

**GUESSS:**  
*Global University  
Entrepreneurial Spirit Student' Survey*

**NATIONAL REPORT**

**GUESSS KAZAKHSTAN – 2021**

SALTANAT TAMENOVA \ ULDANA BAIZYLDAYEVA \ GULNARA NURMUKHANOVA \  
DINA RAZAKOVA \ AIZHAN TURGUMBAYEVA \ ELMIRA YERALINA  
\ ALIYA SEITBATKALOVA \ ZARINA ZHAKHANOVA \ AIGERIM SEKERBAYEVA



**TABLE OF CONTENTS**

LIST OF FIGURES .....	3
LIST OF TABLES .....	5
ACKNOWLEDGEMENTS .....	6
EXECUTIVE SUMMARY .....	7
INTRODUCTION .....	9
1 GENERAL CHARACTERISTICS OF RESPONDENTS.....	10
2 STUDENTS' ENTREPRENEURIAL INTENTIONS.....	15
2.1 Career Choice Intentions .....	15
2.2 Economic Sectors For Business Development .....	17
2.3 Gender Gap .....	18
3 DRIVERS OF ENTREPRENEURIAL INTENTIONS .....	23
3.1 The University Context.....	23
3.2 Family background and society .....	27
4 ENTREPRENEURIAL ACTIVITIES .....	30
4.1 Nascent Entrepreneurs .....	30
4.2 Active Entrepreneurs .....	31
SUMMARY AND CONCLUSION .....	36
REFERENCES .....	40

**LIST OF FIGURES**

<b>Figure 1 Business Environment and starting a business in Kazakhstan</b>	<b>11</b>
<b>Figure 2 Participation by regions</b>	<b>12</b>
<b>Figure 3 Respondents` age categories</b>	<b>14</b>
<b>Figure 4. Nationality of students</b>	<b>15</b>
<b>Figure 5. Career plans of students</b>	<b>16</b>
<b>Figure 6. Career plans of students after 5 years later</b>	<b>17</b>
<b>Figure 7. Entrepreneurial Intention</b>	<b>18</b>
<b>Figure 8. Economic sectors for business development student as nascent entrepreneurs</b>	<b>29</b>
<b>Figure 9. Gender Entrepreneurial Intention</b>	<b>20</b>
<b>Figure 10. Students' other entrepreneurial creation</b>	<b>20</b>
<b>Figure 11. COVID-19 Impacts to Entrepreneurial Intention</b>	<b>21</b>
<b>Figure 12. Shares of nascent and active entrepreneurs across countries</b>	<b>23</b>
<b>Figure 13. Educational level of students</b>	<b>24</b>
<b>Figure 14. General atmosphere at university</b>	<b>25</b>
<b>Figure 15. Entrepreneurial climate measurement</b>	<b>25</b>
<b>Figure 16. Entrepreneurship content of Kazakhstani and global data</b>	<b>26</b>
<b>Figure 17. Specific entrepreneurial programs in Kazakhstan 2016-2021</b>	<b>26</b>
<b>Figure 18. Assessment of courses and offerings</b>	<b>27</b>
<b>Figure 19. Field of study</b>	<b>28</b>
<b>Figure 20. Self-employment of parents</b>	<b>28</b>
<b>Figure 21. Number of parents – employed at traditional jobs</b>	<b>29</b>
<b>Figure 22. Perceived positive reaction from the closed community</b>	<b>29</b>
<b>Figure 23. Career intentions for 2016, 2018 and 2021</b>	<b>31</b>
<b>Figure 24. Entrepreneurship experience of respondents</b>	<b>32</b>
<b>Figure 25. Fields in which businesses are active in 2021, 2018, 2016</b>	<b>32</b>

<b>Figure 26. How willing the students are to take risks (Part 1)</b>	<b>33</b>
<b>Figure 27. How willing the students are to take risks (Part 2)</b>	<b>34</b>
<b>Figure 28. Number of co-owners of active entrepreneurs</b>	<b>35</b>

**LIST OF TABLES**

<b>Table 1. Number of respondents by universities</b>	<b>13</b>
<b>Table 2. Study field of students</b>	<b>15</b>
<b>Table 3. Entrepreneurial Intentions by three Statements</b>	<b>22</b>
<b>Table 4. Time periods when businesses were set up</b>	<b>35</b>
<b>Table 5. Reasons for setting up a business</b>	<b>36</b>

## ACKNOWLEDGEMENTS

Turan University has been the national coordinator of GUESSS in Kazakhstan since 2016. The heads of national team GUESSS 2021 are Tayauova G. Zh. (PhD) and Tamenova S.S. (Candidate of Economics Science).

National report GUESSS Kazakhstan-2021 is prepared under the guidance of Professor Tamenova S.S. by: Razakova D.I. (PhD, Turan University), Baizylidayeva U.B. (PhD, KIMEP University), Nurmukhanova G. Zh. (Doctor of Economics Science, Turan University) Yeralina E.M. (PhD, Turan University), Turgumbayeva A.M. (PhD, Turan University), and PhD students: Seitbatkalova A., Zhakhanova Z., Sekerbayeva A.

The GUESSS Kazakhstan-2021 Team is grateful for the support of the Association of Universities of Kazakhstan, as well as students of Kazakhstani universities for their contribution to the survey.

Great support and assistance was provided by Prof. Dr. Philipp Sieger, Head of the GUESSS International Project, as well as members of the global team University of St. Gallen (Switzerland, KMU-HSG/CFB-HSG) and the University of Bern (Switzerland, IMU)

In conclusion, it is important to note the great financial support of GUESSS 2021 from Ernst & Young (EY) as a permanent international partner of the project.

Corresponding author's contact: Prof. Tamenova S.S.: [s.tamenova@turau.edu.kz](mailto:s.tamenova@turau.edu.kz)

## EXECUTIVE SUMMARY

Based on a survey of 2,791 students from more than 30 universities in Kazakhstan, the following key points were highlighted:

- The following regional coverage of respondents was presented: Southern Kazakhstan - 65.7%, Central Kazakhstan - 33.93%, Northern Kazakhstan - 0.72%, Western Kazakhstan - 0.15%.
- The number of respondents is more women (67.32%) than men (31.31%); 84.81% of respondents are unmarried/unmarried.
- The age composition of respondents: from 18 to 20 years - 58.56%, from 21 to 24 years - 21.24%, from 25 and older 20.19%.
- The coverage of students' specialties has increased: natural sciences - 14.98%, engineering sciences - 13.5%, arts and humanities - 13.4%, social sciences (psychology, political science, education) - 9.75%, Economics/Management - 8.45%, computer science/IT - 4.73%, Mathematics - 3.3%, Medicine / Health Science - 2.94%, Art Science (art, design, drama, music) - 2.69%, law - 1.61%, other - 24.33%.
- National composition of respondents: 49.8% - Kazakhs, 3.2% - Russians, 0.1% to 0.5% - Belarusians, Ukrainians, Tatars, Uighurs and 45.9% - other nationalities;
- 89% of respondents are studying undergraduate, 5.1% - master's degree, 1.3% - PhD, 0.3% - MBA.
- Entrepreneurial intentions of students after graduation increased from 11.6% in 2018 to 18.92% in 2021 and exceed the indicator of the global sample (18%)
- About 30% of respondents have intentions to become an entrepreneur 5 years after completing their studies, which is 6% less than in the 2018 survey. and below the global sample indicator (32%).
- The students rated the entrepreneurial climate of the university as 4.3 on a seven-point scale, the value of the global sample indicator is 4.4.
- 41.5% of respondents did not study entrepreneurship courses, the global sample is 53.3%. At the same time, 18% studied entrepreneurship as an elective course, 18.7% of respondents completed the mandatory part of the training. At the same time, 12.4% of respondents said that they study under a special entrepreneurship program.
- 30% of students are from entrepreneurial families, while in 2021 the number of parents engaged in traditional work decreased by 5%. Family and society have a positive impact on students' entrepreneurial intentions: 87.4% of respondents noted family support, 82.1% of close friends, 79.7% of fellow students.

– Kazakhstan ranks third in the global sample with the largest share of potential and active entrepreneurs: compared to 2018, the share of potential entrepreneurs increased from 49.5% to 67.4%, the share of active entrepreneurs almost doubled from 10.9% to 21.8%.



## INTRODUCTION

In 2021, more than 267000 students from universities in 58 countries took part in the 9th round of the international longitudinal study of the entrepreneurial spirit of students (GUESSS - Global University Entrepreneurial Spirit Students' Survey).

The project was initiated in 2003 by the Swiss Institute of Small Business and Entrepreneurship at the University of St. Gallen (Switzerland, KMU-HSG).

Kazakhstan took part in this project for the first time in 2016 thanks to the efforts of the Association of Higher Education of the Republic of Kazakhstan and Turan University. Turan University is the project coordinator in the Republic of Kazakhstan.

This paper presents the results of the national survey GUESSS Kazakhstan-2021, which is part of a global survey of the entrepreneurial spirit of students, conducted by the University of St. Gallen and the University of Bern (Bern University).

The results of the survey reveal authentic information about the moods, intentions and plans of students participated in the survey regarding the entrepreneurial career. The reporting data is based on the responses of students of Kazakhstani universities.

The research methodology, as well as the questions for the questionnaire, are developed by Swiss universities. Every two years, an authentic questionnaire with questions is developed, which is translated into the languages of the countries participating in the project.

The project coordinators inform the universities of their country about the start of the survey, send out explanatory information, advise universities and provide a specially formulated link for each university for questioning.

The collection of data, which comes into a unified database of the project manager in Switzerland, takes place over several months. Then the results are processed and used to prepare international as well as national reports. The questionnaire is anonymous, information on individual universities is not presented to third parties.

This project would not have been possible in the republic without the initiative of Kazakhstani universities, university staff, students, volunteer researchers who are working together to raise awareness about the development of entrepreneurship among young people in Kazakhstan and also contribute to the promotion of the GUESSS project - Global University Entrepreneurial Spirit Students' Survey.

More detailed information on participating countries, research methodology, international and national reports, etc. can be found on the official website of the project: [www.guesssurvey.org](http://www.guesssurvey.org)

## 1 GENERAL CHARACTERISTICS OF RESPONDENTS

Kazakhstan is a fast-growing leader in Central Asia. Kazakhstan ranks third in the region's innovation economy (Central and Southern Asia), following after India and Iran. According to the Global Innovation Index (GII) 2021 which measures the performance of 132 economies' innovation ecosystems, Kazakhstan saw an increase in the business environment. As marked in figure 1 below, Kazakhstan has improved its business environment rank from 38th position and ease of starting a business in the last five years from 31st positions in 2017 to 31st and 20th positions in 2021.<sup>1</sup>

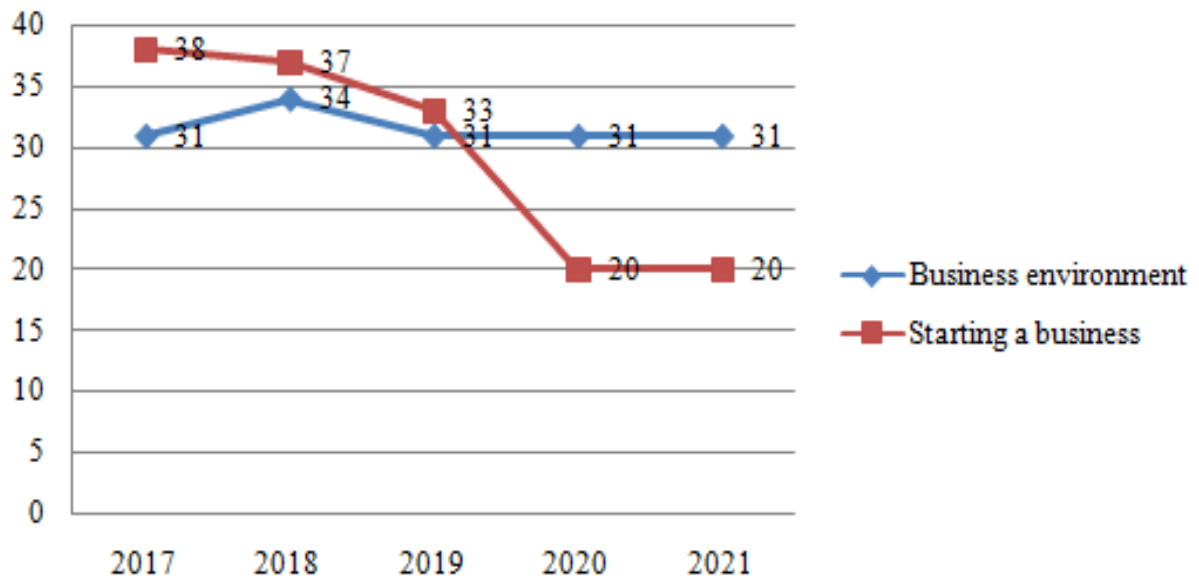


Figure 1. Business Environment and starting a business in Kazakhstan (GII 2021 report)

In Kazakhstan, 2,791 students participated in the GUESSS project 2021. The survey included over 30 universities in Kazakhstan, the number of institutions participating in the survey has increased by over ten from the previous GUESS 2018 Kazakhstan, indicating increased regional university interest in the study. Additionally, regional diversity has increased in comparison to the GUESS 2018 report results. The most active regions in the sample were Jambul (Taraz), Almaty (South Kazakhstan), the country's capital - Nur-Sultan, and Karaganda (North Kazakhstan).

<sup>1</sup> [https://www.wipo.int/edocs/pubdocs/en/wipo\\_pub\\_gii\\_2021.pdf](https://www.wipo.int/edocs/pubdocs/en/wipo_pub_gii_2021.pdf) Global Innovation Index 2021

The results show the total valid percentage of the participants from the regions: South Kazakhstan - 65,17%, Central Kazakhstan - 33,93 %, North Kazakhstan - 0,72 % and West Kazakhstan - 0,15% (Figure 2).

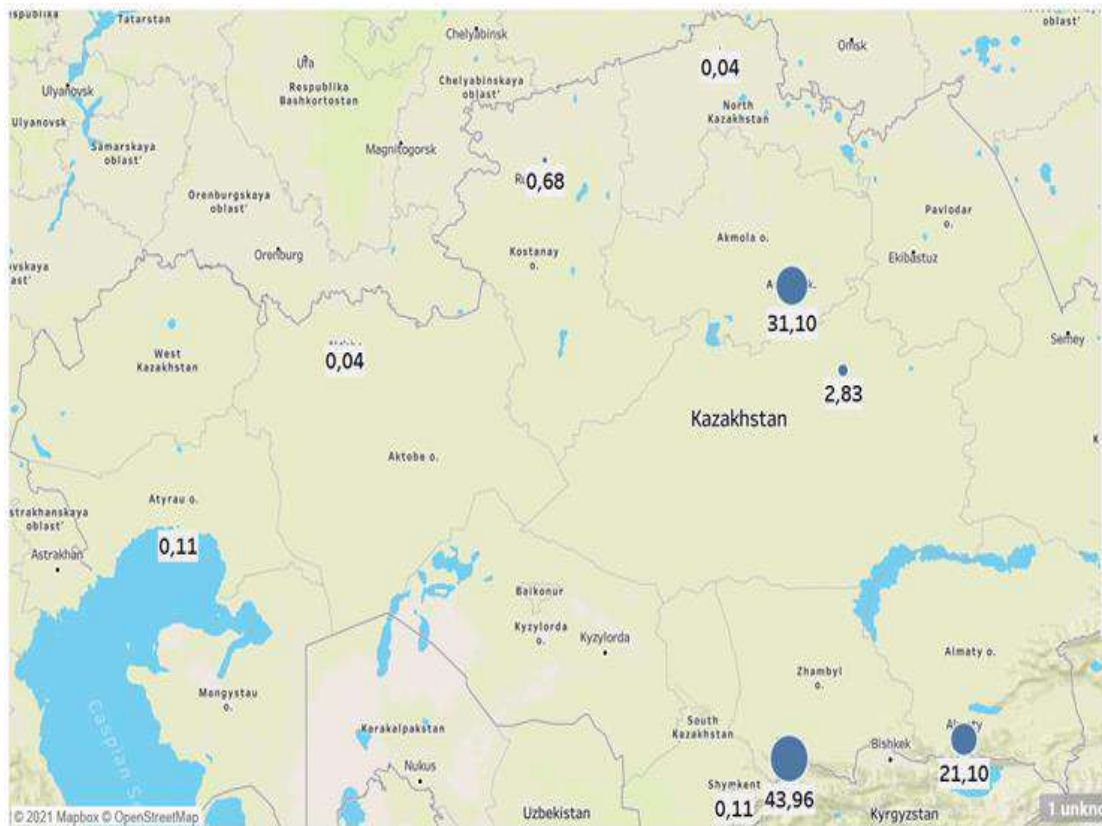


Figure 2. Participation by regions

As seen in Table 1, M. Dulaty Taraz State University, L.N. Gumilyov Eurasian National University, Abai Kazakh National Pedagogical University, Turan University, and Taraz State Pedagogical University are the top universities in terms of student participation in the GUESS 2021 poll.

In 2021, the majority of students (79.8%) were between 18 and 24 years old. Compared to the previous GUESS (2016, 2018) reports, the interest in participating in the survey among young people is unchangeably stable. The respondents' age distribution is as follows: 58.56 % are between 18 and 20, between 21 to 24 are 21.24% and 25 and older are 20.19 %. The median ages of respondents in the groups mentioned above are 20, 23, and 31. Because the poll was primarily conducted among undergraduate students, 89 % (N = 2485) of respondents were undergraduate students.

Table 1 - Number of respondents by universities

Higher Education Institutions	The number of students	Percent
1.M. Dulaty Taraz State University	1059	37.94%
2. L.N. Gumilyov Eurasian National University	829	29.70%
3. Abai Kazakh National Pedagogical University	264	9.46%
4. Turan University	263	9.42%
5. Taraz State Pedagogical University	153	5.48%
6. Karaganda Medical University	77	2.76%
7. S. Seifullin Kazakh AgroTechnical University	25	0.90%
8. Kostanay engineering and Economics University after Dulatov	19	0.68%
9. Taraz Innovative-Humanitarian University	15	0.54%
10. Academy of Civil Aviation	14	0.50%
Others	73	2.62%
<b>Total</b>	<b>2791</b>	<b>100%</b>

In terms of the gender gap perspective, female entrepreneurship is higher than male entrepreneurship. According to the Global Entrepreneurship Monitor 2021/2021 Global Report, Kazakhstan's economy is along with over one in five women starting or running a new business and among the 12 economies which had less than one in 10 adult men launching or running a new business.<sup>2</sup> According to the GUESS 2021 survey sample's gender composition, females (67.32 %) participated in the survey more than males- 31,31%. In comparison to the results of the 2018 GUESS Kazakhstan, the difference is negligible, namely 76 % and 24 %, respectively.

In terms of marital status, 84.81 % of respondents are unmarried, while the remaining 15.19 % are either married or divorced.



Figure 3. Respondents` age categories

<sup>2</sup> <https://gemconsortium.org/report/gem-20202021-global-report>

Kazakhstan has a wide geographical area and rich historical heritage contributing to the country's multiculturalism. According to the 2009 census, Kazakhs make up 63.1 % of the population, Russians 23.7 %, and others 13.2 %.<sup>3</sup> It explains why the nationality of the students in the sample is diverse. The bulk of respondents (49.80 %, N=1390) are Kazakh, 3.2 % - Russian, and other minorities such as Tatar, Ukrainian, Uighur, and Belorussian account for less than 0.5 % each; the remaining respondents are classified as "other" (see the figure 4).

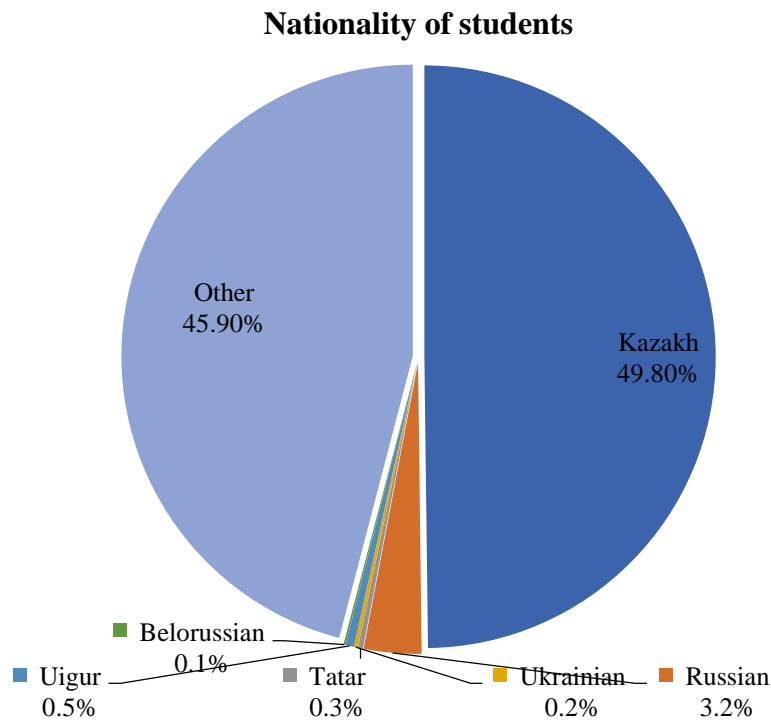


Figure 4. Nationality of students

Regarding the field of study, students in "natural sciences" represented -14.98 % of respondents, followed by students majoring in "engineering" (including architecture) at -13.54 % and in "arts/humanities" (cultural studies, history, linguistics, philosophy, and religion) at 13.40 %. Overall, these categories account for 41.92 percent of the survey's total sample, while nearly a quarter of the total sample (24.33 percent) is made up of "other" fields (as shown in table 2).

The number of study fields included in the survey has likewise increased. The bulk of the students were the representatives of technical sciences - 36,51%, social sciences (including economics, business, management) - 18, 2%, arts/humanities (cultural studies, history, linguistics, philosophy, law and religion) -15, 01 %, the science of art (including health) - 5,63%.

<sup>3</sup> <https://stat.gov.kz/>

In contrast to the 2018 Kazakhstan GUESS survey report, respondents from technical universities accounted for 36%, pedagogical universities accounted for 27%, interdisciplinary and economic institutions accounted for 25%, and medical institutions accounted for 12%.

Table 2 - Study field

Fields of study	Number of students	Percent
Arts / Humanities (e.g., cultural studies, history, linguistics, philosophy, religion)	374	13.40%
Business / Management	114	4.08%
Computer sciences / IT	132	4.73%
Economics	122	4.37%
Engineering (incl. architecture)	378	13.54%
Human medicine / health sciences	82	2.94%
Law	45	1.61%
Mathematics	92	3.30%
Natural sciences	418	14.98%
Science of art (e.g., art, design, dramatics, music)	75	2.69%
Social sciences (e.g., psychology, politics, education)	272	9.75%
Other	679	24.33%
<b>Total</b>	<b>2791</b>	<b>100%</b>

The 2021 poll was more fruitful than the earlier GUESS survey of Kazakhstani university students. Compared to the 2018 GUESS report, the responses were more diverse regarding the study field, university, age, nationality, marital status, and gender.

## 2 STUDENTS' ENTREPRENEURIAL INTENTIONS

### 2.1 Career Choice Intentions

Entrepreneurial intentions are understood as the willingness of students to create their own business in the near future. Of course, not everyone who plans to create a business realizes their plans, but understanding what lies at the heart of entrepreneurial intentions which is the most important step in understanding entrepreneurial behavior, and can also be a reliable way to predict the start process to starting a business. It can be assumed that the higher the student's entrepreneurial intentions, the more efforts he is willing to put into becoming an entrepreneur. Choosing an entrepreneurial career and striving to create a business are individual decisions, however, economic, historical, cultural and institutional factors also influence individual desires and stimulate the transformation desires into actions. It is necessary to especially note the positive tendencies in the development of Kazakhstan entrepreneurship.

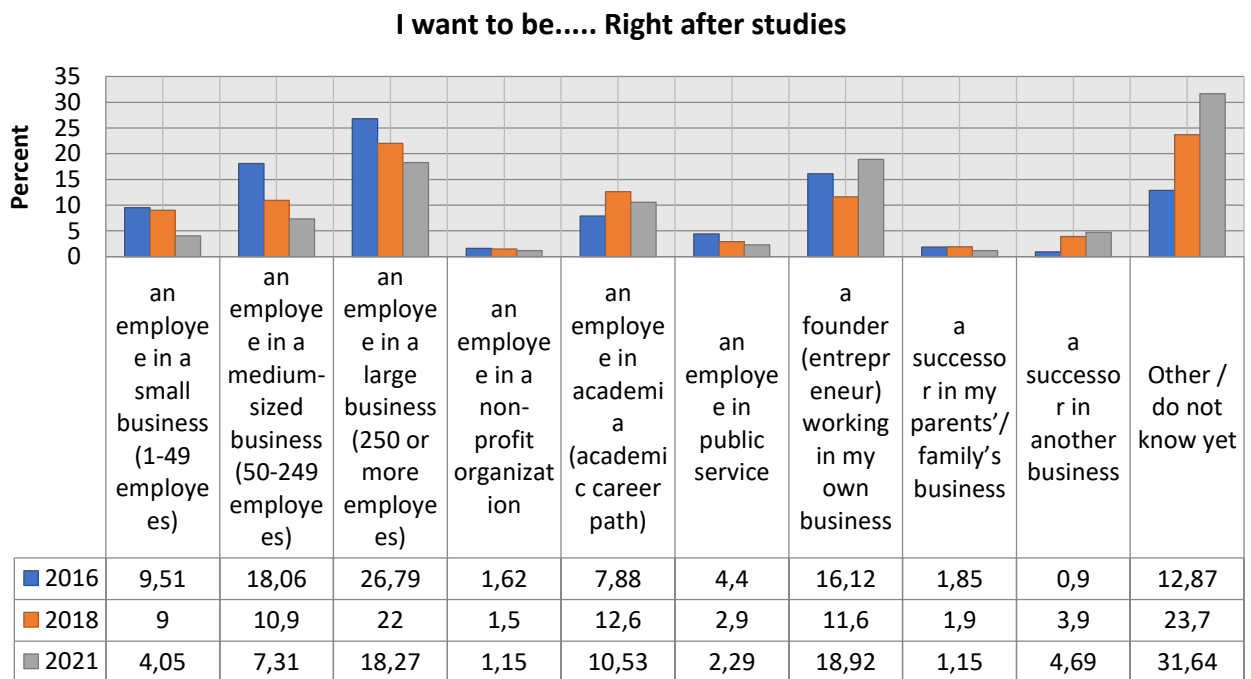


Figure 5. Career plans of students

According to the Global GUESSS Report 2021, in 2021 in the world for (N = 267'366) students, almost 18 percent of all students intend to become entrepreneurs immediately after

graduation<sup>4</sup> [Sieger P., et al. 2021], compared to the data of Kazakhstan GUESSS for 2016<sup>5</sup> [Sudibor O., et al 2016] and 2018<sup>6</sup> [Tazabekov K.A., et al. 2019] shows that the trend in Kazakhstan is entrepreneurial intentions (that is, the intention to create a new business) in 2021 improved significantly from 11.60% to 18.92% (N = 2791).

On the one hand, compared to the Global GUESSS Report 2021, more than 32 percent 5 years after graduation students prefer an entrepreneurial career, according to Kazakhstan GUESSS for 2016, 2018 and 2021 shows 52.45%, 35.9% and 29.95%, respectively. At the same time, a quarter of all surveyed students in Kazakhstan do not yet know what they will do immediately after graduation and even after 5 years (31.64% and 25.87%), see Figures 2 and 3. Students prefer organizational work immediately after graduation (with almost 18.27% intending to work in SMEs with the equivalent of 250 full-time employees), and few then plan to move into an entrepreneurial career within the next 5 years. Such an increase in the motivation for students to create their own business can be associated with an increase in the attractiveness of an entrepreneur's career among the population, also in support of business incubators in universities, and state programs, as well as an increase in the numbers of researching publications in the media.

**I want to be....5 years later**

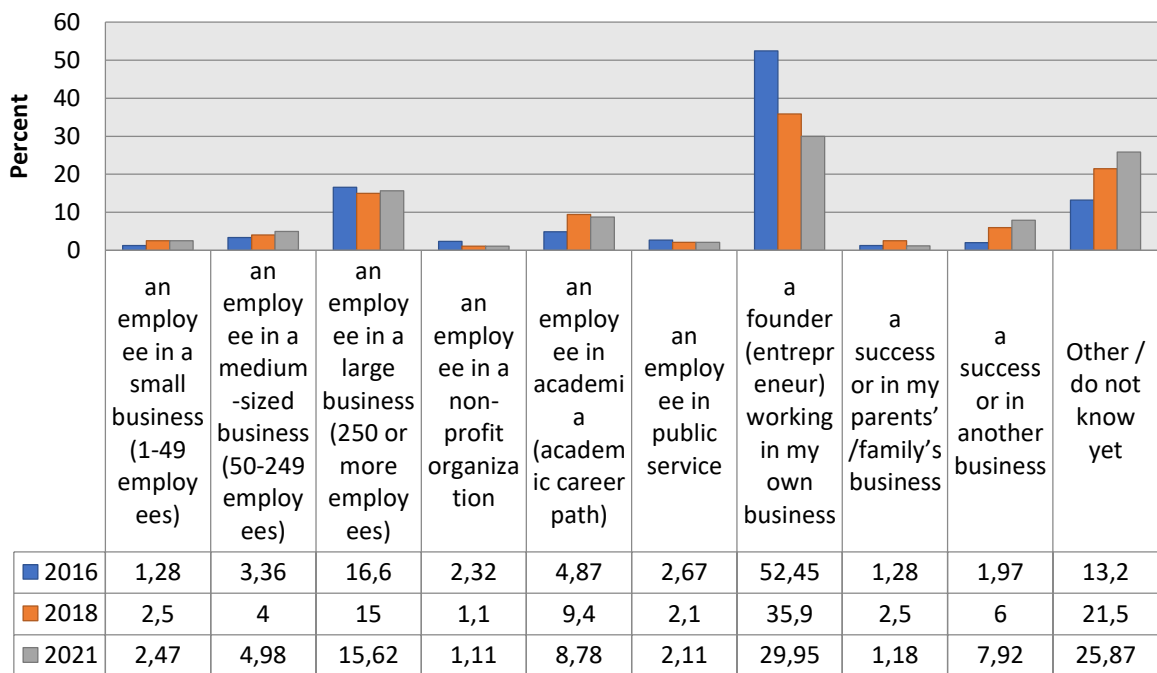


Figure 3. Career plans of students after 5 years later

<sup>4</sup> Sieger, P., Raemy, L., Zellweger, T., Fueglistaller, U. & Hatak, I. (2021). Global Student Entrepreneurship 2021: Insights From 58 Countries. St.Gallen/Bern: KMU-HSG/IMU-U.

<sup>5</sup> Sudibor O., Turgumbayeva A., National report for Kazakhstan 2016. Almaty: Turan University. - 36 p.

<sup>6</sup> Tazabekova K.A., Tamenova S.S., Sudibor O.L., Nurtaeva D.K., Iskakova A.B., Gerasimova N.S., Kuznetsova G.Kh., Nusupekova A.B., Amangeldieva N.S., Nurkeev A.S. 2019. National report GUESSS Kazakhstan – 2018. Almaty: Turan University. - 64 p.



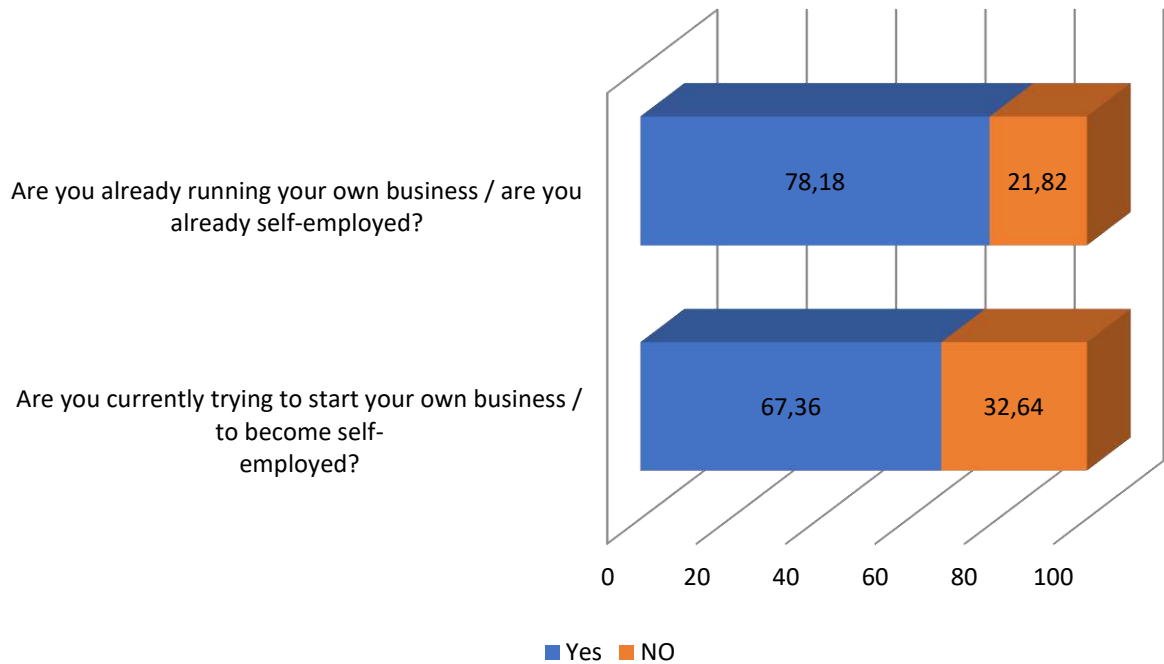


Figure 4. Entrepreneurial Intention

In the majority of students of Kazakhstan on the indicator "Are you currently trying to start your own business/to become self-employed?" 67.36% answered "Yes" the remaining 32.64% are "NO". According to the next indicator "Are you already running your own business / are you already self-employed?" replies were chosen by 78.18% NO, the rest 21.82 answered Yes. It is encouraging that 67.36% of students have "intentional entrepreneurs", so their entrepreneurial intentions seem to be quite good, see Figures 4.

## 2.2 Economic Sectors For Business Development

In Kazakhstan, many students who were still within the walls of the university began to build their own business. Some of them were helped by relatives; others invested all their savings in the business. As you can see in Figure 5, the majority of students' votes could not find a suitable option and answered "other". Such a tactic of answers may indicate that either new (innovative digital) goods and services are planned as a choice of a niche for business development, or franchises, which are not yet available in Kazakhstan. It should be noted that areas such as IT technologies, architecture and engineering, manufacturing, taken together, account for only about

25%, however, in absolute terms, the top 3 niches among start-up entrepreneurs are advertising / marketing / design, trade, education, (in descending order).

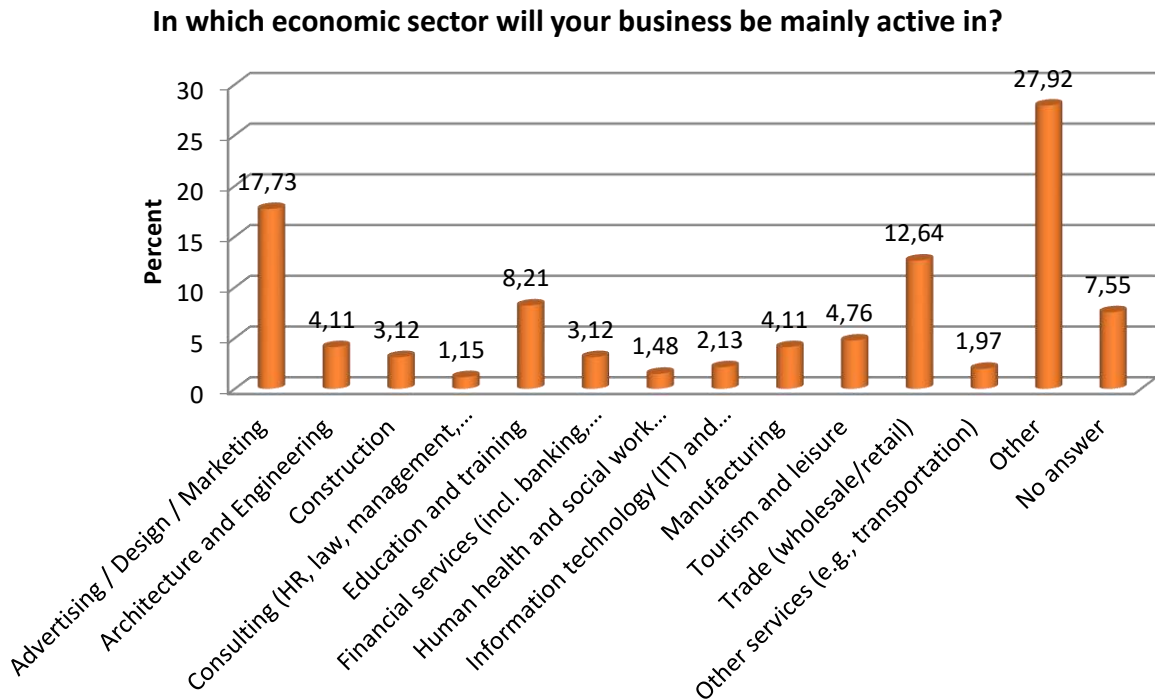


Figure 5. Economic sectors for business development student's choice as nascent entrepreneurs

According to the Global GUESSS Report 2021 students of the faculties "Business and Management" and "Science of art" have the strongest entrepreneurial intentions immediately after their studies (26.8%). The strong entrepreneurial spirit among art students seems more surprising than among business students. To avoid any bias, they looked only at the students of the Faculty of Business and Management who make up the largest group in the sample (19.6 percent of all students). The proportion of student's intentional founders (5 years after the survey) in all countries confirms the above-mentioned pattern of higher proportion in developing countries (and especially in Latin America) and lower proportion in developed countries [Sieger P., et al. 2021].

### 2.3 Gender Gap

Kazakhstan has over 13 years of experience in implementing a comprehensive gender equality strategy and updated policies. In 2017, the country's government made changes into gender policy, thereby reaffirming a strong commitment to achieving gender equality. Kazakhstan strives to become a country with a high level of economic development, and as it moves towards this goal, it is necessary to deepen the processes of removing obstacles to the full involvement of

women in the economic, social and political spheres of the country's development. Kazakhstan moves forward on gender equality according to international indicators used to measure and compare results across countries. It should be noted that in this survey we see that the majority of female students 28.9%, answered "YES" according to the indicator "Do you want this business to become your main occupation after graduation?" which shows that Kazakhstani female students have their own business, and in this indicator male students lag behind by 11%, see Figure 6.

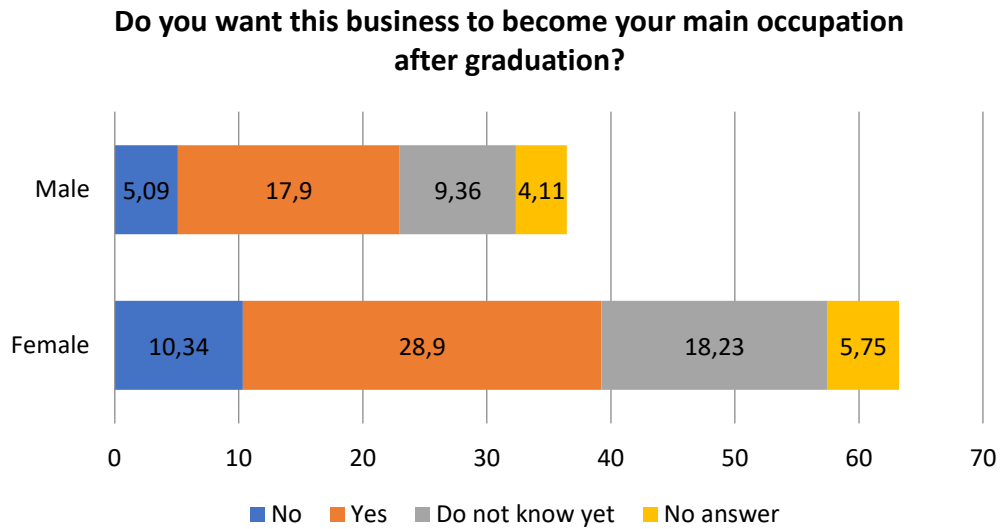


Figure 6. Gender Entrepreneurial Intention

We were also interested to find out from our start-up entrepreneurs whether they had previously created another business. The female students did not have any other business, for which they gained 42.69%, while the male students still created other businesses before the current ones, which can be proved by 20.36%, see Figure7.

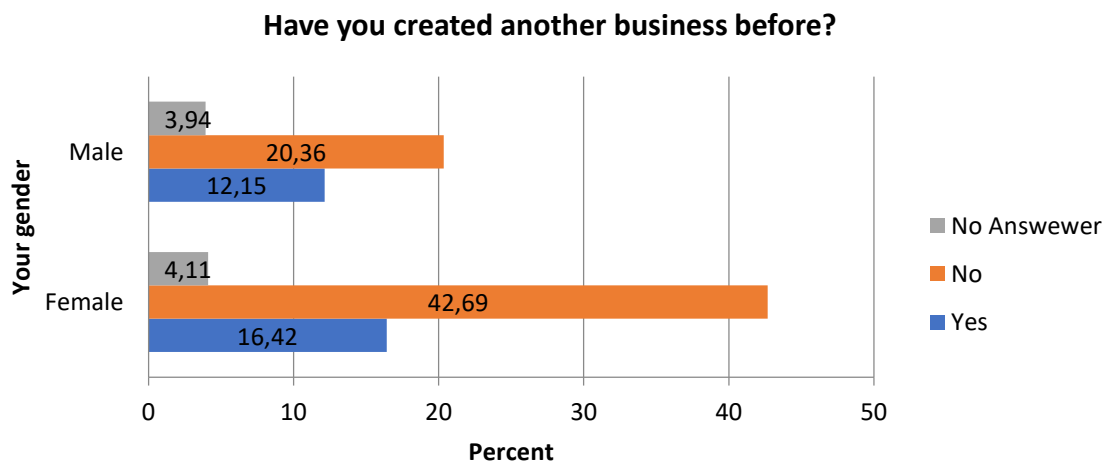


Figure 7. Students' other entrepreneurial creation

Considering gender differences, a general trend can be noted: the index of entrepreneurial intentions is on average higher among female students of Kazakhstan. This result is inconsistent with the global trend where entrepreneurial intentions and their transformation into active business creation activities are more often characteristic to men than women<sup>7</sup>[Henley, 2007, Shirokova, et al., 2016]

Probably the most pressing topic since the last release of GUESS, both in the context of entrepreneurship and in general, has been the COVID-19 pandemic.

How did this affect student entrepreneurship? We saw above that the entrepreneurial intentions of students from 2016 to 2021 are comparable. Consequently, entrepreneurial intentions were ultimately not heavily influenced by the pandemic.

In addition, we asked aspiring entrepreneurs, you created your business mainly due to the impact of the COVID-19 pandemic; 22.51 percent of female students answered “Yes”, 11.33 percent of males answered “Yes”, see Figure 8. According to the Global GUESSS Report 2021, we see significant differences in some countries; more than 40 percent of start-up entrepreneurs indicate that the pandemic has pushed them to participate in the founding process; except Japan, all this can be are regarded as developing countries. In some other countries, the corresponding share is less than 10 percent. Interestingly, among active entrepreneurs, the share of “COVID entrepreneurs” is much higher, with 33.7 percent indicating that they built their business largely thanks to the pandemic. In several countries, mostly developing and often Latin American, the proportion is between 40 and almost 60 percent.

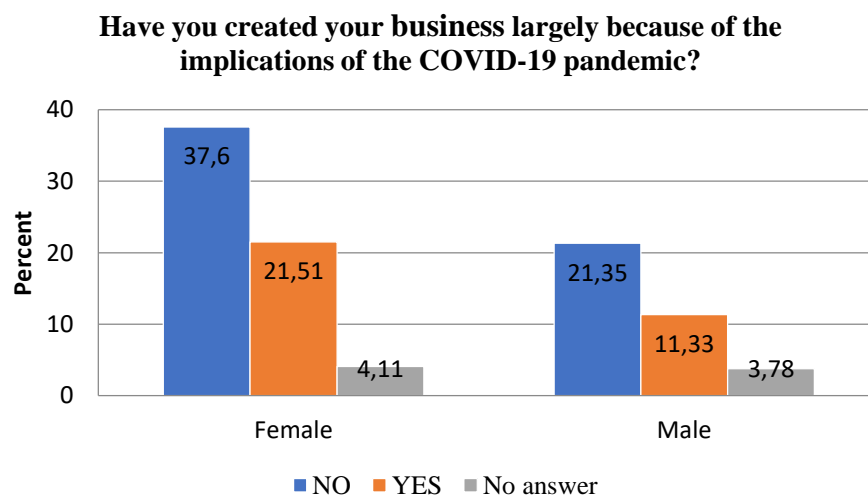


Figure 8. COVID-19 Impacts to Entrepreneurial Intention

<sup>7</sup> Henley, A. 2007. Entrepreneurial aspiration and transition into self-employment: evidence from British longitudinal data. *Entrepreneurship & Regional Development*, 19 (3), 253–280.

Shirokova G., Osiyevskyy O., Bogatyreva K. 2016. Exploring the intention-behavior link in student entrepreneurship: Moderating effects of individual and environmental characteristics. *European Management Journal*, 34, 386-399.

Entrepreneurial intentions were measured with the help of three statements: “My professional goal is to become an entrepreneur, “I will make every effort to start and run my own business”, “I am determined to create a business in the future”. Students were asked to rate the degree of agreement with these statements on a 7-point scale: from 1 - strongly disagree, to 7 - completely agree, see Table 3. This approach is reasonable<sup>8</sup> [Zellweger et al., 2011], since otherwise it is difficult to identify those who is thinking about an entrepreneurial career, but is sees it as "plan B". On the basis of the answers, the indices of entrepreneurial intentions were calculated as the arithmetic mean of all the answers. As shown in fig. 9, Kazakhstan is on 3rd place (out of 58 countries) according to the index of nascent and active entrepreneurs in different countries see Figure 9. The highest index is typical for developing countries (Nigeria, Ukraine, Iraq, Iran), and the lowest for advanced economies (Japan, Switzerland, Germany).

Table 3 - Entrepreneurial Intentions by three Statements (Percent)

	Please indicate your level of agreement with the following statements							
	1	2	3	4	5	6	7	Total
My professional goal is to become an entrepreneur.	10.82	2.28	4.33	9.91	6.04	1.25	10.48	2971
I will make every effort to start and run my own business.	9.68	2.85	5.24	8.77	6.95	1.94	11.16	
I am determined to create a business in the future.	9.34	0.80	4.10	9	5.69	2.39	9.11	
Note - 1 = confident “no”, 7 = confident “yes”.								

Kazakhstan at the moment is a country in which it has a huge untapped potential that can be adequately transformed into a strong stratum of the middle class. Right now, the formation of an entrepreneurial environment among young people will help create that basic class of young businessmen, that critical mass that will adequately compete in world markets, applying various types of regional expansion strategies.

<sup>8</sup> Zellweger T., P. Sieger and F. Halter. 2011. Should I stay or should I go? Career choice intentions of students with family business background. *Journal of Business Venturing*, 26 (5), 521-536.

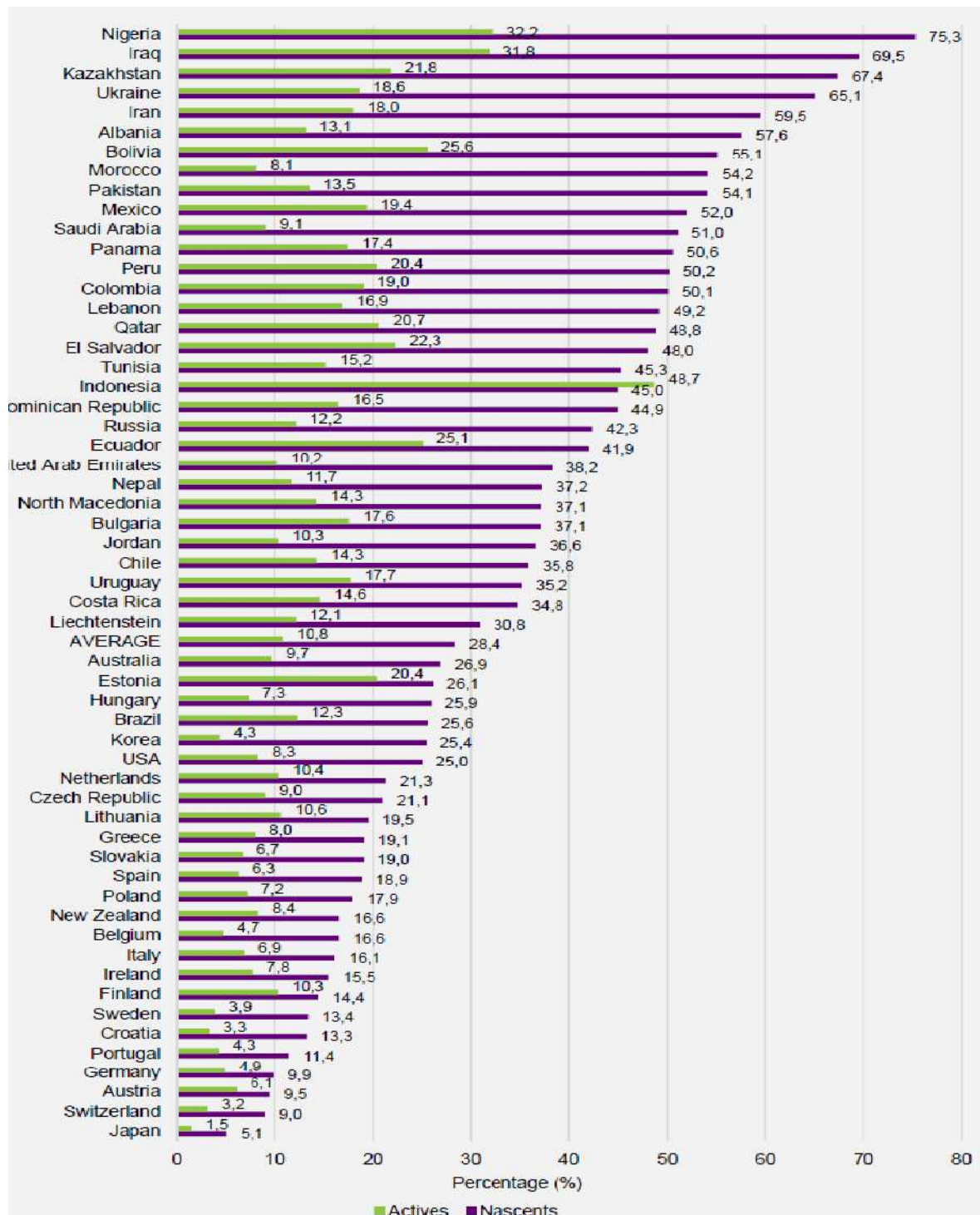


Figure 9. Shares of nascent and active entrepreneurs across countries (N=267'366)

In addition, it is important to develop the overall institutional environment of universities in the field of entrepreneurship support. In particular, this can be facilitated by the introduction of initiatives such as competitions of business plans, in which students can receive constructive feedback from experienced entrepreneurs, the organization of business incubators on the platform of universities, as well as the provision of start-up funding.

### 3 DRIVERS OF ENTREPRENEURIAL INTENTIONS

#### 3.1 The University Context

University is the place where the students can be acquainted with the concept of entrepreneurship for the first time. Many Kazakhstani universities support entrepreneurial activities of students; some of them have business incubators, specific classrooms and other facilities for students.

The sample of students in current dataset consists of 2791 students from more than 31 universities across Kazakhstan. Majority of students are from undergraduate level 89% (N=2485) so the general results of student entrepreneurship will be related to bachelor level. Graduate students consist only 5.1% (N=143) and PhD students are only 1.3% (N=36). Therefore, the most represented population in the research is undergraduate students.

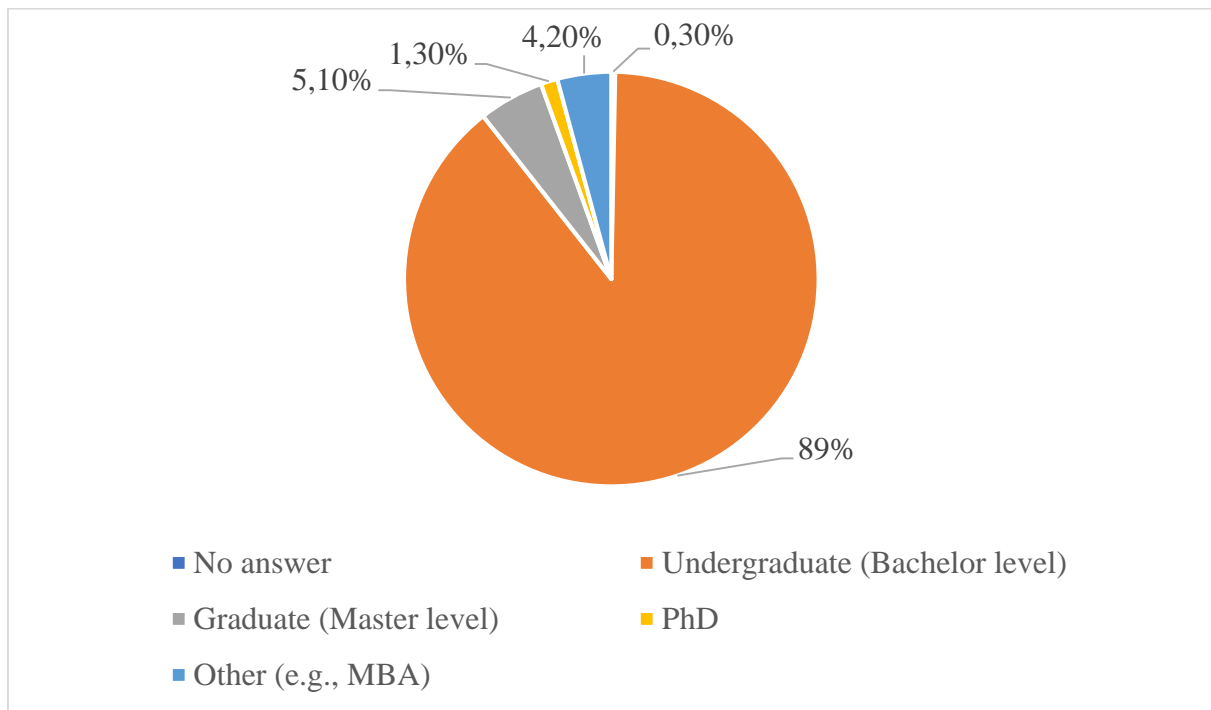


Figure 10. Educational level

The atmosphere at university inspires about 46.7% of respondents to develop ideas for new businesses. The general atmosphere includes attitude of faculty members, curriculum and extracurricular opportunities. Additionally, 42.7% of students claim that the university climate is favorable for becoming an entrepreneur and 43.5% of students think that university encourages engaging in entrepreneurial activities. The dataset of 2021 shows the decrease in these three main

areas comparing to the year 2016 and 2018 that might be the consequence of COVID-19 impact on educational sphere, business and entrepreneurship in general.

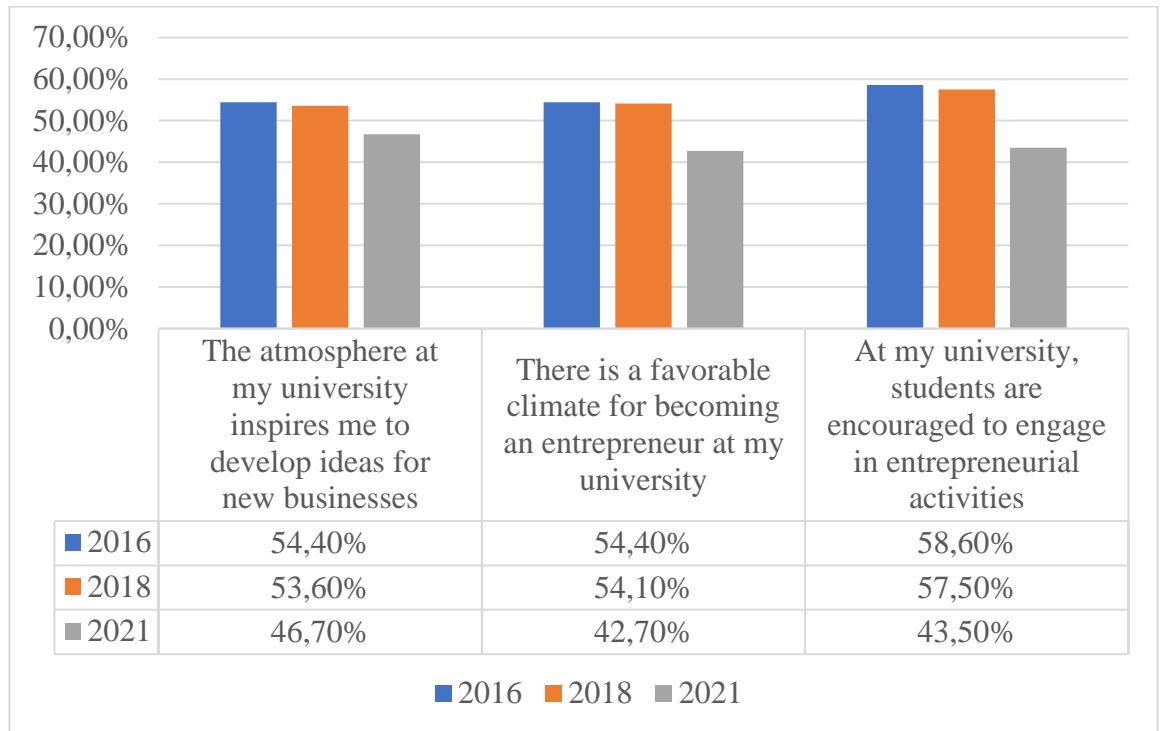


Figure 11. Comparison of data 2016-2021

Global data of entrepreneurial climate at university indicator shows that the average value among all countries participants is 4.4 points out of 7-point scale, where 7 is the most favorable climate (Sieger et al, 2021). Overall, Kazakhstan takes the 4.3 points that is slightly below the average indicator. Thus, we can draw a conclusion that Kazakhstan is in the middle of entrepreneurial mindset development and implementation of it at university level.

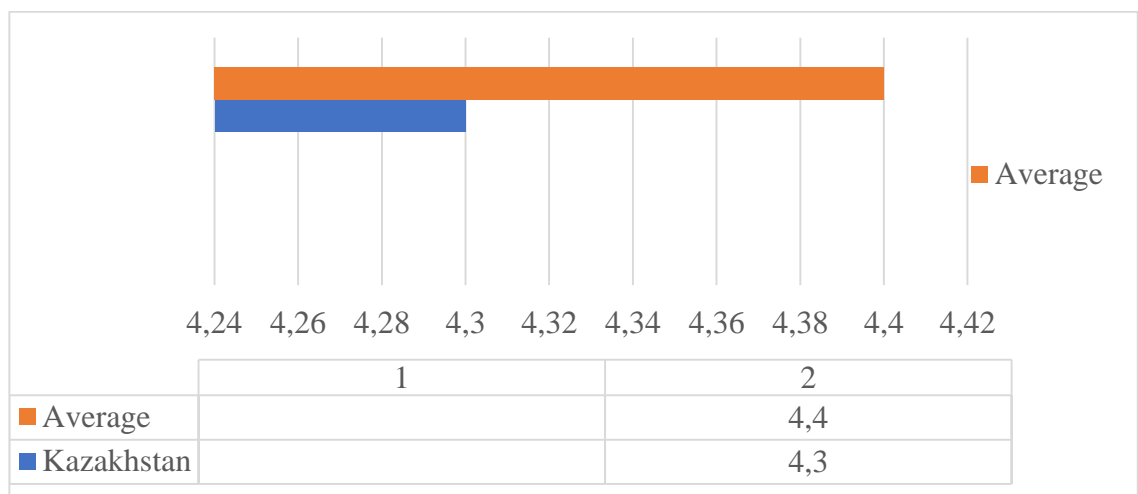


Figure 12. Entrepreneurial climate measurement



Among Kazakhstani students, 18% (N=502) have attended entrepreneurial course as elective compared to global data with 26.1% respondents and 18.7% (N=521) as compulsory part of education versus 19.6% of global students. The results show that many universities adopted entrepreneurial courses to their educational programs and some of them even identified as core compulsory courses. However, around 41.5% (N=1158) have not attended a course on entrepreneurship so far that is correlates with global data, where about half of sample had not attended any entrepreneurship courses. Thus, it is evident that entrepreneurial curriculum is still in process of implementation in the most of Kazakhstani universities.

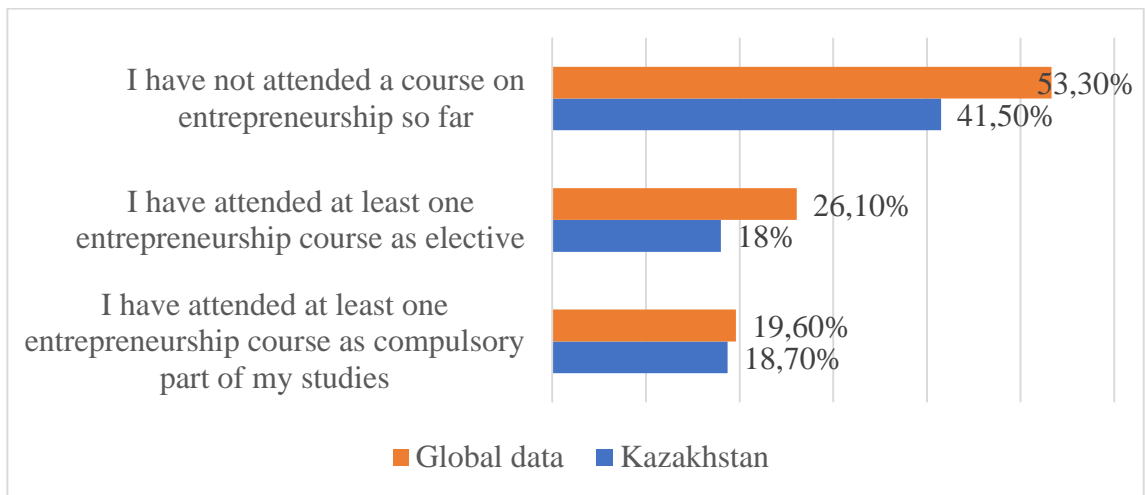


Figure 13. Entrepreneurship content of Kazakhstani and global data

At the same time, about 12.4% (N=346) respondents replied that they are studying in a specific program on entrepreneurship that is much bigger number than in 2016 and 2018. Consequently, over the past 5 years, Kazakhstani universities have developed more programs with focus on entrepreneurship.

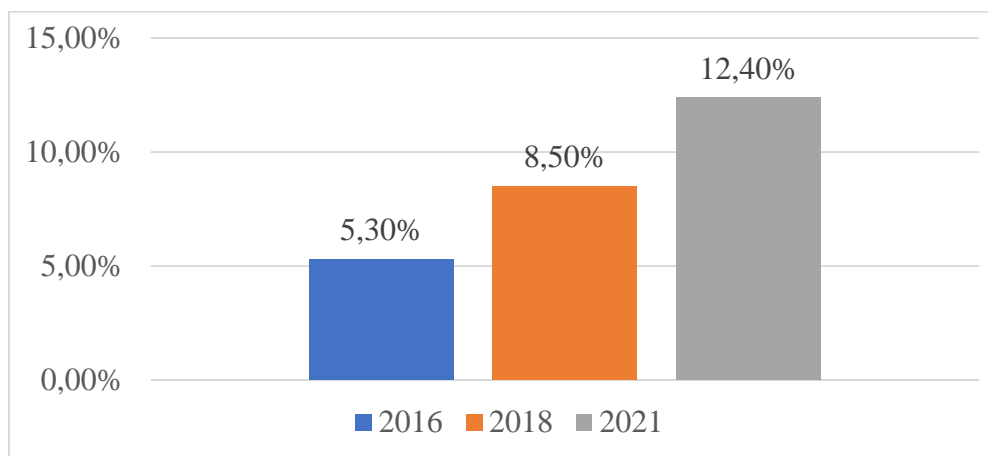


Figure 14. Specific entrepreneurial programs in Kazakhstan 2016-2021

Kazakhstani students were asked to assess the content of courses and offerings they have based on different criteria. The general assessment of university courses and offerings show the positive feedback from students' side. Less than half of respondents report that the university courses and offerings they have attended helped them to increase understanding of attitudes, values and motivations of entrepreneurs, as well as actions someone has to take to start a business. Comparing to the previous years, we can see the slight decrease of the students' responses that can be a result of post pandemic effect.

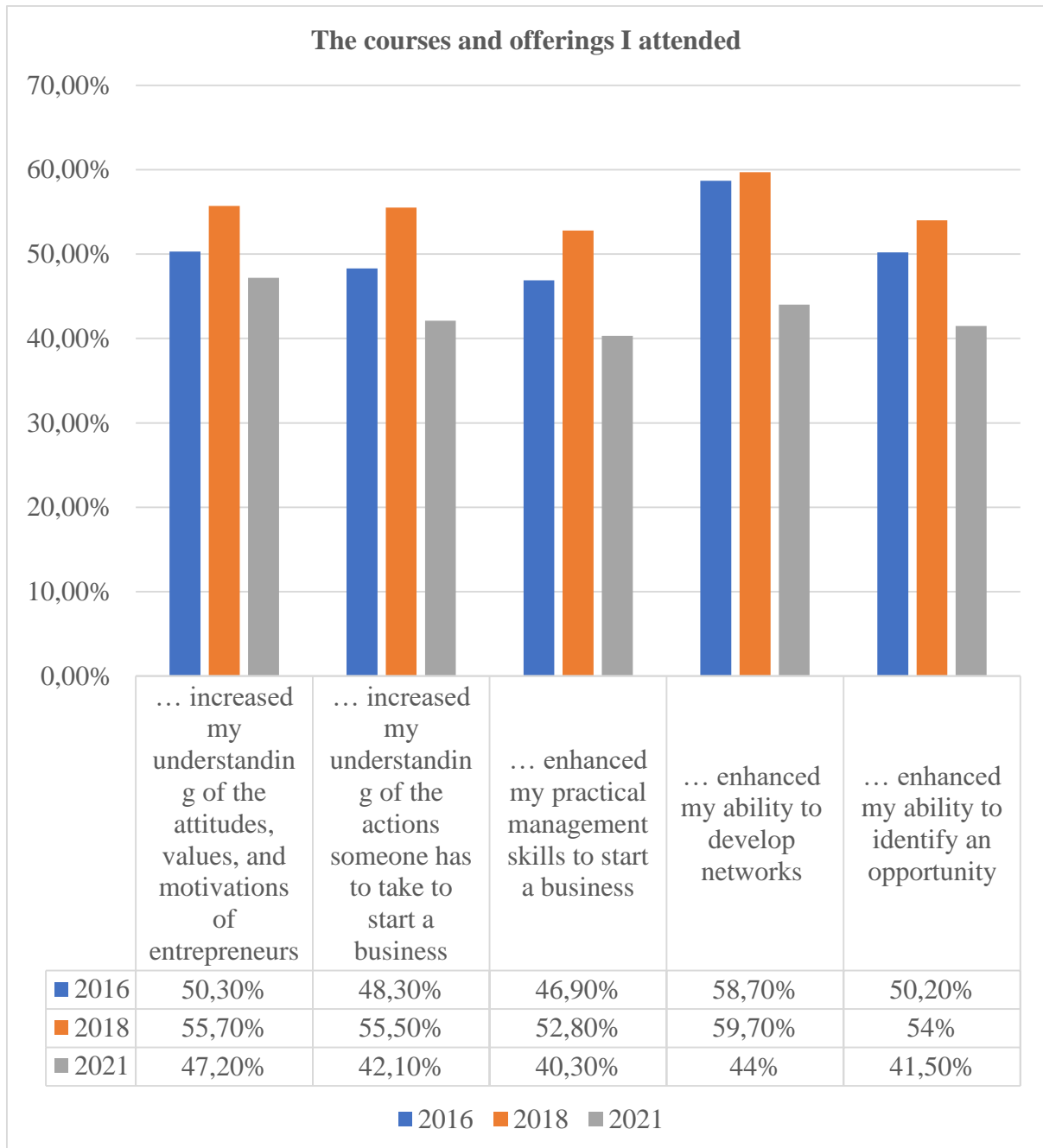


Figure 15. Assessment of courses and offerings

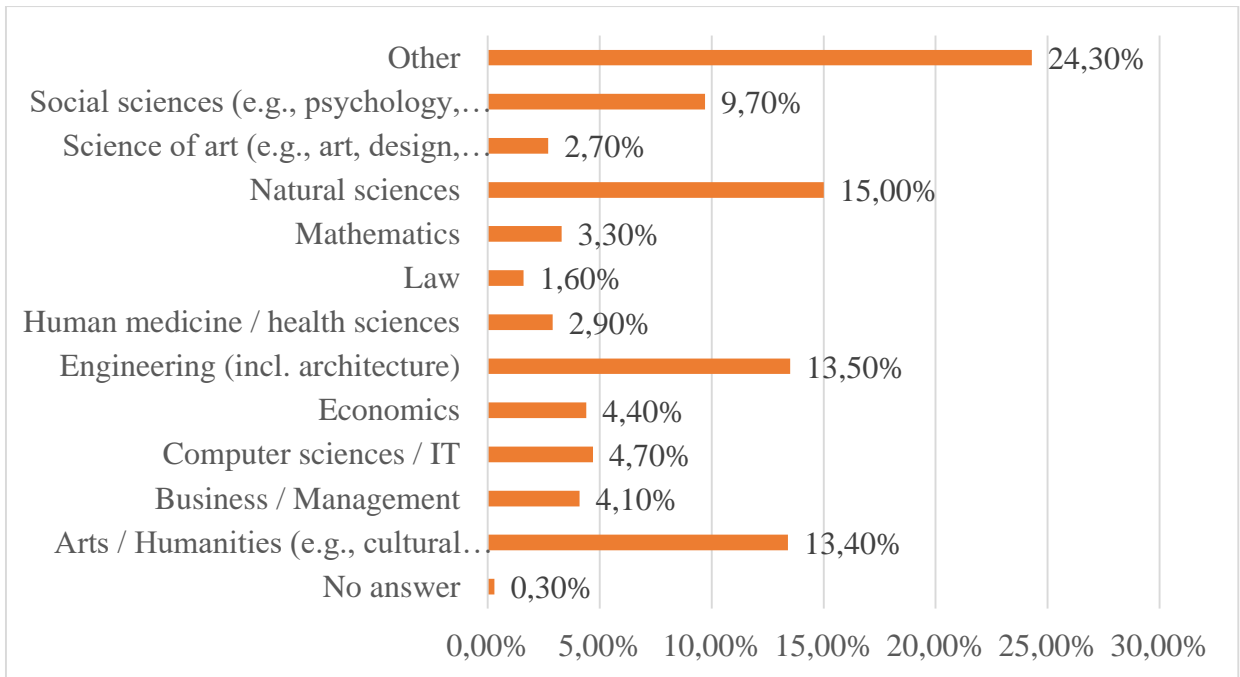


Figure 16 – Field of study

Considering the relatively positive climate of entrepreneurship at Kazakhstani universities, it is vital to mention the main fields of study of respondents. As Figure 16 shows except the “other” category, the majority of participants are from the field of natural science 15% (N=418), engineering 13,5% (N=378) and arts and humanities 13,4% (N=374). Thus, it is evident that entrepreneurial atmosphere does not related only to business and management fields of study and on the contrary disseminates to other areas.

### 3.2 Family background and society

Family background is important factor for students’ entrepreneurship. It is evident that family influence on the students’ decision to start business is crucial, due to the continuity of family traditions. According to the National Bureau, there is 21,8% of self-employed population in Kazakhstan in 2020, that is roughly 4 million people<sup>9</sup>. Among Kazakhstani students vast majority 68% (N=1901) declared that they parents are employees at the corporate level, whereas only 32% (N=894) stated that their parents or one of the parents are self-employed.

Among those self-employed, father entrepreneurs are at 12,3% (N=342), mother entrepreneurs are at 6,9% (N=192) and both parents at 12,8% (N=356). In addition, parents of

<sup>9</sup> National Bureau, 2020

20,4% (N=571) are majority owners of business, whereas others 79,6% (N=2221) are working in the partnership with third parties.

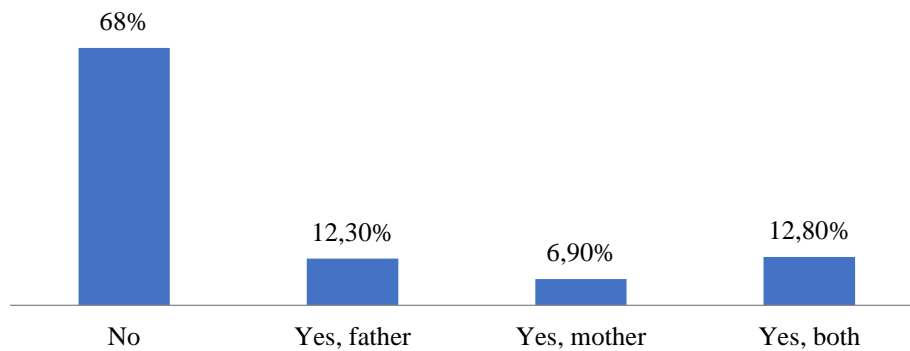


Figure 17. Self-employment of parents

At the same time, if we look at the percentage of those parents who are employed in traditional way, it is evident that the in the past two years the number of employees dropped to the 5%. Those people who quitted corporate jobs seem to experience the impact of COVID-19 and basically the deterioration of economic situation in the country. On the contrary, with the raise of the entrepreneurial programs and schemes, there are a lot of adults, who decide to quit jobs to start their own venture.

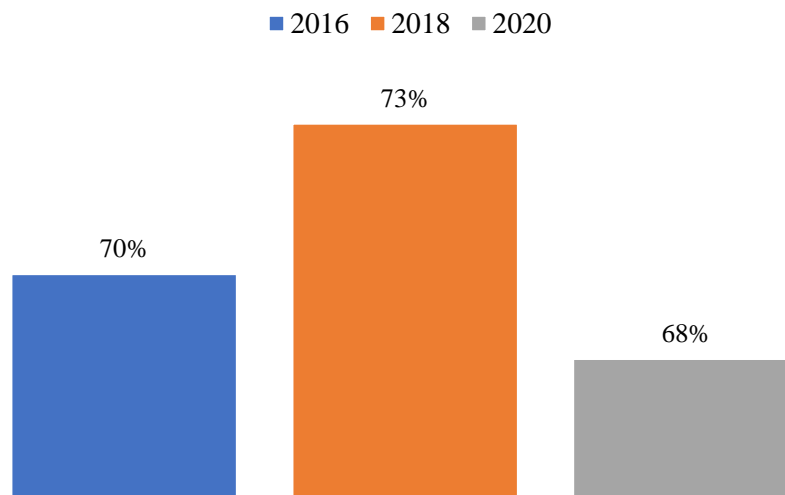


Figure 18. Number of parents – employed at traditional jobs

The influence of the family is also important for the formation of entrepreneurial mindset of students. The vast majority of students 87,4% (N=2438) responded that their family members would positively assess their entrepreneurial intentions..

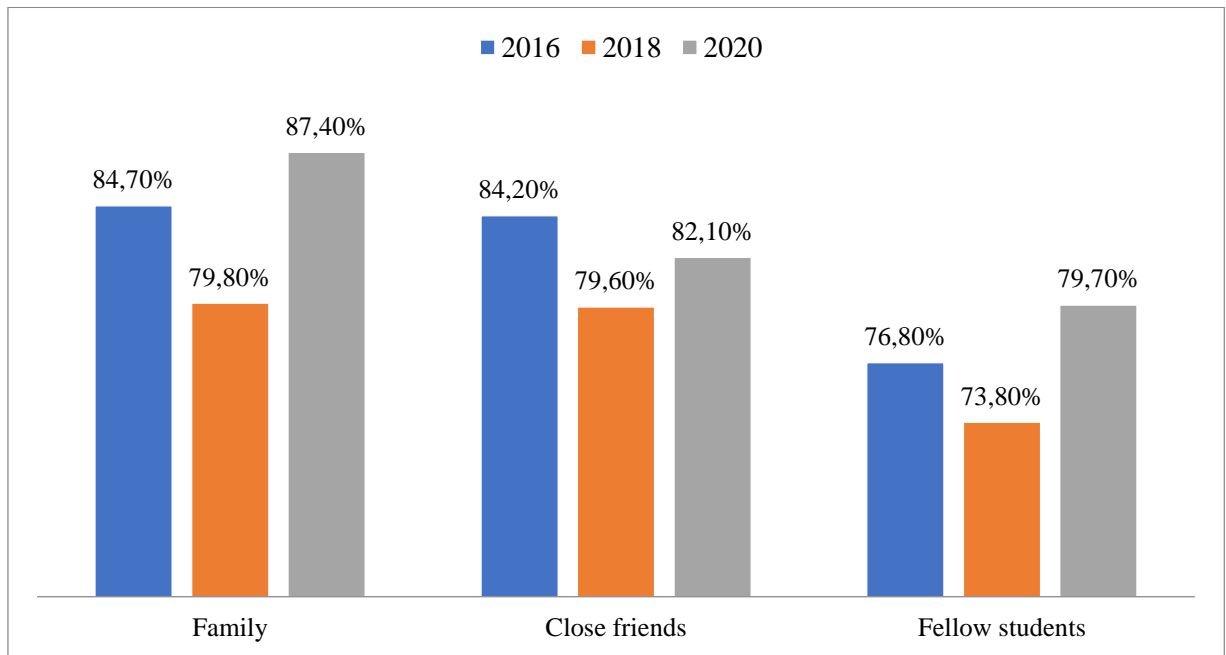


Figure 19. Perceived positive reaction from the closed community

This number is considerably higher than results of 2016 and 2018 surveys that can be seen as the positive change towards entrepreneurship among families and communities in Kazakhstan. Close society is also considered as the main influencers of students and vast majority of respondents declared that they would be supported by close friends 82,1% (N=2294) and fellow students 79,7% (N=2224). Thus, we can conclude that overall society in Kazakhstan positively assess the entrepreneurial intentions of young adults

## 4 ENTREPRENEURIAL ACTIVITIES

### 4.1 Nascent Entrepreneurs

Based on the results of GUESSS Kazakhstan 2021, 67,36 % of the respondents are classified as nascent entrepreneurs, they are currently trying to start their own business or have intentions to found it in the nearest future. A significant number of students intending to start their own business come from the following universities: M. Dulaty Taraz State University (37,94%), N. Gumilyov Eurasian National University (29,70%) and Abai Kazakh National Pedagogical University (9,46 %).

According to the Global GUESSS Report 2021, Kazakhstan is number three among the countries with the biggest share of nascent entrepreneurs with an indicator of 67,4 %, behind only Nigeria (75,3%) and Iraq (69,5%). However, in 2018 Kazakhstan took eight places with an indicator of 49,5%. What we see is that in comparison with the results received in 2018 the number of students willing to start a business in the future (nascent entrepreneurs) increased from 49,5% to 67,4% and the number of active entrepreneurs almost doubled from 10,9% in 2018 to 21,8% in 2021. Besides, it is quite reasonable to predict the possible growth in the number of nascent entrepreneurs as 67,18% of the respondents are trying to set up a business and become self-employed.

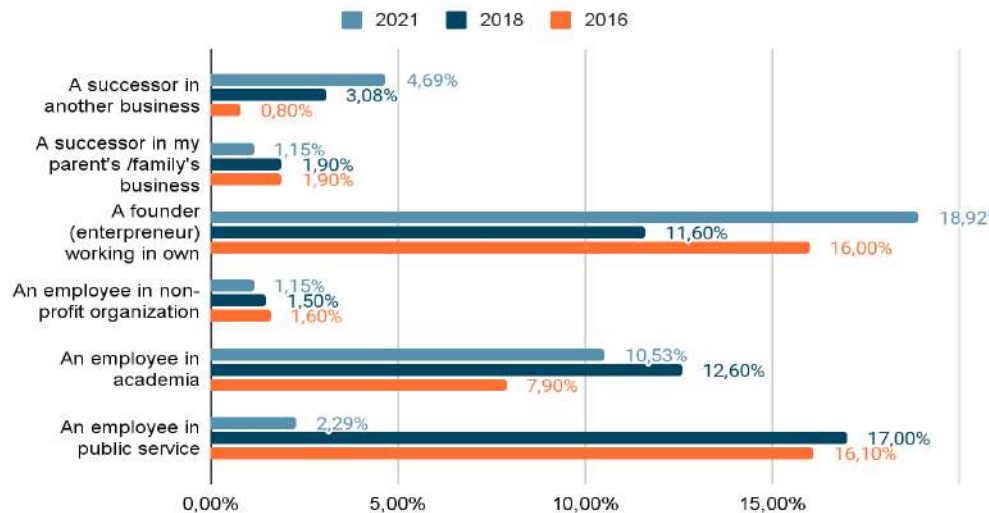


Figure 20. Career intentions for 2016, 2018 and 2021

Students' career intentions for 2016, 2018 and 2021 right after completion of studies show that there are significant changes in students' preferences. As we see, in comparison with the results of the Global GUESSS Reports 2016 and 2019, in 2020 the number of students intending to set up a business immediately after studies increased to 18,92%, the indicators show that it 2016 more students were interested in implementing their career in entrepreneurship than in 2019.

However, the percentage of those who are willing to pursue a career in public service has fallen from to 2,29% in 2021. Students seem to be more interested to be successors in another businesses in 2021 than in 2018 as this indicator increased from 0,80% in 2016 to 3,08% in 2018 and to 4,69%. The number of those who prefer to pursue a career in public service has reduced significantly from 17% in 2018 to 2,29% in 2021.

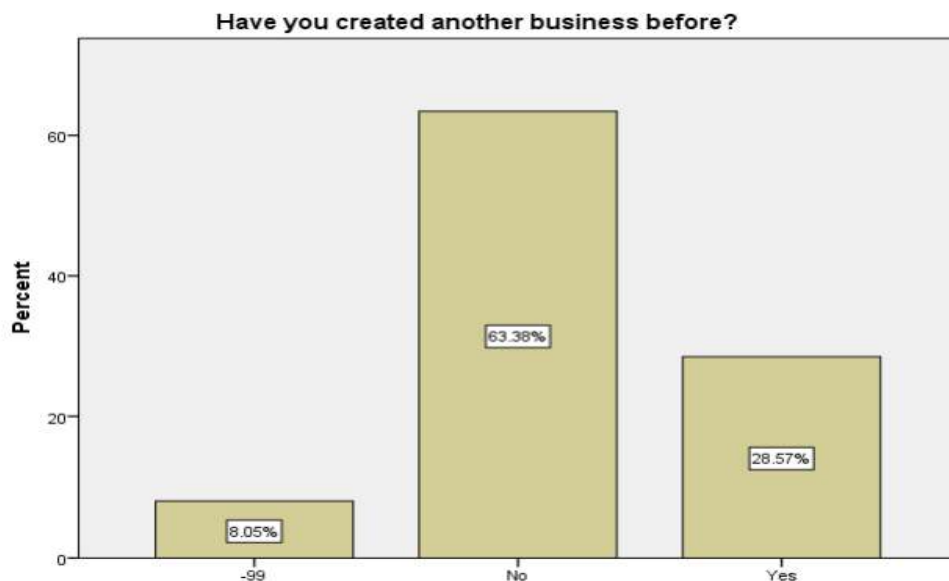
The number of undergraduates who have not made a decision about their future career yet is relatively high as well 31, 64% for a five year time and 25, 87 % right after completion of their studies.

#### 4.2 Active Entrepreneurs

Entrepreneurship plays a critical role in boosting economic growth and development<sup>10</sup> (Valliere at al., 2009). As such, the modern tendency of higher education all over the world is focusing efforts on entrepreneurship promotion among the youth and Kazakhstan is not an exception.

GUESSS Kazakhstan 2021 depicts that 21,82 % of the respondents have already managed to start a business. Up to 72,4 % of those who managed to start a business would like this business to become their main occupation after graduation, while 25,3% intend not to pursue a career in their present businesses.

Almost 28,57% of active entrepreneurs have had some experience in entrepreneurship as they indicate that they had created another business before.



<sup>10</sup> Valliere, D., Peterson, R. (2009) Entrepreneurship and economic growth: Evidence from emerging and developed countries. *Entrepreneurship and Regional Development* 21(5):459-480. DOI:10.1080/08985620802332723

Figure 21. Entrepreneurship experience of respondents

The biggest number of businesses that have already been set up based on research results in 2021 and 2018 by active entrepreneurship are in the fields of advertising/design/marketing, trade, education and training. Even though these fields gained a high percentage in 2021 they were more popular in 2018 as the number of respondents opting for them was bigger. Manufacturing was more attractive in 2018 than in 2021 as its number has decreased from 15% in 2018 to 4,11% in 2021. Trade reached the same level 12,64% in 2021 as in 2016, when only 12% of the respondents confirmed having a business in this sphere.

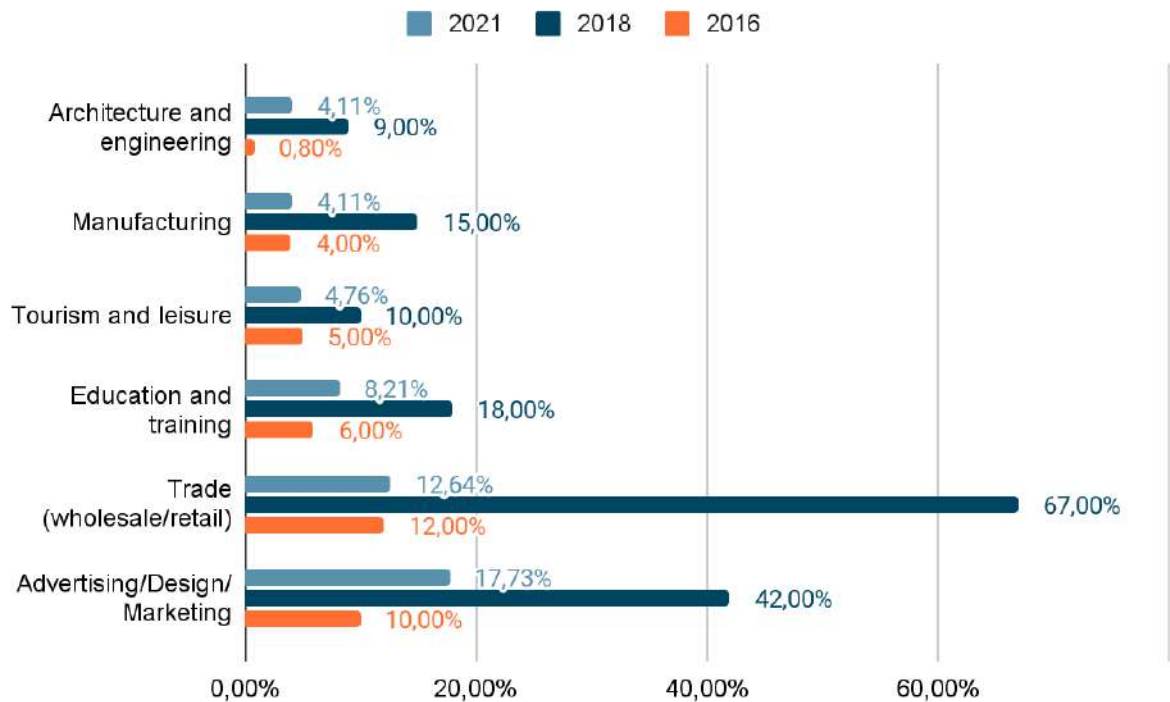


Figure 22. Fields in which businesses are active in 2021, 2018, 2016

Present education focuses on teaching students to develop creative ideas, products and services, exploit opportunities, use all available resources and take risks. The ability to take risks and the desire to become independent<sup>11</sup>(Meager et al., 2003) are especially crucial entrepreneurial characteristics<sup>12</sup> (Mensah et al., 2021). It is also evident that starting any type of business involves taking risks at all the stages. Research results show that respondents, who are willing to take risks reach 27,5% ( Figure 23), whereas 20,35% prefer a low risk/high security job over a job that

<sup>11</sup> Meager, N., Bates, P., & Cowling, M. (2003). An evaluation of business start-up support for young people. National Institute Economic Review, 186(1), 59-72. <https://doi.org/10.1177/00279501031861007>

<sup>12</sup> Mensah, E.K., Asamoah, L.A., & Jafari-Sadeghi, V. (2021). Entrepreneurial opportunity decisions under uncertainty: Recognizing the complementing role of personality traits and cognitive skills. Journal of Entrepreneurship, Management and Innovation, 17(1), 25-55. <https://doi.org/10.7341/20211711>



offers high risks and high reward (Figure 24). Those who view risk on a job as a situation to be avoided at all costs make 12, 8% .

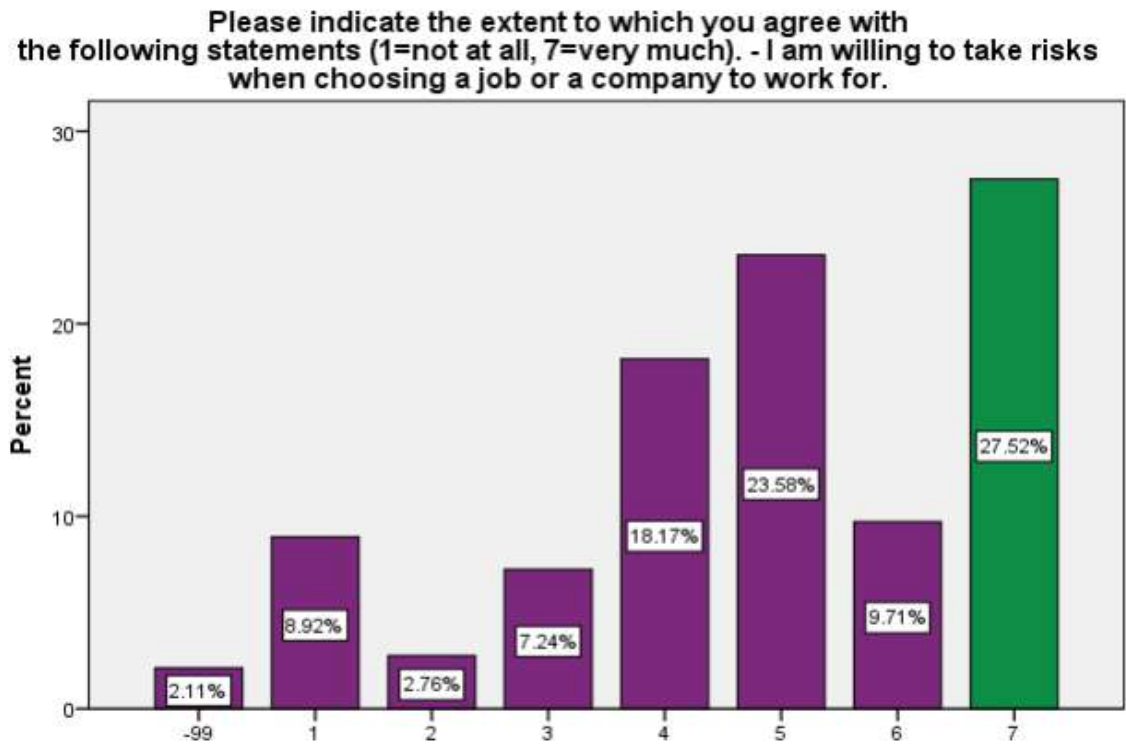


Figure 23. How willing the students are to take risks (Part 1)

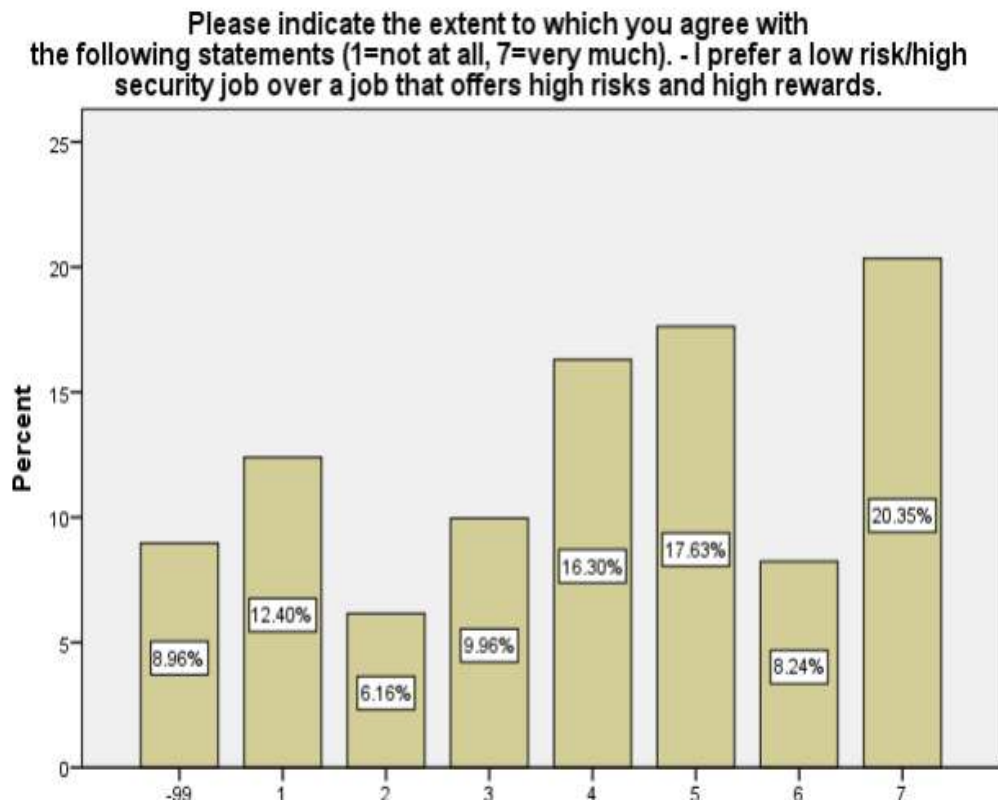


Figure 24. How willing the students are to take risks (Part 2)

The COVID-19 pandemic has significantly been affecting societies all over the world, at all levels. It also had a great impact on business initiatives among students all over the world. Many small business owners turned their attention to online fronts to keep business running, trying new strategies, and now have different priorities. In Kazakhstan almost 18,06 % participants of the research have stated that they set up a business due to the implications of the COVID-19 pandemic.

It should be noted that traditionally entrepreneurial activity of students develops in the sphere of SME. The results on the ownership of businesses set up by students depict the following: 19,4% represent the minority (0-49%), 34,8% own 50% of the business, 31,2% represent the majority (51-100%).

Referring to co-founders, 48,6% respondents noted that they started businesses without any other student co-owners, whereas 11,7% have one student co-owner, 12,6% have two and 12,9% have three co-owners.

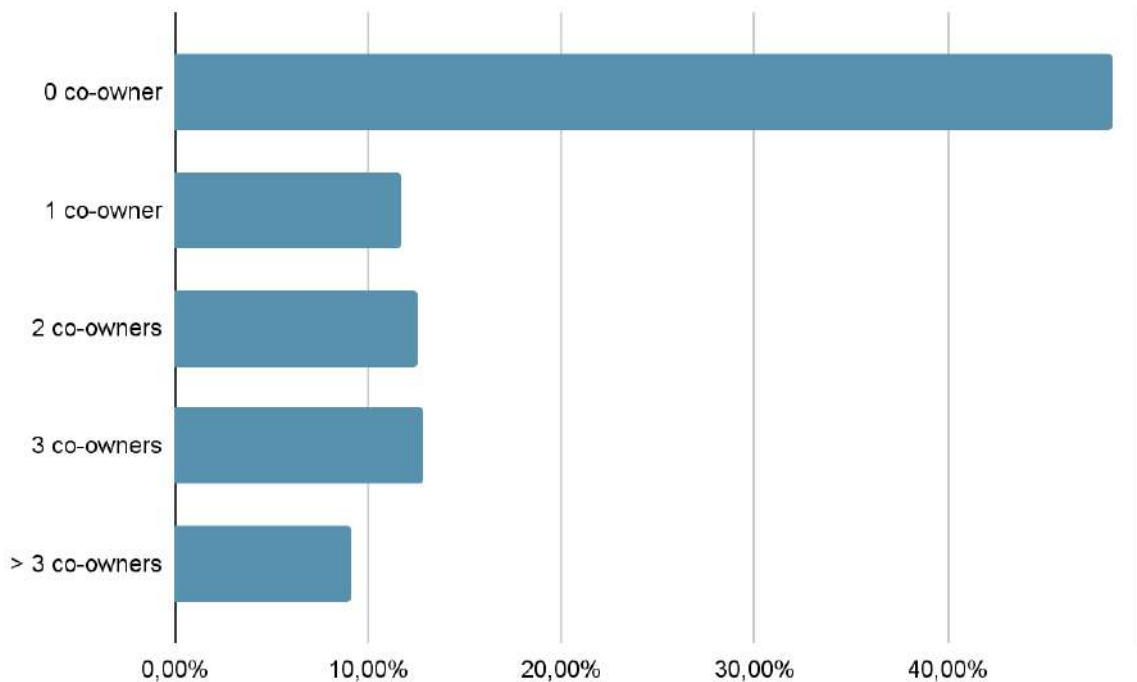


Figure 25. Number of co-owners of active entrepreneurs

As it is shown below (Table 4), the biggest number of active businesses 67,5% (N=366) was founded in the last five years.

Table 4 - Time periods when businesses were set up

What year did you establish your business?						
Earlier than 2016	2016	2017	2018	2019	2020	2021
32,5%	1,5%	2%	5%	9%	22%	28%

Respondents were also asked to indicate their reasons for setting up a business on the scale from 1 to 7, where 7 is indicated as the most favorable and 1 is the least favorable. As it is seen from the results, one of the main reasons for starting a business among the respondents is advancement of career in the business world, whereas the idea of making money and becoming rich is less attractive and only 39,7% described it as the number one reason for setting up a business. Social aspect was considered as a determinant in 32,5% as the most favorable, they set up a firm to have a certain impact on people they identify themselves with.

Table 5. Reasons for setting up a business

№	<i>I created my firm ... (%)</i>	7	6	5	4	3	2	1	other
1	to make money and become rich	39,7	8,7	10,7	11,0	6,1	4,1	10,8	8,9
2	to advance my career in the business world	40,2	10,2	10,8	8,0	3,8	2,1	5,6	19,2
3	to solve a specific problem for a group of people I strongly identify with	27,9	7,1	13,1	12,2	5,9	3,9	8,9	21
4	to play proactive role in shaping the activities of a group of people that I strongly identify with	32,5	9,0	9,4	9,9	5,9	3,8	7,7	21,8
5	to solve societal problem that private businesses usually fail to address	26,6	7,1	9,2	11,5	7,6	5,4	9,7	23
6	to play proactive role in changing how the world operates	28,7	10,7	10,7	8,5	6,6	3,6	6,9	24,3

Thus, we can conclude that respondents' personal needs and desires mostly drive them to be founders in business.

## SUMMARY AND CONCLUSION

The GUESSS Kazakhstan-2021 National Report is a study of entrepreneurial intentions and entrepreneurial activity of students of Kazakhstani universities. The report reflects the career preferences of students, the influence of the university, family and society on the development of entrepreneurial intentions, as well as the features of student entrepreneurship.

In general, 2,791 students from various regions of Kazakhstan took part in the survey. Mostly, students (more than 90%) from the southern (65.7%) central (33.93%) regions, where large national and private universities are located, took an active part. At the same time, 36% of respondents are from technical universities, 27% - from pedagogical universities, interdisciplinary and economic universities -25%, medical universities - 12%. Compared with GUESSS Kazakhstan-2018, the coverage of specialties has increased, with the majority being natural sciences - 15%, engineering sciences -13.5%, other - 24.33%. This suggests that the atmosphere of entrepreneurship extends not only to students studying in the specialty Business / Management, Economics.

The gender characteristics of the respondents show the active participation of women (67.32%) than men (31.31%). Compared to 2018, the proportion of men increased by 7.3%. The age profile of respondents shows that the median in the age groups is 20, 21 and 31 years. This is due to the fact that 89% of respondents are undergraduate students, 11% are masters, doctoral, MBA students.

The entrepreneurial intentions of students immediately after graduation increased from 11.6% in 2018 to 18.9% in 2021 and exceeds the global sample rate by 0.9%. At the same time, 30% of students expressed their intentions to become an entrepreneur 5 years after training, which is 6% less than in 2018.

As noted in the GUESSS 2021 global report, the international trend of entrepreneurial intentions has remained fairly stable over the past 10 years and ranges from 28.1% to 31.2%. According to Kazakhstan GUESSS data for 2016, 2018 and 2021: 52.45%, 35.9% and 29.95%, respectively. At the same time, the surveyed students in Kazakhstan do not yet know what they will do immediately after graduation and even after 5 years (31.64% and 25.87%). Increasing the motivation of students to create their own business may be associated with increasing the attractiveness of an entrepreneur's career among the population, including with the support of business incubators in universities, government programs to support entrepreneurship.

Kazakhstan is in 3rd place (out of 58 countries) according to the index of potential (67.4%) and active (21.8%) entrepreneurs. The highest index is typical for developing countries (Nigeria, Ukraine, Iraq, Iran), and the lowest is for developed countries. economy (Japan, Switzerland,

Germany). Thus, the study shows that Kazakhstan currently has the entrepreneurial potential for the development of youth entrepreneurship in the country.

A study of the differences between 2018 (before COVID) and 2021 shows that the pandemic ultimately did not greatly affect entrepreneurial intentions. In addition, a survey of the impact of the COVID-19 pandemic on business creation showed that 32.8% of respondents answered in the affirmative. According to the GUESS Global Report for 2021, we see significant country differences: approximately 10% and up to 40% of start-up entrepreneurs indicate that the pandemic has pushed them to participate in the business creation process. Among active entrepreneurs, the share of "entrepreneurs with COVID" is much higher: 33.7% indicate that they built their business largely due to the pandemic. In developing countries, in particular Latin American countries, this share ranges from 40 to 60%.

The GUESSS Kazakhstan-2021 study revealed the positive impact of the university on the entrepreneurial intentions of students. About 47% of respondents noted that the atmosphere at the university inspires to develop ideas for a new business. More than 42% of students claim that the university climate is favorable for becoming an entrepreneur. 43.5% of students believe that the university encourages participation in entrepreneurial activities. All these indicators in 2021 showed a decrease compared to 2016 and 2018, which may be a consequence of the impact of COVID-19. In general, the students rated the entrepreneurial climate of the university as 4.3 on a seven-point scale, the value of the global sample indicator is 4.4. As we can see, in general, despite the development of special entrepreneurship training programs in Kazakhstani universities over the past 5 years, the level of entrepreneurship education is at an average level. 41.5% of respondents did not study entrepreneurship courses, the global sample is 53.3%. At the same time, 18% studied entrepreneurship as an elective course, 18.7% of respondents completed the mandatory part of the training, the global sample is 26.1% and 19.6%, respectively. At the same time, only 12.4% of respondents said that they study under a special entrepreneurship program. These indicators indicate that Kazakhstan has just begun to introduce the process of developing entrepreneurial thinking, the entrepreneurship training program has not been implemented in all Kazakhstani universities. When making strategic decisions on the development of the university, it is necessary to consider the entrepreneurial climate as an indicator. Currently, as an online tool for the study of the entrepreneurial potential of the university, expert self-assessment is widely used according to the methodology developed under the auspices of the Organization for economic cooperation and development for European universities – Heinnovate.<sup>13</sup>

---

<sup>13</sup> OECD/European Commission (2019). A Guiding Framework for the Entrepreneurial and Innovative Higher Education Institution: <https://heinnovate.eu>.

GUESSS Kazakhstan-2021 showed that from 41% to 47% of respondents report that university courses and offers they attended helped them better understand the attitudes, values and motivation of entrepreneurs, as well as actions aimed at starting their own business.

The study of the influence of family and socio-cultural contexts shows a positive relationship on the formation of entrepreneurial intentions of students.

32% of the students surveyed are from entrepreneurial families, while in 2021 the number of parents engaged in traditional work decreased by 5%. Of these, 20.4% noted that the parents are business owners, the father is an entrepreneur -12.3%, the mother is an entrepreneur - 6.9%, both parents -12.8%.

GUESSS Kazakhstan 2016, 2018, 2021 shows a growing trend of positive reaction to the entrepreneurial intentions of students from the family and society. So, in 2021, 87.4% of respondents noted family support, 82.1% of close friends, 79.7% of fellow students.

According to GUESSS Kazakhstan 2021, more than 72% of active entrepreneurs intend to continue their business as their main occupation after graduation, while 25.3% do not intend to continue their career in their current business. About 28.57% of active entrepreneurs had some business experience, as they indicated that they had previously created another business. The majority of enterprises created by respondents were founded in the last two years of 2020-2021 (50%). As a result, we see that the pandemic has given impetus to the development of certain types of business. The main reasons for starting a business were (1) promotion in the business world (40.2%), (2) the idea of making money and becoming rich (39.7%), (3) a pre-active role in shaping the activities of a group of people with whom they identify themselves (32.5%). Thus, it can be concluded that the personal needs and desires of respondents to a greater extent encourage them to become founders in business.

The ability to take risks and be independent belong to entrepreneurial characteristics. Respondents from the number of active entrepreneurs willing to take risks amounted to 27.5%, prefer to work with a low level of risk / high level of security - 20.35%, avoid risk at all costs - 12.8%. The training of entrepreneurs should be aimed at developing creative ideas, products and services, using opportunities, all available resources and taking risks. Many small business owners have turned their attention to online destinations to support the business by trying new strategies, and now they have other priorities. In Kazakhstan, 18% of respondents said they opened a business because of the consequences of the COVID-19 pandemic.

It should be noted that traditionally entrepreneurial activity of students in Kazakhstan is developing in the field of SMEs, the most attractive areas for entrepreneurship are marketing, trade and education.

The GUESSS Kazakhstan 2021 study showed that active entrepreneurs prefer to own their own business on their own. Thus, 48.6% of respondents noted that they started a business without any other co-owners-students, 11.7% - have one co-owner-student, 12.6% - two and 12.9% - three co-owners.

In general, GUESSS Kazakhstan 2021 allowed us to conduct an in-depth analysis of the entrepreneurial intentions and activities of Kazakhstani students. As this study shows, the personal characteristics of respondents, family and social affiliation, the university environment positively affect the entrepreneurial spirit of students.

The results of the GUESSS study show trends in the development of entrepreneurship both at the global and national level. This allows researchers, universities, and public institutions to determine the directions of development and use of students' entrepreneurial potential.

**REFERENCES**

1. [https://www.wipo.int/edocs/pubdocs/en/wipo\\_pub\\_gii\\_2021.pdf](https://www.wipo.int/edocs/pubdocs/en/wipo_pub_gii_2021.pdf) Global Innovation Index 2021
2. <https://gemconsortium.org/report/gem-20202021-global-report>
3. <https://stat.gov.kz/>
4. Henley, A. 2007. Entrepreneurial aspiration and transition into self-employment: evidence from British longitudinal data. *Entrepreneurship & Regional Development*, 19 (3), 253–280.
5. Sieger, P., Raemy, L., Zellweger, T., Fueglistaller, U. & Hatak, I. (2021). *Global Student Entrepreneurship 2021: Insights From 58 Countries*. St.Gallen/Bern: KMU-HSG/IMU-U.
6. Shirokova G., Osiyevskyy O., Bogatyreva K. 2016. Exploring the intention-behavior link in student entrepreneurship: Moderating effects of individual and environmental characteristics. *European Management Journal*, 34, 386-399.
7. Sudibor O., Turgumbayeva A., National report for Kazakhstan 2016. Almaty: Turan University. - 36 p.
8. Tazabekova K.A., Tamenova S.S., Sudibor O.L., Nurtaeva D.K., Iskakova A.B., Gerasimova N.S., Kuznetsova G.Kh., Nusupekova A.B., Amangeldieva N.S., Nurkeev A.S. 2019. National report GUESSS Kazakhstan – 2018. Almaty: Turan University. - 64 p.
9. Zellweger T., P. Sieger and F. Halter. 2011. Should I stay or should I go? Career choice intentions of students with family business background. *Journal of Business Venturing*, 26 (5), 521-536
10. Valliere, D., Peterson, R. (2009) Entrepreneurship and economic growth: Evidence from emerging and developed countries. *Entrepreneurship and Regional Development* 21(5):459-480. DOI:10.1080/08985620802332723
11. Meager, N., Bates, P., & Cowling, M. (2003). An evaluation of business start-up support for young people. *National Institute Economic Review*, 186(1), 59-72. <https://doi.org/10.1177/00279501031861007>
12. Mensah, E.K., Asamoah, L.A., & Jafari-Sadeghi, V. (2021). Entrepreneurial opportunity decisions under uncertainty: Recognizing the complementing role of personality traits and cognitive skills. *Journal of Entrepreneurship, Management and Innovation*, 17(1), 25-55. <https://doi.org/10.7341/20211711> OECD/European Commission (2019).
13. A Guiding Framework for the Entrepreneurial and Innovative Higher Education Institution: <https://heinnovate.eu>.