

# **Entrepreneurial Spirit Among Students in Lithuania 2021**

## **National Report on the Global University Entrepreneurial Spirit Students' Survey (GUESSSS) 2021 in Lithuania**

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## **GUESSSS Organizer and Country Delegate in Lithuania**

ISM University of Management and Economics



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## Contents

1	Executive summary .....	5
2	Introduction.....	7
3	Distribution of the GUESS Survey in Lithuania.....	8
4	Demographic information .....	9
5	Entrepreneurship and future careers .....	12
6	Entrepreneurial environment and the drivers of entrepreneurial intentions at Lithuanian universities .....	24
7	Entrepreneurial activities .....	37
7.1	Active entrepreneurs.....	37
7.2	Nascent entrepreneurs.....	43
7.3	Intentional entrepreneurship .....	48
8	The role of the family and friends in entrepreneurship.....	52
9	Conclusions and implications .....	56
10	References.....	58

## 1 Executive summary

The online data collection for the Global University Entrepreneurial Spirit Students' Survey (GUESS) 2021 in Lithuania ran from March to June 2021, and received responses from 2154 students from 29 universities and colleges in Lithuania. The GUESS Survey tracks the change in students' entrepreneurial intentions and activities, including the topic of family firm succession. The goal of this research initiative is to generate unique and novel insights into student entrepreneurship in the form of academic and practitioner-oriented output.

Based on the analysis of Lithuanian students' career intentions, their current entrepreneurial activities, and a subjective evaluation of their skill and knowledge, future plans, and environmental drivers, we arrived at five main conclusions:

1. Lithuanian students' favorable attitudes toward a career as a business owner and their strong motivation to create their own business are fostering entrepreneurship in Lithuania. Family is a potentially significant motivator of these attitudes. However, when compared to other countries, Lithuanian students are less confident in their ability to run a business either during or right after their studies.
2. Lithuanian students perceive university/college as offering more knowledge about the attitudes, values and motivations of entrepreneurs, but fewer practical skills and less of the knowledge that they need to become successful business owners. They see themselves as the least equipped in terms of the practical management skills for starting a business, developing networks and identifying a good business opportunity.
3. The most entrepreneurship-oriented students in Lithuania are those who are studying business and management, the arts, or the applied arts. Conversely, the least entrepreneurship-oriented students are those studying natural sciences, and these students are also the least equipped with entrepreneurship-related knowledge and skills, based on their own subjective evaluations.
4. Students largely view their university/college environment as encouraging them to engage in entrepreneurial activities; however, not all of those who feel encouraged to engage in entrepreneurial activities attended entrepreneurship courses as part of their curriculum.

5. There is a high potential for entrepreneurship amongst female students in Lithuania, which is important for the countries' entrepreneurial ecosystem; however, we need to strengthen overall support for this potential to be realized.

## 2 Introduction

Entrepreneurship and innovation are at the core of economic growth in Lithuania, and higher education institutions (HEI) are important contributors to this process (OECD, 2021). The ministry of Economy and Innovation of the Republic of Lithuania regularly maintains an action plan as part of its entrepreneurship promotion policy. One of the major pillars of the action plan is the establishment of a consistent and continuous system of entrepreneurship education (“The entrepreneurship action plan of Lithuania for 2014–2020,” 2014).

The GUESSSS Project (the Global University Entrepreneurial Spirit Students’ Survey) is an international research initiative that connects researchers from multiple countries around the globe who are interested in monitoring the changes in entrepreneurial ecosystems at HEIs worldwide and developing new theoretical and practice-oriented insights on the characteristics and drivers of student entrepreneurship. The initiative began in 2003 at the University of St. Gallen in Switzerland. Since then, it has expanded exponentially and now has more than 50 countries joining in with data collection every 2–3 years. In 2021, the GUESSSS collected the responses of 267,366 students from 58 countries (*GUESSSS*, N/A; Sieger et al., 2021).

Data collection efforts such as the GUESSSS are important tools that help in measuring and tracking the development and patterns of entrepreneurship education in Lithuania and comparing it to the progress in other countries. The results are a valuable contribution to other data sources that help us monitor the consistency and continuity of entrepreneurship education at higher education institutions in Lithuania.

The present report is based on the ninth wave of global data collection and the second wave of data collection in Lithuania. Lithuania previously participated in the GUESSSS project in 2018, when the data collection efforts in Lithuania were led by scholars from Vytautas Magnus University, Kaunas. This is the second wave in which Lithuania has been represented, and the first time that ISM University of Management and Economics has collaborated with the GUESSSS project and participated in the data collection at Lithuanian universities.

This report provides insights into the future career intentions of students in Lithuania; the prevalence of active, nascent and intentional entrepreneurship among students; how students see and evaluate their university environments; and what drives their entrepreneurial activities.

### **3 Distribution of the GUESS Survey in Lithuania**

ISM University of Management and Economics followed the guidelines provided by the Global GUESSSS Team in distributing the survey in Lithuania. We first formed a list of all the HEI in Lithuania (for simplicity, further in this report HEIs are also referred to as “universities”). The Lithuanian higher education system differentiates between two types of institutions: universities (offering academic and research-oriented programs) and colleges (offering practice-oriented programs, also called universities of applied sciences); both types of institutions award a higher education qualification (bachelor’s, master’s, or PhD) as opposed to vocational training schools, which issue a vocational training diploma, and which are not included in this survey (OECD, 2021; “Republic of Lithuania Law on Higher Education and Research, ” 2015; *Statistics Lithuania. Official Statistics Portal*, N/A).

At the beginning of 2021, there were 16 universities and 20 colleges in Lithuania (AIKOS, 2021), and the GUESSSS 2021 Lithuania Team contacted all of them and invited them to participate in GUESSSS. The universities that accepted the invitation forwarded the invitations and survey links to their students using their internal mailing lists or newsletters.

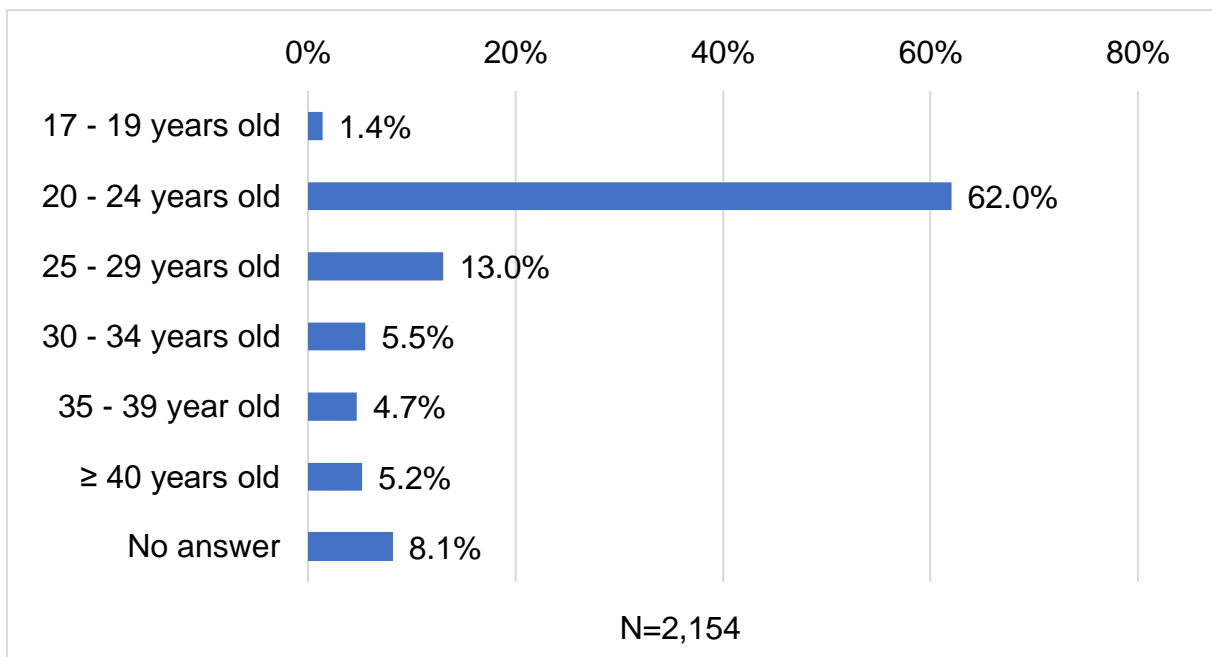
In total, 2154 students (755 from universities and 1392 from colleges) participated in the survey. The participants came from 29 different institutions (12 universities and 17 colleges), which is representative of around 80 % of the HEI in Lithuania. The data collection took place from March to June 2021. 96 % of the surveys were completed in Lithuanian, and the remainder of the surveys were completed in English.



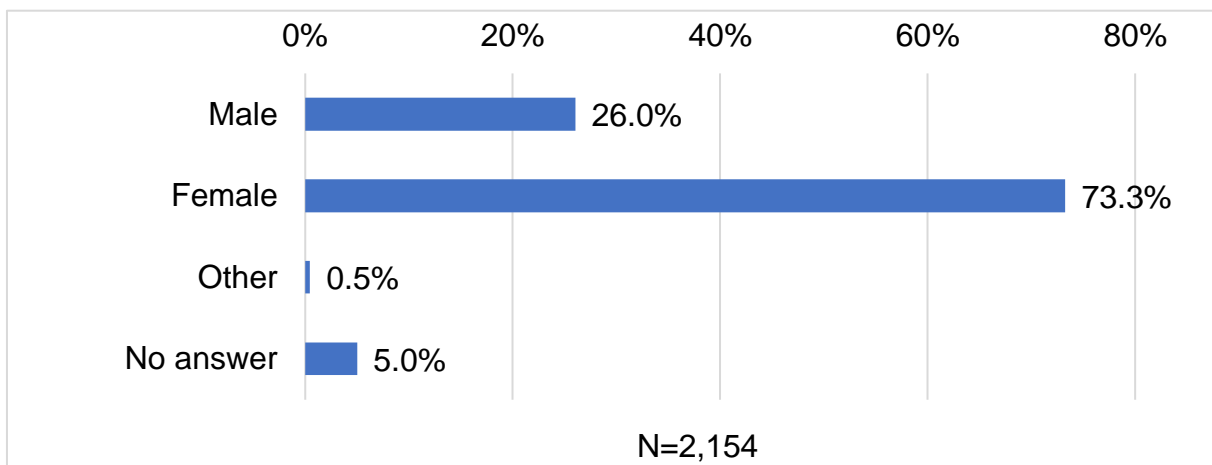
## 4 Demographic information

*Age and gender of participants.* At the time of the survey, most of the research participants were 20–24 years old (62.0%, see Figure 1), which is in line with the general demographics of the student population in Lithuania (*Statistics Lithuania. Official Statistics Portal, N/A*). However, the data was slightly skewed toward more female participants (73.3%), as presented in Figure 2.

**Figure 1.** Age of research participants

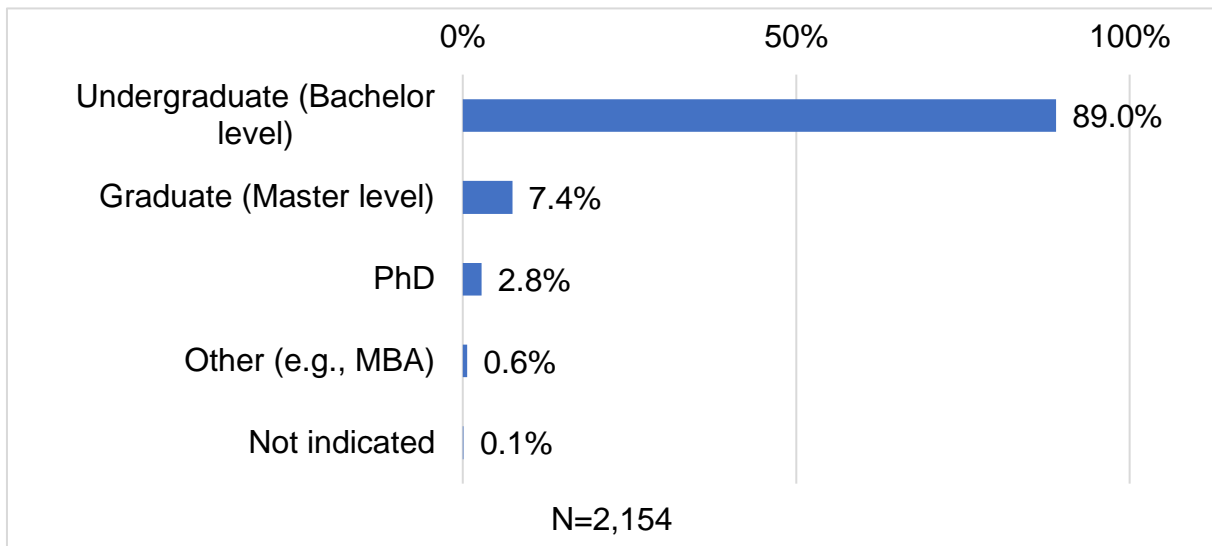


**Figure 2.** Gender of research participants



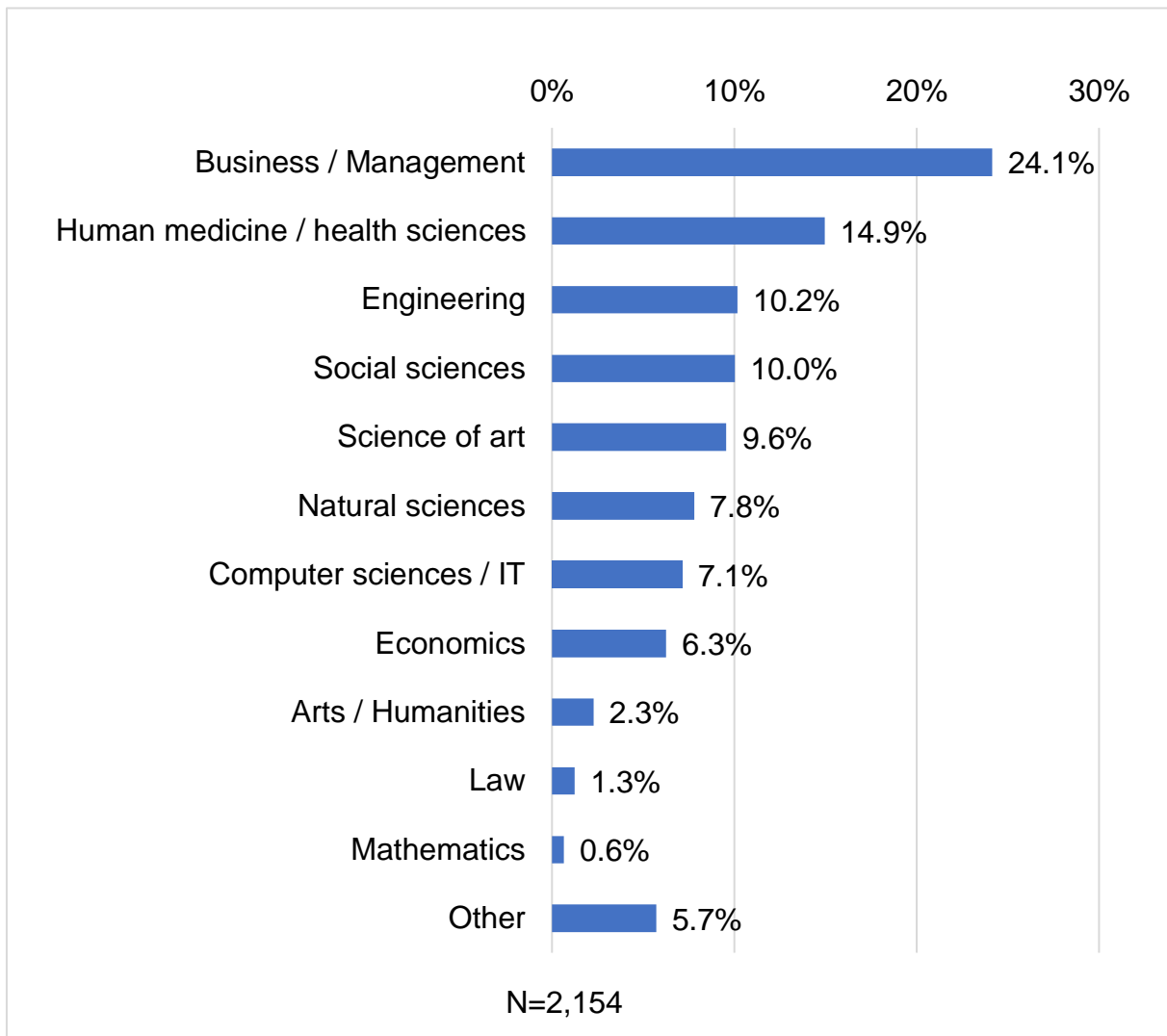
*Level of education.* Similarly to the general trends of education in Lithuania (*Statistics Lithuania. Official Statistics Portal, N/A*), the majority of the research participants were studying at undergraduate level (89.0%), with significantly smaller proportions studying at graduate (7.4%) and PhD (2.8%) level (see Figure 3).

**Figure 3.** Level of education of research participants



*Field of study.* The highest proportion (24.1%) of research participants studied business and management, and considerable proportions (6.3% to 14.9%) of research participants studied medicine/health sciences, engineering, social sciences, the arts or applied arts, natural sciences, computer science, and economics (see Figure 4 on the next page).

**Figure 4.** Field of study of research participants

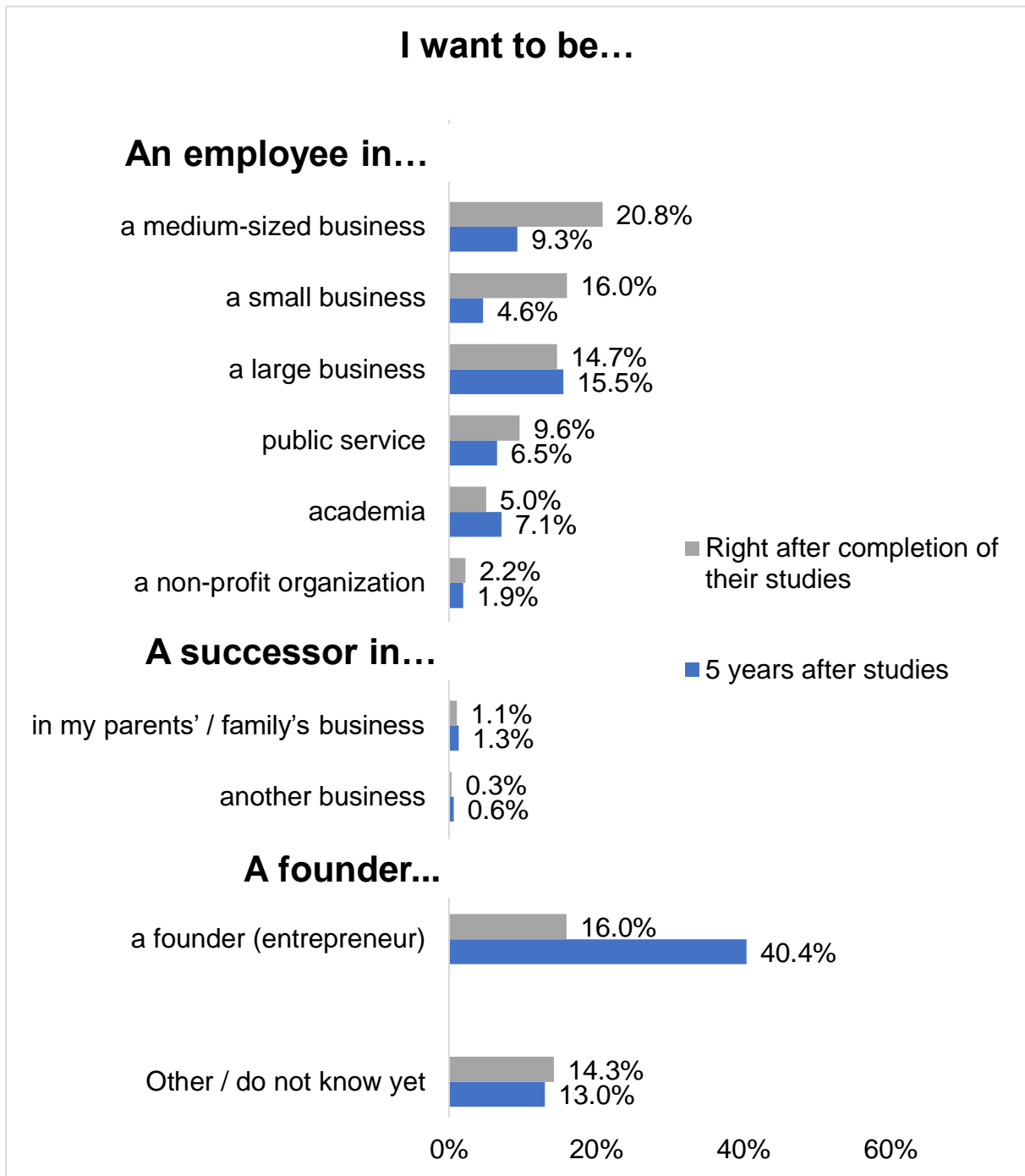


## 5 Entrepreneurship and future careers

*Future career intentions.* We asked the research participants what type of career they intend to pursue (1) as soon as they have completed their studies, and (2) five years after they have completed their studies. As you can see in Figure 5 below, the majority of our research participants indicated they intend to pursue a career path at a medium-sized business (20.8%), with smaller proportions claiming they intend to work at small (16.0%) and large (14.7%) businesses. Fewer students expressed the intention to become employed at public service companies (9.6%), in academia (5.0%), or at non-profit organizations (2.2). Very few research participants intend to become the successors of a family-owned or other business, 16% of them plan to establish their own businesses, and a smaller proportion of the students (14.3%) indicated that they intend to do something else or that they have not yet decided what to do.

The students' priorities for five years after completing their studies differed slightly: the students were then more favorable toward working at large businesses (15.5%) and less favorable to being employed at medium (9.3%) and small (4.6%) businesses. Whilst the overall preference to become an employee rather than a business owner remained, the proportion of those who intend to find their own businesses more than doubled (40.4%).

**Figure 5.** Future career intentions



*Active, nascent, and intentional entrepreneurship.* After inquiring about their intentions, we further asked the research participants if they are currently running a business or if they are in the process of creating a new business. Out of the 2154 research participants, 10.6% reported

that they are currently running their own business (are active entrepreneurs), and 19.5% replied that they are currently trying to start their own business (nascent entrepreneurs). For comparison, we saw in Figure 5 above that 16% of students intend to start or continue their careers as founders of their own businesses right after they have completed their studies (intentional entrepreneurs right after studies), and 40.4% of students envisioned themselves starting or continuing their careers as entrepreneurs five years after the completion of their studies (intentional entrepreneurs 5 years after), which is significantly more than we see for active or nascent entrepreneurs.

*Please note that in the above analysis, the total of the answers could sum up to more than 100% due to research participants being allowed to choose more than 1 answer (e.g., indicating that they are already an active entrepreneur and also that they would like to create a new business; or indicating that they are creating a new business now and also that they plan to set up a new business five years after completing their studies). In further analysis, we compare the groups of research participants that have different degrees of entrepreneurship experience, as well as those who have none; therefore, we removed the overlap between the categories by assigning them to a “more active” entrepreneurship category<sup>1</sup> so that the research participants would only be counted once in the classification of their involvement in entrepreneurial activities. Our further analysis and comparison of active, nascent, and intentional entrepreneurs is based on this categorization.*

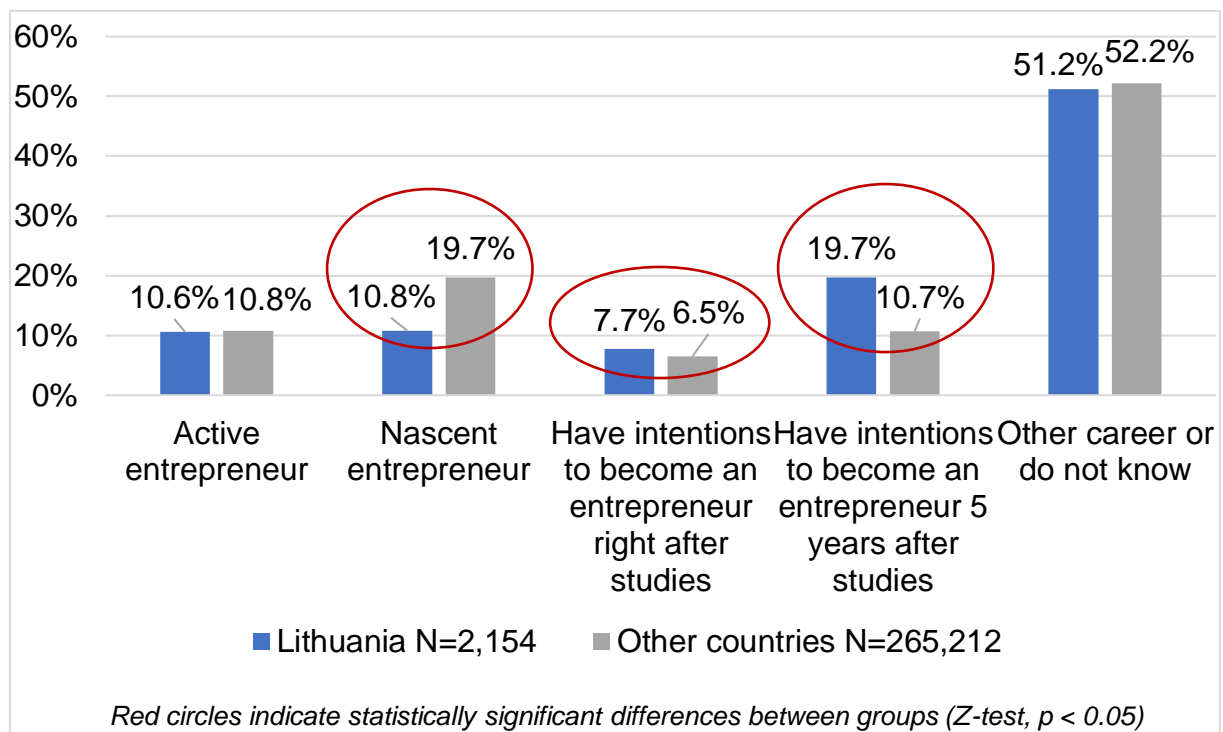
***Entrepreneurship and other careers.*** Figure 6 below shows the proportions in each category after removing the overlap and, additionally, provides a comparison with the other countries in

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<sup>1</sup> Each subsequent category excludes previous categories in case there are multiple answers: (1) if answered that they are an active entrepreneur, they are not counted in nascent or intentional entrepreneurship categories, (2) if they answered they are nascent entrepreneur – not counted in intentional entrepreneurship category, and, finally, (3) if they intend to become an entrepreneur right after studies, they are not counted in the intentional entrepreneurship 5 years after studies category.

the global GUESSS dataset<sup>2</sup> (further referred to in this report as “the other countries”). We can see that the percentage of currently active entrepreneurs among the students who participated in the survey is very similar in Lithuania (10.6%) to that of the total of the other countries (10.8%). However, there are significantly fewer nascent entrepreneurs in Lithuania (10.8%) than in the other countries (19.7%), and significantly more students delay their intentions to become entrepreneurs—either until right after their studies (77.7% vs 6.5%) or until 5 years after their studies (19.7% vs 10.7%)—compared to students in the other countries. Despite this, the overall proportions are very similar for those who (1) are either currently active as an entrepreneur or intend to become one (the sum of the first four categories—48.8% vs 47.8%) and those who (2) either have no intentions to become entrepreneurs or are still undecided (51.2% vs 52.2%).

**Figure 6.** Entrepreneurship and other career choices—Lithuania vs the other countries

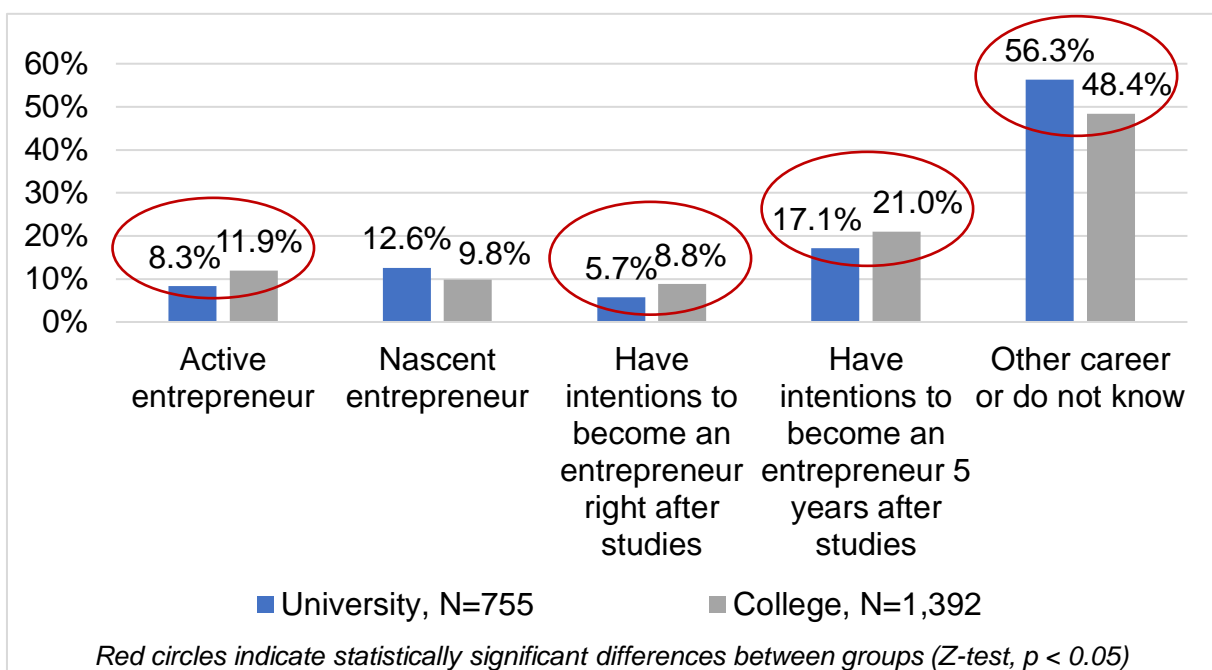


<sup>2</sup> The other 57 participating countries in GUESSS 2021, which are used for comparison to Lithuania, are: Albania, Australia, Austria, Belgium, Bolivia, Brazil, Bulgaria, Chile, Costa Rica, Colombia, Croatia, Czech Republic, Dominican Republic, Ecuador, El Salvador, England, Estonia, Finland, Germany, Greece Hungary, Indonesia, Iraq, Italy, Japan, Jordan, Kazakhstan, South Korea, Lebanon, Liechtenstein, Mexico, Morocco, Nepal, Netherlands, New Zealand, Nigeria, North Macedonia, Norway, Pakistan, Panama, Peru, Poland, Portugal, Qatar, Russia, Saudi Arabia, Slovakia, Spain, Sweden, Tunisia, Ukraine, United Arab Emirates, Uruguay, United States of America, Iran, Ireland, and Switzerland.

*In summary*, we can see that the students in Lithuania tend to postpone creating their own businesses to after the completion of their studies more often than students in the other GUESSS countries. The Lithuanian students also tend to delay their plans to start a business longer than students in the other countries, preferring to wait until five years after they finish studying. Because of this trend, Lithuania has the highest percentage of intentional entrepreneurship 5 years after the completion of studies (20% in Lithuania vs 11% all countries in total) of all the participating countries. However, nascent entrepreneurship in Lithuania is one of the lowest at 11% in Lithuania compared to 20% for all countries in total and the highest percentage, 47%, found in Morocco, Kazakhstan, Albania, and Ukraine.

*Entrepreneurship by university type.* It is interesting that it is the colleges in Lithuania that are leading in most of the entrepreneurship categories: the proportions of active entrepreneurs and intentional entrepreneurs (both right after studies and 5 years after studies) are significantly higher in the colleges than in the universities (which are the more academically oriented institutions in Lithuania). On the other hand, among the university students, choosing a career other than entrepreneur or being yet undecided about their career was more prevalent (see Figure 7 below).

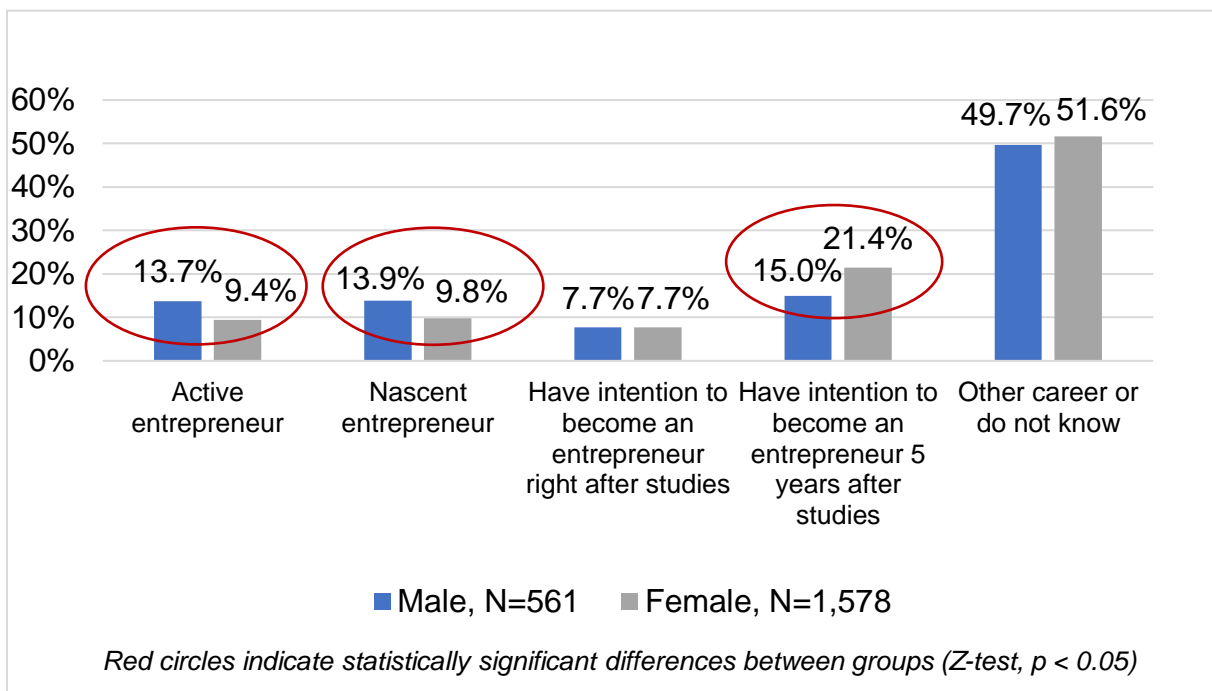
**Figure 7.** Active, nascent, and intentional entrepreneurship by university type





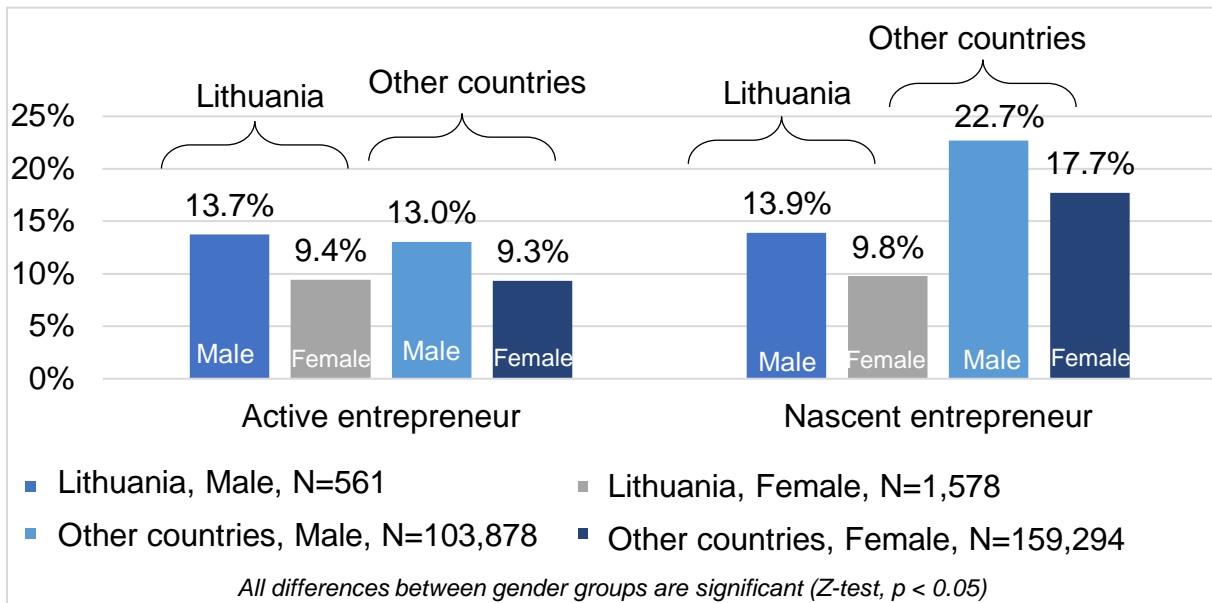
*Entrepreneurship and other careers by gender.* When compared based on gender, the proportion of currently active and nascent entrepreneurs in Lithuania is higher among the male participants (see Figure 8), while the proportion of delayed entrepreneurial intentions (intentional entrepreneurship 5 years after studies) is higher among the female research participants.

**Figure 8.** Active, nascent, intentional entrepreneurship and other careers by gender



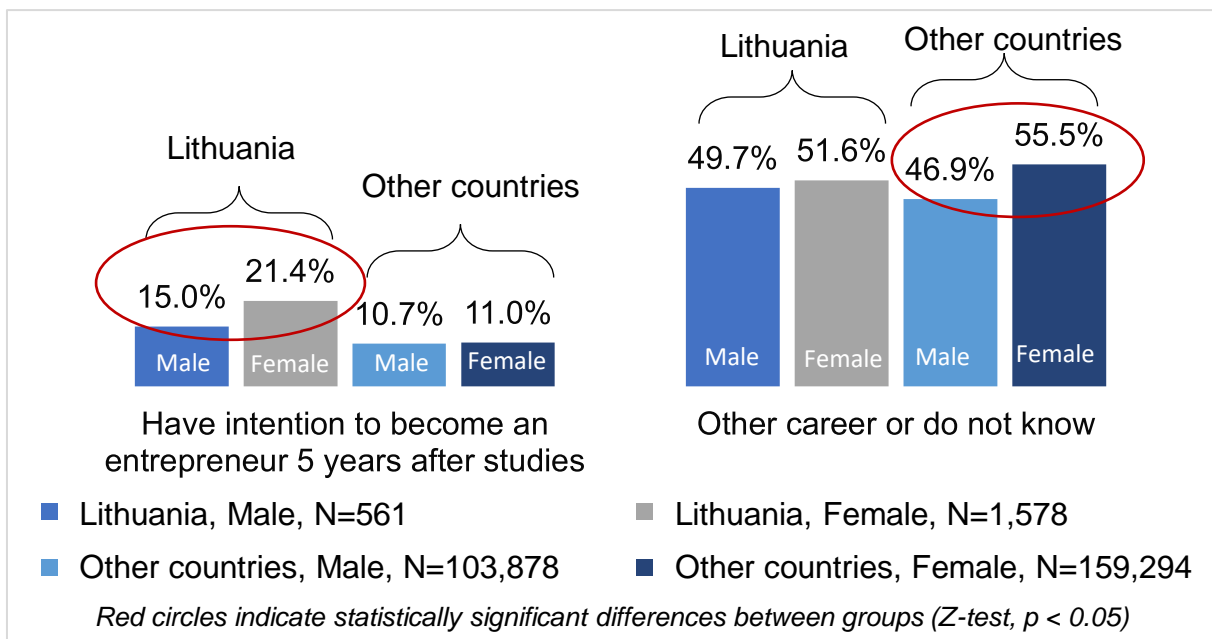
The trend identified in Lithuania corresponds to the general trend observed across many of the countries participating in GUESSSS, in which the proportion of active and nascent female entrepreneurs is consistently smaller compared to male entrepreneurs (Sieger et al., 2021, also see Figure 9 below for the comparison of Lithuania vs total of other countries).

**Figure 9.** Active and nascent entrepreneurship by gender—Lithuania vs the other countries



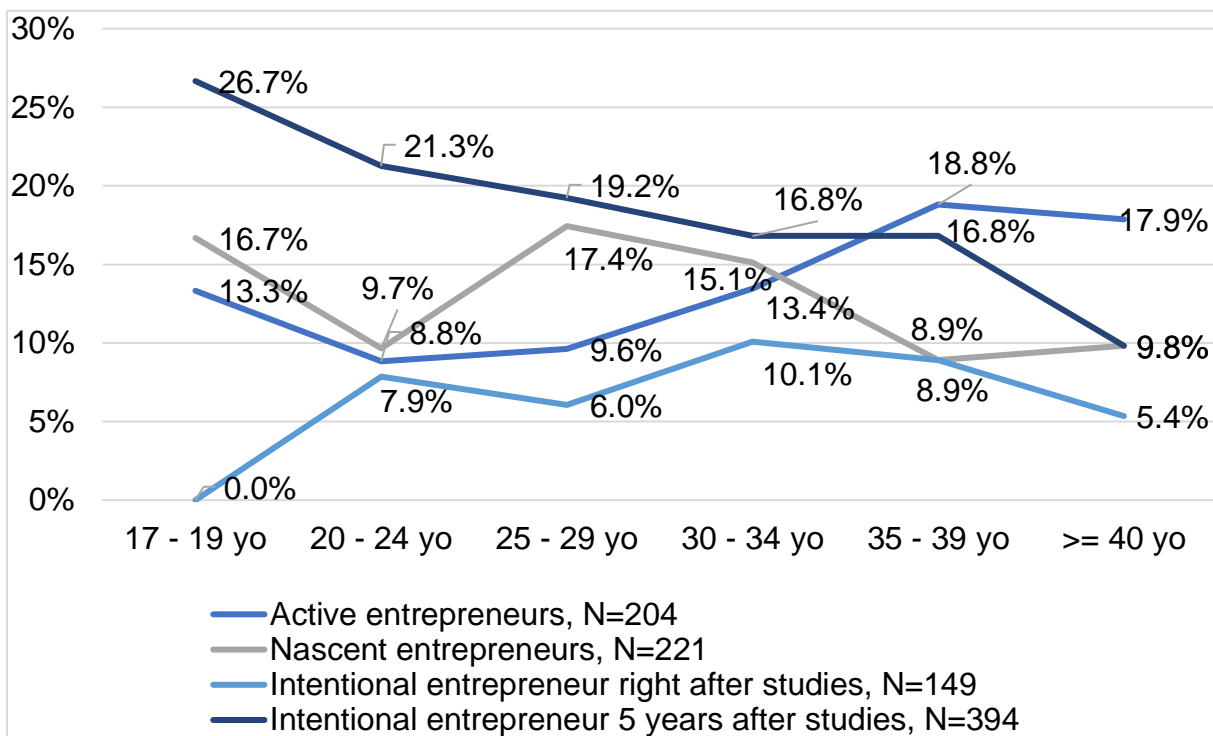
However, as previously discussed, the trend of students postponing their entrepreneurial intentions to the more distant future (5 years after studies) is unique to Lithuania and it is even more prevalent among female participants (see Figure 10 below).

**Figure 10.** Intentional entrepreneurship 5 years after studies and other careers by gender—Lithuania vs the other countries



*Entrepreneurship by age.* When comparing entrepreneurship activities and intentions by research participant age (see Figure 11), we can also see some interesting trends. The proportion of active entrepreneurs is somewhat higher among the 17–19-year-old than 20–24-year-old, research participants (13.3% vs 9.7%), but it increases with age and seems to peak in the 35–39-year-old age group (18.8%) and the 40+ age group (17.9%). Given the increase observed, we extracted average age data and found that the average age of active entrepreneurs is significantly higher than the average age of nascent and intentional entrepreneurs<sup>3</sup>, which makes it even more obvious that proportionally, there are more active entrepreneurs among the older students. Comparatively, the proportion of nascent entrepreneurship peaks at 17–19 years old and at 25–29 years old, and the percentage of intentional entrepreneurs (5 years after studies) gradually decreases in each subsequent age group.

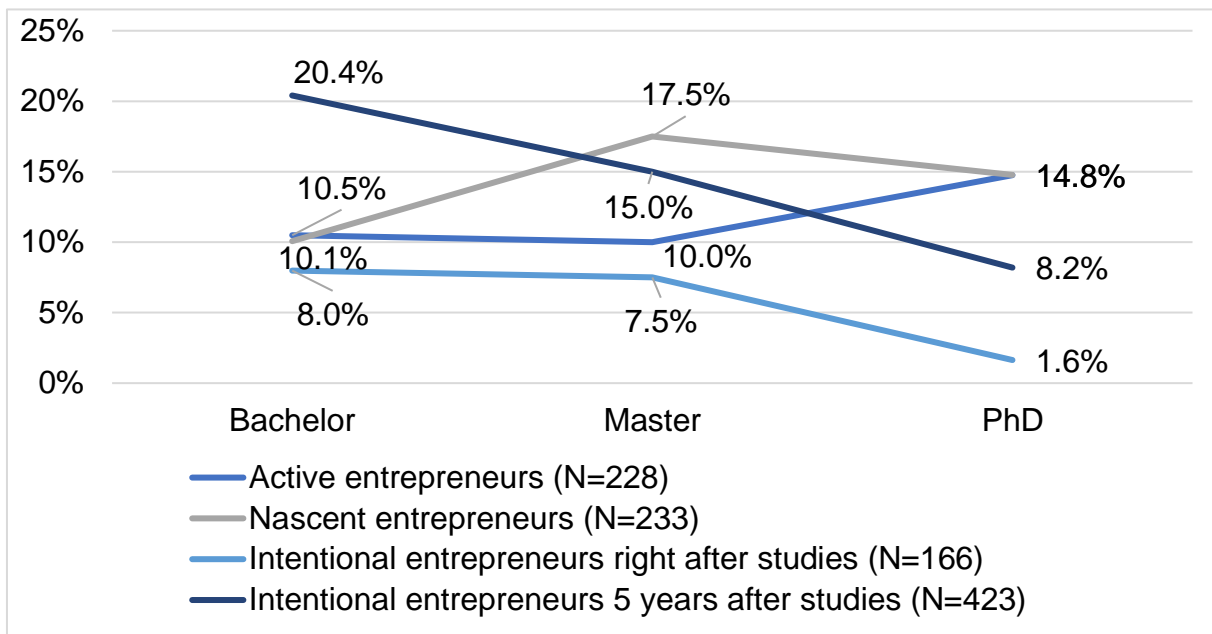
**Figure 11.** Active, nascent, and intentional entrepreneurship by age



<sup>3</sup> We compared means using One-Way ANOVA: The mean age of active entrepreneurs is significantly higher compared to any other category's mean age (p<0.05)

*Entrepreneurship and level of education.* We also ran an analysis of the entrepreneurship patterns across different levels of education and found a significant ( $p < 0.05$ ) increase of nascent entrepreneurship among the research participants studying at master's degree level (see Figure 12 below).

**Figure 12.** Active, nascent, and intentional entrepreneurship by level of education

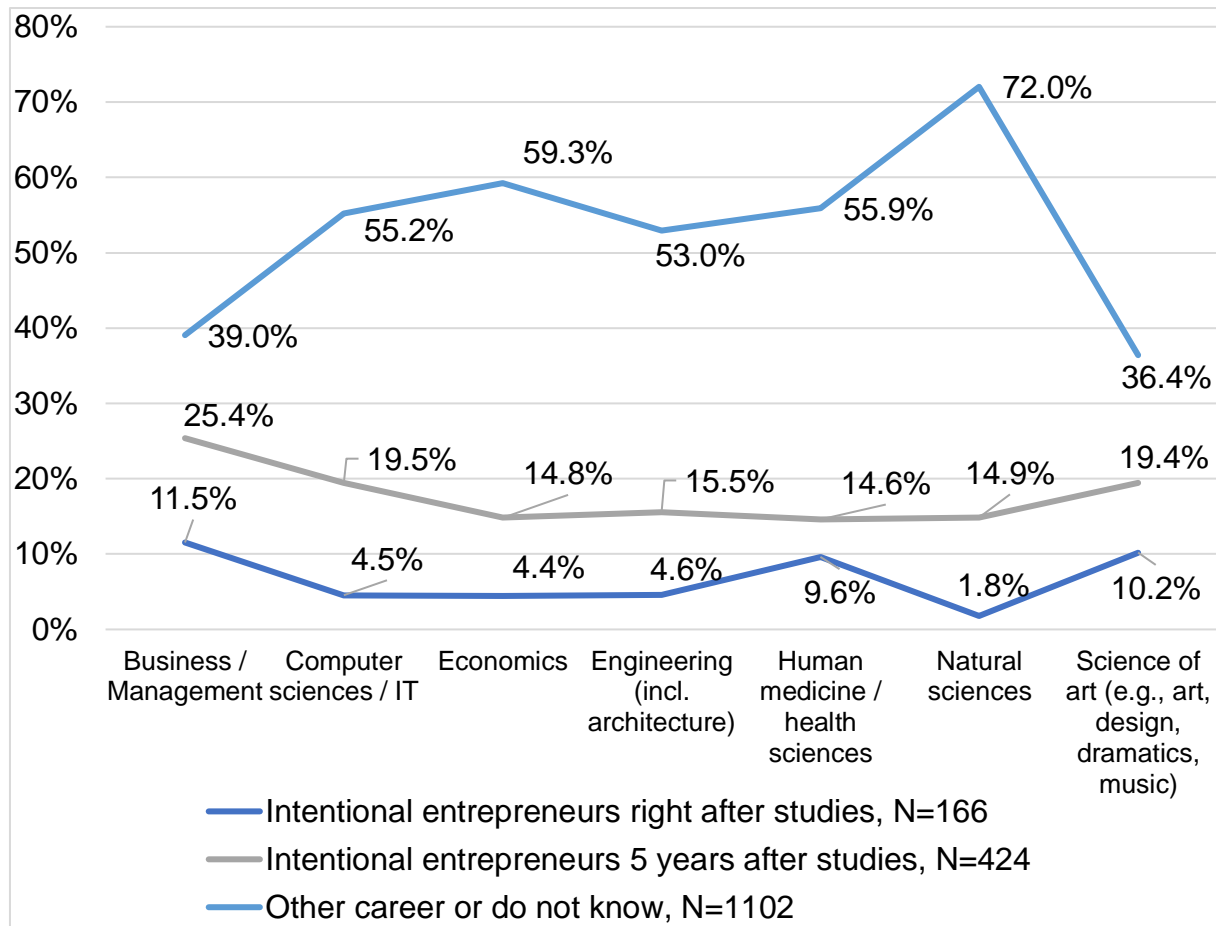


*Entrepreneurship and other career choices by field of study.* When looking at entrepreneurship and other career choices by the field of study (see Figure 13 below), we found that the research participants studying natural sciences have the lowest rate of intentional entrepreneurship right after the completion of studies (1.8%), as well as the highest percentage of choosing a career other than entrepreneur or being undecided about their choice of career (72%). As could be expected, a career other than entrepreneur is the least popular option among business and management students, but also for those studying the arts or applied arts (e.g., art, design, drama, music)<sup>4</sup>. Unsurprisingly, those in the fields of medicine and health sciences,

<sup>4</sup> As there may be a considerable disproportion in the gender distributions across different specialties, we checked using the Z-test, and there were significantly more female participants than male participants in applied arts (10.7% vs 6.2%), which nevertheless does not explain the higher incidence of entrepreneurship; yet both in the natural sciences and business and management, the proportions of male and female students were similar (not significantly different).

natural sciences, engineering, and economics also show low intent to become the founders (or to continue running) their own businesses five years after completing their studies.

**Figure 13.** Intentional entrepreneurship and other career choices by field of study<sup>5</sup>

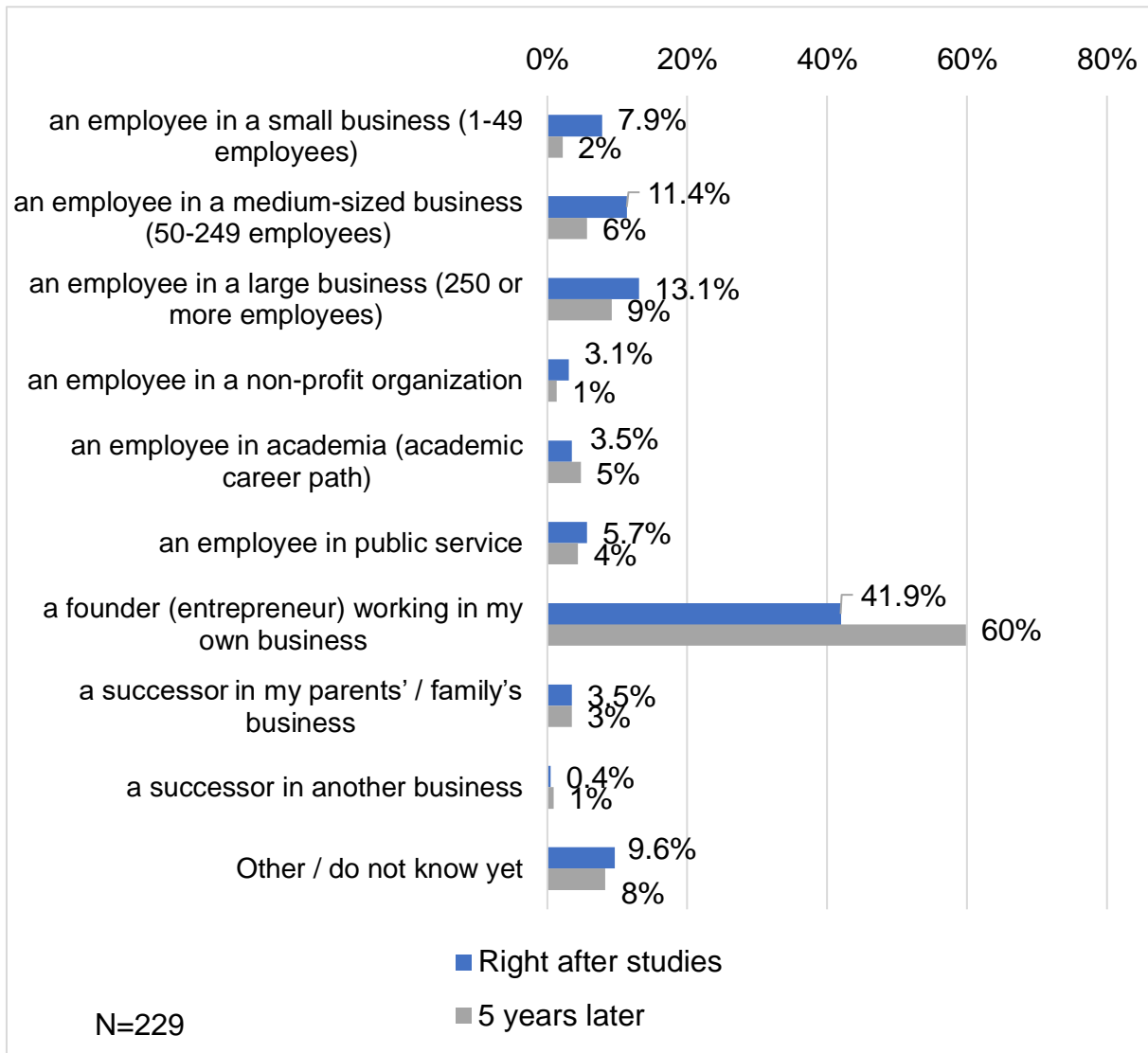


**Future career intentions of current entrepreneurs.** As previously discussed, 10.6% (N=229) of the research participants in Lithuania reported that they are already running a business—in other words, that they were active entrepreneurs at the time of the survey (Figure 5 above). Out of these, only 41.9% of the students plan to continue being business owners right after they complete their studies, and slightly more (60%) of them intend to continue being business owners five years after they complete their studies, which means some of them expect to cease running their current businesses after their studies, but expect that they may return to running

<sup>5</sup> Only the categories with significant differences are displayed; no significant differences across the fields of study in the proportions of active and nascent entrepreneurs were detected; therefore, the data has been omitted.

their own businesses at a later date. The other current business owners mostly plan to continue their careers as employees at small-, medium-, or large-sized businesses (see Figure 14 below for more details).

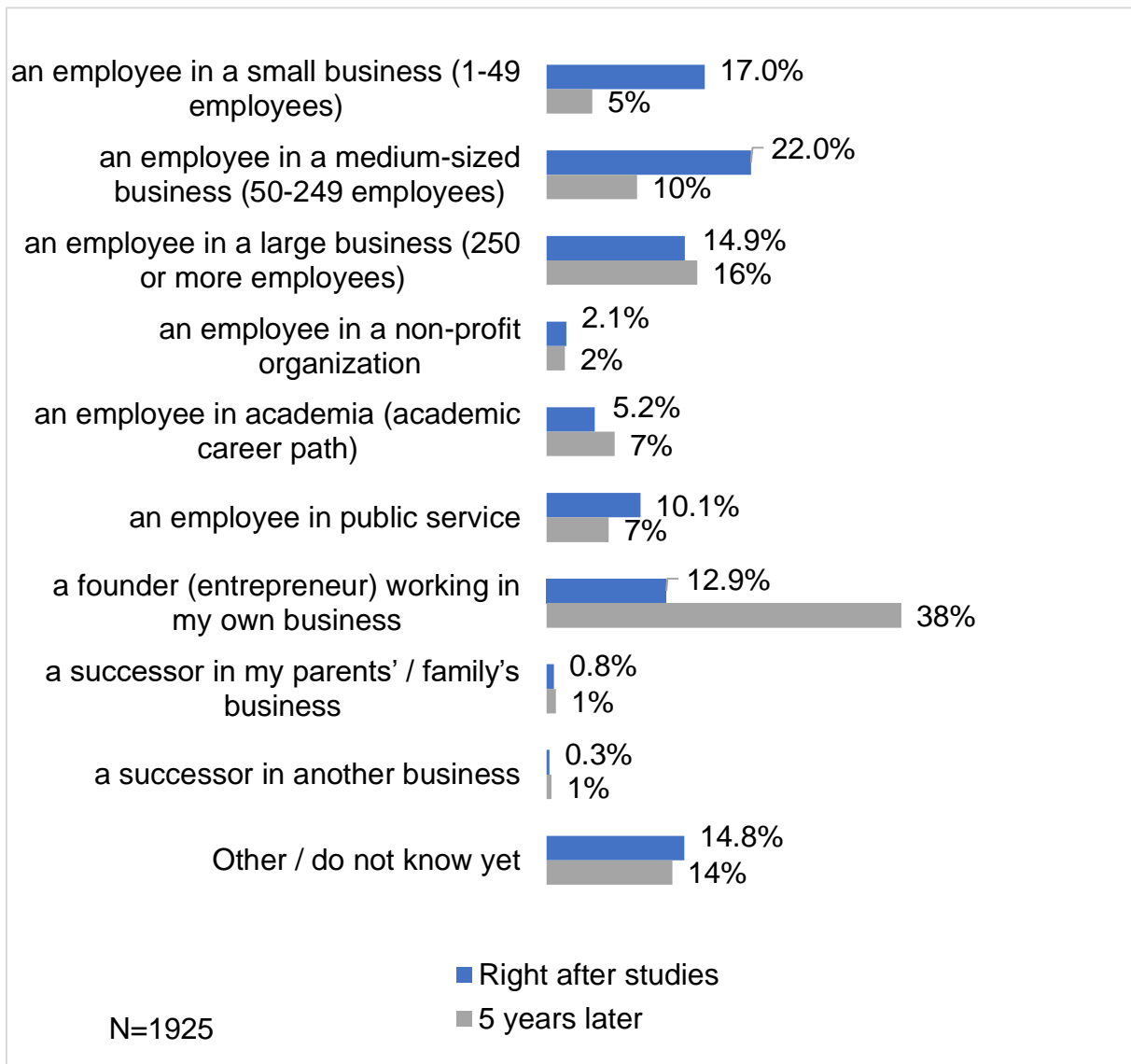
**Figure 14.** Future career intentions of current entrepreneurs (active entrepreneurs)



*Future career intentions of non-entrepreneurs.* Another 89.4% (N=1,925) of our research participants, who were not actively running a business at the time of the survey, see their immediate post-study careers mostly as employees at a small-, medium-, or large-sized companies (14.9% to 22%, see Figure 15 below). Only a small portion of these students (12.9%) plan to set up a business right after their studies, but more than a third reported being willing to become entrepreneurs 5 years after completing their studies (38%). However, the reported

intentions are quite different when respondents were talking about their career plans 5 years after completing their studies: a significantly smaller portion of them are willing to remain employees in businesses managed by someone else, and are instead willing to become entrepreneurs (38%).

**Figure 15.** Future career intentions of non-entrepreneurs



To summarize, it is interesting to observe that regardless of whether the students are currently managing their own businesses or not, the majority of them are willing to try working as an employee at some other firm right after they complete their studies, which is in line with the global trend (see Global Report GUESSSS 2021 by Sieger et al., 2021). However, in the more

distant future, the proportion of those expecting to try (or to continue on) the entrepreneurial path considerably increases.

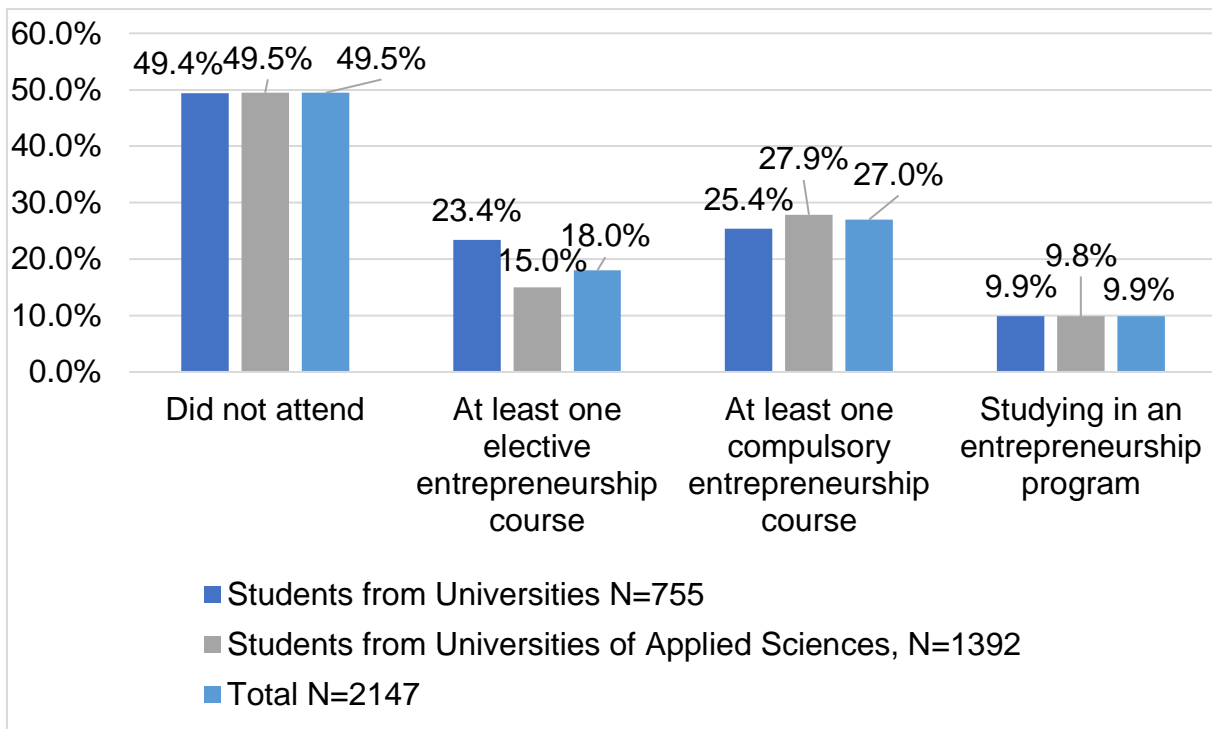
## **6 Entrepreneurial environment and the drivers of entrepreneurial intentions at Lithuanian universities**

Despite the rise of new forms of education for entrepreneurs, such as incubator or accelerator programs, which are run outside of academic institutions, both universities and other academic institutions still have a significant role to play in creating new generations of entrepreneurs. A favorable university climate and ample opportunities for students to gain knowledge and learn entrepreneurship-specific skills are critical features of a successful university (Sancho et al., 2021; Spiegel, 2020). Universities play an important role in training prospective entrepreneurs through building their capacity to run businesses and empowering them to work in start-ups or to found them (Melyoki & Gielnik, 2020; Spiegel, 2020). Therefore, in this section we examine the entrepreneurial environment at Lithuanian universities: what universities offer to students in order to promote their entrepreneurship intentions and to grow their competencies, and how students evaluate the entrepreneurial reputation and atmosphere of their universities.



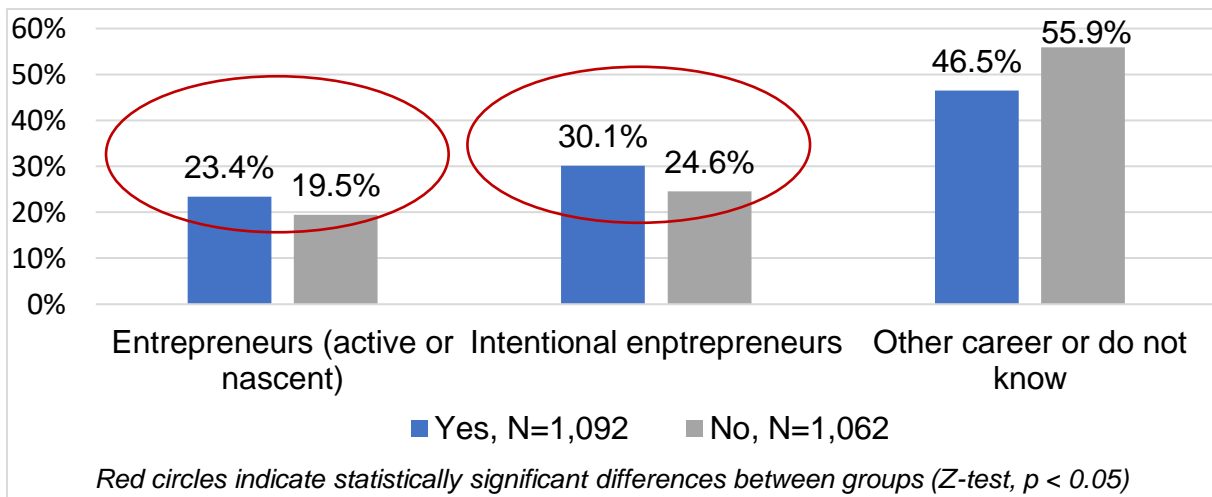
*Entrepreneurship course attendance.* In Lithuania, the majority—close to 50%—of research participants reported they had not attended a course on entrepreneurship thus far, 18% and 27% reported having attended at least one elective or one compulsory entrepreneurship course, respectively, and 9.9% stated they are currently studying in an entrepreneurship program. Significantly more of the university students reported that they attended elective courses, whereas the students from the colleges reported a slightly higher attendance of compulsory courses (see Figure 16 below).

**Figure 16.** Comparison of entrepreneurship course attendance at universities and colleges



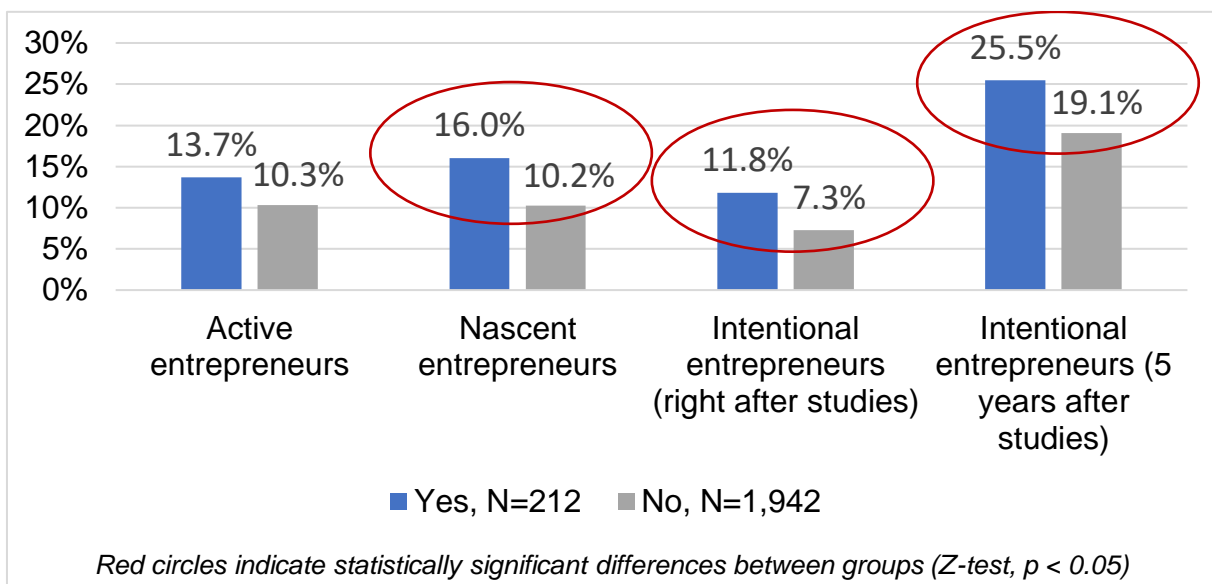
When compared to other countries, more Lithuanian students than other countries' students attended at least one entrepreneurship course (50.7% vs 46.7%). Also, among those Lithuanian students who attended the course, we had more active and nascent entrepreneurs, as well as those who intend to become entrepreneurs either right after or five years after their studies; naturally, we also saw that fewer students chose another career path (mostly as an employee at an organization) or did not yet know what career to choose (see Figure 17 below).

**Figure 17.** Relationship between entrepreneurship course attendance and entrepreneurship categories



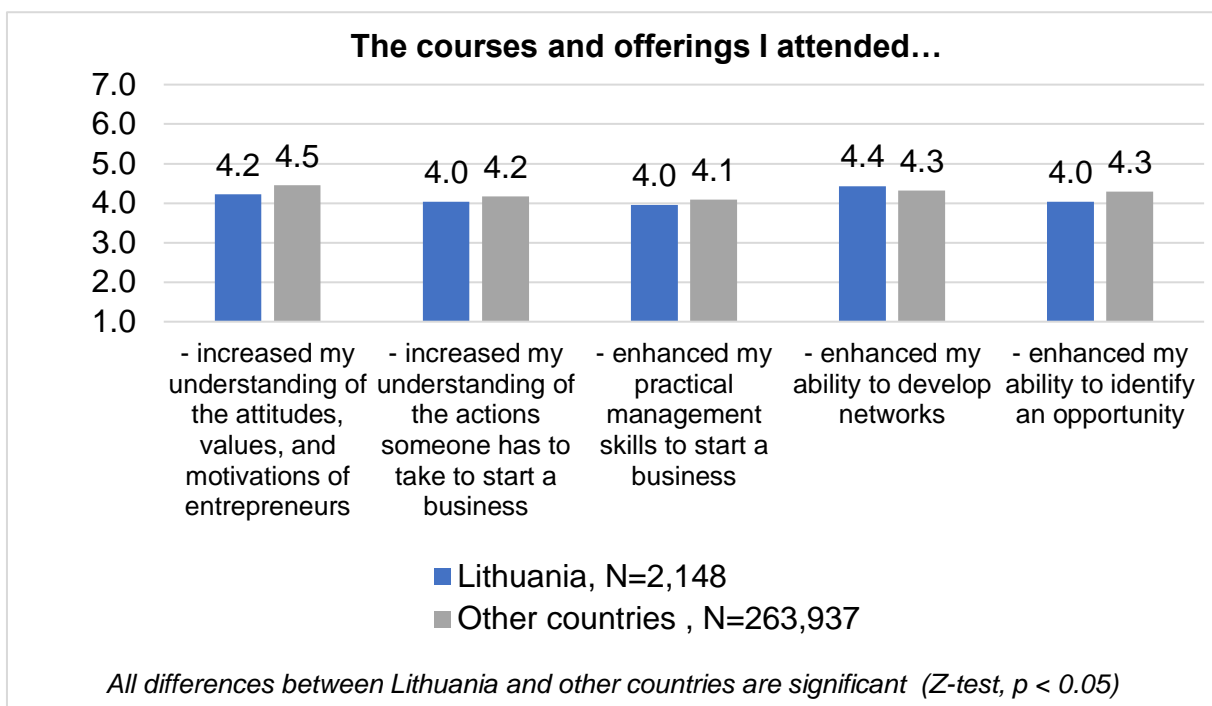
Naturally, we also observed a significant increase in nascent and intentional entrepreneurs among the students who are studying a specific entrepreneurship program (see Figure 18 below). Interestingly, this does not affect the number of active entrepreneurs. Although the proportion of active entrepreneurs among those attending a specific entrepreneurship program is higher, it is not statistically significant.

**Figure 18.** Relationship between attending a specific entrepreneurship program and entrepreneurship categories



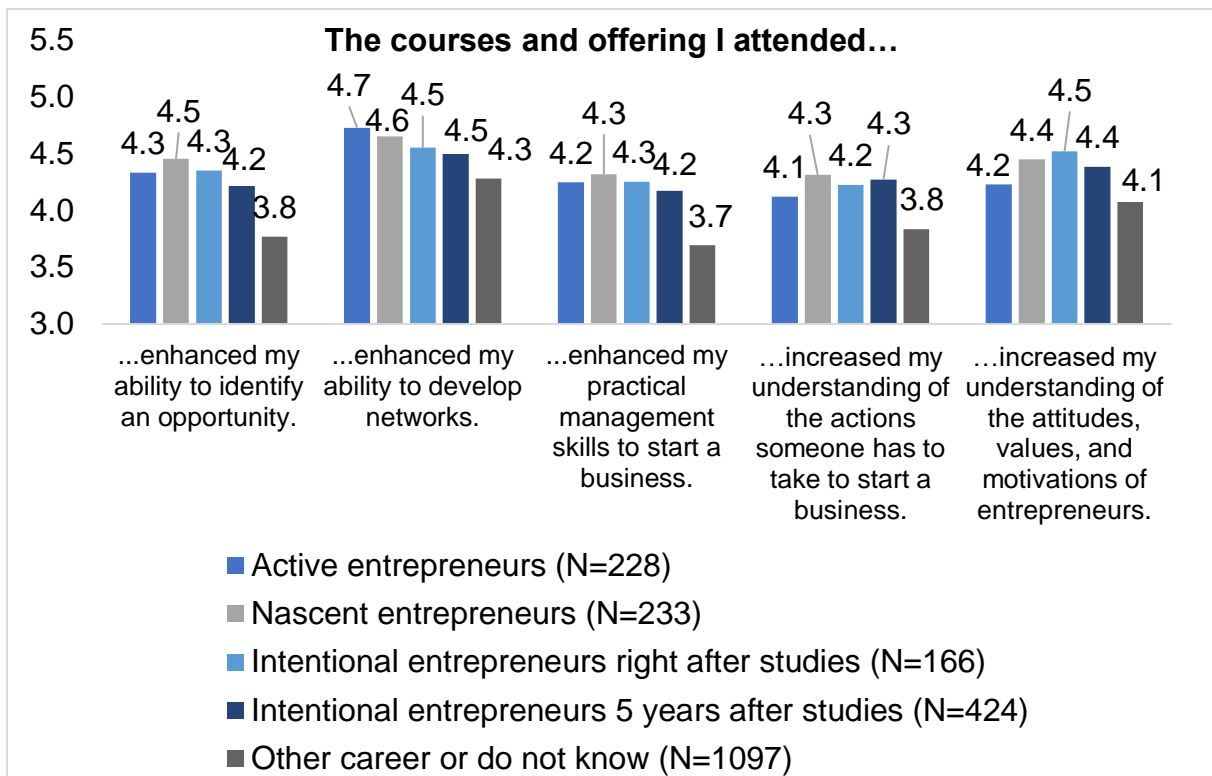
*Courses and offerings.* The research participants also rated the courses and offerings that they had at their universities. Unfortunately, we can see that the Lithuanian students rated all aspects significantly lower than their international counterparts did: they felt they gained little understanding of the attitudes, values, and motivations of entrepreneurs, as well as of the actions involved in starting a business; they also felt they had fewer opportunities to enhance their practical management skills for starting a business, and to gain the abilities to develop networks and to identify a good business opportunity (see Figure 18 below).

**Figure 19.** Evaluation of courses and offerings at universities—Lithuania vs the other countries



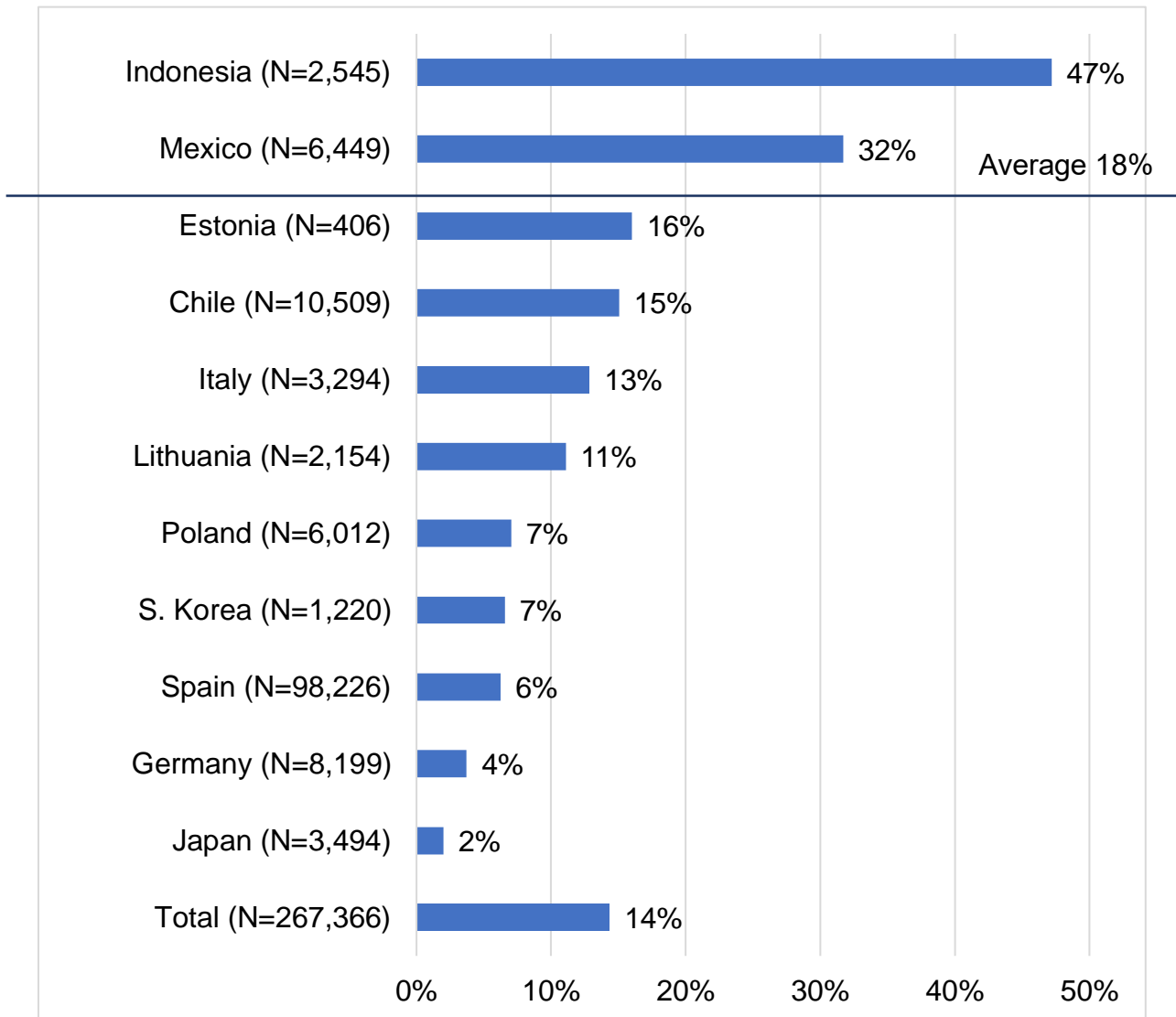
There is a trend that the students who are engaged in entrepreneurship also rated their universities as providing more practical management skills for starting a business and enhancing their ability to identify a good business opportunity, which suggests that these skills may be those that add important value in educating both current and future entrepreneurs, as well as what differentiates a more successful entrepreneurship education (see Figure 20 below).

**Figure 20.** Relationship between the evaluation of university courses and offerings and entrepreneurship categories



*Entrepreneurial reputation of the university.* The overall percentage of Lithuanian research participants who reported that they chose their university because of its entrepreneurial reputation was 11.1%, which is slightly lower than the overall percentage of the other countries at 14.4%. The percentages for all the different countries ranged from 2% to 47%<sup>6</sup> (see Figure 21 below).

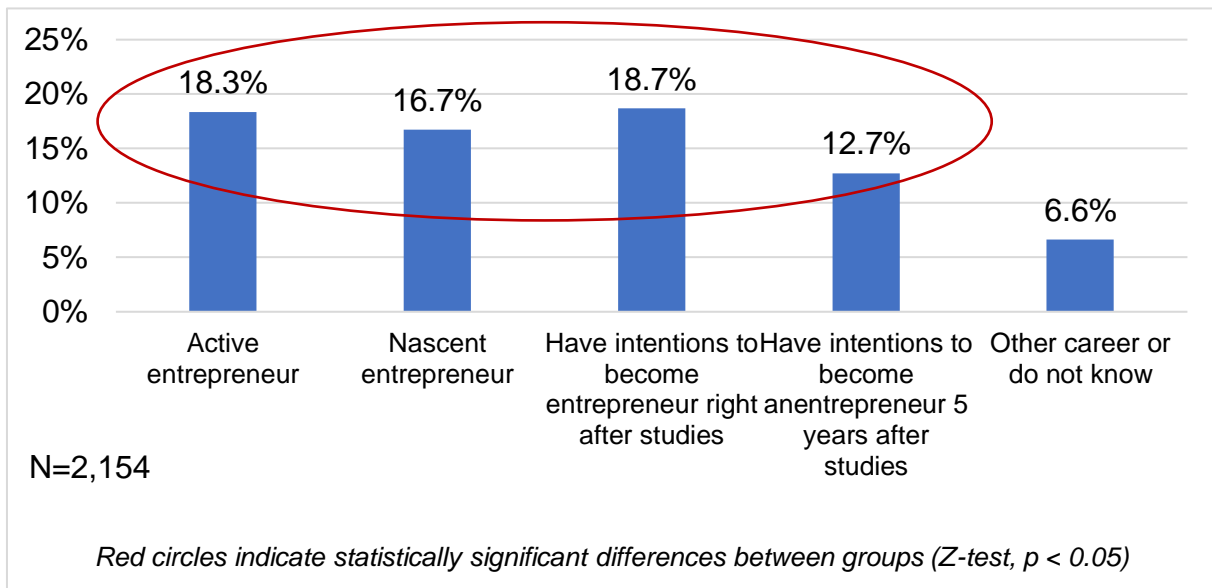
**Figure 21.** Entrepreneurial reputation of the university—selected countries, comparison



<sup>6</sup> Answers from England (57%, N=7) and Norway (0%, N=8) are excluded due to a low number of participants

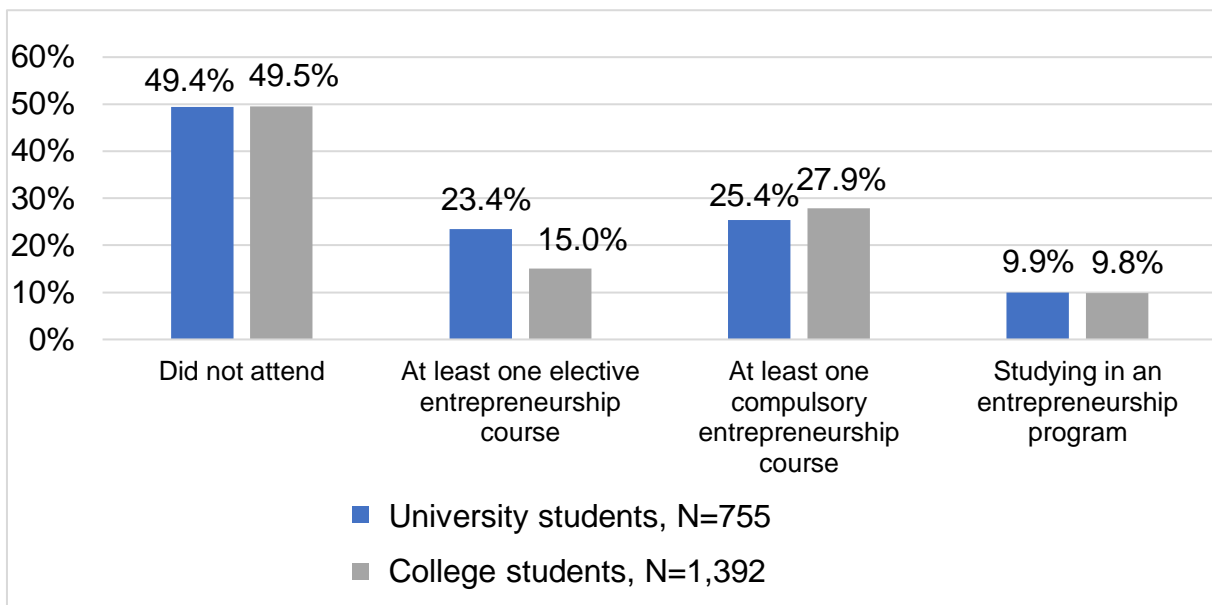
Additionally, a significantly higher percentage of entrepreneurship-oriented participants (active, nascent, or intentional entrepreneurs) chose their universities due to their entrepreneurial reputation. The percentage was lower for those who intend to follow other career paths or had not yet decided on a career (see Figure 22 below).

**Figure 22.** Entrepreneurial reputation by future career categories



*Attendance of courses and reputation by university type.* We also found that more university students (23.4%) and fewer college students (15.0%) attended at least one elective entrepreneurship course (see Figure 23 below). However, this is the only significant difference between attendance of entrepreneurship courses between the different university types, as the numbers of those who attended at least one entrepreneurship course as compulsory part of their studies (25.4% and 27.9%), were studying a specific entrepreneurship program (9.9% and 9.8%) and chose to study at their university mainly because of its strong entrepreneurial reputation (11.1%) are rather similar.

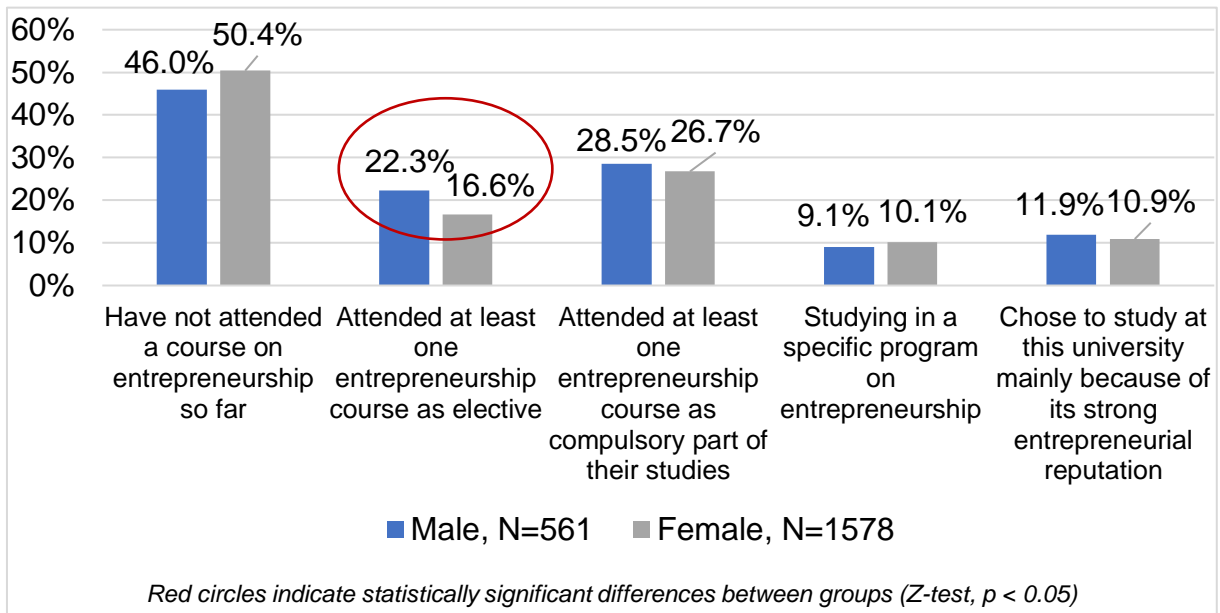
**Figure 23.** Entrepreneurship education by university type





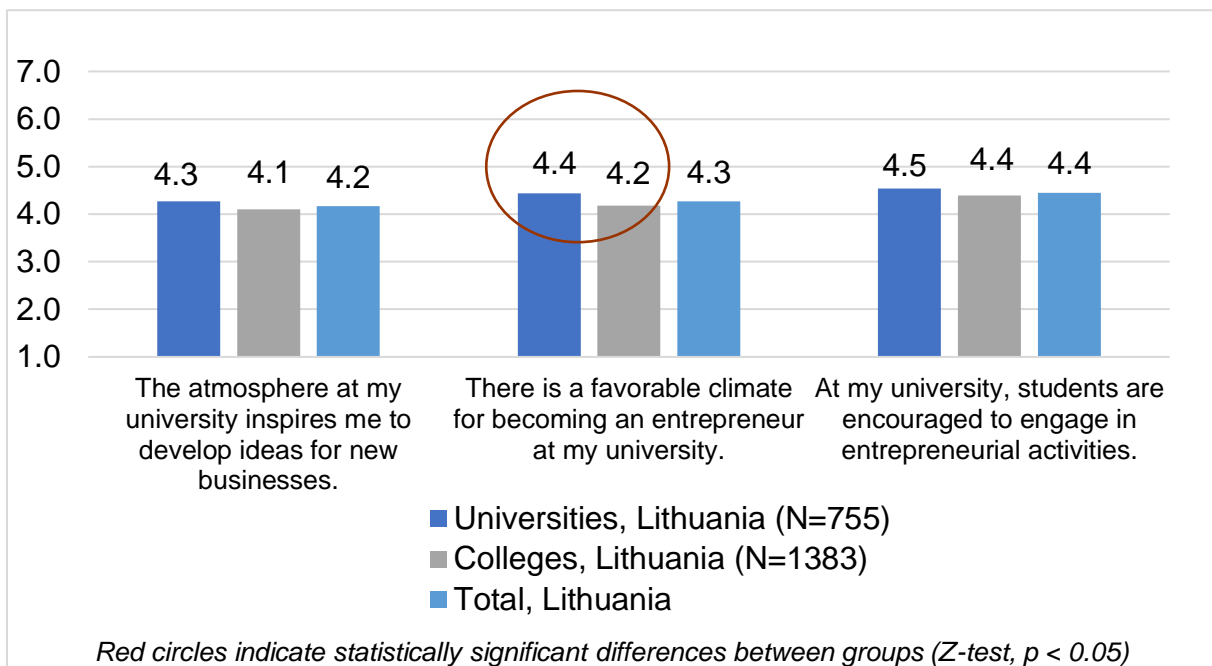
*Attendance of courses and reputation by gender.* When speaking about entrepreneurship education by gender, we see that there are some differences between male and female students' answers. However, none of these are significant except for one aspect: the number of female students who attended at least one elective entrepreneurship course is significantly lower (see Figure 24 below).

**Figure 24.** Entrepreneurship education by gender



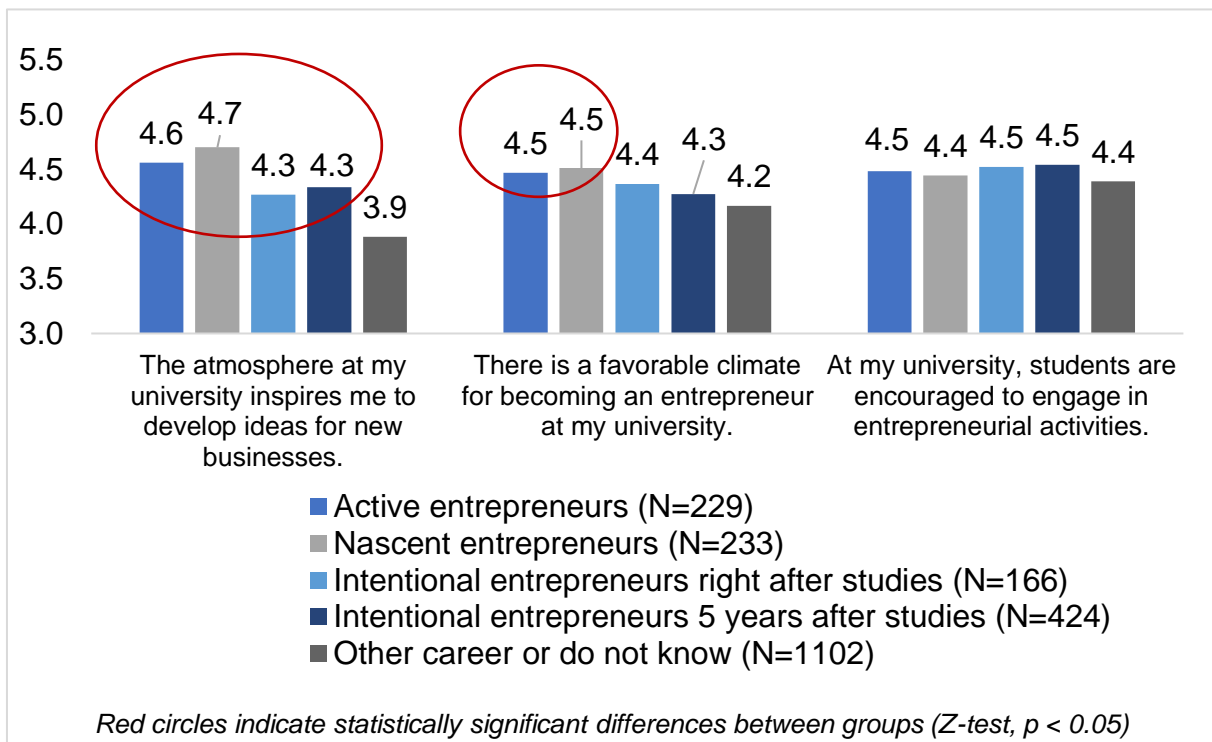
*Entrepreneurial atmosphere at universities.* We also asked research participants to evaluate the university environment in terms of how it drives entrepreneurial activities. The students rated how strongly their university atmosphere inspires them to develop ideas for new businesses; how favorable the university's climate is for becoming an entrepreneur; and to what degree they are encouraged to engage in entrepreneurial activities. As we can see in Figure 25 below, on a scale from one to seven, all of the ratings are a bit above the middle of the scale, ranging from 4.1 to 4.5. The students at universities were more positive about their institution's entrepreneurship-promoting climate than the students at colleges.

**Figure 25.** Entrepreneurial atmosphere by university type



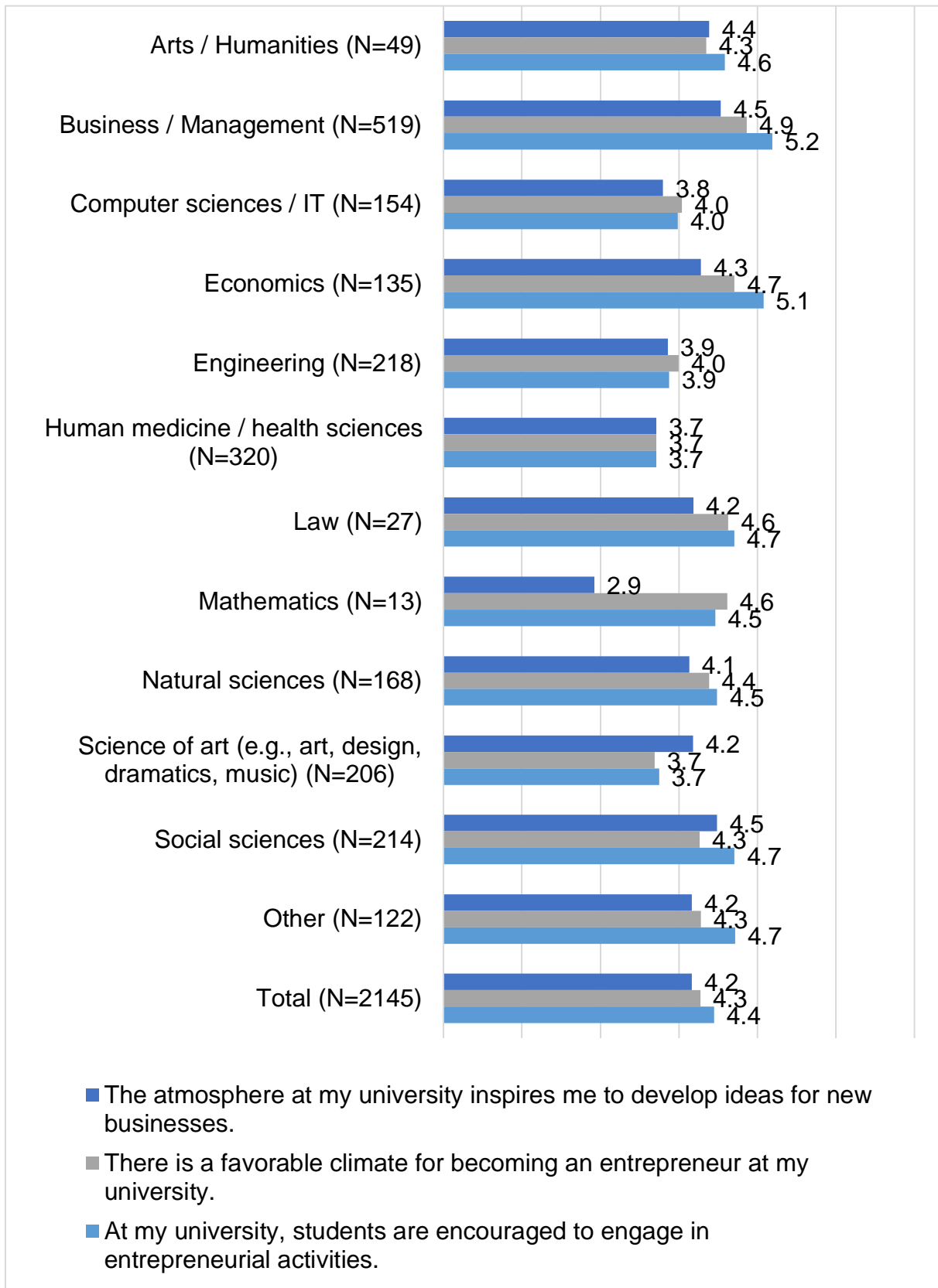
We also found significantly higher evaluations of university atmosphere among active, nascent, and intentional entrepreneurs, which suggests that a university atmosphere that inspires students to develop ideas for new businesses may be more important than simple encouragement to engage in entrepreneurial activities.

**Figure 26.** Entrepreneurial atmosphere by entrepreneurship category



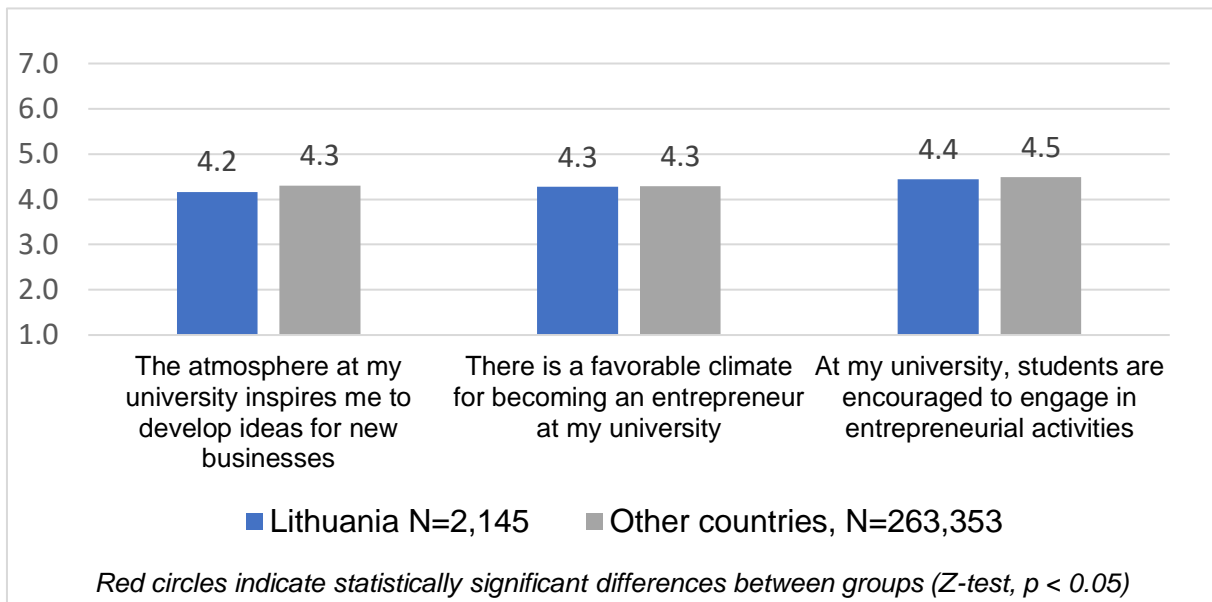
Also, when we compare university atmosphere ratings by field of study, we can see that business management and economics students tend to give the highest ratings, whereas applied art, medicine, engineering, and computer science students tend to give the lowest ratings (see Figure 27 below).

**Figure 27.** Entrepreneurial atmosphere by field of study



Lastly, considering the survey results from the other countries, Lithuania’s results are very similar except for one aspect—how university atmosphere inspires students to develop ideas for new businesses—in which Lithuanian students rated their universities significantly lower than the other countries, on average (see Figure 28 below).

**Figure 28.** Entrepreneurial atmosphere—Lithuania vs the other countries



## 7 Entrepreneurial activities

In this section, we will discuss our findings in three groups. We will start with reporting the characteristics of active entrepreneurs in Lithuania, and then proceed by describing nascent and intentional entrepreneurs.

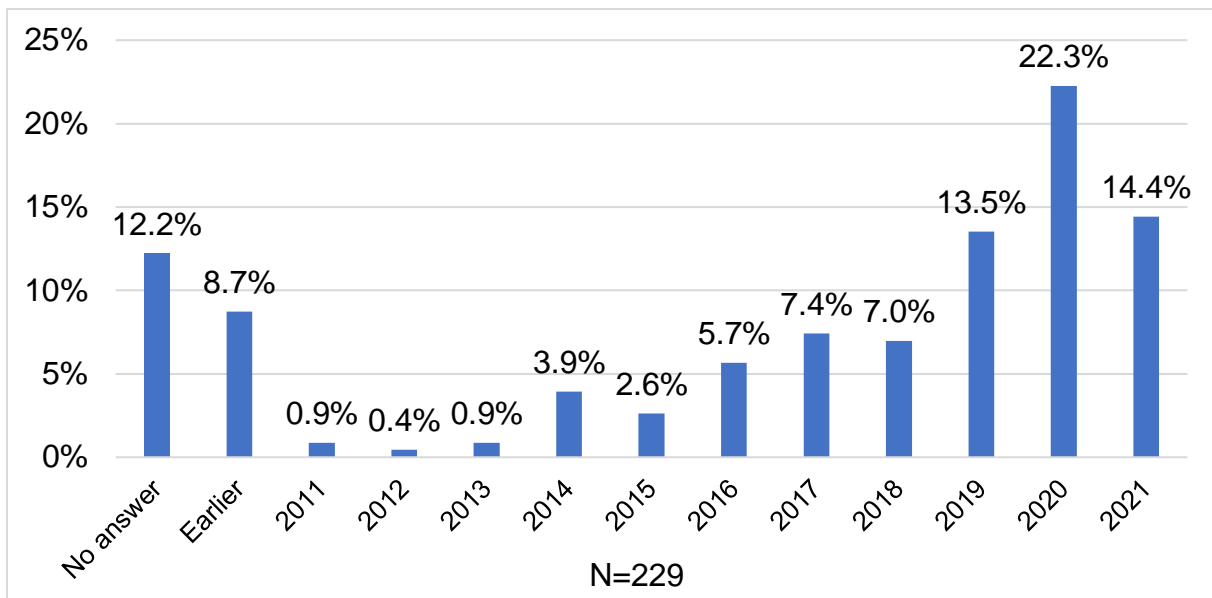
### 7.1 Active entrepreneurs

In order to understand the characteristics of students who are business founders and are currently actively running their own businesses, we asked them for some demographic details that describe their businesses, details about their previous experience, a subjective performance evaluation, and the reasons and motives behind the creation of their business.

**The founding year.** Among the 229 research participants who reported currently running a business (active entrepreneurs), most of the businesses were very new: 14.4% of them were established in 2021 and 22.3% were founded in 2020 (see Figure 29 below). This, nevertheless,

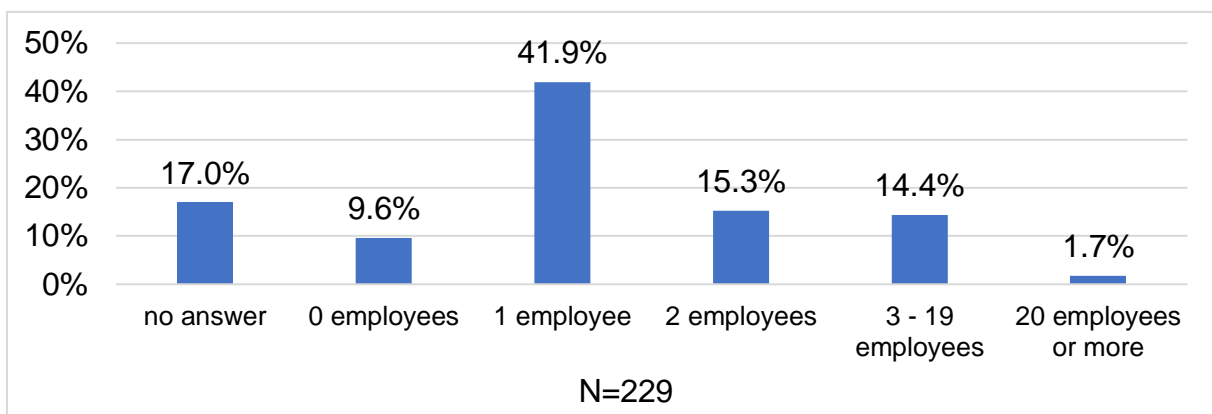
is a lower percentage of new businesses compared to the total of all countries (18.2% and 31.3% respectively; see Global report GUESSSS 2021 by Sieger et al., 2021).

**Figure 29.** The founding year of active entrepreneurs' businesses



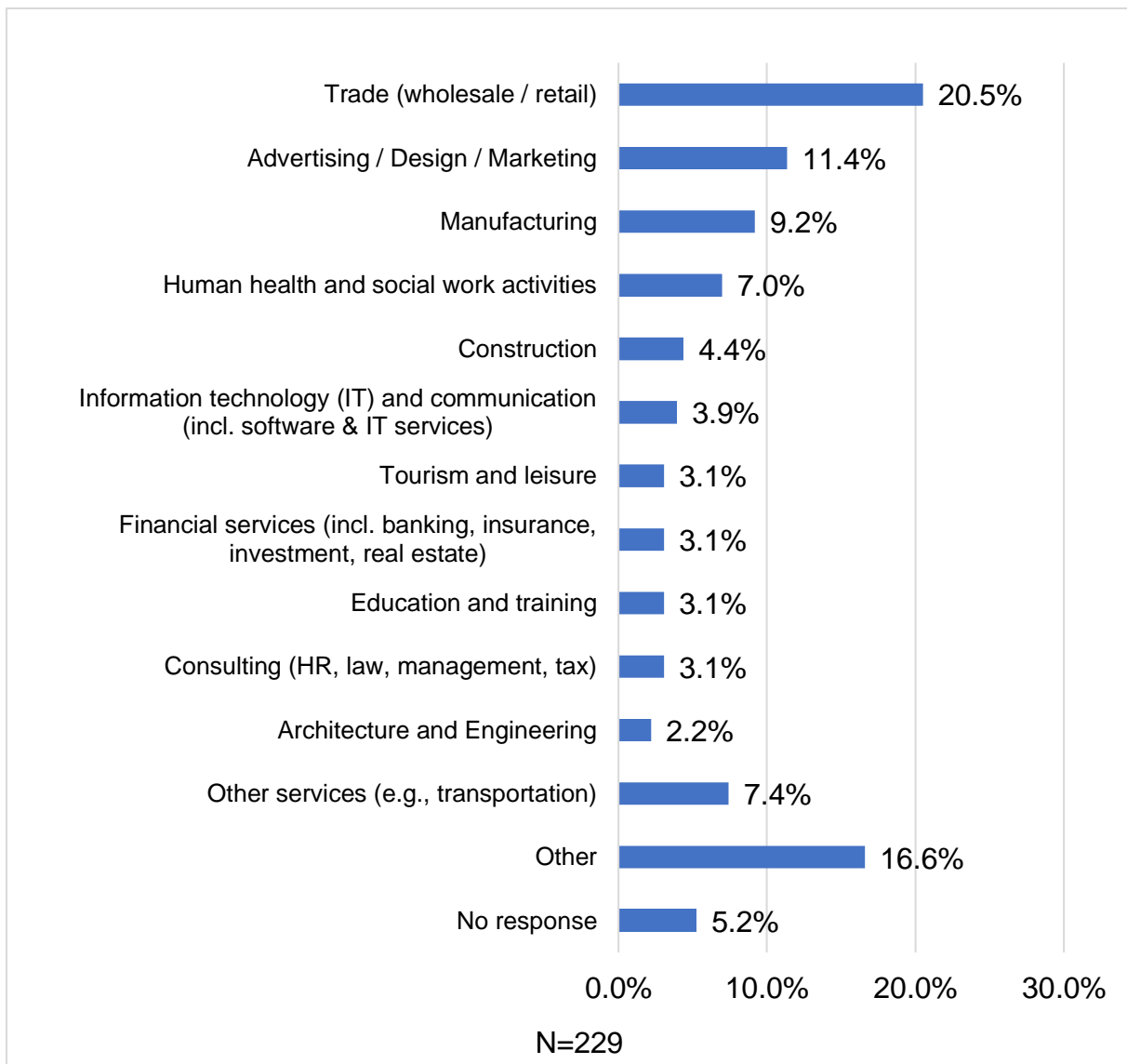
**Number of employees.** Most of the students' companies (41.9%) had one employee at the time of the survey, and the rest of the companies also had zero or very few employees except for 1.7% (4 companies) that had more than 20 employees (see Figure 30 below). Again, the proportions are slightly different from what we can see in the total of all countries, where more companies were reported as having zero employees (9.6% in Lithuania vs 27.6% on global level; see Global report GUESSSS 2021 by Sieger et al., 2021).

**Figure 30.** Number of employees (FTE)



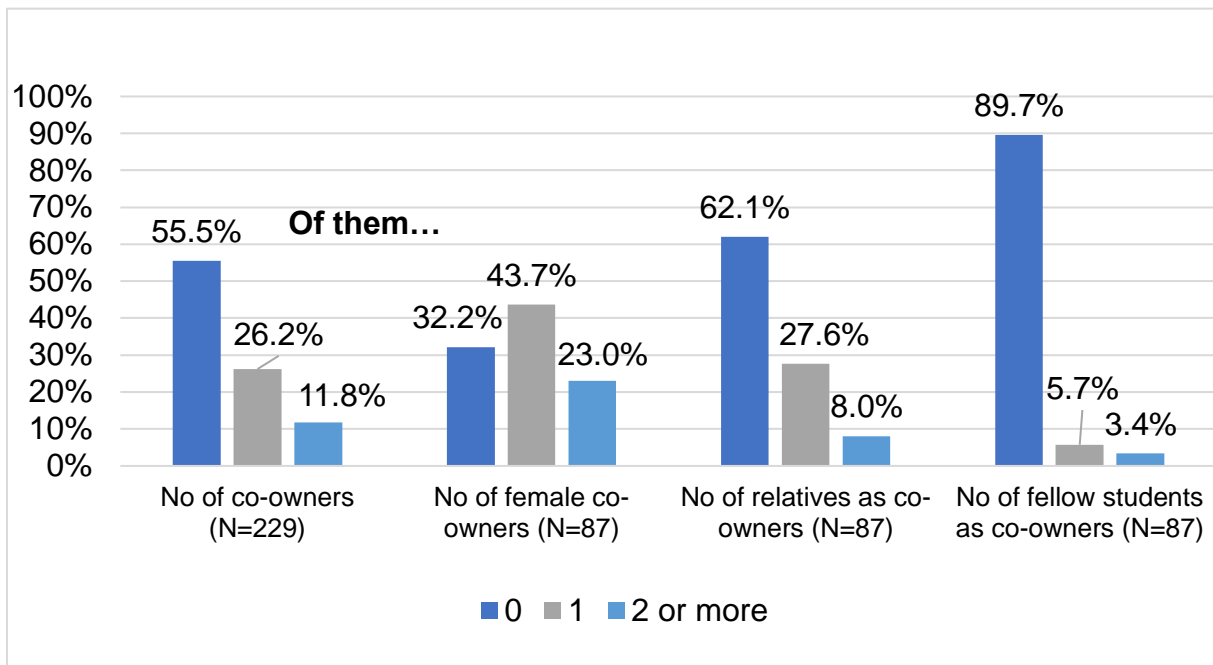
*Economic sector.* Most of the students' companies are active in trade (20.5%), advertising (11.4%), manufacturing (9.2%), and health and social work (7.0%) (see Figure 31 below).

**Figure 31.** Economic sectors (active entrepreneurs)



**Co-ownership.** More than half of the active entrepreneurs (55.5%) reported having no co-owners apart from the founder; and of those who had at least one co-owner (N=87), only 32% had no female co-owners. Also, the majority of those who had co-owners (62.1%) reported that they had no relatives working with them as co-owners, and even more (89.7%) reported that they had no fellow students as their co-owners (see Figure 32 below).

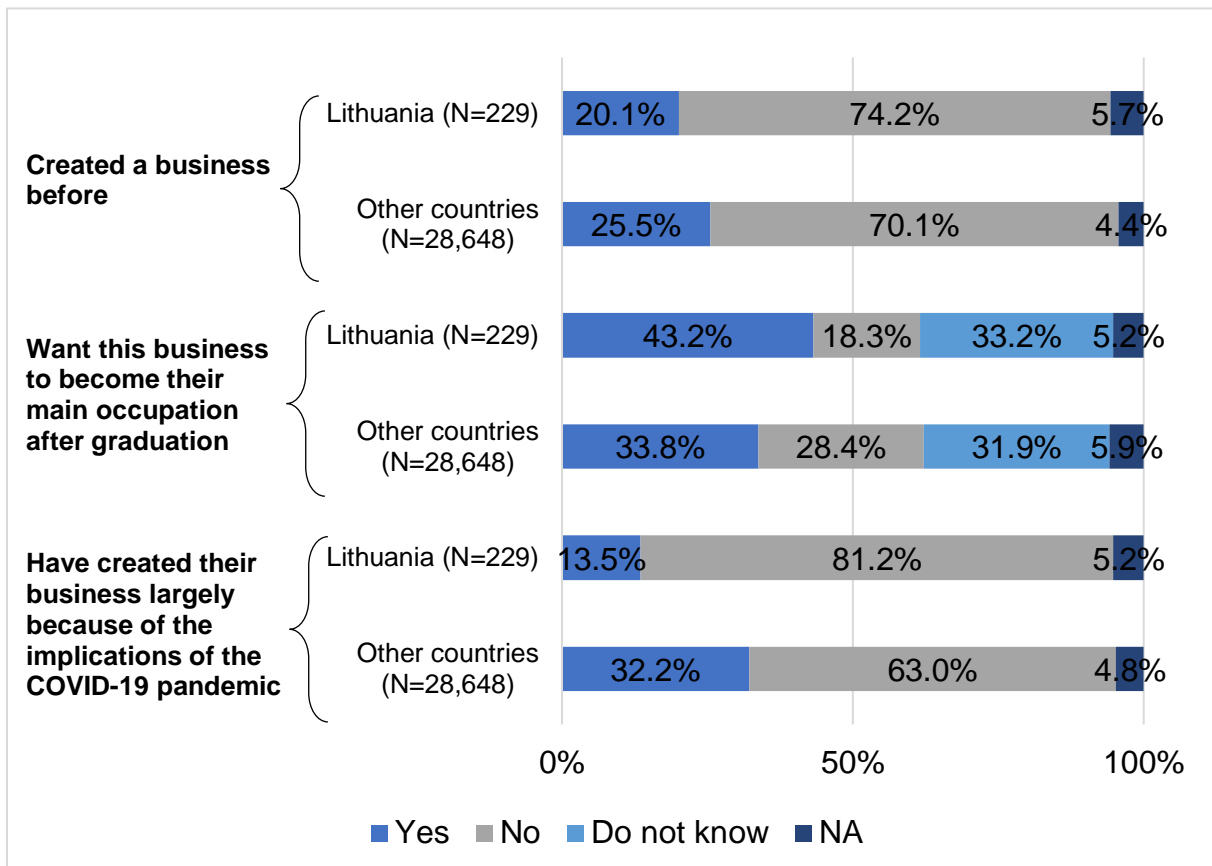
**Figure 32.** Co-owner structure





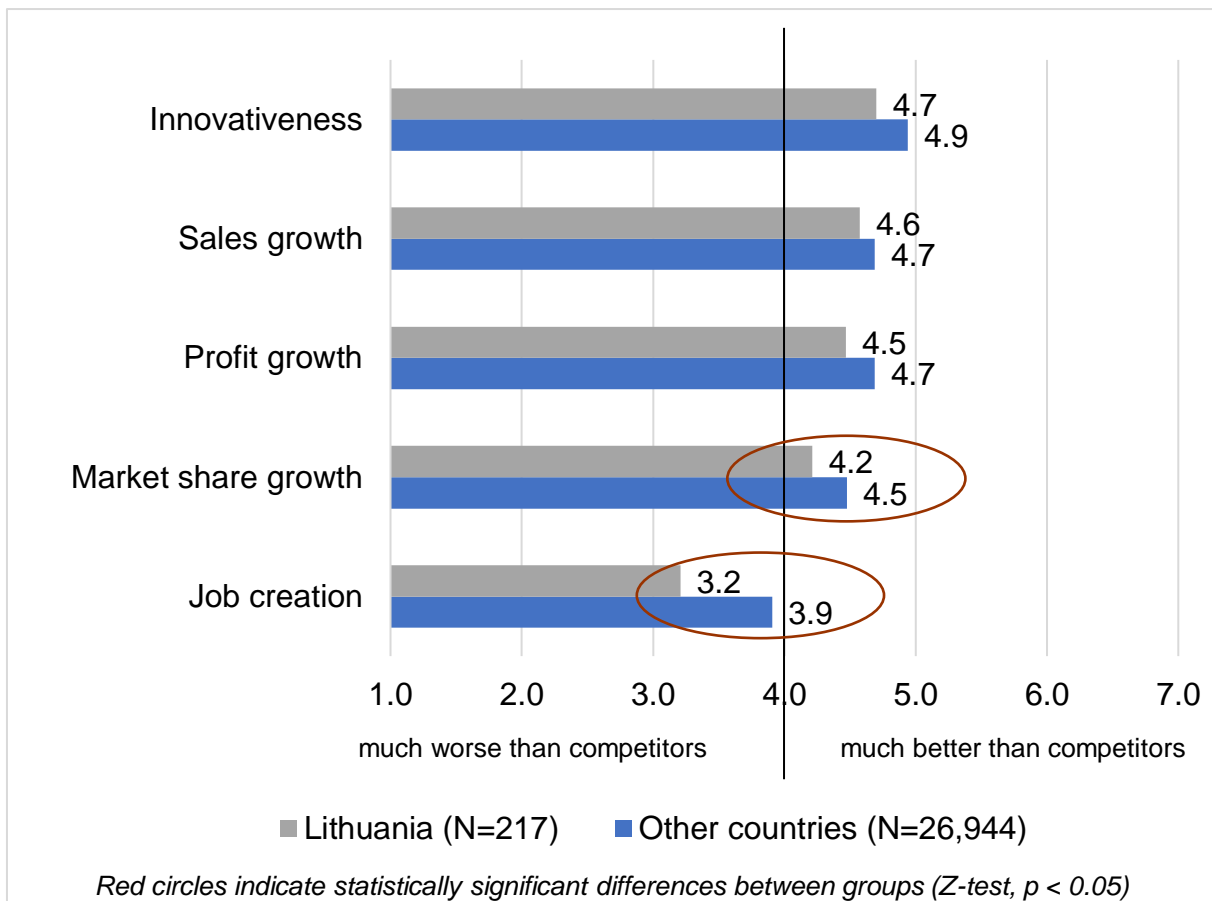
*Previous experience and motives.* Furthermore, 20.1% of the active entrepreneurs had created businesses before, which does not significantly differ from the 25.5% reported in the other countries (see Figure 33 below). However, there are significantly more students who would like to continue being an entrepreneur and make it their main occupation after graduation from university in Lithuania (43.2%) compared to the total for the other countries (33.8%). Lastly, the response of new businesses to the COVID-19 pandemic was different from the response in the total of the other countries: there were significantly fewer businesses created as a response to the COVID-19 pandemic (13.5% vs 32.2%).

**Figure 33.** Experience and motivation for business creation—active entrepreneurs in Lithuania vs the other countries



**Subjective performance.** The active entrepreneurs also rated the performance of their ventures on a scale from one (much worse than the competition) to seven (much better than the competition). Most of the performance criteria—innovativeness, sales growth, profit growth and market share growth—were rated better than the competition on average, and only job creation was seen as worse compared to the competition (see Figure 34 below). However, the research participants from Lithuania tended to report lower scores, and the scores were statistically significantly lower when rating market share growth and job creation.

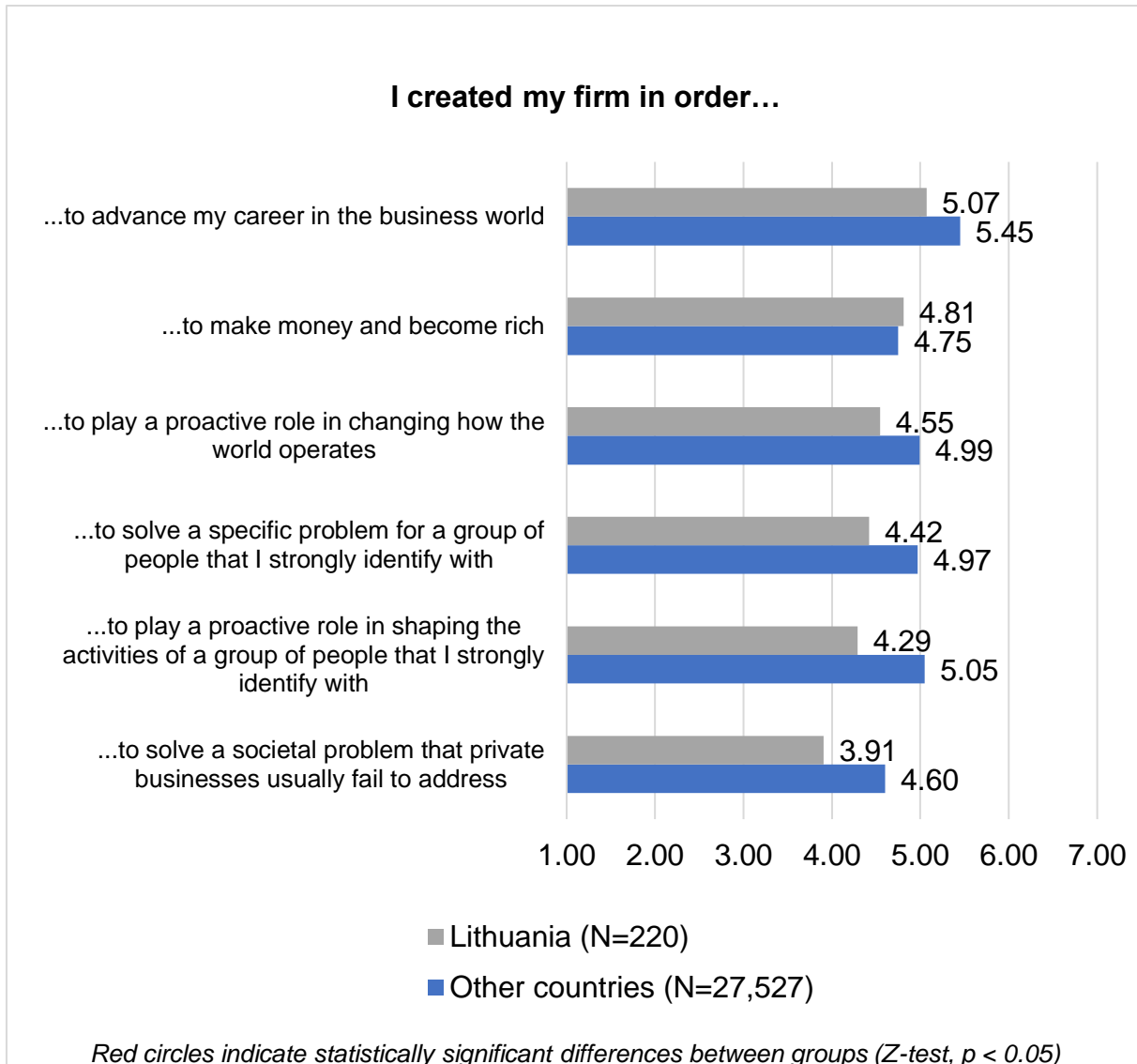
**Figure 34.** Performance ratings—Lithuania vs the other countries



**Reasons behind venturing.** Lastly, we asked the founders what the goal behind the creation of their firms was. The highest rated reason was individual career (the willingness to advance their own careers in the business world), and the second most common goal was individual gain (the willingness to make money and become rich). Reasons related to the improvement of society or social motives were rated as relatively less important. Surprisingly, the Lithuanian ratings

are consistently lower than the ratings of the total of the other countries, and the results are statistically significant except for one motive (see Figure 35 below).

**Figure 35.** The reasons behind the creation of a firm

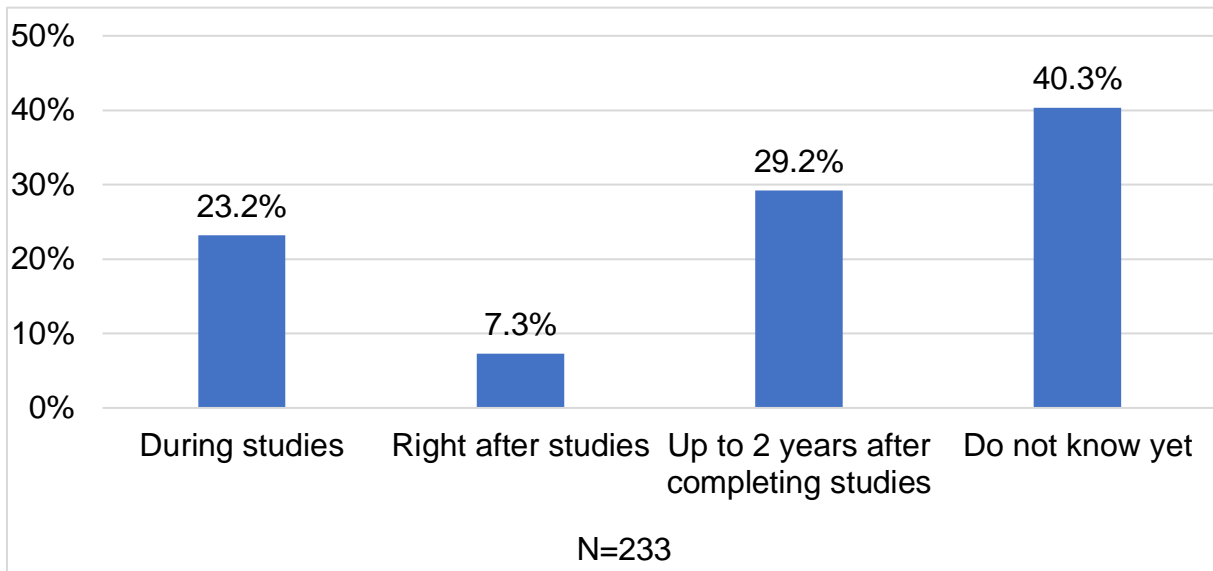


## 7.2 Nascent entrepreneurs

We also wanted to understand the characteristics of students who are not currently business founders but who are currently planning to create their own businesses (nascent entrepreneurs); therefore, we asked them about their plans, the motivation behind the creation of their businesses, what role their university played in their emergence, and in what kind of firm-creation activities they are currently engaged.

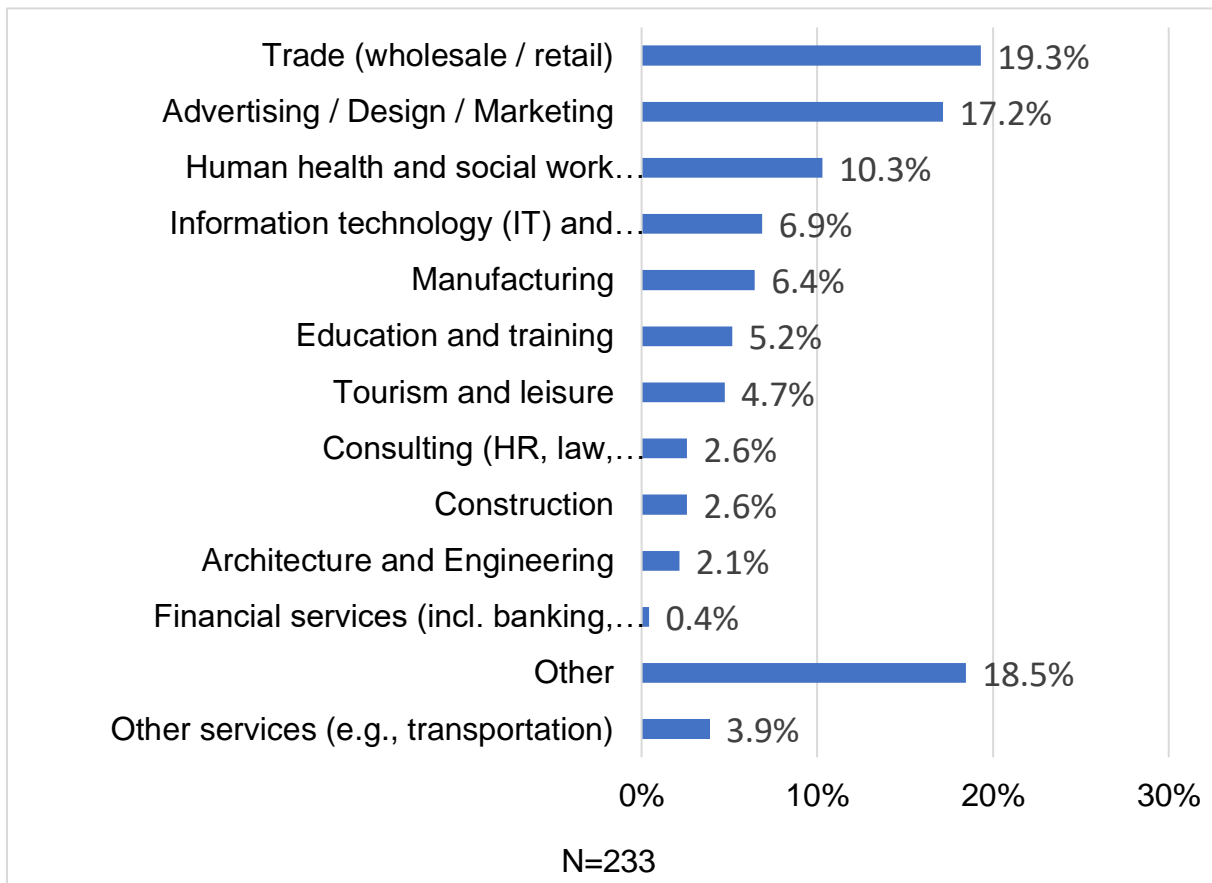
*Expected founding time.* To start with, we asked the nascent entrepreneurs (N=233) when they planned to complete the founding process of their firms. Most research participants responded that they did not know (40.3%), nearly one third stated that they expected it to take up to two years after completing their studies (29.2%), and less than a quarter planned to complete the founding process during the course of their studies (23.2%; see Figure 36 below).

**Figure 36.** Completion of the founding process



**Economic sector.** Similarly to the answers of the active entrepreneurs, most of the companies being created by nascent entrepreneurs were expected to be active in the sectors of trade (19.3%), advertising (17.2%), manufacturing (9.2%), and health and social work (10.3%; see Figure 37 below).

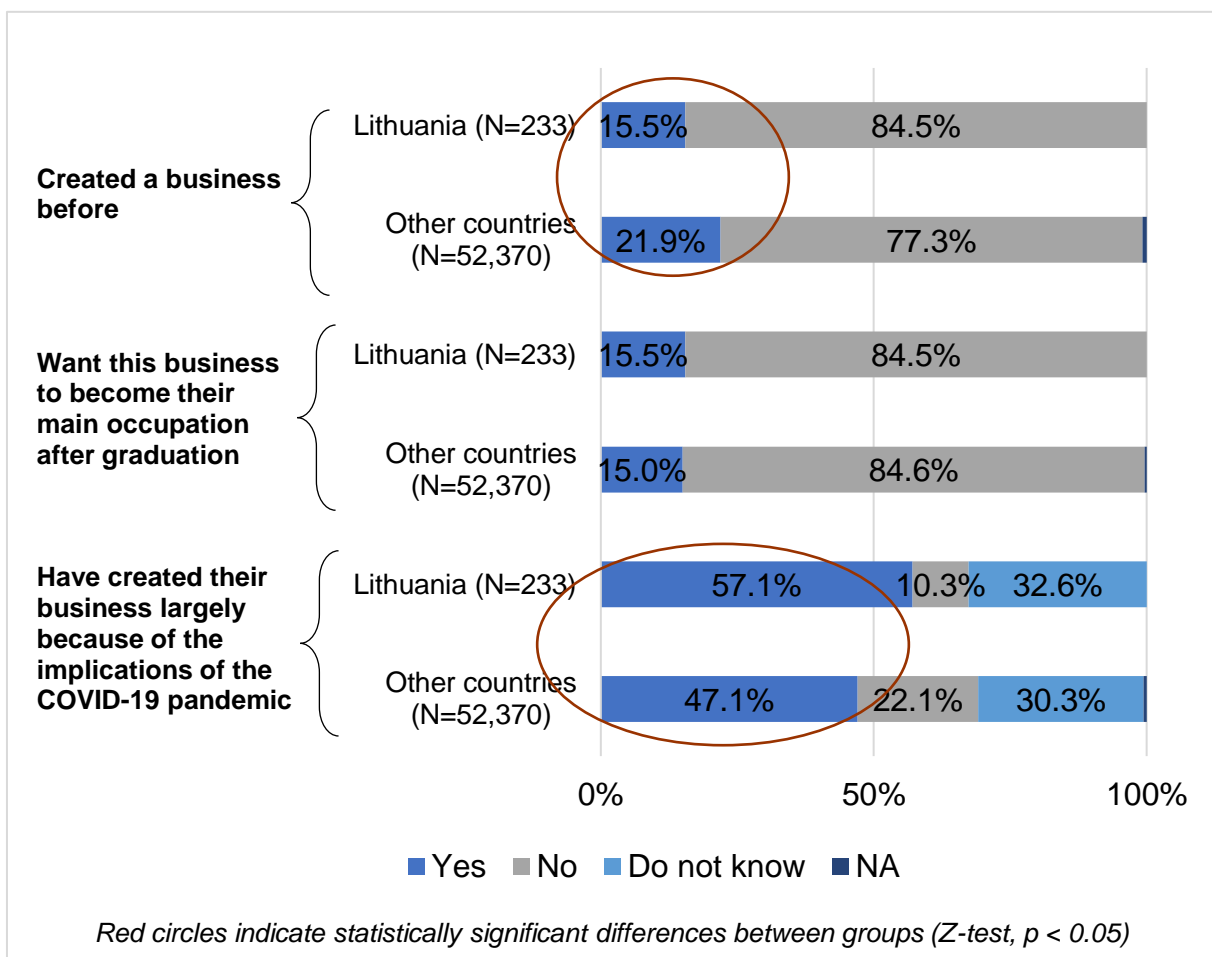
**Figure 37.** Economic sectors (nascent entrepreneurs)



**Previous experience and motives.** Significantly fewer nascent entrepreneurs from Lithuania reported having prior experience in creating a business compared to the total of the other countries (15.5% vs 21.9%). However, the plans of nascent entrepreneurs to continue being an entrepreneur and to make it their main occupation after graduation from university are similar in Lithuania and other countries (15.5% vs 15.0%; see Figure 38 below). Again, the response of new businesses to the COVID-19 pandemic was not only different in Lithuania than in the total of the other countries, but also the opposite: while there were significantly fewer businesses created by active entrepreneurs as a response to the COVID-19 pandemic, nascent entrepreneurs in Lithuania were much more active in responding to the COVID-19 pandemic,

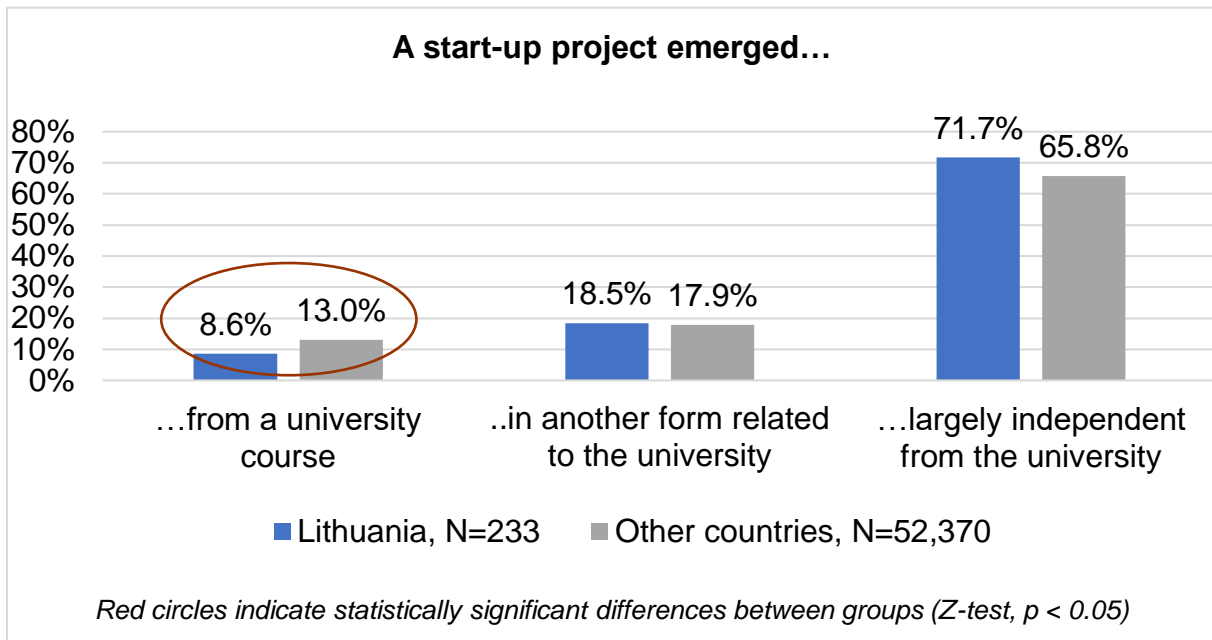
outrunning the result of the total of the other countries by ten percent (57.1% vs 47.1%). Just as a reminder, the GUESS Survey was carried out in the spring of 2021—a year after the start of the pandemic—which may explain why there was more activity to address the widespread issues by that time; however, this does not explain the difference in Lithuania compared to the global trends.

**Figure 38.** Experience and motivation for business creation—nascent entrepreneurs in Lithuania vs the other countries



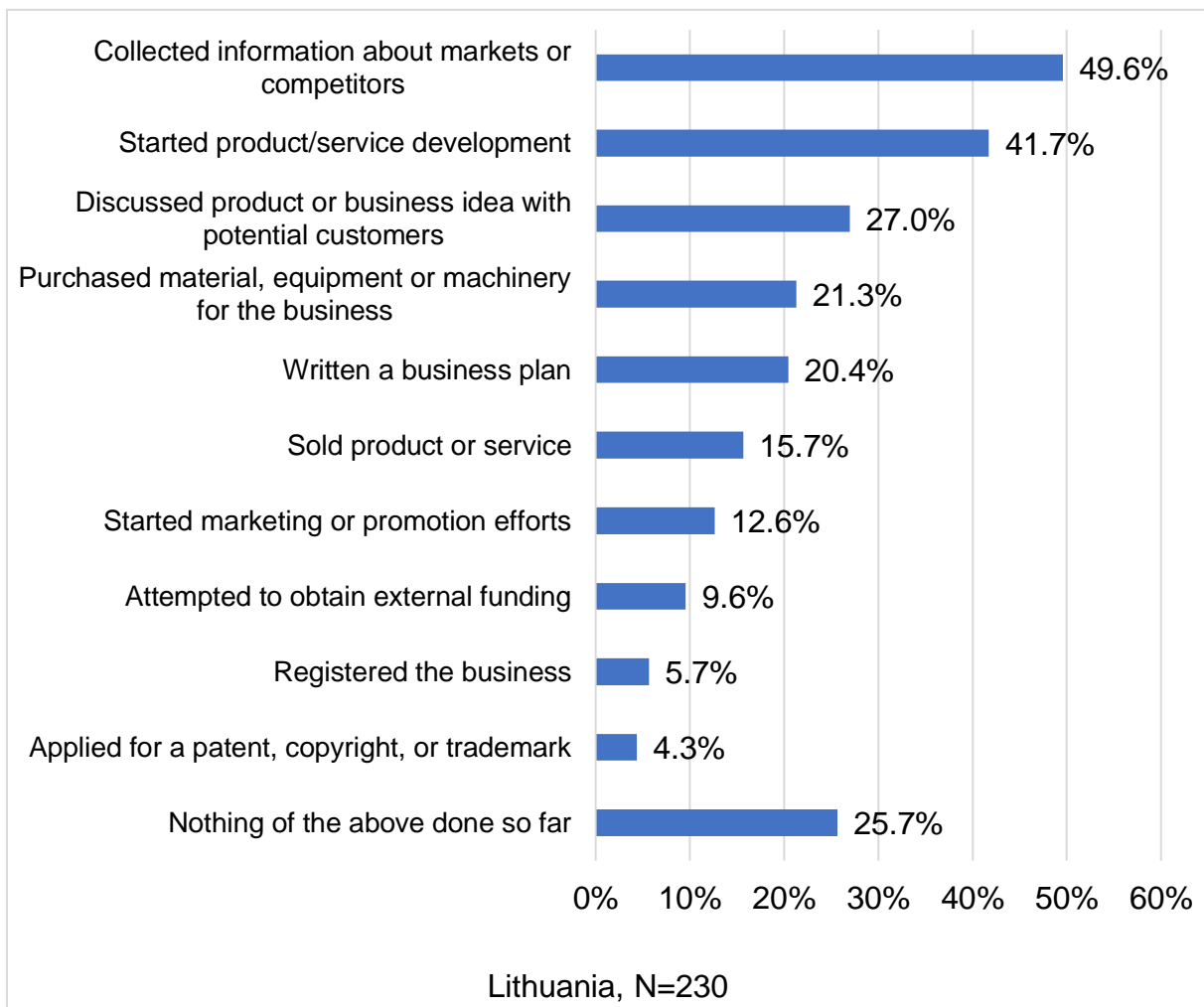
*Startups from a university course.* Unfortunately, we see that in Lithuania, there are significantly fewer startups emerging from a university course compared to the other countries (8.6% vs 13.0%). Similarly to the results from the other countries, Lithuanian startups are mostly created independently from the universities of their creators (see Figure 39 below).

**Figure 39.** The role of the university in the emergence of a start-up project—Lithuania vs the other countries



*Activities of the nascent entrepreneurs.* Finally, we asked the nascent entrepreneurs what kind of activities they, or others in their founding team, already carried out in order to set up the business, and they primarily responded that they had collected information about markets and competitors (49.6%) and started their product or service development (41.7%; see Figure 40 below). About a quarter (25.7%) of the nascent entrepreneurs had done none of the listed activities, which likely means they were still in the process of ideation.

**Figure 40.** Activities of the nascent entrepreneurs



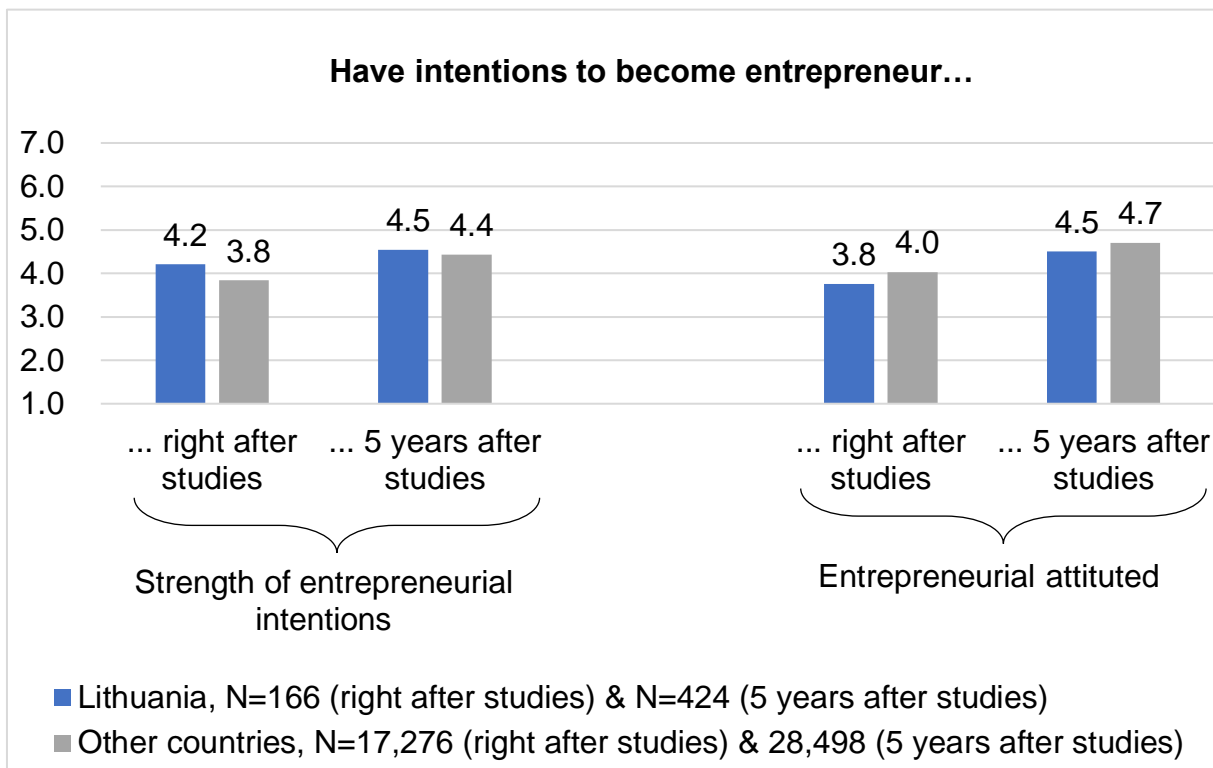
### 7.3 Intentional entrepreneurship

In order to evaluate the entrepreneurial potential among the research participants who do not currently run a business but plan to do so after their studies, we asked several questions about the strength of their entrepreneurial intentions and attitudes.



*Entrepreneurial intentions and attitudes.* On a scale from one to seven, the Lithuanian students rated their intentions slightly higher than the total of the other countries; however, the difference is not significant. Again, in line with the all-countries trend, the reported intention is higher among those who said they plan to become a business owner 5 years after their studies (average scores of 4.2 and 4.5, respectively) than those who plan to become entrepreneurs right after their studies. Similarly, there are no significant differences in entrepreneurial attitudes, which we measured by asking questions about the attractiveness of an entrepreneurial career path, as well as the perceived advantages, etc. Again, students who chose the long-term perspective (5 years after studies) evaluated entrepreneurship as more attractive than those who planned to become entrepreneurs right after their studies had been completed (see Figure 41 below).

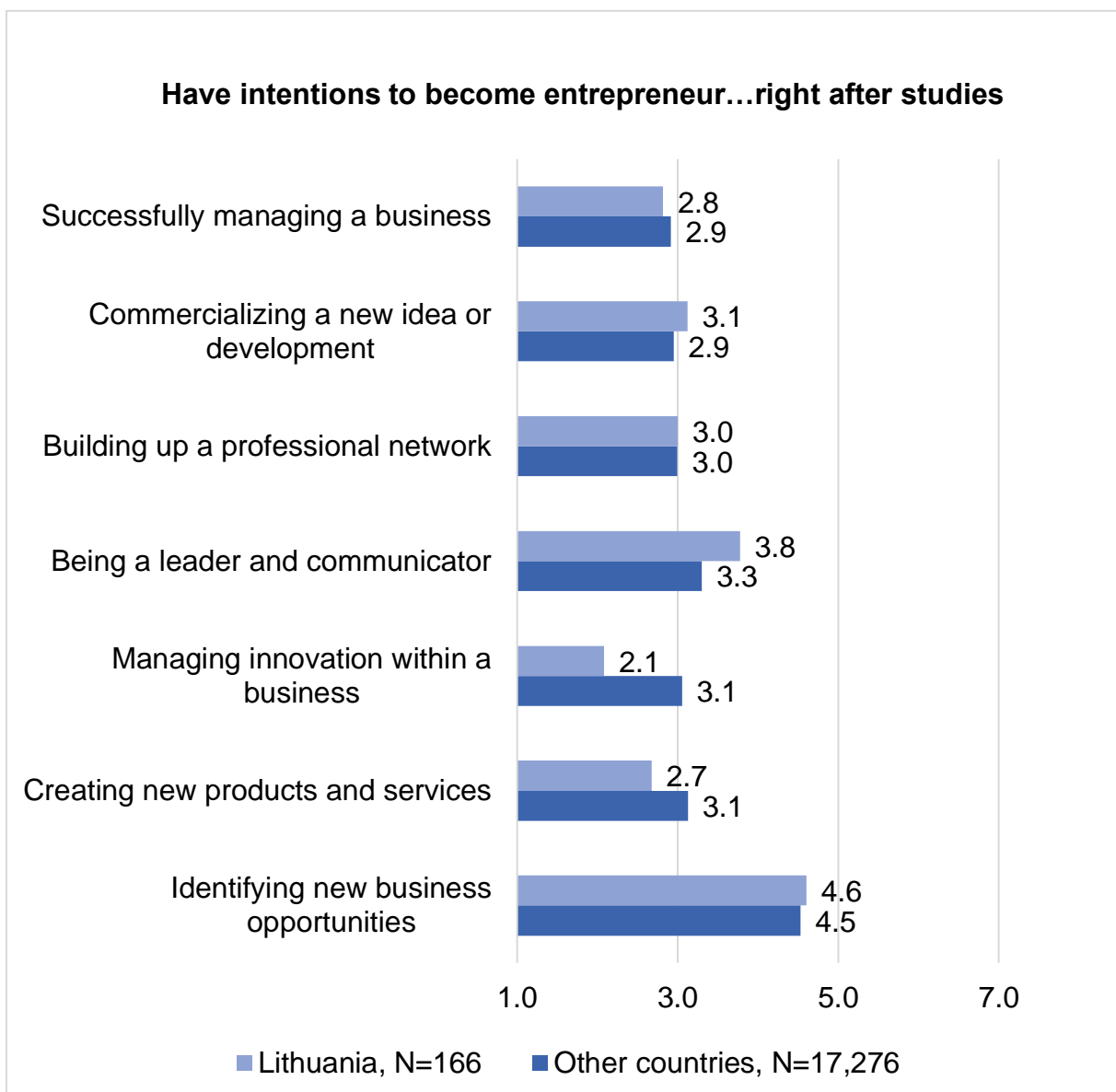
**Figure 41.** Entrepreneurial intentions and attitudes—Lithuania vs the other countries



*Entrepreneurial skills.* We also asked the research participants who do not currently run businesses but plan to do so after their studies to evaluate their entrepreneurship-related business skills.

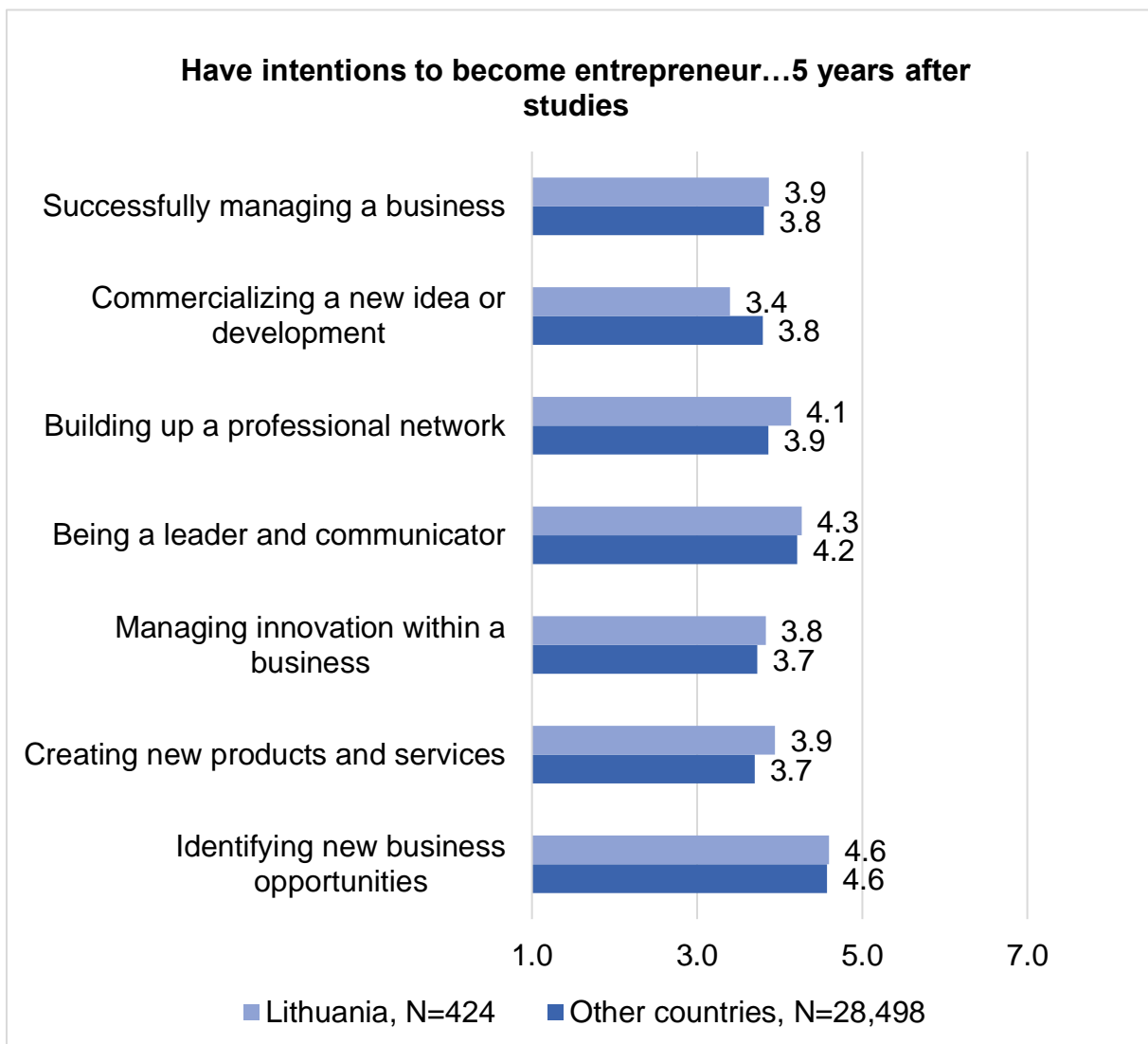
The research participants who stated that they expect to start their businesses right after their studies most favorably rated their abilities to identify new business opportunities, as well as their leadership and communication skills. They were less assured of their skills in business and innovation management, commercialization, professional network building and new product creation (see Figure 26 below).

**Figure 42.** Entrepreneurial skills among intentional entrepreneurs right after studies—Lithuania vs the other countries



The research participants in the other group, who expected to create their own businesses 5 years after completing their studies, were similarly most assured of their ability to identify new business opportunities and less confident in their other skills (see Figure 43 below). However, in contrast to those in the other intentional entrepreneur group, they rated their skills a bit higher, with 3.4 (commercialization skills) being the lowest rating in this group (5 years after completion), whereas in the other group (right after studies) the lowest ranking started at 2.1 (managing innovation, refer to Figure 42 above). In both groups there were no significant differences with the other countries' results.

**Figure 43.** Entrepreneurial skills among intentional entrepreneurs 5 years after studies—Lithuania vs the other countries

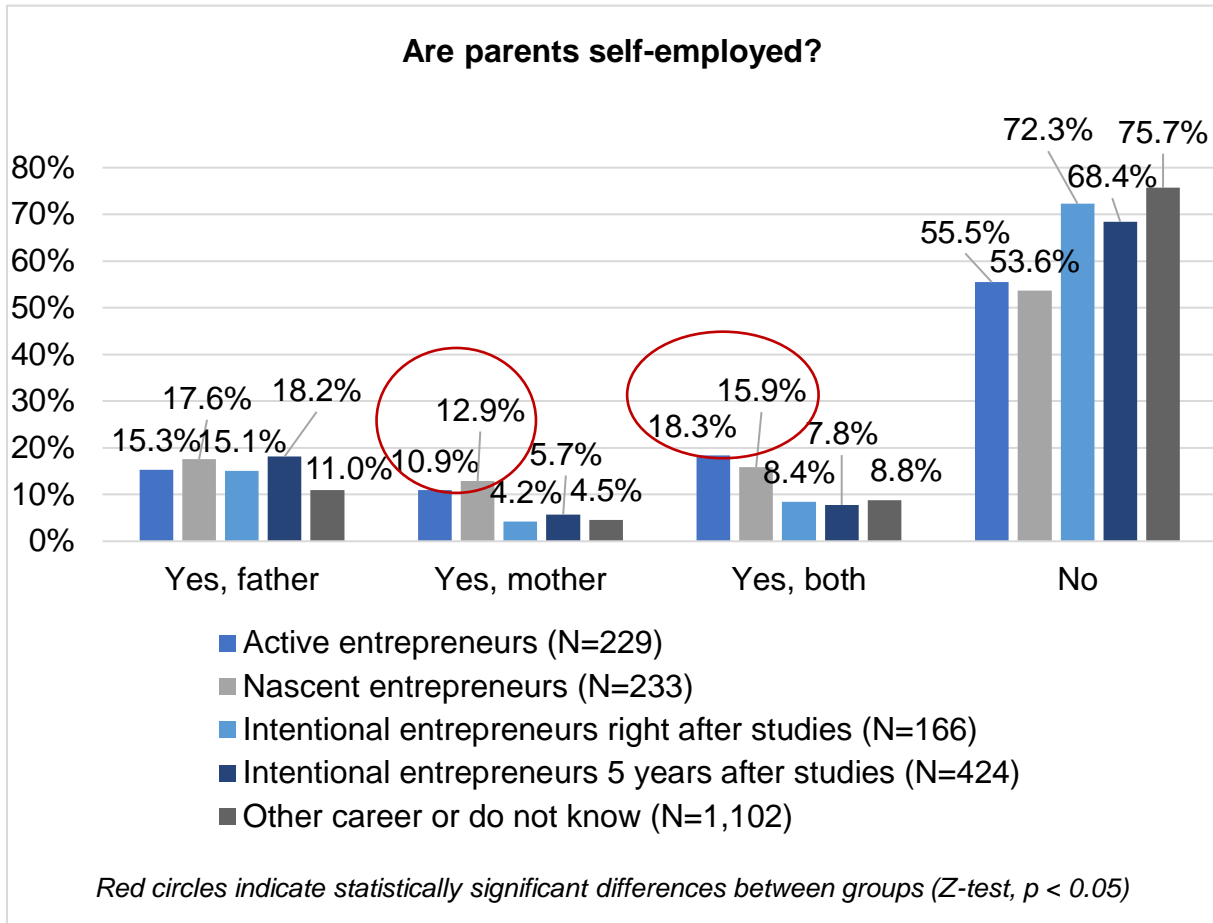


## 8 The role of the family and friends in entrepreneurship

An individual's social environment, such as family norms and support, is known to have a great influence on the younger generation's entrepreneurial attitudes and activities (Dyer Jr & Handler, 1994; Nordqvist & Melin, 2010). Therefore, the GUESS Survey sought to clarify the role of the family in entrepreneurship, and the research participants were asked to respond to questions asking if their parents are self-employed, if they are the majority owners of a business, and how positively they think their family would react if they pursued a career as an entrepreneur.

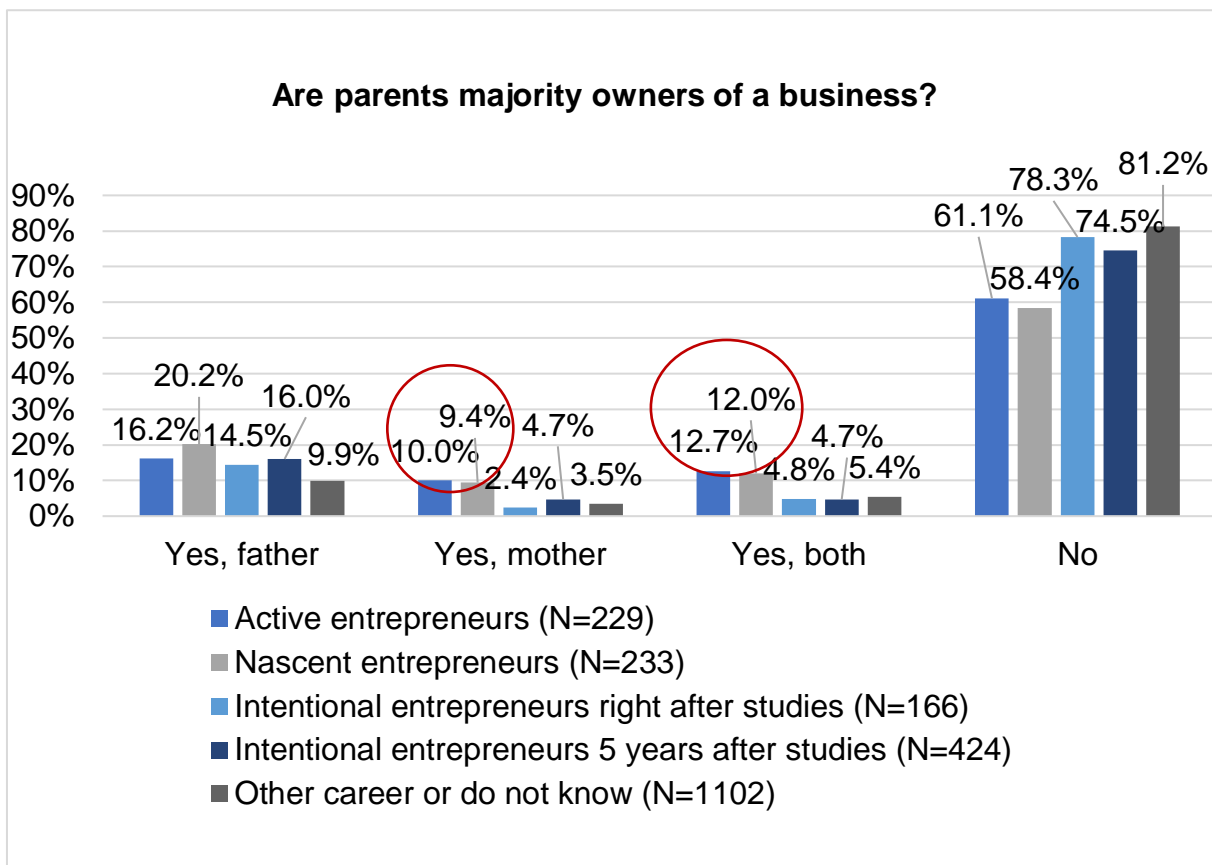
*Self-employed parents.* As we can see in Figure 44 below, the research participants who currently own or are setting up their businesses were overall more likely to report that their parents are self-employed (either one of the parents or both). It is interesting that there is a rather narrow distribution of answers (from 15.1% to 18.2%) in how many of the active, nascent, and intentional entrepreneurs had self-employed fathers; however, there are significant differences in entrepreneurial activity among students with self-employed mothers or whose parents are both self-employed (from 4.2% to 12.9% and 7.8% to 18.3%, respectively). In both of these groups of students with self-employed parents, active and nascent entrepreneurship is more prevalent than intentional entrepreneurship (a significance level of 0.05). Conversely, the intentional entrepreneurs and those who plan to follow other career paths or are yet undecided about their careers were more likely to report having no self-employed parents.

**Figure 44.** The role of self-employed parents in student entrepreneurship



*Parents who are the majority owners of a business.* Figure 26 below shows the distribution of responses based on whether a research participant’s father, mother, neither parent, or both parents were a majority owner of a business. The trends are very similar to those discussed above when speaking about self-employed parents. Again, the proportion of students with mothers or both parents who are majority owners shows a noticeable and statistically significant tendency to more actively be pursuing their own businesses (currently active or nascent entrepreneurs).

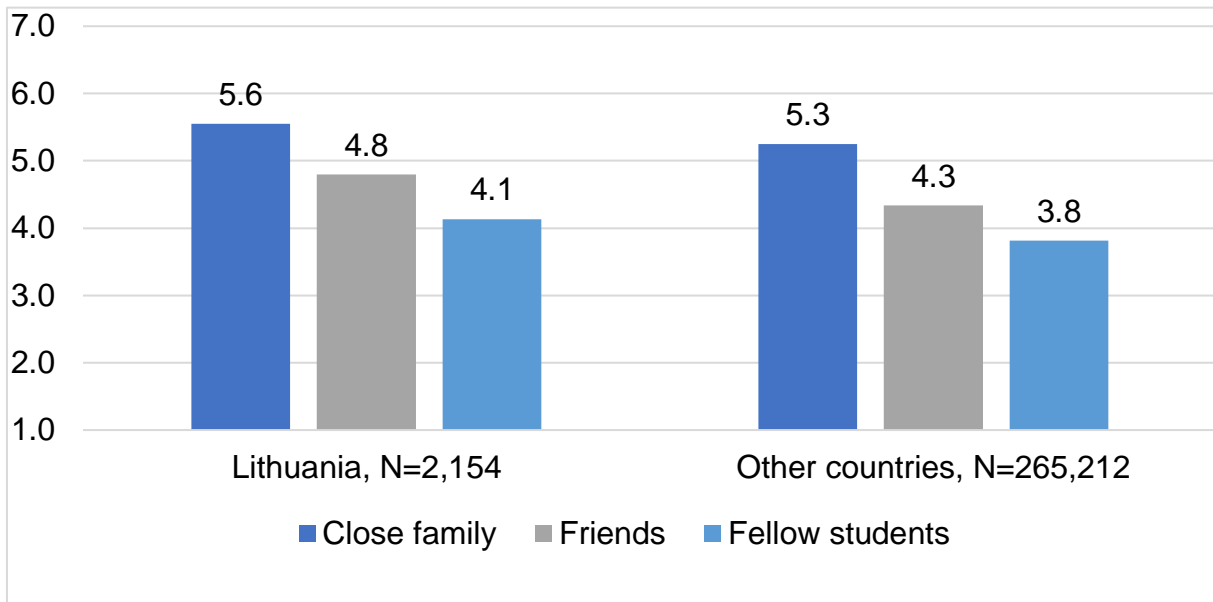
**Figure 45.** The role of parents who are the majority owners of a business in student entrepreneurship



*Reaction of the immediate social environment.* Overall, the Lithuanian research participants’ answers were very similar in how they expected their immediate social environment—their close family, friends and fellow students—to react if they were to pursue a career as an entrepreneur. On a scale from one (very negatively) to seven (very positively), they estimated the reaction of their close family members to be the best and also fairly positive (an average of

5.6 in Lithuania, compared to 5.3 in the other countries). They rated the reactions of their friends also as fairly positive but closer to neutral (4.8 and 4.3 respectively). When it came to their expectations regarding the reactions of their fellow students, these were the least positive and even closer to the middle of the scale (4.1 and 3.8), which may be interpreted as neutral (see Figure 30 below).

**Figure 46.** The reactions of close family, friends and fellow students to entrepreneurship



## 9 Conclusions and implications

Based on the above analysis, we see five major areas of improvement in terms of students' entrepreneurial capacity and opportunities to learn in Lithuania:

First, Lithuanian students' attitudes towards a career as a business owner and the motivation to create their own business are favorable and strong, respectively, and can help foster entrepreneurship in Lithuania. Regardless of whether or not the students are currently managing their own businesses, the majority of them are willing to try the entrepreneurial path at some point in their career. In particular, college students are active in running their businesses and planning their future careers as entrepreneurs. There also is a high potential for entrepreneurship among female students, which is important to Lithuania's entrepreneurial ecosystem; however, we need to strengthen the overall support for this potential to be realized at both university and state levels.

Second, family is a significant source of positive attitudes toward entrepreneurship. For example, we observe that active and nascent entrepreneurship is more prevalent than intentional entrepreneurship among students with self-employed mothers or whose parents are both self-employed. Similarly, the proportion of students with mothers or both parents who are majority owners of businesses are actively pursuing their own businesses.

Third, when compared to other countries, Lithuanian students are less confident in their ability run a business either during or right after their studies. Our analysis showed that students in Lithuania tend to delay their plans to start a business for longer than students in other countries, preferring to wait until five years after they have completed their studies. Overall, nascent entrepreneurship in Lithuania is one of the lowest out of the countries surveyed, at 11% in Lithuania compared to 20% for all countries in total, with the highest rate, 47%, found in Morocco, Kazakhstan, Albania, and Ukraine.

Fourth, Lithuanian students gave the courses and offerings at their universities a significantly lower rating than their international counterparts did. Their perception is that they get more knowledge about the attitudes, values and motivations of entrepreneurs, but fewer practical skill and less of the knowledge needed to be able to become successful business owners. Furthermore, Lithuanian students see themselves as the least equipped in terms of the practical management skills for starting a business, as well as the abilities to develop networks and to



identify a fruitful business opportunity. This may be addressed by universities through more experiential learning-based classroom activities and on a broader, state level by establishing national programs that provide practice-oriented learning opportunities outside of university.

Lastly, students largely view their university environment as encouraging them to engage in entrepreneurial activities; however, not all of those who feel encouraged to engage in entrepreneurial activities attended entrepreneurship courses as part of their curriculum. For example, students studying business and management, the arts, or the applied arts are the most entrepreneurship oriented; on the other hand, students studying natural sciences are the least entrepreneurship oriented, as well as the least equipped (based on their own subjective evaluation) with entrepreneurship-related knowledge and skills. We suggest that universities should continue to encourage students to engage in entrepreneurial activities; however, they should also review the curriculum in order to include (elective) courses that provide core business-related knowledge. At the same time, the interdisciplinary collaboration of different HEI departments or different HEIs may not only help science students, but also business students to learn about and become more familiar with the specifics of innovation in different industrial fields. This is especially important in areas with high innovation potential (e.g., biotechnology) and with a high likelihood of patented inventions that later need to be commercialized.

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