, vol. 76, n. 1, pp. 90-112.
- VUORIO A.M., PUUMALAINEN K., FELLNHOFER K. (2018), "Drivers of entrepreneurial intentions in sustainable entrepreneurship", *International Journal of Entrepreneurial Behavior & Research*. vol. 24, N. 2, pp. 359-381.
- WHITE R.E., THORNHILL S., HAMPSON E. (2006), "Entrepreneurs and evolutionary biology: The relationship between testosterone and new venture creation", *Organizational Behavior and Human Decision Processes*, vol. 100, n. 1, pp. 21-34.
- WILDAVSKY B. (2010), "How college rankings are going global (and why their spread will be good for higher education)", In *Accountability in American Higher Education*, pp. 211-249. [https://doi.org/10.1057/9780230115309\\_8](https://doi.org/10.1057/9780230115309_8).