sciendo

Management Theory and Studies for Rural Business and Infrastructure Development
eISSN 2345-0355. 2024. Vol. 46. No. 3: 269-284
Article DOI: https://doi.org/10.15544/mts.2024.27

INTERPLAY OF STUDENT INTENDED CAREER PATHS AND UNIVERSITY ENTREPRENEURIAL ENVIRONMENT IN DEVELOPED, TRANSITION, AND DEVELOPING ECONOMIES

Virginija Kargytė[1], Rita Mičiulienė[2], Ričardas Krikštolaitis[3]

[1] Ph.D. Candidate, Department of Applied Economics, Finance and Accounting, Vytautas Magnus University, Kaunas, Lithuania, E-mail address: virginija.kargyte@vdu.lt

[2] Assoc. Prof. Dr., Department of Educational Management and Policy, Vytautas Magnus University, Kaunas, Lithuania, E-mail address: rita.miciuliene@vdu.lt

[3] Prof. Dr., Department of Mathematics and Statistics, Vytautas Magnus University, Kaunas, Lithuania, E-mail address: ricardas.krikstolaitis@vdu.lt

Received 26 08 2024; Accepted 05 09 2024

Abstract
To explain the evolution of student entrepreneurship, this paper investigates how student intended career paths interrelate with university entrepreneurial environment in three country groups: developed economies, economies in transition, and developing economies. Empirical analysis is built on data of the Global University Entrepreneurial Spirit Students' Survey (GUESSS), collected in 2018. Selected sample comprises of 198426 students from 31 countries, from which 15 are developed economies, 2 – economies in transition, and 14 – developing economies. Business creation related career aspirations, ongoing entrepreneurial activities, and university entrepreneurial environment are examined using statistical analysis methods for evaluating the association between distinguished country groups and entrepreneurial characteristics of students. According to results obtained, statistically significant differences exist among students from countries of different economic development level. Students in developing economies and economies in transition have considerably greater aspirations towards entrepreneurial career and activities. They also evaluate the courses on entrepreneurship and university entrepreneurial environment significantly more favourably than students in developed countries do. Students in less developed regions are also those who more frequently choose entrepreneurship specific education, which suggests that they more actively leverage university offerings to realise their higher entrepreneurial aspirations.

Keywords: *student career choice, student entrepreneurship, university environment, GUESSS project, developed economies, economies in transition, developing economies.*

JEL Codes: *J24, L26, I23, O57.*

Introduction

Entrepreneurship is an important factor for all national economies (Acs, 2010; Nabi, Liñán, 2011; Audretsch, 2012) and, together with capital, labour, and knowledge, is identified as one of the key drivers of economic growth (Audretsch, 2007; Clifton, 2011). There is an increased interest in entrepreneurship as a way of boosting economic competitiveness and promoting regional development (Chankseliani et al., 2021; Bezerra et al., 2017; Iakovleva et al., 2011; Acs, 2010).

Therefore, promoting entrepreneurship is one of the cornerstones of any country's strategy and a tool for achieving global economic competitiveness. In this context, higher education is generally regarded as an appropriate place for the development of entrepreneurship (Hatt, 2021; Wang, 2021). Developing an entrepreneurial culture, motivating young people to go into business, is becoming a new policy direction of many universities. Hannon (2013) presumes that it is an educational imperative for universities to design learning environments and provide learning opportunities that stimulate entrepreneurial mindsets, thinking, and act.

Students' interest in entrepreneurship as a career option (Nabi et al., 2016; Støren, 2014; Nga, Shamuganathan, 2010), as well as university environment impact on the attitudes of students in relation to entrepreneurship (Moraes et al., 2018; Bergmann et al., 2018; Farhangmehr et al., 2016) gained considerable attention among researchers in recent years in many countries. Promoting the entrepreneurial development of students is regarded as a matter of social justice, inclusion, and citizenship (Grafar, 2020; Brancu et al., 2015), especially in a world facing the dissolution of social cohesion (Hoppe et al., 2017). Moreover, the issue is dramatically pronounced in developing countries, where the promotion of youth entrepreneurship is a condition for poverty reduction (Bezerra et al., 2017; Embi et al., 2019; Shambare, 2013; Keat et al., 2011).

Although individuals with entrepreneurial characteristics may be present in all societies and economies (Brancu et al., 2015), there are some individual factors that are more stimulated by certain economic growth. After investigating the effects of entrepreneurship, i.e. high-expectation, opportunity-based, and necessity-based entrepreneurship, on growth in emerging and developed nations, Valliere and Peterson (2009) found that different underlying mechanisms operate in these two groups of countries, with the role of entrepreneurs and the potential benefit of knowledge development changing as national economies mature. Therefore, the comparative approach is useful in discovering the entrepreneurial potential of economies in different stages of development.

The aim of the paper is to identify students' entrepreneurial intentions and activities motivated by country's economic development level and by university's environment. The approach is a comparative one, because the entrepreneurial intentions and activities of young people in three types of countries (developed economies, economies in transition, and developing economies) are being studied.

Literature review

Entrepreneurship and economic context of countries

The phenomenon of entrepreneurship is ambiguous and, as Audretsch (2012) points out, there is no consensus on what constitutes entrepreneurship. Traditionally, entrepreneurship is associated with innovation, i.e. the ability to identify and realise new opportunities for the creation and use of goods, markets, resources, and processes, in order to make a profit, while bearing all the risks associated with these activities (Drucker, Maciariello, 2014). The country's entrepreneurial outlook is associated with the generation and the exploitation of knowledge, a key factor of production in knowledge economies, and is increasingly dependent on high value-added, innovative companies that compete successfully in the global market (Guerrero, Urbano, 2019). Geldhof et al. (2014) stress that enhancing the development of a generation of young entrepreneurs can be a key contributor to country's progress.

Universities play an important role in producing knowledge (Guerrero, Urbano, 2019), as well as in developing entrepreneurial capacities across a broad spectrum of students/graduates (Hannon, 2013; Moraes et al., 2018). Hannon (2013) maintains that graduate entrepreneurs make an immense contribution to the economy, by providing examples from the research carried out in the UK and the USA. Through an analysis of listed firms, over 80% of Top 100 high-growth firms and Top 100 high-tech firms were founded and/or managed by university graduates. It was found that 89% of graduate start-ups in the USA did not emanate from university business studies and management programmes but from across a broad range of non-business disciplines (Hannon, 2013). Students' interest in entrepreneurship as a career path has been explored by many researchers (Chigunta, 2017; Ebewo, Shambare, 2012; Embi et al., 2019; Ferreira et al., 2017; Geldhof et al., 2014; Keat et al., 2011; Makgosa, Ongori, 2012; Shambare, 2013; Sieger et al., 2014; Zamfir et al., 2018). The situation of student entrepreneurship varies from country to country. In significantly less developed countries, students (and other young people) choose entrepreneurship as a career option to be independent and earn a living, avoid poverty and live a better life (Shambare, 2013), but they face many different obstacles (Ebewo, Shambare, 2012), such as lack of market credibility and little or no access to financial and human resources (Bezerra et al., 2017). Other authors have also discussed the environmental factors that are

sciendo
Management Theory and Studies for Rural Business and Infrastructure Development
eISSN 2345-0355. 2024. Vol. 46. No. 3: 269-284
Article DOI: https://doi.org/10.15544/mts.2024.27

unfavourable to student entrepreneurship (Poschke, 2013; Brancu et al., 2015). Zamfir et al. (2018) explored data collected from 13 European countries among higher education graduates in order to uncover patterns and factors influencing the resilience in entrepreneurship. The authors found that countries differ according to protective environment for resilient entrepreneurship. Other important protective factors for resilient entrepreneurship are structural (economic sector and market characteristics), personal characteristics (gender, age, personal values), educational background (field of study, study programme, methods of teaching/learning, level of academic performance), and social networks supporting students' business settings.

Entrepreneurial education and university environment

Higher education institution, as a driver for economic development (Wang, 2021), has a major impact in designing learning environments and providing learning opportunities that stimulate student entrepreneurship (Hannon, 2013; Moraes et al., 2018). Hannon (2013) believes that the entrepreneurship environment within a university can be presented through two dimensions: inculcating entrepreneurial thinking through institutional governance structures and managerial policies and practices; and embedding, encouraging, supporting entrepreneurial mindsets and behaviours of learners. The supportive entrepreneurship policy and practice may occur through educational programmes, research and outreach activities (Hatt, 2021; Saeed et al., 2015; Moraes et al., 2018). Undergraduate research projects, capstone course papers, and other activities that occur in different disciplines may focus on the theme of entrepreneurship (Fayolle, Gailly, 2015; Moraes et al., 2018) and thus form a better understanding of business, or as Saeed et al. (2015) identify – cognitive support for entrepreneurial environment. Thus, entrepreneurialism can be found in various innovative forms of teaching/learning (Fayolle, Gailly, 2015).

In the past, entrepreneurship was taught in business schools. Nowadays, new interdisciplinary programmes were developed for the non-business students (Portuguez Castro et al., 2019). In general, the context is broadened where entrepreneurship education came to encompass all sorts of education and at all levels in the education system (Hoppe et al., 2017). Entrepreneurship education is believed to inspire young people to learn a wide range of 21st century skills that are expected to become a key competitive advantage for young people (Ghafar, 2020), as well as to provide innovative attitudes to carry out new business models (Durán-Sánchez et al., 2019). Some research shows the positive impact of entrepreneurial education on competencies of students and graduates and their career. In their study on Australian university students, McMullan and Gillin (1998) indicated that students who were in entrepreneurship programmes were more likely to start up a venture compared to those who were in non-entrepreneurship programmes. The findings obtained by Jones et al. (2017) confirmed that entrepreneurship programmes provide value both in terms of helping to enable business start-ups and in supporting other career paths, through the enterprising knowledge and skills sets graduates acquire during their specialised studies. Contrary, some other studies showed that entrepreneurship education programmes do not have the intended effect (Oosterbeek et al., 2010). Graduates who have had entrepreneurship education are not more frequently self-employed than other graduates or, also among entrepreneurship graduates, it is fairly uncommon to plan to start up one's own business (Støren, 2014).

Byun et al. (2018), in analysing entrepreneurship education programmes in higher education institutions of Korea, found out that the entrepreneurship curriculum is missing focus on entrepreneurial attitude, self-efficacy, emotional intelligence, and well-developed interpersonal skills which are important factors in the success of the company. The authors see a void between expectations and needs of students and university programmes that operate according to the reality of universities (Byun et al., 2018). The outcome of this overemphasis on theoretical education results in a superficial view of entrepreneurship, as Shambare (2013) assumed, further exacerbates the problem by creating the illusion that university graduates are ready for

entrepreneurship when in fact they are not. In most cases, they lack experience and technical know-how of starting and operating a business beyond the theoretical knowledge. The reality is that would-be entrepreneurs experience numerous challenges and barriers when setting up their businesses (Shambare, 2013). Therefore, the context of higher education institutions for entrepreneurship education has been viewed ambiguously in the education research.

Despite criticisms of entrepreneurship education programmes, it is assumed that higher education institutions are the main catalyst in fostering entrepreneurial spirit (Silveyra et al., 2019; Nabi et al., 2016), developing students' entrepreneurial mindset (Ghafar, 2020), promoting entrepreneurial capacities and stimulating entrepreneurial intentions (Lekoko et al., 2012). Bergmann et al. (2018) argued that student perception of the entrepreneurial environment depends to a certain degree on intentional entrepreneurship measures. For instance, for students with an affinity for entrepreneurship, having fellow students who have participated in elective courses has a positive, albeit weakly significant, effect in shaping own perceptions towards university's environment. In other study, a positive relationship between the level of the entrepreneurial environment and entrepreneurial intentions on one hand and between the level of entrepreneurial learning and entrepreneurial intentions on the other hand was identified (Sieger et al., 2014). Shambare (2013) summarizes that, even though there is a strong correlation between tertiary education and the propensity to engage in entrepreneurship activities, acquiring university education does not necessarily convert an individual into an entrepreneur.

Based on literature review, our comparative analysis focuses on the following main objectives: (1) to explore the intended career paths and the intents and actions of students to start own businesses, (2) to analyse students' entrepreneurial intents and actions in relation to country's economic development level, (3) to analyse students' entrepreneurial intents and actions in relation to university's environment determinations, considering different economic contexts.

Data and methods

Data

Empirical investigation uses data from the eighth wave of data collection of the GUESSS project that took place in the fall term of 2018. 54 countries participated and more than 208000 completed responses from over 3000 universities were collected. For the analysis presented in this paper, data of 31 countries with sample sizes having no greater than 3-percentage-point margins of error based on student populations is selected. In total, responses of 198426 students are analysed.

Included countries are classified according to their level of economic development, as defined by the United Nations (2018). Based on this classification, 15 developed economies with 93410 respondents (47.08%), 2 economies in transition with 6276 respondents (3.16%), and 14 developing economies with 98740 respondents (49.76%) comprise the global sample of presented analysis (Figure 1).

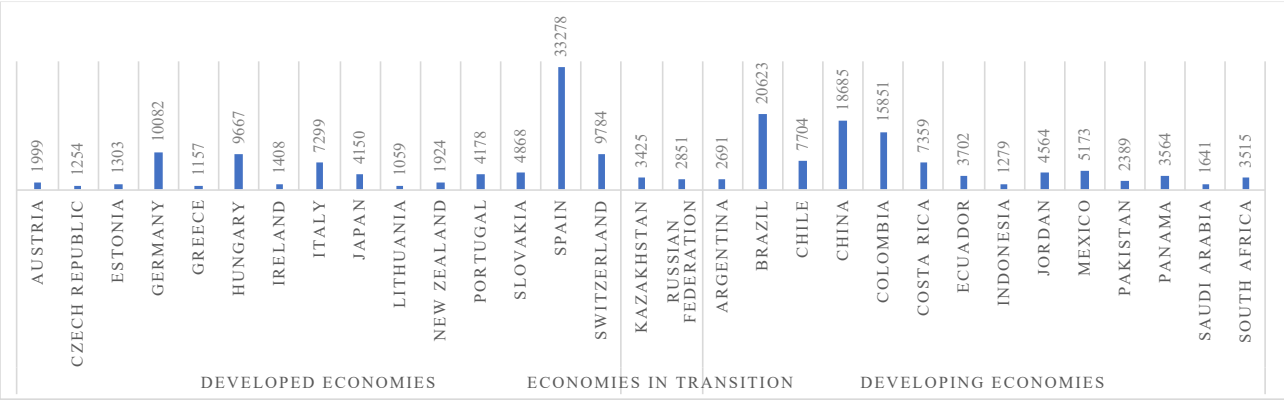

Figure 1. Distribution of the respondents by country

sciendo
Management Theory and Studies for Rural Business and Infrastructure Development
eISSN 2345-0355. 2024. Vol. 46. No. 3: 269-284
Article DOI: https://doi.org/10.15544/mts.2024.27

From the geographical perspective, selected countries are located in different continents of the world: Europe (Northern, Western, Southern, Eastern), Asia (Western, Central, Southern, Eastern, South-eastern), Africa (Southern), America (Central, South), and Oceania (New Zealand).

The distribution of survey participants by gender, level of studies, and the main field of studies is presented in Table 1. Proportionally smallest group of the respondents from economies in transition has considerably less males compared with other two country groups, where the distribution by gender is more even. Students are from different levels and fields of studies, with proportionally more of them being from the undergraduate level and with comparatively larger groups of them studying the social sciences, incl. business, law, and education.

Table 1. Main characteristics of the respondents

	Developed economies	Economies in transition	Developing economies
Gender	N = 93046	N = 6231	N = 98463
Male	41.5%	26.6%	50.9%
Female	58.5%	73.4%	49.1%
Level of studies	N = 93370	N = 6271	N = 98670
Undergraduate (Bachelor)	74.9%	88.0%	83.0%
Graduate (Master)	18.4%	9.8%	7.4%
PhD	3.9%	1.7%	2.2%
Other (e.g., MBA)	2.8%	0.5%	7.4%
Field of studies	N = 92967	N = 6088	N = 98016
Humanities and arts	9.2%	11.2%	11.3%
Social sciences, business and law, incl. education	43.2%	39.7%	41.4%
Science (natural sciences, mathematics, computer sciences/IT)	14.1%	12.1%	14.8%
Engineering, incl. architecture	16.4%	7.8%	16.9%
Human medicine/health sciences	10.4%	6.7%	7.9%
Other	6.7%	22.5%	7.7%

Variables and measures

From the data set information, variables explaining students' entrepreneurship intentions and activities, as well as university's entrepreneurial context were selected. Student entrepreneurship and other career intentions were measured right after completion of studies and five years later by choosing 1 item from 10, all of which started with "I want to be". To address actual experience of students in entrepreneurship, the respondents were also asked whether they are currently trying to start own business or to become self-employed and whether they are already running own business or are already self-employed. Resilience in these activities was measured in this study as well, by asking whether students want to continue them after graduation.

The university entrepreneurial context was measured using three variables. Firstly, students were asked to indicate their agreement or disagreement with the statements below about the entrepreneurial environment in their universities on a scale of 1 to 7, with 1 indicating "not at all" and 7 indicating "very much":

- The atmosphere at my university inspires me to develop ideas for new businesses;
- There is a favourable climate for becoming an entrepreneur at my university;
- At my university, students are encouraged to engage in entrepreneurial activities.

Cronbach's Alpha of 0.906 indicated a high level of internal compatibility for these three investigated items with this specific sample, while the Principal Components Analysis (PCA) confirmed a single component (KMO = 0.734; $p < 0.001$), explaining 84.29% of total variance. Thus, the average score of the

university environment evaluation was used for further analysis of country groups.

Secondly, students were asked what they learned by attending entrepreneurship related courses. They had to rate five statements, all of which started with "The courses and offerings I attended", identifying the extent to which they agreed or disagreed with them (with 1 corresponding to "not at all" and 7 to "very much"):

- increased my understanding of the attitudes, values and motivations of entrepreneurs;
- increased my understanding of the actions someone has to take to start a business;
- enhanced my practical management skills to start a business;
- enhanced my ability to develop networks;
- enhanced my ability to identify an opportunity.

Using the PCA, only one component was extracted (KMO = 0.863; $p < 0.001$), explaining 77.32% of total variance. As Cronbach's Alpha for the scale is 0.927, the average score of the courses and offerings evaluation was also applied for further analysis.

Finally, the level of entrepreneurship education was analysed. This included the statements concerning not attendance of courses on entrepreneurship, studying specific programme on entrepreneurship, and university entrepreneurial reputation.

Methods of data analysis

The Chi-square test and Cramer's V were used to investigate the relationships between categorical variables. A statistically significant association between the two variables is if the p value ≤ 0.05. A measure that indicates the strength of the association is Cramer's V, which is important due to the fact that even a weak association in a large sample may also result in p of a very small value (< 0.001). Based on Akoglu (2018), the Cramer's V value > 0.25 indicates very strong association between the variables, $V > 0.15$ – strong association, $V > 0.10$ – moderate association, $V > 0.05$ – weak association, and $V > 0$ – no or very weak association.

The Kruskal-Wallis H test was also applied in the analysis to determine if there are statistically significant differences between groups of an independent variable on a continuous or ordinal dependent variable.

Results

Intended career paths

Results of the analysis of students' career intentions right after studies and their plans five years later are presented in Figure 2. Statistically significant differences ($p < 0.001$) are found among country groups in terms of all possible career choices (from employment in different size business, non-profit organization, academia, or public service, to being a business founder or successor), with at least a week association ($V \leq 0.08$). A strong association ($V > 0.15$) is found between the country group and the "working in own business" and moderate association ($V > 0.10$) – in case of the option "other", which includes uncertainty about own career path. Data shows that, immediately after studies, students in economies in transition (10.4%) and in developing economies (13.3%) would like to work in their own business more often than students in developed countries (4.2%).

In general, differences between country groups are less when considering intended career path five years after graduation. Entrepreneurship attractiveness continues steady growth in economies in transition and developing economies (reaches 42.5% and 41.6%, respectively). More students in developed economies also have entrepreneurial career plans after five years (26.3% comparing to 4.2%), but their share is still lower than in the other two groups of countries.

A small percentage of students in less developed economies (2.4% in both groups) aspire to run a family business after graduation, as well as five years later. Meanwhile, in developed countries, the number of respondents planning to develop family business grows with time (1% after graduation and 1.6% after five years). In all country groups, more participants reported that they plan to succeed another (not family) business five years after graduation than upon graduation, presumably, after having gained work experience elsewhere.

Management Theory and Studies for Rural Business and Infrastructure Development
eISSN 2345-0355. 2024. Vol. 46. No. 3: 269-284
Article DOI: https://doi.org/10.15544/mts.2024.27

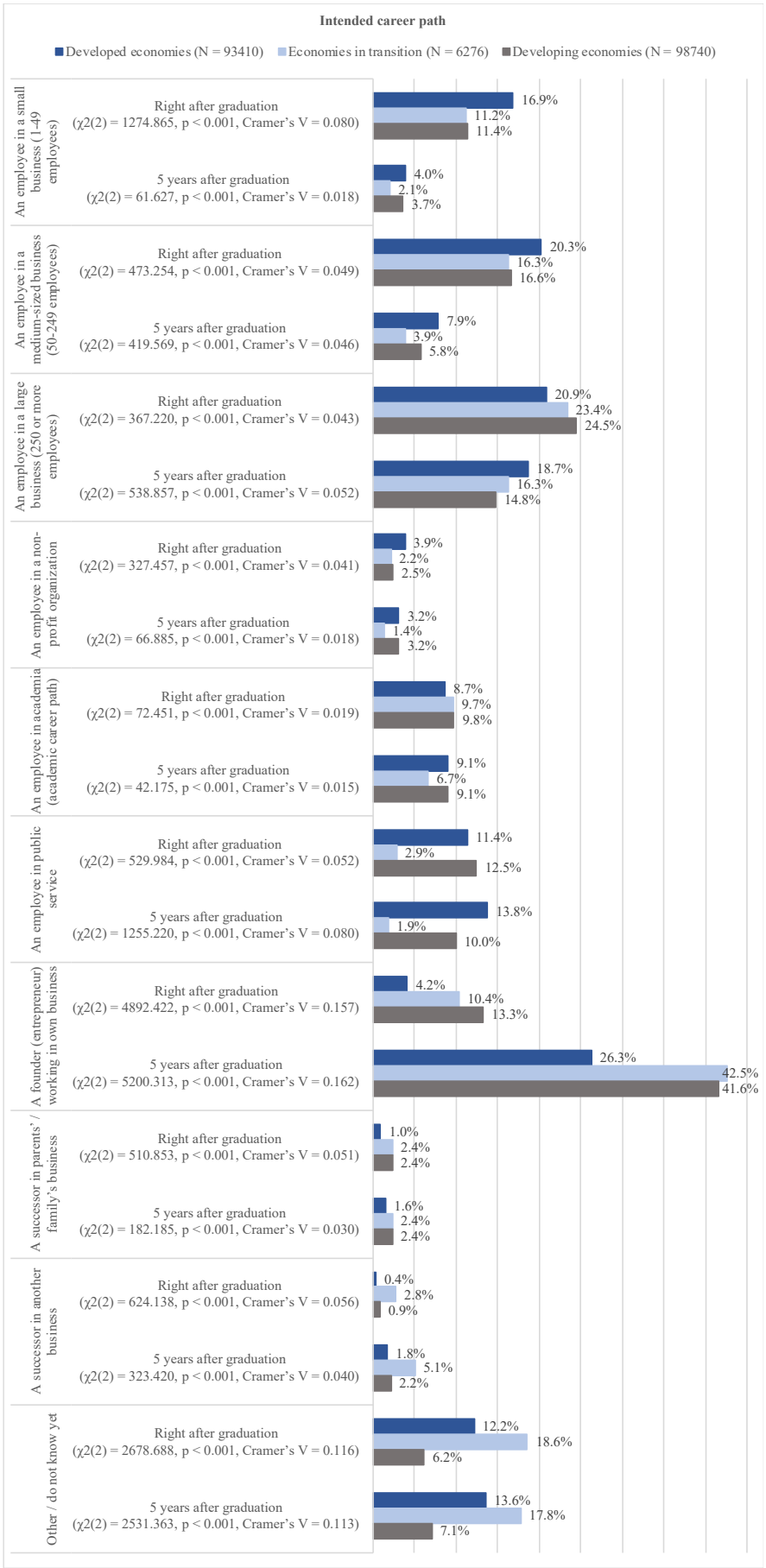

Figure 2. Career aspirations right after completion of studies and 5 years later

University entrepreneurial environment

The respondents rated the statements describing university environment and entrepreneurial education. As provided in Table 2, in both scales, the statistically significant difference was found between distinguished country groups, with mean ranks of the evaluations being greater in less developed country groups. This means that students in less developed countries evaluated the entrepreneurial aspects of their universities more favourably.

Table 2. Evaluation of the university environment and the courses and offerings

		Developed economies	**Economies in transition**	**Developing economies**	Kruskal-Wallis H test
Evaluation of the university environment	N	93323	6255	98600	$\chi^2(2) = 16105.804$, $p < 0.001$
	Mean Rank	81966.01	103526.31	115015.09	
Evaluation of the courses and offerings	N	93141	6224	98548	$\chi^2(2) = 22428.110$, $p < 0.001$
	Mean Rank	78751.16	103169.09	117788.19	

Statistically significant differences in the evaluations also exist when students with different intended career paths are considered (Table 3). According to obtained mean ranks, higher scores, both for the university entrepreneurial environment and for the courses and offerings, were given by students that want to become a founder or a successor of a business, as well as by students that want to work in larger business enterprises. Lowest scores are given by students that do not know yet their career path and by those who want to be an employee in public service or in a non-profit organization. Comparatively lower scores are also given by those who plan to pursue academic career, especially in a longer term.

Table 3. Relation between career intentions and university entrepreneurial environment evaluations

Intended career path		**Right after graduation**		**5 years later**	
		Evaluation of the university environment	Evaluation of the courses and offerings	Evaluation of the university environment	Evaluation of the courses and offerings
Employee in a small business (1-49 employees)	N	27737	27688	7551	7535
	Mean Rank	95485.49	94552.98	97179.97	97035.39
Employee in a medium-sized business (50-249 employees)	N	36324	36290	13420	13400
	Mean Rank	101831.06	101695.93	99568.25	99605.84
Employee in a large business (250 or more employees)	N	45113	45070	33037	32998
	Mean Rank	105311.97	107166.59	101240.69	102157.65
Employee in a non-profit organization	N	6230	6219	6228	6217
	Mean Rank	91730.74	87991.95	96764.11	93511.34
Employee in academia (academic career path)	N	18395	18365	17861	17833
	Mean Rank	96883.05	92426.79	95672.75	92095.33
Employee in public service	N	23169	23146	22918	22886
	Mean Rank	89347.27	90535.83	87043.49	86589.59
Founder (entrepreneur) working in my own business	N	17752	17733	68271	68201
	Mean Rank	113076.27	116886.87	106523.48	107730.62
Successor in my parents'/family's business	N	3444	3439	3986	3980
	Mean Rank	111198.29	115784.68	109397.76	113453.00
Successor in another business	N	1366	1365	4185	4180
	Mean Rank	109922.67	114867.47	105755.67	109075.68
Other/do not know yet	N	18648	18598	20721	20683
	Mean Rank	84451.06	79494.32	85190.21	81603.16
Kruskal-Wallis H test		$\chi^2(9) = 4031.508$, $p < 0.001$	$\chi^2(9) = 6470.330$, $p < 0.001$	$\chi^2(9) = 3723.710$, $p < 0.001$	$\chi^2(9) = 5413.052$, $p < 0.001$

sciendo

Management Theory and Studies for Rural Business and Infrastructure Development
eISSN 2345-0355. 2024. Vol. 46. No. 3: 269-284
Article DOI: https://doi.org/10.15544/mts.2024.27

Evaluations of the university entrepreneurial context in relation to students' career intentions and country groups are presented in Figure 3. In general, students in less developed countries value the university entrepreneurial environment more than students in developed countries. In all countries, students willing to become a founder or a successor of a business, as well as students intending to work in larger business enterprises assessed the university environment better.

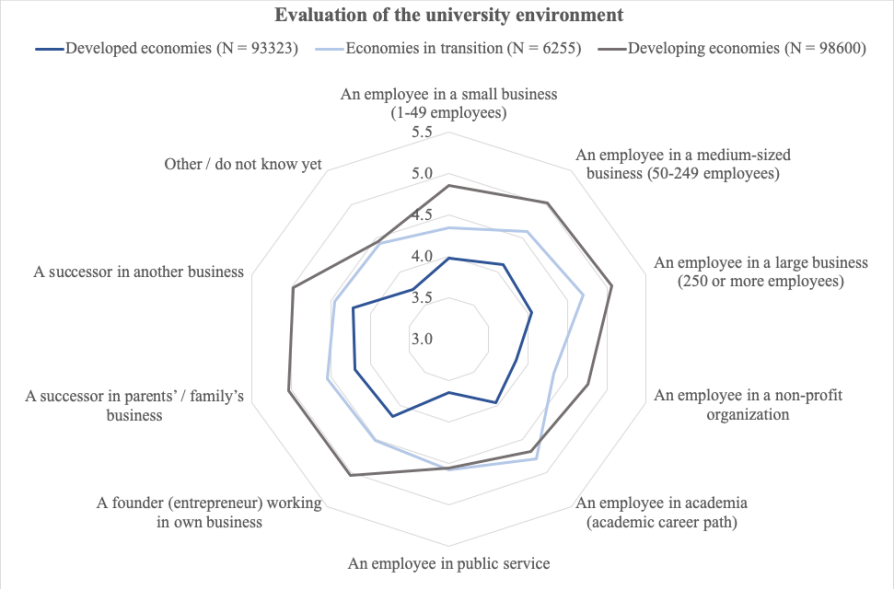

Figure 3. Evaluation of the university environment by intended career path right after graduation in specified country groups

The same trends are observed in the case of the entrepreneurship courses and other offerings (Figure 4): higher scores were given by students in less developed countries and by those planning business owner's career or employment in a large company.

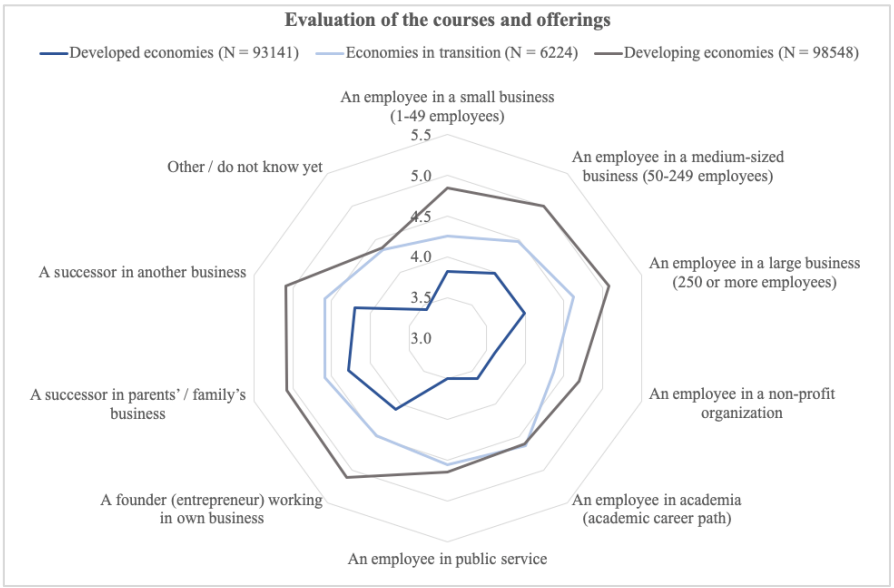

Figure 4. Evaluation of the courses and offerings by intended career path right after graduation in specified country groups

sciendo

Management Theory and Studies for Rural Business and Infrastructure Development
eISSN 2345-0355. 2024. Vol. 46. No. 3: 269-284
Article DOI: https://doi.org/10.15544/mts.2024.27

The results in Figure 5 allow making some observations about entrepreneurship education in general and in relation to analysed country groups. More than a half of respondents (62.5%) had not yet taken an entrepreneurship course, which is partly influenced by answers of first-year students and students in specialised professions, such as medicine, military. Notably, those planning for employment in large companies, future business founders and successors of business more often participate in entrepreneurship programmes and more often choose a university with a strong entrepreneurship reputation, and fewer of them had not yet taken an entrepreneurship course. Results also indicate differences between country groups: more students in less developed countries choose to study a specific programme on entrepreneurship and these students are more likely to choose a university with a strong entrepreneurship reputation comparing to students in developed countries.

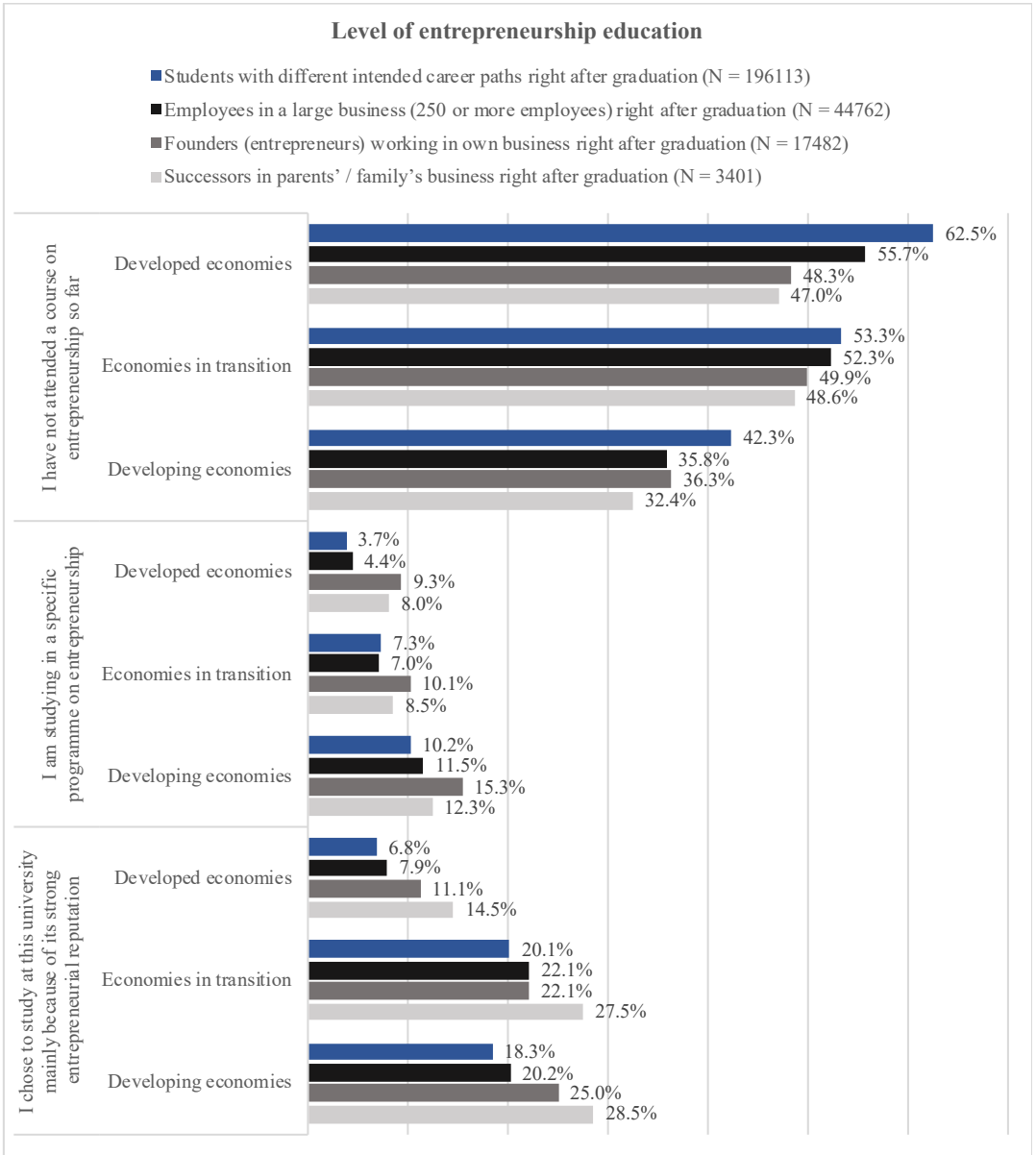

Figure 5. Engagement in entrepreneurship education by career choice and country group

sciendo

Management Theory and Studies for Rural Business and Infrastructure Development
eISSN 2345-0355. 2024. Vol. 46. No. 3: 269-284
Article DOI: https://doi.org/10.15544/mts.2024.27

Level and resilience of the entrepreneurial activities of students

Lastly, study participants were divided into two sub-categories based on their actual entrepreneurial activities: those who have indicated that they are currently trying to start a business or to become self-employed (nascent entrepreneurs), and those who are already running their own businesses or are already self-employed (active entrepreneurs). In Table 4, the two sub-categories of participants are compared according to country group. As shown, there are fewer active entrepreneurs in all country groups.

Table 4. Engagement in entrepreneurial activities

	Developed economies (N = 93410)	**Economies in transition** (N = 6276)	**Developing economies** (N = 98740)	
Nascent entrepreneurs	14.6%	40.7%	45.2%	*$\chi^2(2) = 21342.750$, $p < 0.001$, Cramer's $V = 0.328$*
Active entrepreneurs	4.8%	9.1%	17.8%	*$\chi^2(2) = 7997.155$, $p < 0.001$, Cramer's $V = 0.201$*

Based on the presented results, statistically significant differences with very strong association between the variables (V > 0.25) are found between country groups in terms of nascent entrepreneurs: more students in less developed countries are currently trying to start their own business or to become self-employed. A similar statistically significant difference between country groups is found when considering active entrepreneurs.

Resilience of students' businesses is examined by considering whether they are planning to continue their businesses after graduation (Table 5).

Table 5 Resilience of students' businesses

Do you want this business to become your main occupation after graduation?	Developed economies	Economies in transition	Developing economies	
Nascent entrepreneurs	N = 6447	N = 1372	N = 12885	*$\chi^2(4) = 768.492$, $p < 0.001$, Cramer's $V = 0.136$*
Yes	37.1%	57.0%	32.5%	
No	20.8%	14.2%	35.2%	
Do not know yet	42.1%	28.8%	32.3%	
Active entrepreneurs	N = 4287	N = 545	N = 17207	*$\chi^2(4) = 317.403$, $p < 0.001$, Cramer's $V = 0.085$*
Yes	30.0%	48.4%	30.0%	
No	38.4%	21.3%	47.5%	
Do not know yet	31.6%	30.3%	22.5%	

Overall, approximately more than one third of nascent and about one third of active entrepreneurs-students in developed and developing countries are planning to continue their current businesses. Among students in economies in transition, this share is about a half. A general trend observed is that more entrepreneurs that are currently active are not willing to remain in current business.

Discussion

The uniqueness of this study is that it aimed to find out distinctive characteristics of student entrepreneurship and university entrepreneurial environment in three country groups, while most previous studies are done nationally or in a cross-country comparison. Taken together, the results show statistically significant differences between distinguished groups of countries with regard to investigated variables.

Student entrepreneurship

Our results reveal that students from economies in transition and developing economies are more active in entrepreneurship than students in developed economies. More students from less developed economies are willing to start their own business soon after graduation. Five years after graduation, subjective assessments of students suggest that the situation would be more favourable for entrepreneurship in all groups of countries, but the share of students who want to work in their own business still remains significantly higher in economies in transition and developing economies. There are also more respondents in these two groups of countries who own a business or are trying to start one during their studies. These results support the findings of Nabi and Liñán (2011) and Iakovleva et al. (2011) that entrepreneurial intentions seem to be higher in developing countries when compared with developed ones, and are in line with the cross-country comparisons of students' activeness from earlier GUESSS studies. All of this reflects the higher youth entrepreneurial activity in less developed countries, which can be explained by either their greater economic opportunities for business creation (Chigunta, 2017; Embi et al., 2019; Ebewo, Shambare, 2012) or lack of opportunities in the wage labour market, a situation linked to necessity-based entrepreneurship.

According to Iakovleva et al. (2011), entrepreneurial activities can flourish in more turbulent environments, and that a combination of constantly appearing new opportunities in the market together with uncertainty about the future may stimulate young people to engage in business creation. Meanwhile, Støren (2014) observes that graduates in developed countries appreciate regular and secure income and prefer to be employed rather than be self-employed because of their relatively good employment opportunities. Oosterbeek et al. (2010) think that the difference might also be related to more realistic self-perception and perspectives on what it takes to be an entrepreneur. Iakovleva et al. (2011) suggest that cultural values and norms should be further explored to explain differences for entrepreneurship intentions between developed and developing country students.

A common trend across all countries is that a larger proportion of students would like to work as salaried workers after graduation, especially in large businesses. This trend is confirmed by the results of previous GUESSS studies. First, it is necessary to gain practical experience (Fueglistaller et al., 2009) that can be applied in own business. In addition, other studies show that a significant number of students prefer the guaranteed income of formal employment as opposed to the risks associated with entrepreneurship (Ebewo, Shambare, 2012; Makgosa, Ongori, 2012).

Only about one third of respondents in developed and in developing countries would like to continue the businesses they set up during their studies; among those students in economies in transition, this share is about one half. Considering the students' fields of business activity (frequently professional and other service industries) and the continuity of the businesses, current activities of students can be interpreted as an entrepreneurial apprenticeship, where a simple activity, usually working alone, provides practice, possibly earning a living, and meeting student needs.

University entrepreneurial environment

The results of our study suggest that both the assessments of university entrepreneurial environment and education depend on perceived career aspirations. Students who plan to work in large companies and those who plan to start their own business or already have one are more likely to value university's contribution more favourably. Conversely, students who have no clear career plans or who associate their employment with the public sector have more negative attitudes towards both the university environment and education related to entrepreneurship. Thus, it could be concluded that student career intentions are a predictor for the assessment of entrepreneurial environment and education.

There is a difference between the assessments of students from less developed countries and those from developed ones: students from developing economies are particularly more positive about their university environment, education and university entrepreneurial reputation. Similar results were obtained by the study of Moraes et al. (2018) on students in the final year of undergraduate programmes at the State University of Campinas (Brazil). The authors

sciendo
Management Theory and Studies for Rural Business and Infrastructure Development
eISSN 2345-0355. 2024. Vol. 46. No. 3: 269-284
Article DOI: https://doi.org/10.15544/mts.2024.27

believe that the university environment is the most influential factor in entrepreneurial intention: "when the university environment provides for the development of attitudinal characteristics of students, this increases entrepreneurial intention" (Moraes et al., 2018, p. 241). Perhaps universities in these countries are making more effort in promoting student entrepreneurship. However, Bergmann et al. (2018), who conducted a national student entrepreneurship survey in Germany, suggest that such positive student perceptions of university environment are strongly affected by general perceptions of the university quality and size. It is likely that preconceptions about the reputation of higher education institution are generally associated with positive evaluations of all other aspects of its performance. According to Fueglistaller et al. (2009), although such high evaluations (the authors call them "sensitizations") seem to increase the entrepreneurial activity, it does not promote the effective number of start-ups among students.

This study shows a clear correlation between students' involvement in business, their perceptions of the university environment and education, and the level of development of the country: more students currently owning a business or starting one, as well as more of those who have a positive perception of the university's environment, courses and other offerings are in developing countries.

Limitations and implications

One important limitation is that countries have been ranked according to their level of economic development, without considering other, possibly relevant, attributes (e.g., the access and quality of higher education). Therefore, other large-scale studies may have different country breakdowns, which will probably affect the results.

Other limitation concerns the sample size in respect to the participation rates, which were not the same in all countries, as well as to the lack of proportionality between country groups. The developed and developing country groups included 15 and 14 different countries, respectively, while economies in transition are represented only by 2 countries. Their sample size is also considerably smaller than those of developed and developing country groups. Thus, country comparisons presented in this study should be interpreted with these limitations in mind. The absence of some countries, e.g., of the USA and Canada in group of developed countries, also should be kept in mind, as this limits generalizability of the results. Moreover, this study did not take into account the field of study, cycle and course, which would contribute to the accuracy of the analysis of student career intentions and their relationship with the university environment.

The questions formulated by other researchers were used for this study, so it was not possible to clarify or extend some of the questions. For instance, an amazingly high ratios in terms of the evaluations of the university environment and studies in developing countries can show that a certain bias is possible. This has been acknowledged in the international GUESSS studies (e.g., in case of Mexico). In this respect, study of Bernasconi (2005), which examines the case of a Chilean university, has raised the issue of the perception and practice of entrepreneurship in different national contexts. As the understanding of entrepreneurialism can vary greatly in national contexts, it affects the answers. This aspect needs more attention in future comparative international studies.

As the GUESSS is a longitudinal study that has been running for many years (since 2003), it has accumulated a lot of data on student entrepreneurship. It would be interesting and useful to explore the dynamics of student entrepreneurship at the international level, and in particular the dynamics of the impact of the university environment in relation to both the global economy and higher education development trends. This allows making insights as to how entrepreneurship education changes along with higher education systems and with global economy. On the other hand, it would be interesting to investigate the likely business success of the respondents to this survey and their contribution to the economic well-being of the countries.

This study will be of relevance to both higher education and entrepreneurship

promotion policy making and implementing organizations. Recognising the diversity of the evolution of entrepreneurship in different contexts, these organisations could rethink current incentives, as well as establish measures to assess both the effectiveness of entrepreneurship programmes and the university's entrepreneurial environment.

Conclusions

The distinctive feature of this study is that it aimed to show the similarities and differences between student entrepreneurship and the university entrepreneurial environment in three groups of countries with different levels of economic development. It was found that statistically significant differences exist between groups of students from countries of different economic development level. Students in developing economies and in economies in transition have considerably greater inclinations towards establishing own businesses and initiating entrepreneurial activities.

Results of the analysis of the extent to which the university environment determines students' entrepreneurial aspirations showed that the university entrepreneurial environment has a greater impact on students with clear career aspirations related to business or employment in large companies. Such students have a much more positive attitude towards entrepreneurship education and environment in higher education institutions. Assessments of students in less developed countries of their courses on entrepreneurship and university entrepreneurial environment are also significantly more favourable compared to those of students in developed countries. Students in less developed countries more frequently choose entrepreneurship specific education, which suggests that they more actively leverage university offerings to realise their comparatively higher entrepreneurial aspirations.

References

Acs, Z. J. (2010). Entrepreneurship and economic development: The valley of backwardness. *Annals of Innovation & Entrepreneurship*, *1*(1), 5641. https://doi.org/10.3402/aie.v1i1.5602

Akoglu, H. (2018). User's guide to correlation coefficients. *Turkish Journal of Emergency Medicine*, *18*(3), 91-93. https://doi.org/10.1016/j.tjem.2018.08.001

Audretsch, D. B. (2007). Entrepreneurship capital and economic growth. *Oxford Review of Economic Policy*, *23*(1), 63-78. https://doi.org/10.1093/oxrep/grm001

Audretsch, D. B. (2012). Entrepreneurship research. *Management Decision*, *50*(5), 755-764. https://doi.org/10.1108/00251741211227384

Bergmann, H., Geissler, M., Hundt, C., Grave, B. (2018). The climate for entrepreneurship at higher education institutions. *Research Policy*, *47*(4), 700-716. https://doi.org/10.1016/j.respol.2018.01.018

Bernasconi, A. (2005). University entrepreneurship in a developing country: The case of the P. Universidad Católica de Chile, 1985–2000. *Higher Education*, *50*(2), 247-274. https://doi.org/10.1007/s10734-004-6353-1

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

Brancu, L., Guðmundsdóttir, S., Gligor, D., Munteanu, V. (2015). Is culture a moderator of entrepreneurship motivation? A comparative study of Romania and Iceland. *Amfiteatru Economic Journal*, *17*(38), 133-147. https://hdl.handle.net/10419/168907

Byun, C. G., Sung, C. S., Park, J. Y., Choi, D. S. (2018). A study on the effectiveness of entrepreneurship education programs in higher education institutions: A case study of Korean graduate programs. *Journal of Open Innovation: Technology, Market, and Complexity*, *4*(3), 26. https://doi.org/10.3390/joitmc4030026

Chankseliani, M., Qoraboyev, I., Gimranova, D. (2021). Higher education contributing to local, national, and global development: New empirical and conceptual insights. *Higher Education*, *81*(1), 109-127. https://doi.org/10.1007/s10734-020-00565-8

Chigunta, F. (2017). Entrepreneurship as a possible solution to youth unemployment in Africa. *Laboring and Learning*, *10*(2), 433-451. https://doi.org/10.1007/978-981-287-032-2_19

Clifton, J. (2011). The coming jobs war. – New York: Gallup Press.

Drucker, P., Maciariello, J. (2014). Innovation and entrepreneurship. – London: Routledge. https://doi.org/10.4324/9781315747453

Durán-Sánchez, A., Del Río, M. D. L. C., Álvarez-García, J., García-Vélez, D. F. (2019). Mapping of scientific coverage on education for Entrepreneurship in Higher Education. *Journal of Enterprising Communities: People and Places in the Global Economy*, *13*(1/2), 84-104. https://doi.org/10.1108/JEC-10-2018-0072

Ebewo, P. E., Shambare, R. (2012). The reason business plans of start-up ventures are rejected by South African financiers: Evidence from SIFE-TUT Harmony Fashion Design Business Challenge. Emerging Markets Conference of the International Management Research Academy (IMRA), London, 17-18 May 2012.

Embi, N. A. C., Jaiyeoba, H. B., Yussof, S. A. (2019). The effects of students' entrepreneurial characteristics on their propensity to become entrepreneurs in Malaysia. *Education + Training*, *61*(7/8), 1020-1037. https://doi.org/10.1108/ET-11-2018-0229

Farhangmehr, M., Gonçalves, P., Sarmento, M. (2016). Predicting entrepreneurial motivation among university students: The role of entrepreneurship education. *Education + Training*, *58*(7/8), 861-881. https://doi.org/10.1108/ET-01-2016-0019

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

Ferreira, A. D. S. M., Loiola, E., Gondim, S. M. G. (2017). Motivations, business planning, and risk management: Entrepreneurship among university students. *RAI Revista de Administração e Inovação*, *14*(2), 140-150. https://doi.org/10.1016/j.rai.2017.03.003

Fueglistaller, U., Klandt, H., Halter, F., Müller, C. (2009). An international comparison of entrepreneurship among students: International report of the Global University Entrepreneurial Spirit Students' Survey project (GUESSS 2008). – St. Gallen and Oestrich-Winkel: University of St. Gallen and European Business School.

Geldhof, G. J., Porter, T., Weiner, M. B., Malin, H., Bronk, K. C., Agans, J. P., Mueller, M., Damon, W., Lerner, R. M. (2014). Fostering youth entrepreneurship: Preliminary findings from the young entrepreneurs study. *Journal of Research on Adolescence*, *24*(3), 431-446. https://doi.org/10.1111/jora.12086

Ghafar, A. (2020). Convergence between 21st century skills and entrepreneurship education in higher education institutes. *International Journal of Higher Education*, *9*(1), 218-229. https://doi.org/10.5430/ijhe.v9n1p218

Guerrero, M., Urbano, D. (2019). Effectiveness of technology transfer policies and legislation in fostering entrepreneurial innovations across continents: An overview. *The Journal of Technology Transfer*, *44*(5), 1347-1366. https://doi.org/10.1007/s10961-019-09736-x

Hannon, P. D. (2013). Why is the entrepreneurial university important?. *Journal of Innovation Management*, *1*(2), 10-17. https://doi.org/10.24840/2183-0606_001.002_0003

Hatt, L. (2021). Learning enterprise and entrepreneurship through real business projects. In: Applied Pedagogies for Higher Education, 215-242. – Cham: Palgrave Macmillan. https://doi.org/10.1007/978-3-030-46951-1_10

Hoppe, M., Westerberg, M., Leffler, E. (2017). Educational approaches to entrepreneurship in higher education: A view from the Swedish horizon. *Education + Training*, *59*(7/8), 757-767. https://doi.org/10.1108/ET-12-2016-0177

Iakovleva, T., Kolvereid, L., Stephan, U. (2011). Entrepreneurial intentions in developing and developed countries. *Education + Training*, *53*(5), 353-370. https://doi.org/10.1108/00400911111147686

Jones, P., Pickernell, D., Fisher, R., Netana, C. (2017). A tale of two universities: Graduates perceived value of entrepreneurship education. *Education + Training*, *59*(7/8), 689-705. https://doi.org/10.1108/ET-06-2017-0079

Keat, O. Y., Selvarajah, C., Meyer, D. (2011). Inclination towards entrepreneurship among university students: An empirical study of Malaysian university students. *International Journal of Business and Social Science*, *2*(4), 206-220. http://www.ijbssnet.com/journals/Vol._2_No._4;_March_2011/24.pdf

Lekoko, M., Rankhumise, E. M., Ras, P. (2012). The effectiveness of entrepreneurship education: What matters most?. *African Journal of Business Management*, *6*(51), 12023-12032. https://doi.org/10.5897/AJBMx12.001

Makgosa, R., Ongori, H. (2012). Perceptions of entrepreneurial behaviour in Botswana. *International Journal of Learning and Development*, *2*(3), 247-259. http://dx.doi.org/10.5296/ijld.v2i3.1885

McMullan, W. E., Gillin, L. M. (1998). Developing technological start-up entrepreneurs: A case study of a graduate entrepreneurship programme at Swinburne University. *Technovation*, *18*(4), 275-286. https://doi.org/10.1016/S0166-4972(97)00119-3

Moraes, G. H. S. M. D., 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

Nabi, G., Walmsley, A., Liñán, F., Akhtar, I., Neame, C. (2016). Does entrepreneurship education in the first year of higher education develop entrepreneurial intentions? The role of learning and inspiration. *Studies in Higher Education*, *43*(3), 452-467. https://doi.org/10.1080/03075079.2016.1177716

Nabi, G., Liñán, F. (2011). Graduate entrepreneurship in the developing world: Intentions, education and development. *Education + Training*, *53*(5), 325-334. https://doi.org/10.1108/00400911111147668

Nga, J. K. H., Shamuganathan, G. (2010). The influence of personality traits and demographic factors on social entrepreneurship start up intentions. *Journal of Business Ethics*, *95*(2), 259-282. https://doi.org/10.1007/s10551-009-0358-8

Oosterbeek, H., Van Praag, M., Ijsselstein, A. (2010). The impact of entrepreneurship education on entrepreneurship skills and motivation. *European Economic Review*, *54*(3), 442-454. https://doi.org/10.1016/j.euroecorev.2009.08.002

Portuguez Castro, M., Ross Scheede, C., Gómez Zermeño, M. G. (2019). The impact of higher education on entrepreneurship and the innovation ecosystem: A case study in Mexico. *Sustainability*, 11(20), 5597. https://doi.org/10.3390/su11205597

Poschke, M. (2013). Who becomes an entrepreneur? Labor market prospects and occupational choice. *Journal of Economic Dynamics and Control*, *37*(3), 693-710. https://doi.org/10.1016/j.jedc.2012.11.003

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

Shambare, R. (2013). Barriers to student entrepreneurship in South Africa. *Journal of Economics and Behavioral Studies*, *5*(7), 449-459. https://doi.org/10.22610/jebs.v5i7.419

Sieger, P., Fueglistaller, U., Zellweger, T. (2014). Student entrepreneurship across the globe: A look at intentions and activities. – St. Gallen: Swiss Research Institute of Small Business and Entrepreneurship, University of St. Gallen.

Silveyra, G., Herrero-Crespo, A., Pérez-Ruiz, A. (2019). Proposal of a comprehensive Model of Teachable Entrepreneurship Competencies (M-TEC): Literature review and theoretical foundations. In: Handbook of Research on Ethics, Entrepreneurship, and Governance in Higher Education, 498-518. – Hershey: IGI Global. https://doi.org/10.4018/978-1-5225-5837-8.ch023

Støren, L. A. (2014). Entrepreneurship in higher education: Impacts on graduates' entrepreneurial intentions, activity and learning outcome. *Education + Training*, *56*(8/9): 795-813. https://doi.org/10.1108/ET-06-2014-0070

United Nations. (2018). World Economic Situation and Prospects 2018. – https://www.un.org/development/desa/dpad/wp-content/uploads/sites/45/publication/WESP2018_Full_Web-1.pdf [19 08 2024].

Zamfir, A. M., Mocanu, C., Grigorescu, A. (2018). Resilient entrepreneurship among European higher education graduates. *Sustainability*, *10*(8), 2594. https://doi.org/10.3390/su10082594

Valliere, D., Peterson, R. (2009). Entrepreneurship and economic growth: Evidence from emerging and developed countries. *Entrepreneurship & Regional Development*, *21*(5-6), 459-480. https://doi.org/10.1080/08985620802332723

Wang, Q. (2021). Higher education institutions and entrepreneurship in underserved communities. *Higher Education*, *81*(6), 1273-1291. https://doi.org/10.1007/s10734-020-00611-5