



Study
of Human Capital
in Poland

2011

Report from a survey of the students of higher education and analysis of fields of education conducted in 2010 as part of Study of Human Capital in Poland

Students – the future force of Polish economy



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HUMAN CAPITAL
NATIONAL COHESION STRATEGY



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1. Introduction

We hereby present an review of the results acquired in the first round of the study which is part of the Study of Human Capital project conducted by the Polish Agency for Enterprise Development (PARP) in partnership with the Jagiellonian University to the people responsible for planning human capital development policies, and all groups and individuals interested in the current situation in the supply and demand of competences on the Polish labour market. The data was collected by Millward Brown SMG/KRC. The study is aimed primarily at the diagnosis of the demand for employees with specific competences and the availability of these competences on the labour market, among both people who have already completed their education and those who are still in education yet are coming to the end of a significant stage of it: upper secondary school or first or second-stage degree education. These are the results of the first round of the study (of the planned five), which will allow a snapshot to be taken of not only the state but also the trends concerning the supply and demand for human capital.

Many economists and development strategists have warned that Poland will gradually exhaust its growth potential, resulting on the one hand from an improvement in the allocation of resources thanks to the operation of market mechanisms, and on the other from the increase in productivity of the capital and labour, thanks to the benefits of technology import, appropriate for the period of catching up with highly developed economies. The availability of employees with qualifications sufficient to absorb technology is one of the conditions for making good use of the catch-up period. At the same time, if our country is to move on to the following phase of development based not only on technology absorption, but also on technology development, changes will have to take place in many dimensions of the economy, society, and operation of the state. It is important that there is an increasing number of firms whose decision-making centres and research and development centres are situated in Poland. One of the conditions for such a scenario to take place is the availability of well-prepared managerial and engineering staff, but also executives furnished with competences necessary for the functioning of an innovative enterprise. Regulatory and fiscal order should assist in the commercialisation of inventions, which still poses a significant problem. If the development begins to follow such a scenario, we should perceive that by observing a trend in the demand for staff competences. This is why a study that will allow such a trend to be followed is worth embarking on.

Waiting for innovation-based development cannot turn into waiting forever, which is a threat should the economy not be able to move fluently between the phases of development, providing this passage with the resources developed in the economy of the catch-up phase. Even if the developmental processes of the new type can be triggered, a large part of the economy will be based on the traditional model, and will require – besides other conditions – also an appropriate supply of human resources. This is an argument that proves that it is worthwhile to conduct, besides foresight-type studies, diagnostic ones identifying the current tensions and the deficits in competences in the labour market.

The studies whose results we present here are intended to provide information useful for decision making. The organs of public administration which have at their disposal public funds are expected to conduct a suitable educational policy, or, more broadly, one that will develop human capital. The accuracy of public policies depends on the capacity to create adequate provisions of development, and skill in understanding the challenges, and yet it is also determined by the availability of information that allows problems to be identified, their scope to be defined, and concepts to be formulated for solutions to them. At this stage of the project, we quite naturally have at our disposal only a large-scale diagnosis of the status quo. With the subsequent stages being conducted, opportunities for identifying the changes will also arise.

The Study of Human Capital in Poland is a project conceived at the Polish Agency for Enterprise Development (PARP) that reacts to the deficit of information experienced while working on the planned support for the

Introduction

enterprise sector in the development of human resources, using funds from the European Social Fund as part of the Human Capital Operational Programme. Having conducted the pilot initial version of the concept of the study, PARP invited the team of the Centre for Evaluation and Analysis of Public Policies at the Jagiellonian University (CEiAPP), closely related (personally) to the Department of the Sociology of Economy, Education and Research Methods of the Jagiellonian University – to participate as a partner in the project. From the very beginning, the study was planned as a multi-aspect review of the demand and supply of competences in the labour market repeated in the five successive years. The study is composed of the following modules, distinguished by the group that they investigate:

1. Study of employers (excluding public administration and agriculture, forestry and fisheries, as well as some other small sections, which are listed in the methodological report)
2. Study of people of working age
3. Study of students in last years of upper secondary schools
4. Study of final-year university students (first and second-stage degrees)
5. Study of unemployed people registered in County Employment Offices (PUPs)
6. Study of job offers placed in County Employment Offices and on online portals
7. Study of training firms and institutions

Based on original research, these studies are complemented with an analysis of institutional data collections, including the Educational Information System (SIO) and information collected by the Central Statistical Office (GUS) from reports on tertiary education (S-10). Detailed information concerning the size of the samples and the data collection methods is provided in the methodology report and in individual thematic reports.

The above list proves that a universal study was successfully conducted on the factors decisive in the situation of human capital in Poland. It was carried out on very large samples that allow a multitude of analyses, also at the level of regions (voivodeships). In this respect, it is definitely a unique study.

During the concept work and consultations, and also during the subsequent tests, a set of research tools was developed. Such a set is always a compromise between the list of questions to which an answer is sought and the possibility of execution: one cannot conduct a study, going beyond the obligations set forth in acts of law, in which the length of the questionnaire would result in a refusal on the part of the respondent. For this reason we are aware that, while some readers may be disappointed by the fact that we did not ask certain questions that we would like to know the answers to, we can say that here we are united in our unsatisfied curiosity. We selected the questions on the grounds of recognition of the information needs of the parties planning to use the results of these studies for construction of more effective public interventions in development of human capital resources in Poland.

The proper rhythm of these studies will also be adjusted to the needs of these parties: they will take place at the end of the first and beginning of the second quarter, so that the results can be provided by the end of June, and the final report by September, thus allowing it to be used for planning purposes. Exceptionally, the first round of the study was conducted from the end of August to December 2010. The second round is currently being conducted.

The first set of reports that we are supplying to all interested parties are thematic reports that contain summaries of the individual modules. They are a review of the results achieved and provide information about the scope of the information acquired. Moreover, they contain what we hope to be plenty of interesting observations concerning the groups studied.

Quite naturally, general reports must remain at a certain level of generality. Interested readers will be able to generate more detailed listings on their own, using an application that will be made available on the project website.

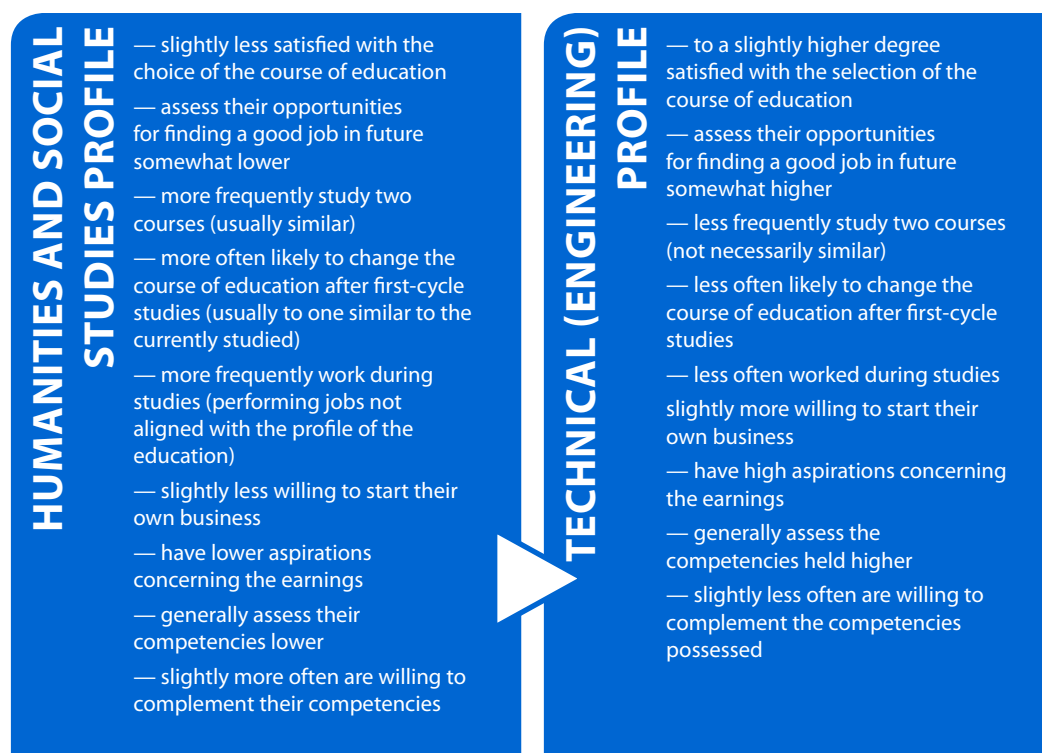
We count on the fact that both the general reports made available and the synthetic report integrating the results of the studies in individual modules for the sake of the balance of competences in the Polish labour market will provide important data helpful in the planning of operations in the scope of supporting the development of human capital in Poland. We believe that it will also be useful for enterprises – in the scope of planning the development of human resources in firms, and for the sector of training firms – for shaping the range of services offered. We perceive its potential in terms of shaping education policy towards the unemployed, even though representative studies of the registered unemployed encounter significant difficulties. This project is complementary for the other studies in the area, including those conducted by the Educational Research Institute, whose common objective is quality improvement of actions in the field of lifelong education, from early childhood to the late mature age. These actions are one of the strategic development challenges for Poland. To say, quoting Andrzej Frycz-Modrzewski, that the future Republics will be just like the education of their youths, does not go far enough. Because that “education”

2. Main conclusions

The field of education is the most important factor that shapes the self-assessment of the respondents, their educational and career plans, and also the degree of satisfaction from the institution of higher education and the field of education. In a certain simplification, the conclusions presented below allow to place the future university graduates on two opposing extremities: humanities and social studies, and technical (engineering) studies. The table below recapitulates information concerning the two segments distinguished in the report.

Figure 1

Students learning humanities and social studies vs. students of technical education



Source: Own study.

The fact that students of humanities and social sciences choose different education strategy than students of engineering sciences is worth paying attention to. First of all, students of humanities – aware of their poor position in the market – more often try to maximise their opportunities in the market by beginning a second course of studies or changing the course having acquired a bachelor degree. Moreover, they become more often active in the labour market while their studies are still going on. Students of engineering studies expect delayed profits. They usually focus on a single profile of education, more rarely embark on employment, yet in the future they expect a decidedly better occupational and remunerational position than students of humanities.

Presented below are detailed results of a survey of students of institutions of higher education (in tertiary education) conducted as part of the Study of Human Capital in Poland project.

2.1. Degree of satisfaction from the educational choices made

High degree of satisfaction from the decision made, concerning both the field of education and its place: majority of student respondents believe that they made a good decision choosing this and not any other institution of higher education and course of education. Those who declared that they would not choose the same school again, in most cases claimed that they would embark on a career in higher education, yet definitely in a different place.

Various level of satisfaction with various types of schools: most satisfied are students of artistic schools, technical universities, and high schools of economics, with least satisfied being the students learning in schools classified in the group "other" (mostly private), in teacher education schools, state higher schools of vocational education, church schools, and medical academies. Compared to other institutions of higher education, universities received average marks, with the exception of the highly rated Kraków and Warsaw centres.

Fixed opinions concerning school types, and – in most cases – lack of fixed opinions concerning individual institutions of higher education: the students who declared that they would not choose the same school again, in most cases do not have any idea what school they could choose, even though they have clearly formed preferences concerning its type. Students dissatisfied with universities and technical universities would most gladly choose another university or another technical university, and students dissatisfied with other types of schools would exchange the current institution of higher education for a university, a technical university or a school of the same type in which they are learning at the moment (or possibly for an institution providing education in economics or medical academy). Only the dissatisfied students of teacher education schools, state higher schools of vocational education, and other – mostly private – institutions of higher education would rather not study in an institution of the same type.

Various level of satisfaction from the selected field of education: the highest proportion of those dissatisfied with the selected field of education is present within the following groups: welfare (especially social services), social sciences (especially: European studies, studies of the family, political studies, sociology); agriculture, forestry and fishery; and the lowest in the following groups: architecture and building, arts, and veterinary. Most dissatisfied with their choices are students in humanities and social studies who study in technical universities, students of humanities and social studies studying at universities, students learning law outside universities, students of information technologies at schools of economics, and students in engineering fields in schools of agriculture. At the same time, most satisfied with the selected field of education are students from Kraków and Warsaw, yet also in the case of these centres, there is a large group of students of social sciences, economy and law, science,¹ and engineering, manufacturing and construction who would eagerly change the course of education.

Frequent dissatisfaction with the practical aspect of education: as many as one in every four respondents declared that during the studies they did not learn to apply the knowledge gained in practice. The practical aspect of education received the lowest grades from the students of veterinary, law, social sciences (studying at universities), and the highest from the students of the following fields: medicine, agriculture, forestry and fishery, life sciences, and arts.

The belief that higher education will help to find a good job in future: students count on tangible effects of higher education, believing that knowledge and skills gained during the studies will let them find a good job in future. This is most often the course of thinking of students of technical universities, universities of economics, academies of physical education and art schools, and mostly the ones studying in the following fields: engineering, manufacturing and construction, and services, yet also in education, humanities and

¹ According to the ISCED-97 classification, there are 8 broad groups of fields of education at the level of higher education: education; humanities and arts; social sciences, business and law; science; health and welfare; engineering, manufacturing and construction; agriculture; and services; and 22 more narrow fields of education: teacher training and education science, arts, humanities, social and behavioural science, journalism and information, business and administration, law, life sciences, physical sciences, mathematics and statistics, computing, health, social services, engineering and engineering trades, manufacturing and processing, architecture and building, agriculture, forestry and fishery, veterinary, personal services, environmental protection, transport services, and security services.

arts, science, and agriculture. The ones who believe their market opportunities to be connected to the lowest degree with the course of their present education are students of universities and church institutions of higher education, while the students of engineering, manufacturing, and construction, and those studying in Warsaw and Kraków stand at the other extremity.

Level and plans concerning activity in education

2.2. Level and plans concerning activity in education

The second field of education as the domain of students of public institutions of higher education studying humanities and social sciences, coming from well-educated families: people who study in two fields of education in most cases do so (in both cases) in public institutions of higher education, with exceptionally rare cases of “two-fielders” among people studying only at non-public institutions of higher education. People who study simultaneously in two fields, most often receive their education in the following groups: social and behavioural science, journalism and information, humanities, business and administration, law, and physical sciences, complementing their education in fields that belong to the same groups. Only the students of sciences, and engineering and medical fields exhibit more freedom in choosing the fields of studies, drawing both from the social sciences, and fields similar to ones they study. They are more often women and people coming from well-educated families (i.e. with at least one of the parents having higher education).

Increased interest in extramural studies: students of intramural courses do not limit their choice of the mode of education at the second-cycle studies to only the so-called “day” studies. This can attest to the increasingly strong focus of people at master degree studies on occupational practice, and to the development of a new path of education, composed of first-cycle intramural studies and extramural studies of the second cycle.

Prognosticated increase in horizontal mobility after first cycle studies: in future, nearly 40% of students of first cycle studies consider embarking on education in a field other than the one currently studied. Much like in the case of selecting the second field of education, also in the decisions concerning education at the studies of the second cycle, students of social sciences make most homogeneous choices: if they change the field of education, they do it usually within the same group. The students who most often planned a change of the field of education at the level of master degree studies are the ones obtaining education in social services, security services, personal services, journalism and information, while the ones making the decision least often are students of mathematics and statistics, architecture and building, and environmental protection.

The system of student traineeships is not always adjusted to the profile of education: students attempt to increase their occupational opportunities by intensive additional training and education (approximately one in every four respondents confirms participating in courses, training, additional classes, etc.) or participating in internships and traineeships. Unfortunately, it happens quite frequently that during the internships and traineeships, the students work at posts that do not require as high competencies as they have (students of the following fields: social sciences, business, and law frequently carried out tasks typical for secretaries and office clerks, while students of agriculture worked as market-oriented skilled agricultural workers). This actually allows to question the statement that participation in traineeships can actually increase the opportunity of the future graduates to find employment.

2.3. Level and plans concerning student occupational activity

Involvement of students in labour: temporal work that does not require high competencies, only for gainful purposes, most often as a freelance agreements and service contracts: nearly every other student of day studies works, the case is far more frequent among the students of social sciences, personal services, transport services, arts, teacher training and education science, humanities, business and administration, journalism and information). As a rule, students work on posts designed for personnel with secondary education,

Level and plans concerning activity in education

yet it happens that the tasks they perform do not require even such a level of education. Occupational activity they undertake has mostly purely pecuniary reasons, is not related to the profile of studies, does not necessarily increase the opportunity to find good employment in future, and definitely has nothing in common with the work they intend to perform having completed education at higher level.

Plans to embark on a career in line with the occupations learnt: in future, in most cases, students will try to find employment in the occupations learnt (more frequently: information technologies, architects, physicians, engineers, etc.), even though it seems that the future graduates of fields in small demand in the market are more aware of their difficult situation (the students of the following fields: agriculture, forestry and fishery, humanities, social and behavioural science, journalism and information and social services less frequently declared that they intend to seek employment in their occupation).

Moderate career aspirations of students: obviously, the respondents in most cases, planned to work as professionals in future, nevertheless, there is a large group of respondents who lower their occupational aspirations and intend embarking on employment on posts designed for people with no more than secondary education. Moreover, the myth that the graduates of Polish institutions of higher education in most cases see themselves as future general managers and representatives of public authorities needs abolishing: the proportion of respondents who had such high aspirations is rather low.

Own business as an attractive alternative: students are increasingly more likely to start their own business having completed their studies (this is more often the case for men studying in the following fields: architecture, construction, personal services, veterinary, environmental protection and arts, and less often in the case of students of mathematics and statistics, social services and teacher training and education science, humanities, life sciences, and physical sciences). Interestingly, more respondents consider becoming an entrepreneur than select this form of employment as the most attractive. We can suspect, therefore, that starting an own business may become an alternative form of gaining employment for students faced with the low employer preferences to enrol graduates who have no experience in the labour market.

Moderate pay expectations (aspirations) of the students: these seem to be coherent with the remuneration opportunities offered by employers, even though this cohesion is present mostly at the level of the declared lowest wages, and not fully satisfactory remuneration. The highest expectations are present among students of the following fields: environmental protection, architecture and building, transport services, veterinary, manufacturing and processing, engineering and engineering trades, security services, information technology, law and arts studying in technical universities and in higher schools of economics, and lowest in mathematics and statistics, humanities, teacher training and education science, social services and personal services, studying at universities.

2.4. Self-assessment of competencies and the aspiration to perform work that requires specific skills

High self-assessment of students: they assess their competencies rather highly, only in the case of operating, assembling, and repairing machines skills lower grades are recorded. To the highest degree, students feel certain of commanding the following skills: use of computers and the Internet, and social skills (including the ability to cooperate). Worth mentioning is the fact that employers identified the most serious gaps in this very area (namely, social competencies).

The strongest distinguishing factors in the self-assessment of students are field of education and gender: present, however, are significant differences between fields, for example, students of teacher training and education science, and humanities self-assess their skill of performing calculations at very low levels, while the lowest general self-assessment is characteristic of the students of the following fields: veterinary, teacher

training and education science, security services, humanities, and the highest – of the students of engineering and engineering trades, mathematics and statistics, computing, environmental protection, architecture and building; in the group of humanities it is highest among students of law. On the whole, men usually assess themselves more highly than women, while women award themselves better marks for social competencies, artistic skills, desire to self-educate, communicativeness, and skill of organising work (their own, and of other people).

Self-assessment of competencies and the aspiration to perform work that requires specific skills

The high awareness of the need to complement the education they have: students are aware of the need to complement the education they have, with such awareness being highest among women, students of medicine, social sciences, personal services, social services, law, veterinary, and students of universities, church schools, higher schools of economics (that is the ones whose occupation requires continuous education to the greatest degree, and those who are least satisfied with the practical skills acquired during the studies). Students tried to profile their educational plans in line with the field the study: courses and training devoted to personal development are most attractive for the students of law, social services, security services. Courses in medicine, psychology, social work, and first aid would be most gladly selected by students of medicine, veterinary, social services, and teacher training and education; courses in construction and industry – students of engineering and engineering trades, architecture and building, environmental protection, physical sciences; training in finance and accounting – students of mathematics and statistics, business and administration, and; and courses in services – students of personal services, journalism and information. Students of social, business and administration, life sciences, and physical sciences are far more often focused on more varied subjects of training (not necessarily convergent with their education).

2.5. The educational offer of institutions of higher education

There are two types of public schools that have significant advantage in the market of education at higher (tertiary) level; they are the universities and technical universities offering the widest range of education. Universities are responsible for providing education to more than every other student in humanities and social sciences, and of those learning sciences, while technical universities provide education to the largest proportion of students in engineering fields. Most students in Poland, including relatively more students of bachelor courses, learn at intramural studies, with the share being comparable or even lower than analogous volumes characteristic of higher education worldwide.

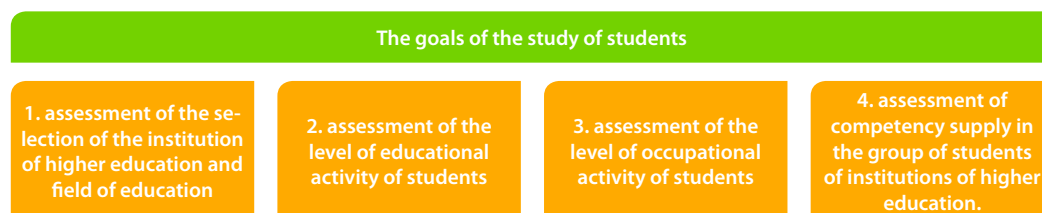
The range of education addressed to students of humanities and social sciences seems to be richer than the one addressed to people focused on sciences and technical education. Moreover, the first type of fields of education enrolls relatively more students, even though steps taken to expand the range of services offered to the students of sciences and engineering fields by the institutions of higher education is observed. Dominant among the students are those learning humanities, business and administration, social and behavioural science, and teacher training and education science, even though a slight decrease of interest in the fields is visible. Ranking only as fifth in the number of students in education come engineering and engineering trades studies. The popularity of the individual fields of education, measured with a number of candidates for every seat at the university does not depend on whether these are humanities or social studies – the ranking constructed in this way is definitely won by the more varied profiles of education,² which may prove that the education offered by institutions of higher education is not necessarily developed with focus on the most popular fields, but on those that on the one hand will assure appropriate enrolment, and on the other – do not require high financial outlay (and engineering fields do not belong here).

2 Interestingly, they do not include information technology.

3. Main data on the study of students of institutions of higher education

3.1. Goals of the study

Conducted as a part of the BKL Study, the study of students in higher education has four central goals:



The general goals listed above can be translated into more detailed ones (assigned to the individual main goals), which are:

1. assessment of the decision concerning the selection of the institution of higher education and field of education:
 - a. assessment of decisions related to education
 - b. assessment of efficiency of education in institutions of higher education
2. analysis of the level of educational activity of students:
 - a. current and past education path
 - b. planned education path
3. analysis of the level of occupational activity of students (analysis of the career path – actual and planned), and assessment of their wage-related aspirations:
 - a. current and past occupational activity
 - b. occupational plants and preferences (including wage-related aspirations) of the students
4. assessment of competency supply in the group of students:
 - a. self-evaluation of competencies vs. the tendency to perform work that requires specific skills
 - b. assessment of additional skills necessary in occupational work vs. the analysis of development needs and the identified competency gaps.

The research problems listed above awarded this report with its structure, dividing it into chapters and subchapters. Moreover, as part of introduction to this report, an analysis of fields of education in institutions of higher education was designed, and served as both background and a point of reference for further considerations concerning occupational preparedness of graduates of institutions of higher education.

3.2. Methodology of the study

The study of students³ conducted in the first round of the field study of the Study of Human Capital in Poland project was conducted from 30th August 2010 to 19th January 2011, according to the auditorium questionnaire method (in justified cases, deviations were allowed, and CAWI and CAPI interviews were conducted). Participating in the study were students of the final year, in the case of students of the first cycle studies, and of the two final years – in the case of second cycle students (from 1600 fields).⁴ Altogether 33,272 correctly filled in questionnaires were collected.⁵

³ Participating in the study were students of both public and non-public institutions of higher education defined in the Act law on higher education. Because "the act does not apply to institutions of higher education and higher seminars of theology managed by churches and denominational associations, with the exception of the Catholic University of Lublin (KUL), unless an act or agreement between the government and authorities of churches or denominational associations stipulates otherwise" (Art. 1. item 2), apart from KUL, such schools and seminars were excluded from the study. Due to their characteristics, excluded from the population of institutions of higher education covered by the research were military schools, police schools and academies, and firefighting schools.

⁴ Field is understood as an organisational unit at an institution of higher education.

⁵ Altogether 128 interviews were rejected due to illogicalities, and gross negligence, in the case of 32 questionnaires, the so-called "thin air" was diagnosed.

The study covered institutions of higher education situated in 61 cities. Most interviews were conducted in the institutions of higher education in Warsaw and Kraków (altogether 24% of respondents), and further 36% of interviews were conducted in the academic centres of Wrocław, Lublin, Łódź, Katowice, and Gdańsk. The study covered 3507 students of non-public and 29,765 students of public institutions of higher education.

Table 1

Description of students involved in the study: place of education⁶

Category	Type of HE institution	N	%
Type of HE institution	non-public	3 507	10,5
	public	29 765	89,5
Main academic centres	Warszawa	4 194	12,6
	Gdańsk	1 728	5,2
	Katowice	1 582	4,8
	Kraków	3 811	11,5
	Lublin	2 051	6,2
	Łódź	1 825	5,5
	Poznań	2 455	7,4
	Wrocław	2 526	7,6
	Other	13 100	39,4

Source: Own study.

The scope of the study covered 211 institutions of higher education. Most interviews were conducted in three universities: the University of Warsaw, the Jagiellonian University, and Nicholas Copernicus University (UMK) in Toruń. The total of 3133 interviews were conducted there, which amounts to 9% of all successfully conducted. In the following two universities, Adam Mickiewicz University (UAM) in Poznań and University of Warmia and Mazury in Olsztyn, the number of interviews exceeded 900. More than 800 interviews were conducted with the students of the following universities: the University of Gdańsk, the University of Silesia in Katowice, Maria Curie-Skłodowska University (UMCS) in Lublin, the University of Łódź, and the University of Wrocław. Taken together, these 10 universities provided 9197 interviews, which is nearly 28% of all.

Table 2

Characteristics of students participating in the study: field and type of studies

Category	Field and type of studies	N	%
Group of fields of education	Social sciences, business and law	8 891	26,7
	Humanities and arts	5 819	17,5
	Engineering, manufacturing and construction	5 187	15,6
	Science	4 527	13,6
	Teaching	3 298	9,9
	Health and welfare	2 819	8,5
	Services	2 058	6,2
	Agriculture	673	2,0
	Social sciences, business and law	8 891	26,7
Type of studies	Bachelor (BA/BSc)	19 494	58,6
	Supplementary master's	7 435	22,3
	Unified master degree studies	6 343	19,1

Source: Own study.

Methodology of the study

The study was conducted in 159 fields (according to ISCED classification). The largest number of filled in questionnaires came from social sciences, business and law – nearly 27%, humanities and arts – 17.5%, and further 15% of the interviews – the engineering fields. Three fields were best represented: management, computing, and economics, as together they provided 3314 interviews (10% of the total). Altogether, 20,851 women (62.7%) and 11,864 men (35.7%) were interviewed. The largest proportion of respondents came from the following administrative regions (voivodeships) Mazowieckie (13.3%), Małopolskie (10.1%) and Śląskie (10.4%).

Table 3

Characteristics of students participating in the study: gender, and place of residence

Category	Gender, and place of residence	N	%
Gender	Women	20 851	62.7
	Men	11 864	35.7
	No data	557	1.7
Administrative region (voivodeship)	Dolnośląskie	2 264	7.0
	Kujawsko-pomorskie	1 856	5.7
	Lubelskie	2 327	7.2
	Lubuskie	827	2.5
	Łódzkie	2 058	6.3
	Małopolskie	3 285	10.1
	Mazowieckie	4 322	13.3
	Opolskie	909	2.8
	Podkarpackie	1 929	5.9
	Podlaskie	1 244	3.8
	Pomorskie	1 823	5.6
	Śląskie	3 380	10.4
	Świętokrzyskie	1 097	3.4
	Warmińsko-mazurskie	1 094	3.4
	Wielkopolskie	2 438	7.5
Zachodniopomorskie	1 504	4.6	
	Total	32 527	100.0
No data	No data	915	

Source: Own study.

4. Review of study results

4.1. Fields of education in institutions of higher education

This part of the report is the introduction to the further, more detailed description of students learning in Polish institutions of higher education, therefore, it functions as the background, against which conclusions will be formed in the subsequent chapters of the document. For full characteristics of the academic sector, it is necessary not only to become familiar with the opinions, and educational and occupational plans of students, but also to position these plans and opinions in the context of data that provide a general characteristic of the entire academic sector, the education offered, and also supply of graduates in individual fields of education. This chapter is divided into two parts. The first of them provides characteristics of the academic sector from the point of view of fields of education (number and type of fields of education offered) and supply of graduates of individual fields. In the second part, we limited our considerations only to these fields that enjoy special popularity among students of institutions of higher education, indicating strategies of choice and educational preferences of Polish youth.

Fields of education offered in Polish institutions of higher education

Following Art. 42 section 1 item 1 of the Act of 12th September 1990 on higher education, the institution responsible for defining conditions that an institution of higher education must meet to start and run a field of education, and the minimum programme requirements for individual fields of education and names of these fields is the General Council for Higher Education. The council defines the conditions that the institution of higher education must meet to award professional titles and degrees.⁷ Currently, Polish law allows education and awarding of professional titles and degrees to students in 118 fields of education.⁸ This, however, does not mean that institutions of higher education limit themselves in designing the fields only to the number mentioned above, as they can run so-called macro-fields, in which the teaching curriculum is based on the standards for multiple fields of education, and the so-called "inter-field" studies, in which the student follows the standard of education in a selected field of education, and additionally at least 30% of the minimum number of hours of organised tuition defined in standards for individual fields that the studies include.⁹ The structure of education defined by the set of standardised fields of education consistent with the assumptions of the reform of the system of education at the higher level will be significantly transformed in the coming years towards the more open and flexible structure of qualification. In this way, the series of Study of Human Capital in Poland studies may become a tool monitoring the changes in adjusting demand and supply of competencies and qualifications in the labour market, including the changes, which were caused by the implementation of the National Qualifications Structures in Higher Education.

Defining the range of fields offered by Polish institutions of higher education, we can examine it from two perspectives. First, it is worthwhile to note which schools have richer fields of education portfolios (number of fields offered in a given type of school), and secondly, the characteristics of the number of students learning within these more or less numerous available fields (supply of specific qualifications) can prove to be precious.

The analysis of the data included in the table below makes it possible to use the range of fields offered to distinguish a number of segments of institutions of higher education. First, the most extensive range of education is characteristic for universities, which, when taken together, propose more than 200 various fields of education, schools classified by the Central Statistical Office to the group of "other institutions of higher education" including mostly non-public institutions of higher education and higher schools of vocational education offer the range of over 100 various fields, while the technical universities allow learning in more than 90 different fields of education. The other group are higher schools of economics and higher schools of teacher training and education science, whose range of fields on offer is not as rich as in the case of universities, yet they cannot

⁷ Art. 42 section 1 item 1 of the Act of 12th September 1990 on higher education.

⁸ Resolution of the Minister of Science and Higher Education of 12th September 2007 concerning standards of education for individual fields and levels of education, and the manner of establishment and conditions that an institution of higher education must meet to run inter-fields and micro-fields courses/studies (Journal of laws of 13th of September 2007).

⁹ *ibidem*.

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be said to focus strictly on a single realm (with approximately 60 fields of education in their portfolios). Additionally, the higher schools of agriculture (approximately 40 fields offered) can be classified into this group. The third group are the institutions of higher education that provide a strictly profiled range of services, which usually limit the supply to several fields of education.

Table 4

Number of fields of education offered by various types of institutions of higher education

Type of institution	Number of fields
Universities	220 ¹⁰
Other institutions of higher education	107
Technical institutions of higher education	91
Higher schools of economics	63
Teacher education schools	61
Higher schools of agriculture	43
Higher artistic schools	26
Academies of the Ministry of National Defence	23
Medical Academy	18
Academies of theology	12
Merchant marine academies	11
Academies of physical education	7
Academies of the Ministry of Interior and Administration	3

Source: Own study based on GUS.

A specific feature of the Polish education market at the level of higher education becomes apparent only when we take a look at this market, not only in quantitative but also qualitative manner, characterising the specific profiles of the range of educational services offered by individual types of institutions of higher education. In this way we can distinguish the fields of education that are offered by most types of institutions (e.g. teacher training and education, science, humanities, arts, social studies, business and administration, and computing), and those that can be found in the portfolio of a limited number of institutions, e.g. legal (universities, higher schools of economics, non-public schools) and veterinary (universities, higher schools of agriculture). Despite the relatively wide range of fields in individual types of schools, certain specific profiles of education that dominate the given school, which are in most cases related to the human resources employed (professionals in the given field among the faculty) and infrastructure (i.e. the research equipment, laboratories, etc.), can be distinguished.

The variety of the range of fields is visible not only at the level of various types of institutions of higher education, but can be seen even more precisely when we compare the number of fields of education on offer within individual groups of fields.

10 The total of the unique fields offered in individual types of schools. Note: micro-fields, fields from beyond the ministerial list, and fields in linguistics, where counted separately, hence the number of fields offered by University/universities exceeds the number of fields listed in the regulation of the minister.

Table 5

The number of fields available in individual groups of fields

**Fields of education
in institutions
of higher education**

Group of fields	Number of fields available	Most numerous fields (number of students learning within the group of fields)	Least numerous fields (number of students learning within the group of fields)
Teacher training and education science	23	Teacher training and education total – 51252	Physics – 25
		Physical education – 14909	Russian language (degree subject) – 55
Humanities	87	Philology (total) – 45665	German philology, with philosophy (degree subject) – 1
		Polish philology – 19826	Slovak philology (degree subject) – 1
		English philology (degree subject) – 15211	European social communication (degree subject) – 5
		History – 13438	French language in business and tourism (degree subject) – 10
Arts	25	Instrumental studies – 2576	Church music – 25
		Graphic arts – 2645	Art of image recording (Academy of Fine Arts in Poznań) – 37
Social sciences	13	Economics – 31897	Interfaculty East Slavic studies – 6
Business and administration	15	Management – 50646	—
		Administration – 25678	—
		Finance and accounting – 20423	—
Legal	1	Law – 29900	—
Journalism and information	2	Journalism and social communication – 7783	—
Life sciences	7	Environmental protection – 15899	Neurobiology (Jagiellonian University) – 51
Physical sciences	15	Chemical sciences – 9675	Macrofaculty (Bioinformatics and biology of systems) – 46
		Geography – 7453	Macrofaculty (nanostructural engineering) – 53
Mathematics and statistics	4	Mathematics – 11685	—
Computing	4	Information technology – 35736	Technical application of Internet – 60
Health	13	Medicine – 18594	Dental hygiene (Pomeranian Medical Academy in Szczecin) – 10
Social welfare	2	Social work – 2473	—
Engineering and engineering trades	24	Mechanics and construction of machines – 18917	Macrofaculty (engineering and systems of agricultural management) – 26
Manufacturing and processing	13	Production management and engineering – 19118	Macrofaculty (aquaculture and food safety) – 21
Architecture and building	5	Construction – 25351	Macrofaculty (architectural engineering) – 40
Agriculture, forestry and fishery	5	Agriculture – 6947	—
Veterinary	1	Veterinary – 3968	—
Personal services	3	Tourism and recreation – 22296	—
Environmental protection	4	Environmental engineering – 16896	Macrofaculty – environmental engineering and power – 24
Transport services	2	Transportation – 7672	—
Security services	33	National security – 3124	Other fields (Ministry of National Defence) – 33

Source: Own study based on GUS.

Already a preliminary glance at the table above makes it possible to conclude that the range of opportunities addressed to students of humanities seems to be richer than the one addressed to people focused on sciences and engineering fields. In this case, it is enough to compare at least the number of fields within the group of

Fields of education in institutions of higher education

humanities (87), with the number of fields in the engineering and engineering trades group (24). If we account for the fact that the number of fields of education is strongly correlated with the number of places available in individual fields, which is even greater in the case of humanities and social sciences, we can conclude that the Polish academic sector as a whole offers a portfolio that is to a greater degree focused on humanities and social sciences, and to a lesser – on sciences and engineering courses. It does not, however, mean that sciences and engineering fields do not keep up with the humanities, and are not developing their educational portfolio, yet this development is somewhat lagging behind and takes place currently mostly under the influence of a large volume of public funds that are channelled on the promotion of technical education and sciences. To give an example, in the coming academic year (2011/2012), many institutions of higher education, including technical universities, will open new, unique fields, namely eco-physics, nuclear energy, chemistry in construction, interactive marketing, and operation of LNG terminals.¹¹

Moreover, when we compare the fields of education with largest number of students in the first and in the latter group, there are decidedly more students in the most popular fields in humanities than in the most popular ones in engineering fields. In this case, we can take as the example teacher training and general education, which provides tuition to nearly twice as many students as construction, that is the field with the largest number of students among the fields in engineering and engineering trades. The specific division of the education market into humanities and social studies, which theoretically enjoy a larger educational portfolio and larger enrolments on the one hand, and the engineering fields with smaller numbers (true both for the number of students and the number of profiles of education on offer), an important question arises, namely whether the existence of the range of fields being developed in this way in humanities and social science increases or limits the market opportunities of people studying in these fields?

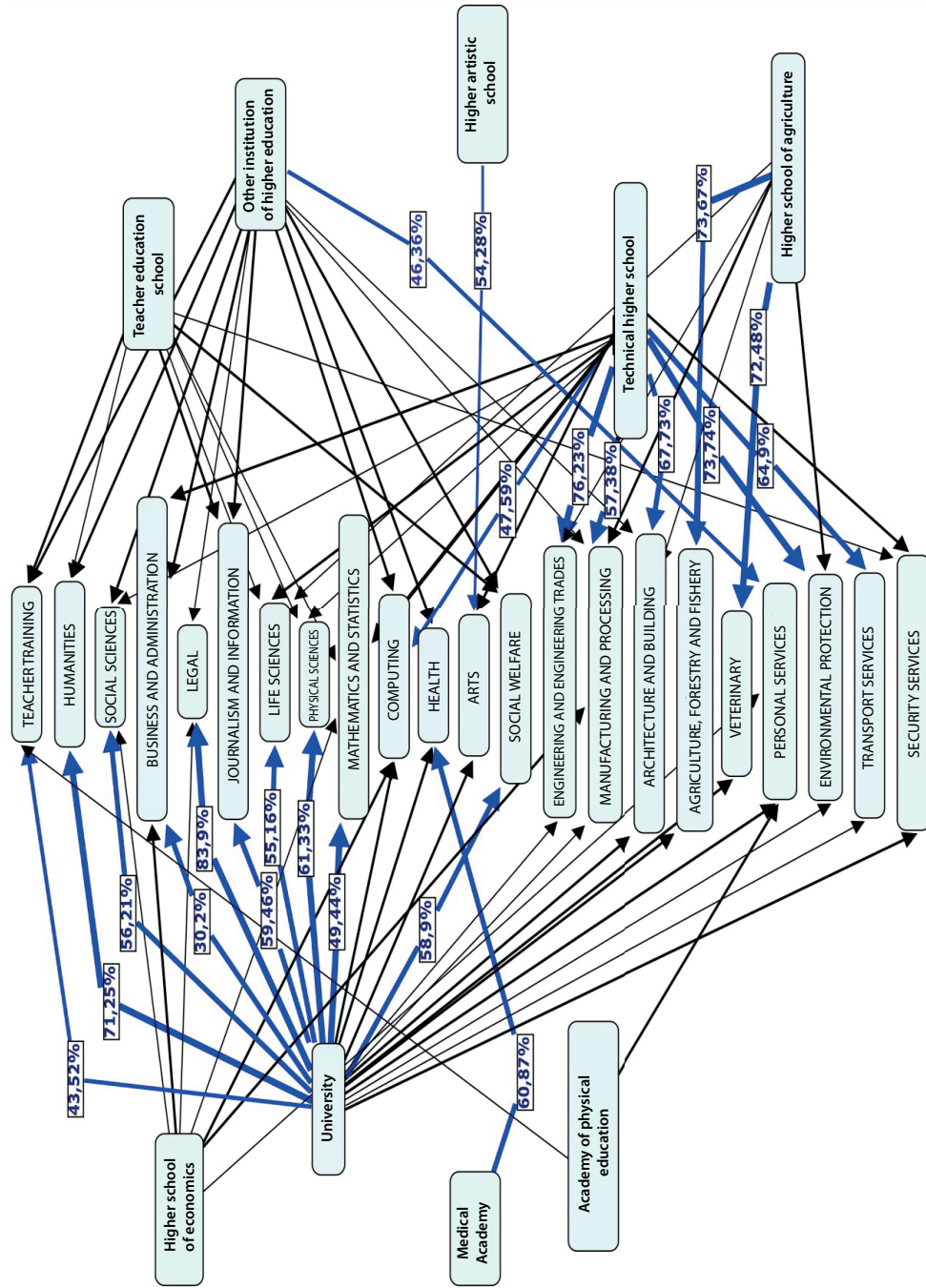
Supply of fields of education at the level of higher education

The range of the fields offered by an institution of higher education does not necessarily have to be tantamount to the volume of supply of specific qualifications. In other words, there may be schools that have an extensive range of education on offer, yet their market power (measured by the percentage of students receiving education in the field X in the given school) is relatively low. Before, therefore, we begin to formulate preliminary conclusions concerning the academic sector in Poland, we should address the exceedingly important question, namely the division of the market of academic education into larger or smaller zones of influence of the individual types of institutions of higher education (see: Figure 2). Summing up the data in the chart below,¹² it must be stated that the education market at the level of higher education is divided into two types of schools: universities and technical universities. In this market, universities are responsible for education of more than every other student learning in the following fields: education, humanities, social sciences, business and administration, law, journalism and information, life sciences, physical sciences, mathematics and statistics and social services. Universities have nearly entirely dominated the market of education in law (84% of the market) and humanities (71%). The other part of the market of the academic education belongs to higher schools of engineering, which provide education to the majority of students in the following fields: transport services, environmental protection, architecture and building, manufacturing and processing, engineering and engineering trades, and computing. The remaining part of the market is divided between the institutions of higher education that can be classified into two types: schools specialising in a narrow specialisation (e.g. medical schools, higher schools of arts, academies of physical education) and schools that share a fragment of the education market with universities and technical universities, designing their profile of education rather broadly (e.g. higher schools of economics, other institutions of higher education, including mostly non-public ones). It is worthwhile to address the fact that the schools classified into the group “other institutions of higher education” group, with dominant non-public ones, have managed to dominate one of the market niches, mainly education in personal services (fields: tourism, recreation, cosmetology, sport).

11 “Rynek tworzy kierunki studiów – zobacz jakie ruszą w nowym roku akademickim” (“The market creates fields of studies, see what fields will be launched in the coming academic year.”) *Dziennik Gazeta Prawna* [18.04.2011].

12 The figure below does not account for the following types of institutions of higher education:
– Merchant marine academies (providing education to the total of 19.62% of students of fields from the transport services group),
– Academies of the Ministry of National Defence (which provides education to 24.41% of students of the fields from the security services group),
– Academies of the Ministry of Interior and Administration (which provide education to 20.46% of students of the fields from the security services group).

Figure 2
Division of the education market at the level of higher education between individual types of schools
(based on the classification of the Central Statistical Office)



The values (in %) in the chart above denote the percentage of students learning in a field that belongs to the given group (e.g. law), who study in the school of specific type (e.g. a university). These values were quoted only for the types of schools that provide tuition to the largest proportion of students in the given field. The thicker the line, the higher the percentage of students in the given field learn in the school of the given type.

Source: Own study based on GUS.

Fields of education in institutions of higher education

Strongly connected to the fields delivered by institutions of higher education is the supply of specific qualifications. In the simplest manner, it can be characterised by the analysis of data concerning the number of students receiving education in individual types of schools, who study in specific fields in the given mode of education (intramural or extramural). The data listed in the table below show how many students receive education in public and non-public institutions of higher education, and how many in intramural and extramural studies. Clearly visible is the fact that the Polish system of higher education is based mostly on public universities (approximately 70% of students of first- and second-cycle studies were admitted to those in 2009). It is, however, not an exceptional situation, as comparing the proportion of students of public institutions of higher education in the total number of students of all institutions of higher education in other countries, in Poland it proves to be relatively low. For example, in the United States public institutions of higher education provide tuition to 75% of students, in Australia and Denmark – to 98%, and in Canada and Greece – to as many as 100%.¹³ Naturally, the question of the relatively lower level of resorting to paid studies is a separate matter. Extramural studies are becoming an increasingly more important channel of transmission of qualifications, with the recruitment of nearly a third of the students of first-cycle studies in public schools and nearly 60% of students of master degree studies in 2009. In non-public schools, this percentage is even higher: in 2009, approximately 80% of students of bachelor (BA/BSc) studies began their education at extramural studies. In the case of second-cycle studies conducted in these institutions of higher education, the percentage grew to 95%.

Table 6

Recruitment to studies in the academic year 2009/2010 (universities, supervised by the Ministry of Science and Higher Education and non-public universities)

	first cycle and unified master degree studies		second cycle studies	
	total	including intramural	total	including intramural
Total	436 732	242 147 (55% of all students)	138 631	43 710 (31%)
Public schools	303 632 (70% of all first-cycle students)	216 393 (71% of students of public schools)	95 646 (69% of all second-cycle students)	41 619 (43% of public second-cycle schools)
Non-public schools	133 100 (30% of all first-cycle students)	25 754 (19% of students of non-public schools)	42 985 (31% of all second-cycle students)	2 091 (5% of non-public second-cycle schools)

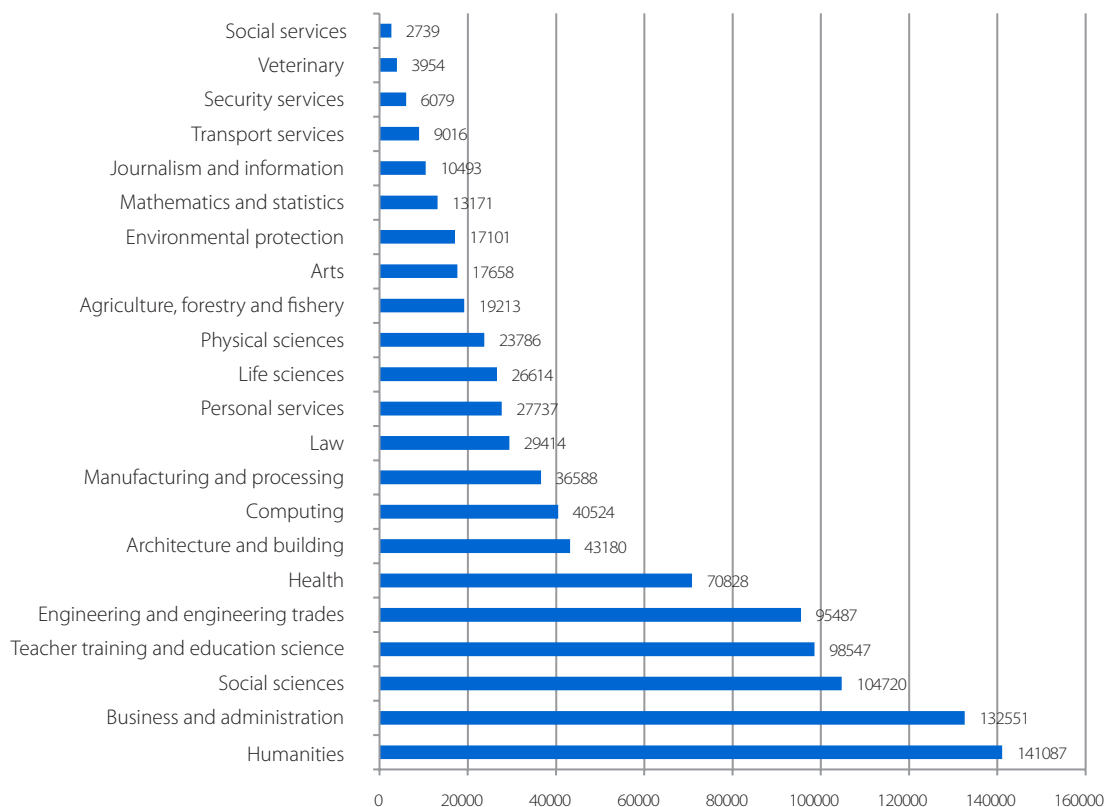
Source: Own study based on Ministry of Science and Higher Education data, <http://www.nauka.gov.pl/szkolnictwo-wyzsze/dane-statystyczne-o-szkolnictwie-wyzszym/> [19.04.2011].

As has been stated before, fields in humanities offer the most extensive range of education, and also enrolment of most students. It is therefore easy to guess that the supply of professionals in this field will be extremely high. The chart below shows that the largest number of students in the academic year 2009/2010 were learning in the following fields: humanities, business and administration, social and behavioural science, and teacher training and education science. The engineering and engineering trades fields, that is the ones for which the market generates greatest demand at the moment, came only fifth in the number of students being educated. Already at this stage of the analysis, the question should be asked whether such a structure of education of professionals, with the domination of “soft” areas, is justified, together with a question about the further prospects of growth for the academic sector, which depend not as much on its internal policies, but primarily on the future choices of candidates for students.

Chart 1

First cycle and second cycle students and students of unified master degree studies, broken down by groups of fields of education

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Source: Own study based on GUS.

A good illustration and at the same time a complementation of the analysis of the education portfolio in institutions of higher education are the claims concerning the changes in choices of fields of education among young people graduating from secondary schools, which were published in the report of the Central Statistical Office entitled *Szkoły wyższe i ich finanse w 2009 r. (Institutions of higher education and their finances in 2009)*.¹⁴ They show that:

- in the academic year 2009/2010, most students were educated in the following fields: humanities, business and administration, social and behavioural science, and teacher training and education science, yet compared to the previous years, the interest in humanities, social sciences, and computing decreased,
- the interest in the following fields is growing: security services, health care and welfare, and also architecture and building.¹⁵

References to the claim about the downward trend in education in humanities and social sciences, are made in the further part of the report.

Popularity of fields of education

Altogether, 436,732 people were admitted to the first year of studies beginning in the academic year 2009/2010 to institutions of higher education supervised by the Ministry of Science and Higher Education and to non-public institutions of higher education (to the first-cycle studies and unified master degree studies), and further 138,631 people were admitted to second cycle studies.¹⁶

¹⁴ Detailed information about the numbers of people studying in individual fields of education is provided in the annex.

¹⁵ *Szkoły wyższe i ich finanse w 2009 r.* (2010), GUS, Warszawa, p. 28, http://www.stat.gov.pl/cps/rde/xbcr/gus/PUBL_e_szkoły_wyższe_2009.pdf [16.03.2011].

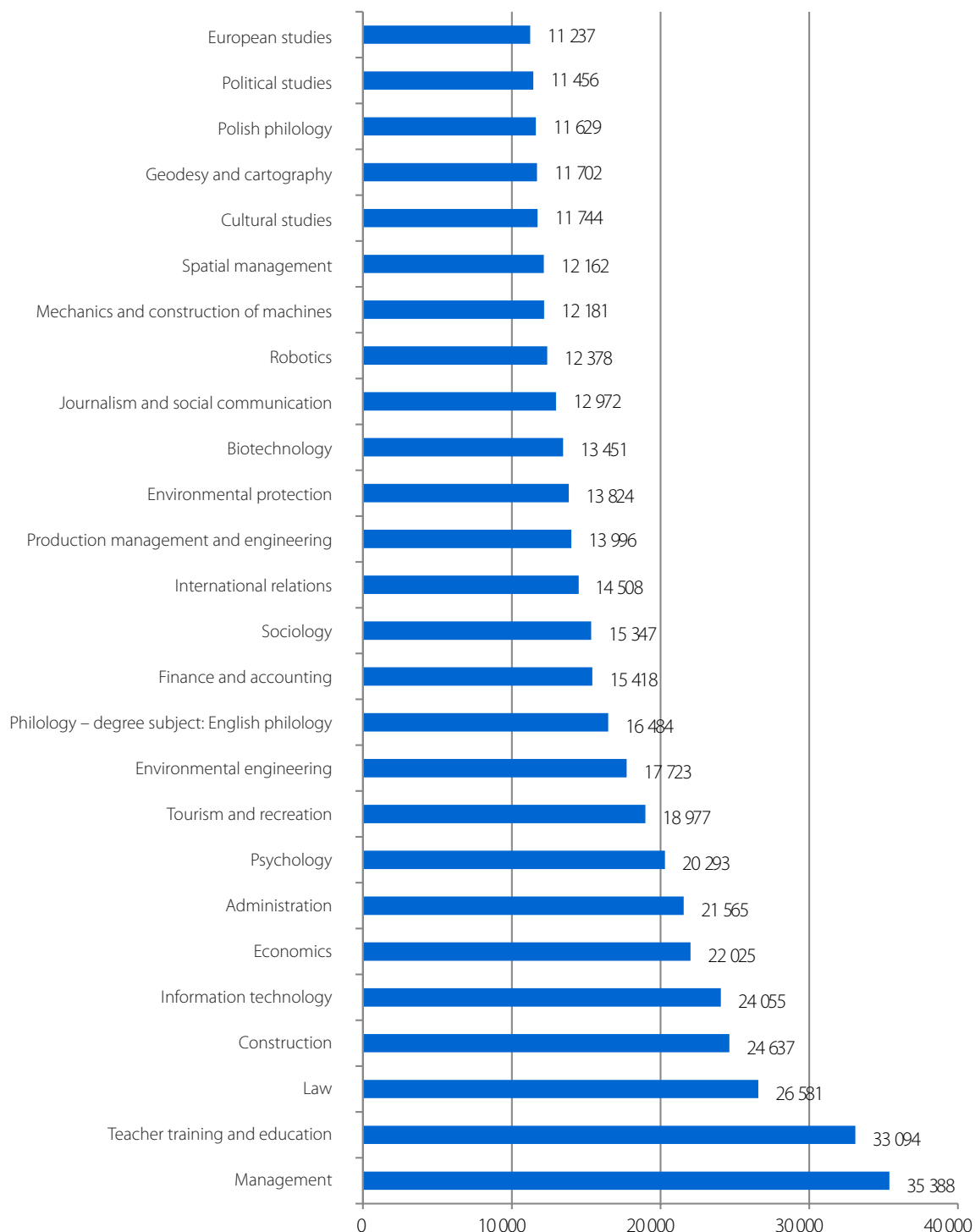
¹⁶ Ministry of Science and Higher Education, Department of Supervision and Organisation of Higher Education (DNOSW, 2010), Information about the results of recruitment to higher education studies for the academic year 2009/2010 in the institutions of higher education supervised by the Minister of Science and Higher Education and non-public schools http://www.nauka.gov.pl/fileadmin/user_upload/szkolnictwo/Dane_statystyczne_o_szkolnictwie_wyższym/20100111_WYNIKI_rekrutacji_2009_GS.pdf [26.03.2011].

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In the same year, the most popular fields of education in intramural studies of the first cycle and unified master degree studies¹⁷ were: management, teacher training and education, law, and also construction, and computing. Among the most popular fields of education (over 10,000 candidates) only eight are sciences, while most are social sciences, humanities, and business and administration studies.

Chart 2

Most popular fields in first-cycle intramural studies and unified master degree studies by the number of candidates (10,000 and above)



Source: Own study based on *Ministry of Science and Higher Education, Information about the results of recruitment to higher education studies for the academic year 2009/2010 in the institutions of higher education supervised by the Minister of Science and Higher Education and non-public schools.*

¹⁷ We assumed the number of candidates to a field as the indicator of popularity of the given field of education.

Such a frequent selection of such fields as social and behavioural science, humanities, and business and administration may be caused by two factors. First, students may be especially interested in these fields, and secondly – the institutions of higher education themselves may generate greater or smaller demand for specific fields of education, by increasing or decreasing enrolment. An alternative indicator of interest in the specific field of studies is the number of people per one place (seat) in the given field. Such information is contained in the table below, which allows drawing an interesting conclusion. When the ranking follows the number of applications to individual fields, the leaders include social studies, humanities, business and administration (with the exception of construction and computing), yet when we count the number of people per place, the definite winners in the ranking are the more varied profiles of education (both sciences, and social and economic), including also a field of arts – production of film and television image, and photography, veterinary, geodesy and cartography, but also psychology, journalism and social communication, and social politics. What can seem surprising is the lack of information technology (computing) among the fields of education with strongest competition, which can be the result of the slight drop in the interest of candidates in studies in information technology fields already mentioned.

Table 7

Most popular fields in first-degree intramural studies and unified master degree studies, by number of candidates per place (3 and more)

Field of education	Number of candidates to a place
Production of film and television image, and photography	13.8
Veterinary	7.8
Geodesy and cartography	7.7
Psychology	7.1
Spatial management	6.4
Dietetics	5.6
Journalism and social communication	5.1
Environmental protection technologies	5
Biotechnology	4.5
Biomedical engineering	4.5
Social politics	4.5
Law	4.5
European studies	4.3
Sociology	4.3
Cultural studies	4.2
International relations	4.2
Theatre studies	4.2
Papermaking and printing	4.1
Power industry	3.9
Robotics	3.8
Chemical and process engineering	3.7
Aviation and aeronautics	3.6
Transportation	3.6
Technical physics	3.5
History of art	3.5
Ocean engineering and ship technology	3.5
Architecture and urban studies	3.4
Construction	3.4
Material engineering	3.4

Source: Own study based on *Ministry of Science and Higher Education, Information about the results of recruitment to higher education studies for the academic year 2009/2010 in the institutions of higher education supervised by the Minister of Science and Higher Education and non-public schools.*

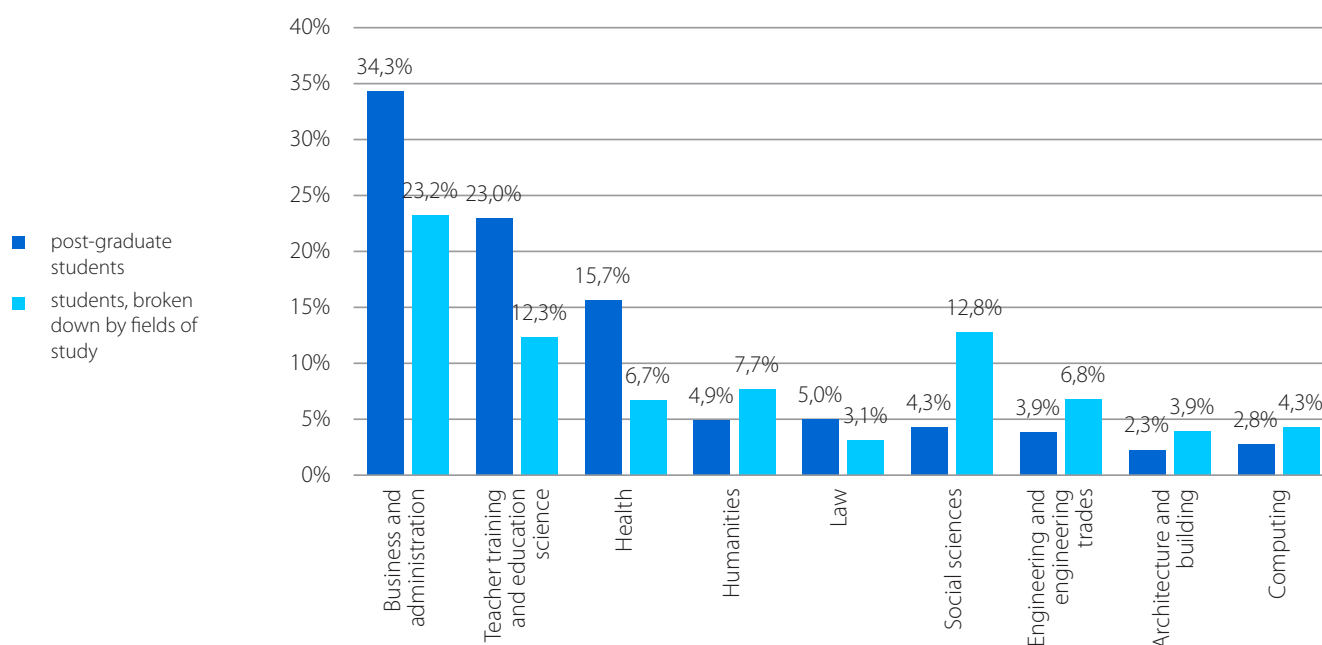
Fields of education in institutions of higher education

The popularity of linguistics is strongly related to the rarity of the studied language, which is to provide the graduates of such fields of education with a high competitive edge in the market in future. This is probably the reason behind such a great interest in Japanese studies (13 people to a place), Swedish philology (7.1), Arab philology (6.9), and Czech philology (6). Moreover, the Spanish language (6.5 people to a place) is increasing in popularity, while English philology (3.5) has somewhat dropped in the ranking of popular fields of education in language, yet it still remains in the lead (Annex, Table 1A).

Popularity of fields of education can be seen from yet another perspective: by comparing the structure of education (broken down by fields of education) at the level of higher education with the structure of education in postgraduate studies. The chart below shows certain significant differences between these structures. First, students relatively more often resorted to additional education in fields of education within such groups as business and administration, teacher training and education science, health, and law. This allows the statement that either the skills and knowledge they gain there are of high practical use (useful in professional life) or are necessary for their work, for example due to legal regulations that enforce specific qualifications

Chart 3

Participants of postgraduate studies and students, by groups of fields of education



Source: Own study based on GUS – BDL.

Analogously, we can mention these fields of education that emerge relatively less often in postgraduate than in higher education. They are primarily the following fields: social studies, humanities, and also engineering and engineering trades, architecture and building and computing.

Regional specificity: academic centres vs. the periphery

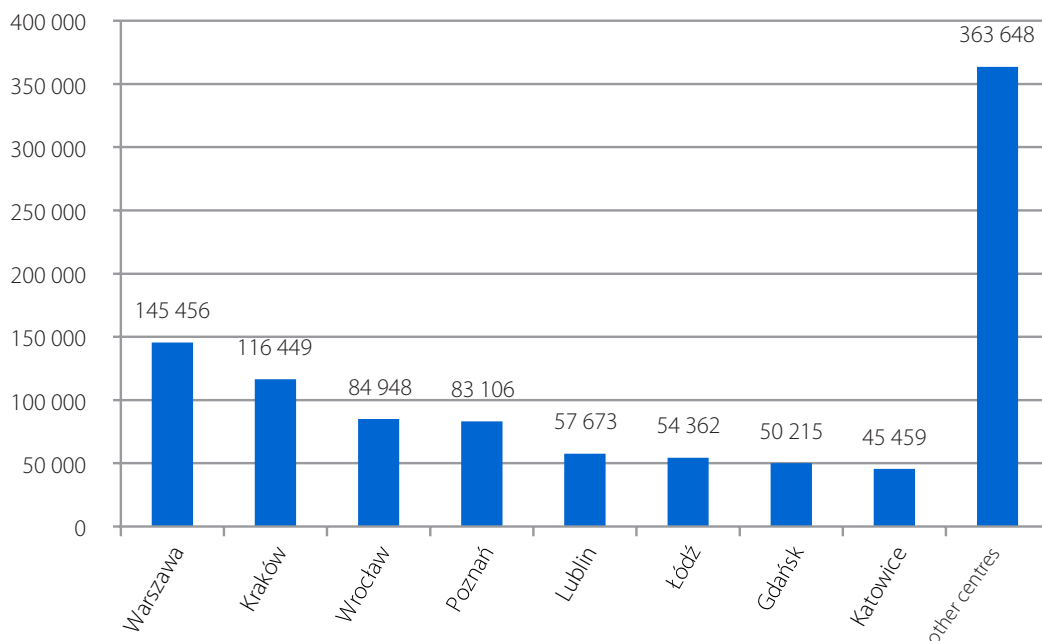
As far as in the case of majority of analyses prepared for the needs of designing interventions in labour market, the breakdown by administrative region (voivodeship) and region plays an exceptionally significant role, in the case of institutions of higher education, we will focus not as much on geographic regions but rather on specific academic centres. More important will be the information that allows characterising the main competitive advantages of the given academic centre than aggregated data concerning the entire region, which in many cases may lead to erroneous conclusions, for example about the demand for qualifications in the given geographic area. Assuming that a large majority of institutions of higher education is predestined to supra-regional education, we resigned from the simple division into administrative regions, and took a look at the academic

sector from the perspective of operation of the main academic centres: Warsaw, Kraków, Wrocław, Poznań, Lublin, Łódź, Gdańsk, and Katowice.¹⁸ Educated in these centres are more than 60% of all the students; most of them in Warsaw (over 145,000), and Kraków (over 116,000), and fewest in Katowice (over 45,000).

Fields of education in institutions of higher education

Chart 4

Number of students in Poland's largest academic centres



Source: Own study based on GUS.

In the further part of the report, we will form numerous conclusions concerning the academic centres listed above, which is why it is worthwhile to provide a short characteristics of each of them, paying attention to the specificity of the profile of education, but also to the higher education resources of every hub.

Obviously, the most developed academic centre is Warsaw, whose market of higher education consists of as many as 72 schools (mostly non-public) including one technical university. The structure of education in the Warsaw hub slants rather towards the following fields: education, humanities and arts and social sciences, business and law (with 56% of Warsaw students learning in these fields), even though it is not as "humanised" as the structure of education in Katowice. Among Katowice students, only 14% learn in sciences and engineering fields, and as many as 68% choose education in humanities and arts, social sciences, economy, and law. The most advantageous structure of education in sciences is present in Wrocław and Gdańsk, as both the centres educate as many as approximately 40% of students in sciences and engineering fields. The situation in Kraków is not so bad either, as it is the only academic centre to have two technical universities, and has 36% of students learning sciences and engineering.

¹⁸ The centres were selected on the grounds of: *Szkoly wyższe and ich finanse w 2009 r. (Institutions of higher education and their finances in 2009 (2010)*, GUS, Warszawa, http://www.stat.gov.pl/cps/rde/xbcr/gus/PUBL_e_szkoly_wyzsze_2009.pdf [16.03.2011].

Table 8
Characteristics of main academic centres¹⁹

Centre	Number of schools	Number of technical universities	% of students of education, humanities and arts, and social sciences, business and law	% of students of sciences and engineering
Warszawa	72	1	56%	27%
Kraków	19	2	50%	36%
Wrocław	25	1	44%	40%
Poznań	25	1	56%	24%
Lublin	9	1	60%	21%
Łódź	23	1	54%	31%
Gdańsk	12	1	45%	39%
Katowice	15	1	68%	14%

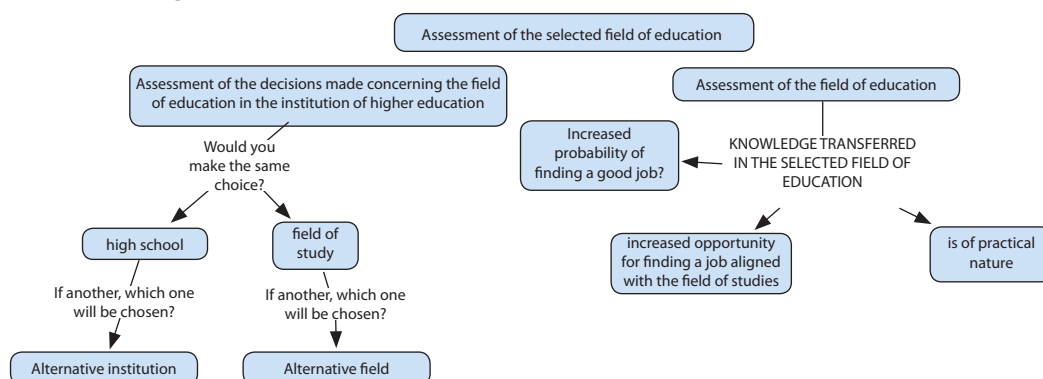
Source: Own study based on GUS.

4.2. Assessment of the decision concerning the selection of the institution of higher education and chosen field of education

The simplest indicator of efficiency of education at higher level is the professional success of the graduates of the institution. In the future, in line with the amendment of the Act Law on higher education, the success (or its lack) will be monitored by every institution of higher education. Today, however, credible information is lacking, even concerning which fields of education, and which institutions of higher education generate greater risk of the graduates finding themselves among the unemployed. In this chapter, we examine the processes of assessment of individual fields of education, not from the point of view of objective indicators, but rather from the perspective of evaluation that students learning in these fields are ready to provide.²⁰ First of all, we are going to perform an *ex post* evaluation of the decision concerning the selection of the given field of education in the given school, asking the respondents whether – looking at the decision from the perspective of time – they would again decide to study at the same institution of higher education, and in the same field. The second part of the chapter analyses which fields of education are assessed higher as far as the usefulness of the knowledge and skills obtained go, whether they increase the opportunity for finding a good job, and whether they increase the opportunity to find work aligned with the field of education/the occupation learnt.

Figure 3

Plan of the chapter on assessment of the selected field of education



Source: Own study.

¹⁹ Key academic centres are characterised in the table.

²⁰ This assessment is averaged, hence reading the results of the analyses, it must be borne in mind that within the groups of fields with lowest marks, there are also fields that received high marks, and also among the groups with highest numbers of points, there are also fields that were assessed as poor (in each case, we will try to account for the internal differentiation of the groups studied).

Assessment of the decisions related to education

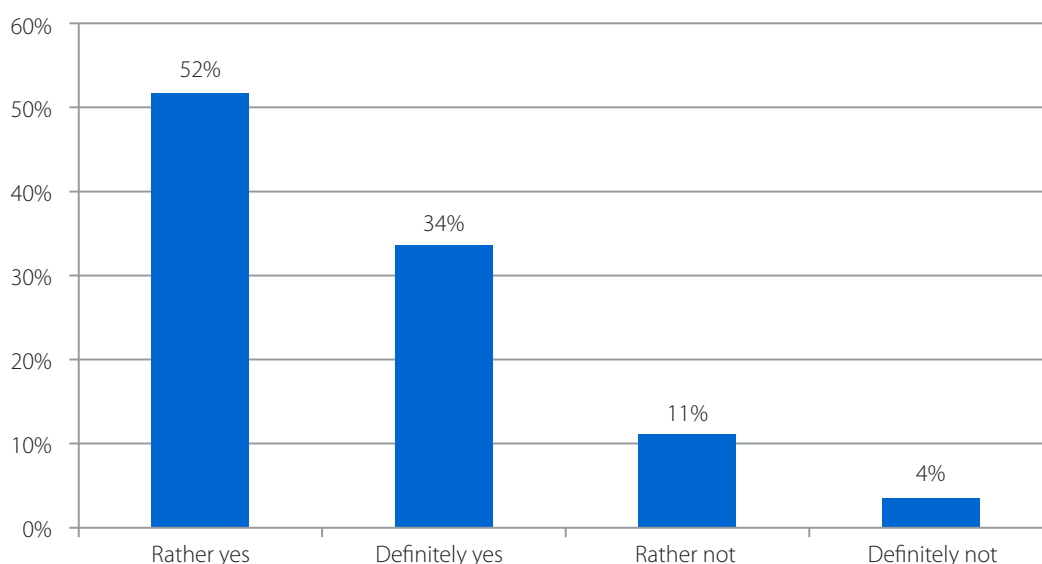
As mentioned in the introduction to this chapter, this part of the report examines how the respondents assess the decisions they made in reference to the selection of the institution and the field of education. There are many factors, both individual and institutional, that may influence these assessments. In the case of those who design educational policies, the main factor they can influence are the features of the institutional environment. Therefore, it is worth investigating how these features increase or decrease the opportunity of the positive assessment of the institution/field by the students.

The chart below shows that a significant majority of people learning in institutions of higher education are satisfied with the selection of the institution where they study. Only 15% of them declare that they would not make the same choice again.

Assessment of the decision concerning the selection of the institution of higher education and chosen field of education

Chart 5

Today, looking at everything from the perspective of time, would you make the decision to study at the same institution of higher education again? (N = 30935)



Source: Own study based on: *BKL Study – Study of university students, 2010*.

The group of respondents we find of special interest are people who declared that at this moment they would not decide to start education in the school they selected earlier (15%), which is a group composed of as many as 4550 final grade students. Therefore, it is worth considering who has a greater opportunity of finding themselves in the group of people dissatisfied with the given institution, by characterising these people by: the field in which they study, the institution in which they study (university, technical university, etc.), and whether they study in one of the largest academic cities.

Resorting to the classification tree²¹ (Annex, Figure 1A), we can divide the students-respondents into a number of relatively homogeneous groups (distinguished by the degree of satisfaction with the decision concerning the selection of the institution of higher education they made). First, attention must be paid to the fact that it is the type of school,²² that is the main factor that distinguishes to the greatest extent satisfaction with the selection of the specific institution of higher education. Most satisfied with their choice are the students of artistic institutions of higher education (as many as 93% of positive responses), followed by technical universi-

21 The classification tree is the simplest tool used for construction of descriptive models: it presents graphically the results of division of a set of observations (in this case: of students) on the N disjunctive subsets (homogeneous to the maximum extent with respect to the value of the dependent variational).

22 In this part of the report, "type of school" is construed in the so-called ministerial type (division into universities, technical universities, etc., available from the website of the Ministry of Science and Higher Education). We decided to move away from the classification of the Central Statistical Office (even though data in the majority of reports describing the academic sector in Poland are presented on its grounds) due to its high subjectivism in (and lack of clear rule of) assigning institutions of higher education to individual groups. For example, in line with the classification of the Central Statistical Office, the number of higher schools of economics includes both non-public and public schools with most varied (e.g., typically humanist) profiles of education, and the group of universities includes both classical universities and the so-called "adjectival" universities. With respect to the charges presented above, and in the context of the assumed research goals, we found such a classification useless.

Assessment of the decision concerning the selection of the institution of higher education and chosen field of education

ties and higher schools of economics (90% of positive responses), and least satisfied are the students of other schools, mostly private (77% declare that they would make the same decision concerning the selection of the institution of higher education). Among public schools, the lowest marks were assigned to: teacher education schools, state higher schools of vocational education, church institutions, and medical academies that were classified into a single group of institutions, in which approximately 18% of respondents would not decide to start education again.

Against the background of other schools, universities received average marks, with 15% of respondents learning in such schools declaring that from today's perspective, they would make a different decision concerning the selection of the institution of higher education. In this case, it is worth adding that not all universities are equal: only 10% of respondents from universities in Kraków and Warsaw would not decide to start education at the same school, while in the case of Wrocław and other small academic cities, this proportion grew to 18%. Similar was the case of technical universities and higher schools of economics, where two segments of schools are distinguishable: those whose students would definitely not resign from them (situated in the main academic centres, with the exception of Lublin – 9% of negative responses), and those enjoying somewhat worse opinion – small academic cities including Lublin (13% of negative responses). Responsible for somewhat poorer assessment of the small academic centres and Lublin are primarily the students in the fields of humanities and arts, health, and social services, learning at technical universities and high schools of economics situated in Lublin and small academic centres (as high as 24% of negative responses).

As has been mentioned, students of teacher education schools, state higher schools of vocational education, church, schools, and medical academies were the ones who – among students of all public institutions of higher education – most often declared that they would not make the same decision concerning the choice of the institution. Yet this group includes institutions with higher and lower ranking. First, most people learning in the schools of the types mentioned above in Katowice, Łódź and Wrocław would not choose the same institution of higher education again (27% of negative choices), while the number of such people was lowest in Warsaw (only 2%). In this type of institutions of higher education situated in Kraków and Poznań, 12% of students are not satisfied with the decision they made choosing the school, yet this satisfaction varies between students of various groups of fields of education, and for example in the case of groups of services and science, as many as 21% of students dissatisfied with the choice of institution were reported, while in the case of social sciences, business and law, only 2% approached their earlier choice critically.

In the case of the lowest ranking so-called "other schools" (mostly non-public), Gdańsk and Lublin received lowest marks (with 43% of respondents declaring that they would not make the same choice of the institution/school again), while the highest rates of negative responses (16%) were recorded in Katowice and Warsaw.

Majority of the students who declared that they would not select the same school (81%) claimed that they would embark on studies yet in an entirely different institution. It can be claimed therefore that dissatisfaction of the investigated students with the process of education in a specific institution of higher education is a greater problem than the loss of faith in the system of higher education as such and in the purpose of university education.

Figure 4

Characteristics of people who declare that from the perspective of time they would not decide to enter education at higher level



People who declare that from the perspective of time, they would not decide to enter education at higher level are (Annex, Figure 2A):

- students from the group of fields: engineering, manufacturing and construction, agriculture (usually studying in Gdańsk, Lublin, and Łódź – 48% of them declared that making the decision now, they would not decide to enter higher education)
- students of social sciences, business and law, health and social services, studying in Kraków, Warsaw, and Lublin (22% of those who made the declaration would not decide to start higher education again)
- students from the group of fields: services, education, humanities and arts, and science, studying in Poznań and in Warsaw (30% of those who declare that they would not decide again to enter higher education).

Two questions may seem exceptionally interesting for the people involved in designing educational policy. First, who is most often dissatisfied with making the decision to start education at higher level (see: Figure 4), and secondly – what alternative schools the respondents would select if they were making such a choice now. The table below points to the types of institutions of higher education to which the respondents would most gladly switch from the institutions in which they currently study.²³ Analysing the results contained in the table, a handful of conclusions worth following can be made:

- First, attention should be paid to the fact that every other respondent who declared that – if they could make the decision again – they would most certainly select another school, provided no specific answer what school it could be. We can expect, therefore, that our respondents would have selected another school because they are dissatisfied with the current one, yet they do not necessarily know which schools would be better for them.
- Secondly, schools of highest renown – universities and technical universities – belong to specific types of schools, whose students – dissatisfied with their alma mater – would still want to study at a university or technical university (but at another one).
- Thirdly, universities and technical universities (schools of highest renown) are selected as an alternative for the current institution of higher education by majority of students of all the other types of schools (which does not surprise, when one considers that a high proportion of students were forced to study at an institution/field of the so-called “second choice.”).
- Fourthly, only students of teacher education schools (3%), state higher schools of vocational education (5%), and other mostly private schools (6%) hardly ever declare that if they could again decide about the choice of the institution of higher education, they would choose the same type of school as the one in which they currently study.
- Fifthly, the institutions of higher education that are selected by students of all schools, yet not as often as universities and technical universities, are: higher schools of economics and medical academies.
- Sixthly, the largest dispersion of selections of alternative schools can be observed among students of private schools and state higher schools of vocational education.

Assessment of the decision concerning the selection of the institution of higher education and chosen field of education

Table 9

Institution of higher education that the respondent would choose if he or she could make the choice again vs. the school where he or she is currently studying (N = 1537, percentages in columns, based on observations)

INSTITUTION WHICH THE RESPONDENT WOULD CHOOSE IF HE OR SHE DECIDED ABOUT ITS SELECTION NOW	INSTITUTION WHERE THE RESPONDENT IS CURRENTLY STUDYING						
	TYPE OF SCHOOL	universities	technical universities	teacher education schools	Institutions of higher education in agriculture	State higher schools of vocational education	Various schools
Universities	50%	26%	58%	20%	38%	47%	
Technical universities	24%	49%	27%	52%	14%	14%	
Higher schools of economics	6%	4%	1%	9%	5%	7%	
Teacher education schools	2%	2%	3%	0%	13%	3%	
Institutions of higher education in agriculture	6%	4%	3%	11%	4%	3%	
Academies of physical education	2%	3%	3%	2%	9%	9%	
State higher schools of vocational education	0%	0%	0%	0%	5%	0%	
Church institutions of higher education	1%	0%	1%	0%	0%	2%	
Various schools	3%	3%	1%	5%	4%	6%	
Higher schools of art	1%	3%	3%	0%	1%	3%	
Medical academies	7%	6%	3%	3%	5%	7%	
Number/Count	721	189	118	104	112	293	

Source: Own study based on: *BKL Study – Study of university students, 2010.*

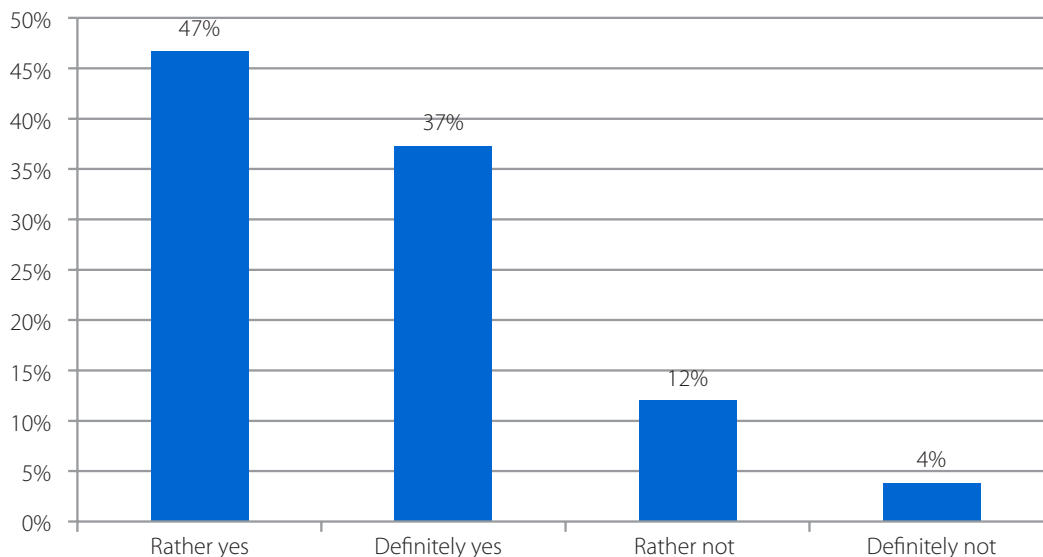
²³ Removed from the table where the columns whose count was below 100, i.e. the groups of fields in which fewer than 100 people mentioned a specific institution of higher education to which they would move from the school where they are currently studying.

Assessment of the decision concerning the selection of the institution of higher education and chosen field of education

The chart below shows how last grade students assess, from the perspective of time, the selection of their and not any other field of education. The proportion of people dissatisfied with the selection of the field of education is very similar to the proportion of people dissatisfied with the institution they selected (16% of the respondents), yet the responses do not overlap in all cases.

Chart 6

Would you choose the same field of education again? (N = 29870)



Source: Own study based on: *BKL Study – Study of university students, 2010*.

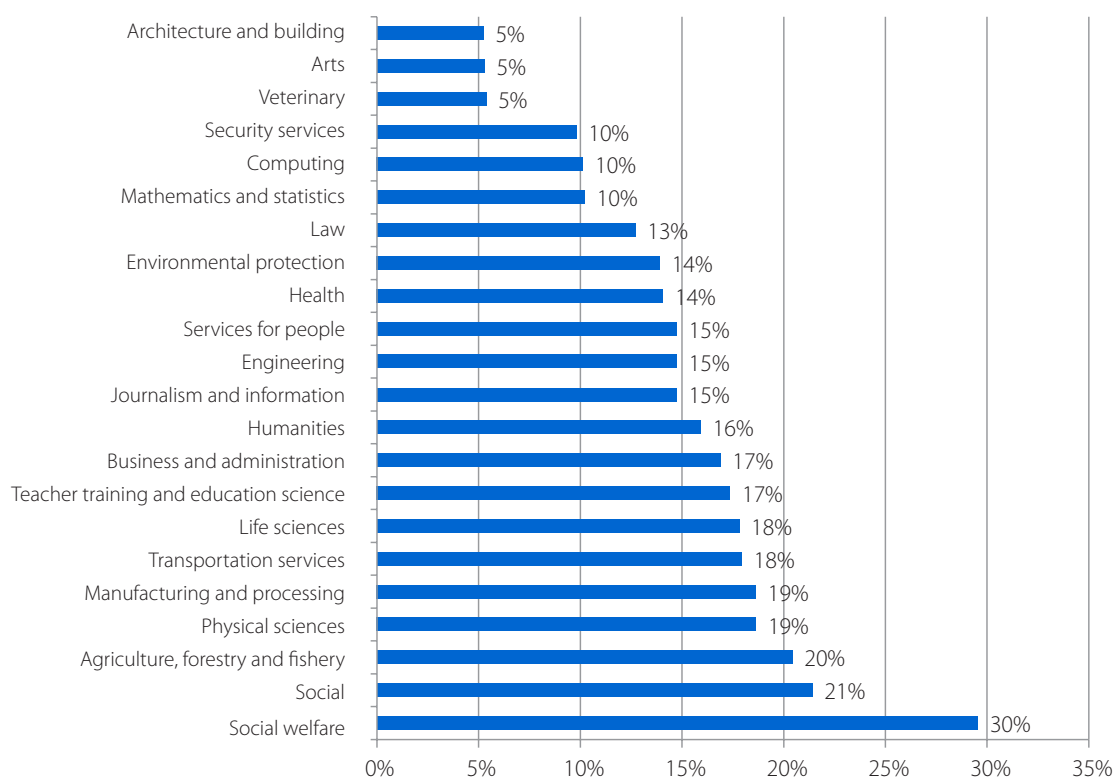
From the institutional perspective, it is worthwhile to take a look at those dissatisfied with the selection of the field of education, and analyse which features of the school where the respondents study increase their likelihood of joining the group of the dissatisfied. The factors that significantly explain higher or lower satisfaction with the selected field of education are: the field of education itself, the type of school, and the fact of embarking on education in a specific academic centre. Moreover, it is worth remembering that the type of school (public/non-public) differentiates the degree of satisfaction of students, yet only in the case of selected fields of education.

The data presented in the Chart 7 show that the highest percentage of students dissatisfied with the selection of the field of education is present in the following groups: welfare (30%), social sciences (21%), agriculture, forestry and fishery (20%). People most satisfied with the selection of the profile of their studies are students of the fields that belong to the following groups: architecture and building, arts, veterinary (with only 5% of dissatisfied students in each group).

Chart 7

Percentage of students in individual groups of fields of education who declare that they would not decide to study in the same field again (N = 29870)

Assessment of the decision concerning the selection of the institution of higher education and chosen field of education



Source: Own study based on: *BKL Study – Study of university students, 2010.*

The degree of satisfaction with the selected field of education is not the same within individual fields classified into larger groups. Within every group, fields with the largest percentage of students who declare that they would not decide to study the same field can be identified. They are:²⁴

- within the group of welfare studies: students in the field of social services (34% of the dissatisfied)
- within the group of social and behavioural science: students in the fields of European studies (40%), studies of the family (39%), political studies (28%), and sociology (26%)
- within the group of agriculture, forestry and fishery: students in the field of agriculture (27% of the dissatisfied)
- within the group of physical sciences: the students of geography (28% of the dissatisfied)
- within the group of teacher training and education science: students in the fields of pedagogics (28%), teacher training and education (25%)
- within the group of medical students in the fields of: medical analysis (39%), public health (26%), obstetrics (25%)
- within the group of engineering and engineering trades, students in the fields of: metal industry (31%), agricultural and forestry technology (39%).

Even though the declarations of repeated choice of the same field of education do not differ globally between public and non-public schools,²⁵ with control at the level of groups of fields, these differences (in the case of certain groups) proved to be significant. The chart below²⁶ shows the difference between the percentage of students of public and non-public institutions of higher education dissatisfied with the field of education

²⁴ Listed here are these fields in which at least 50 people were surveyed, and the minimum of 25% of people declaring that they would not decide again to study in the same field were identified among them.

²⁵ Difference of 3%, to the benefit of non-public institutions of higher education.

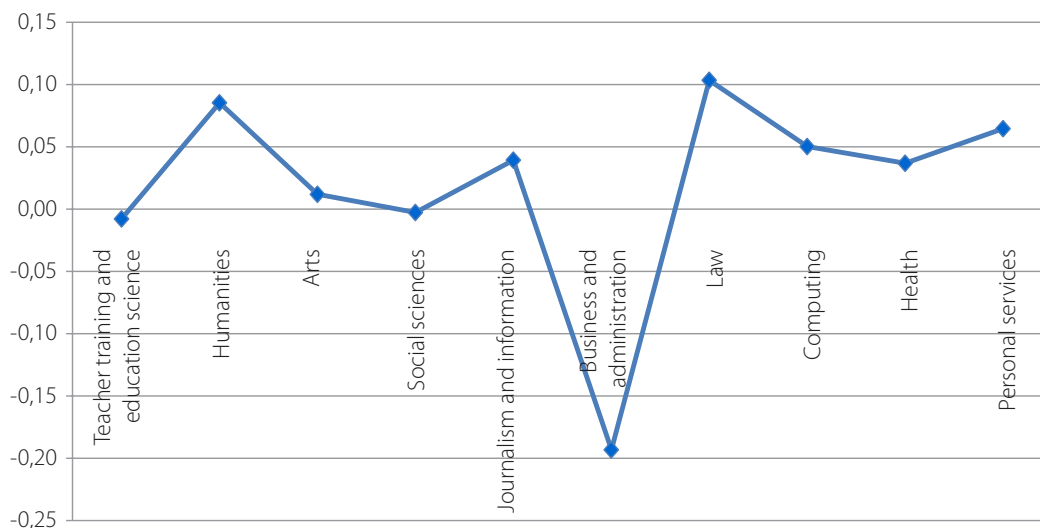
²⁶ Presented in the chart are only the groups of fields of education, in which both students of public and non-public schools were surveyed. Moreover, listed are the fields in which at least 50 people studying in public and non-public institutions were surveyed.

Assessment of the decision concerning the selection of the institution of higher education and chosen field of education

selected. The difference is calculated for individual groups of fields of education. Values above zero show that there was a higher percentage of the dissatisfied in public and in non-public schools within the given group, while the values below zero show that the opposite is true.

Chart 8

Difference between the percentages of students in individual fields of education, studying in public and non-public institutions of education, and declaring that they would not decide to study in the same field again (N = 29868)



Source: Own study based on: *BKL Study – Study of university students*, 2010.

The chart above makes it possible for us to classify groups of fields of education into three types:

1. The groups in which students in non-public institutions of education declare more often (than students of public schools) that – having now a repeated possibility of making the choice – they would choose the same field of education. They are the people studying in the following groups: humanities, journalism and information, computing, personal services, health, and business and administration.
2. The groups in which students at public institutions of education declared more often that – having a possibility of making the choice again – they would choose the same field of education. Classified into this category are only the students from the group of law.
3. Groups with no difference between the declarations of students of public and non-public institutions. These are the following groups: social sciences, arts, and teacher training and education science.

The degree of satisfaction with the decision concerning the field of education study differs not only between public and non-public schools, but also varies between the types of institutions of higher education analysed.²⁷ As far as in the case of the teacher training and education science group, the degree of dissatisfaction within various types of schools is relatively similar in the universities, church schools, and private schools (approximately 20%), in the group of humanities, a greater proportion of people dissatisfied with the field of education chosen is noticeable among technical universities (24% of the dissatisfied) and church institutions (22%). In the case of social and behavioural science fields, students more frequently regret the selection of the path of education at universities (24%), yet the dissatisfaction among the students in church schools (24%), technical universities (23%), and higher schools of economics (20%) is hardly lower (Annex, Figure 3A).

Summing up the considerations made above, it is worthwhile to address the fact that dissatisfied to the greatest extent with their choices are:

- students in the fields of humanities and social sciences learning in technical universities
- students of humanities and social sciences learning in universities
- students of law learning outside universities.

Moreover, it is worthwhile to pay attention to the fact that satisfied to the lowest degree with education in the field of computing are students of higher schools of economics (23%), and in the field of engineering and engineering trades – students of schools of agriculture (27%).

Further analysis discloses another factor which significantly differentiates the answers of the respondents to the question whether – if they could make the decision again – they would choose the field in which they currently study. This factor is the fact of studying in a given academic city. The decision tree provided in the annex shows that:

- the main factor that differentiates the choices of the respondents is the fact of studying in one of two main academic hubs (Kraków and Warsaw), as students learning there declare somewhat less often (12% compared to 17% of those learning in other centres) that they would like most to change their field of education
- not every field of education studied in Kraków and Warsaw receives equally high evaluation; the students of social sciences, business and law, science, engineering, manufacturing and construction would be more eager to change the field of education more often (15%), while a decision to take such a step would be made least often (3%) by people studying in the group of fields related to health and welfare
- in academic cities other than Kraków and Warsaw, the highest percentage of respondents (20%) would not decide again to study social sciences, and business and law; least satisfied with these fields of education are students of universities and teacher education schools (23%); dissatisfied to a smaller degree are students of higher school of economics, teacher education schools, higher schools of agriculture, medical academies, and private schools who study the in the fields from the group engineering, manufacturing and construction (22% of respondents from the group) (Annex, Figure 3A).

Unfortunately, only some of the nearly 5000 respondents who declared that they would not decide again to study in the same field answered the question concerning the field they would choose at present. The table below sums up the selections made by the respondents, pointing to the potential future directions of the flow of students between the individual groups of fields. The information contained in it is precious, as it shows which of the investigated groups are to the largest degree open to the possibility of studying in groups of fields other than the one selected earlier, and which people – despite their dissatisfaction with the field of education study – seek an alternative among similar fields.

Table 10

Field of education that the respondent would choose if he or she were to decide now about its selection vs. the field in which he or she is studying at present (N = 2746, % in columns, based on observations)

FIELD OF EDUCATION THAT THE RESPONDENT WOULD CHOOSE IF HE OR SHE WERE TO DECIDE ABOUT ITS CHOICE NOW	FIELD OF EDUCATION THAT THE RESPONDENT IS CURRENTLY STUDYING								
	Group of fields	Education	Humanities and arts	Social sciences, business and law	Science	Health and welfare	Engineering, manufacturing and construction	Agriculture	Services
	Education	19%	12%	6%	3%	8%	2%	2%	7%
	Humanities and arts	21%	34%	13%	6%	4%	5%	9%	10%
	Social sciences, business and law	39%	47%	64%	26%	18%	12%	19%	26%
	Science	5%	6%	6%	20%	5%	19%	9%	8%
	Health and welfare	13%	6%	6%	16%	64%	12%	12%	18%
	Engineering, manufacturing	9%	8%	16%	36%	7%	55%	38%	37%
	Agriculture	2%	1%	1%	3%	2%	3%	19%	3%
	Services	6%	6%	5%	9%	7%	5%	7%	5%

Source: Own study based on: *BKL Study – Study of university students, 2010.*

Analysing the table above, attention should be paid to a number of interesting questions:

- first, the groups most homogeneous in making the selection of an alternative field of education are represented by students of fields classified as health and welfare (as many as 64% would seek alternative fields of education within the same group), and also of social sciences, business and law (64% of choices within the same category)
- secondly, the most heterogeneous group are the students within the “services” group of fields, with only 5% of them ready to choose an alternative field of education from within the group²⁸
- thirdly, the potentially most attractive group of fields of education (both for the “humanists” and for “scientists”) are social sciences
- fourthly, despite intensive media campaigns, humanists still do not treat choosing fields in engineering, manufacturing, and science as an alternative option; the fields from this group are most attractive for people learning within the groups of services and agriculture; it can be guessed that there are a number of factors that influence such a status quo, of which the most significant is related to the lack of preparation (in compulsory and secondary education) of the future students to learn within a specific groups of fields of education (among others, there is too little emphasis on the teaching of sciences), and also formal conditions, for example related to the lack of compulsory examination in mathematics at the secondary school final (matriculation) certificate.

Moreover, it is worth adding that the fields that our respondents found a better alternative to the choice made a few years earlier are the fields that have for quite a long time enjoyed high popularity among students and include psychology (132 selections), construction (127), economics (117), law (113) and medicine (113).²⁹

Assessment of efficiency of education in institutions of higher education

The fact of greater or lesser satisfaction with the field of education entered is to a great extent related to the assessment of prospects for future employment. In the Study of Human Capital in Poland project, we asked the respondents to answer three questions significant for the evaluation of the impact of education on the individual fields, that is 1) whether the studies taught the respondent the practical use of the knowledge gained,

28 In this case, however, it must be remembered that the group consists of relatively few fields, hence the selection is limited. Nevertheless, the number of fields in the agricultural group is similar, and yet in their case a decidedly larger proportion of respondents (19%) dissatisfied with the studies so far would like to learn within the same group.

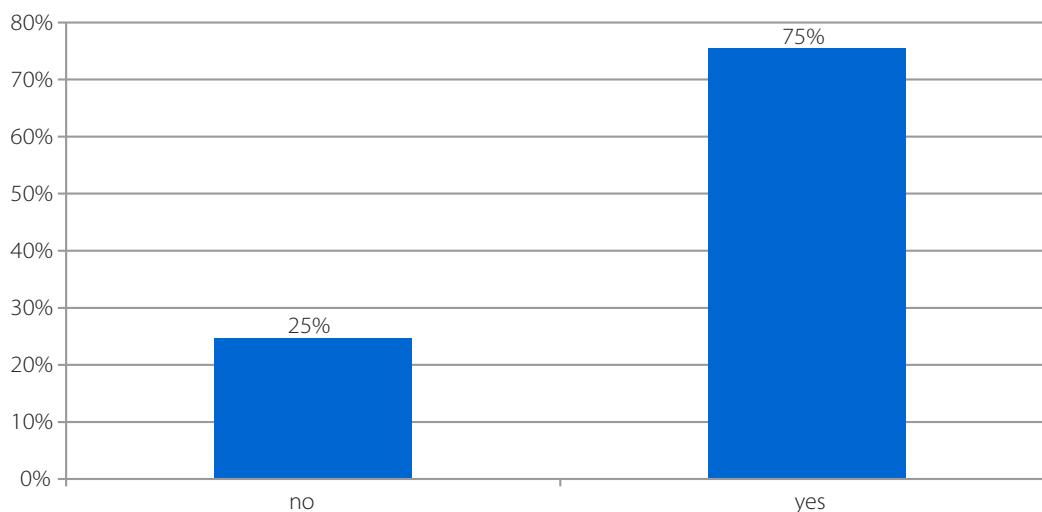
29 Listed are only the fields voted for by more than 100 people.

2) whether they believe that the knowledge and skills gained during the studies will increase their likelihood of finding employment, and 3) whether the knowledge and skills obtained during the studies will increase the chances of finding a job aligned with the field of education.

As has been mentioned before, one of the factors that significantly influenced the degree of satisfaction with the selected field of education is the fact of gaining (while studying) competencies that have practical application. Unfortunately, as many as a quarter of the respondents (over 7000 of students) declare that the knowledge transferred during education at higher level has no significant translation into practice.

Chart 9

Did these studies teach you practical use of the knowledge acquired? (N = 29391)



Source: Own study based on: *BKL Study – Study of university students*, 2010.

The practical dimension of the process of education is not assessed in the same way by all the students. For example, it received exceptionally low marks from the students in fields of education that belong to the following groups: veterinary (with 32% declaring that the studies provided practical knowledge), law (54%), and social and behavioural science (63%), while the same dimension is surprisingly highly assessed by the students in the following groups: medical (82%), agriculture, forestry and fishery (80%), life sciences (81%) and arts (85%) (Annex, Chart 1A).

The figure in the annex presents results of classification of students assessing the field of education in which they learn from the point of view of the practical use of the knowledge, using two independent variables (explaining their assessment): the field of education and the type of institution of higher education (in the division proposed by the Ministry of Science and Higher Education) (Annex, Figure 4A). The key factor that differentiates the assessment of the practical dimension of education is the field in which the respondent studies. On this ground, we can try to classify the fields into the groups rated higher and lower, according to the level of practicality of the process of education. The groups of fields which the students assessed highly from the point of view of the possibility of practical use of the knowledge gained, are: health and welfare (81% of the satisfied), and education, humanities and arts (80%), even though in the latter case, it is good to pay attention to the high level of variety in the level of satisfaction between various types of schools. Students in the fields of humanities are as a rule satisfied with the practical dimension of education if studying in state higher schools of vocational education, in art schools, in private schools, in higher schools of agriculture, and academies of physical education, and least often at the universities, even though in their case, it is worth paying attention to the fact that students of teaching are more dissatisfied than other representatives of the humanities. In the fields from the engineering, manufacturing and construction, science, agriculture and services groups, 77% of students rate the “applicability” of the knowledge gained during education highly.

In the case of people most satisfied with the practical dimension of education, that is students of the group of health and welfare, the practical dimension of knowledge is assessed highest by the students of technical

Assessment of the decision concerning the selection of the institution of higher education and chosen field of education

universities, higher schools of agriculture, academies of physical education, state higher schools of vocational education, and private schools (90% satisfaction), with somewhat lower marks among students at universities, teacher education schools, and church schools (74%).

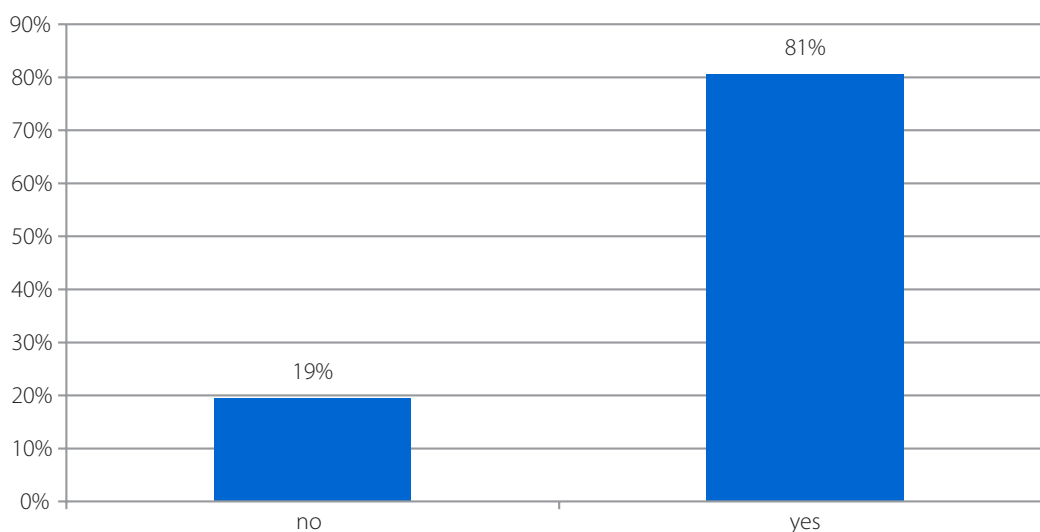
The ability of practical use of the knowledge obtained during education was assessed lowest by the students of social sciences, business and law (66% satisfaction). Within the individual types of institutions of higher education, these competencies were nevertheless evaluated differently: highest – the ones obtained at teacher education schools, higher schools of agriculture, state higher schools of vocational education, and private schools (76% satisfaction) and lowest – the ones obtained in the universities (57%).

The results of analyses presented above may be of some concern to the readers of the report, especially if we account for the fact that as a rule, the students of individual fields of education assessed lowest the types of schools that should specialise in education in the field evaluated (e.g., humanities and social studies in the case of universities receive lowest marks). We should nevertheless remember that the assessment of practical “applicability” of the knowledge acquired combines two elements: the assessment of the actual status quo (i.e. whether the studies are of practical nature) and the expectations that are imposed on the institution (to what degree, the studies are expected to have a practical nature). The analyses presented therefore show how the respondents perceive the practical dimension of education and not whether this dimension is actually practical, hence the low grades received by various types of schools may be related to the low “applicability” of the knowledge transferred in the process of education, but they may also be linked to the exceptionally high expectations that the students set for these academic institutions.

An exceptionally important element in the assessment of efficiency of education at higher level is the market success of the graduate. Let us therefore take a look how the respondents studying in various fields perceive their opportunities for finding a good job after completion of the studies. The chart below shows that optimism is high: only 19% of students of final grades believe that higher education will have no translation into their future occupational career.

Chart 10

Do you believe that the knowledge and skills you gained while studying will increase your chances to find a good job? (N = 28316)



Source: Own study based on: *BKL Study – Study of university students*, 2010.

The figure provided in the annex (Annex, Figure 5A) shows the degree to which the type of school graduated from and the field of education influence the opinions of respondents concerning the increase of the market opportunity resulting from the acquisition of appropriate knowledge and skills. It points to a powerful relationship between the optimism of the respondents concerning the career and the type of school where they study. The market success is most strongly linked to the process of studying by the students of technical

universities, higher schools of economics, academies of physical education, and artistic schools (87% of the respondents declared that the knowledge and skills gained during the studies will let them find a good job in future), even though in their case, the field of education significantly changes the proportions of optimists. In the institutions mentioned above, the future successful career is most strongly linked to the field of study by the students of the engineering, manufacturing and construction group (89%), which is also true of the following groups: services, education, humanities and arts, science, and agriculture (87%).

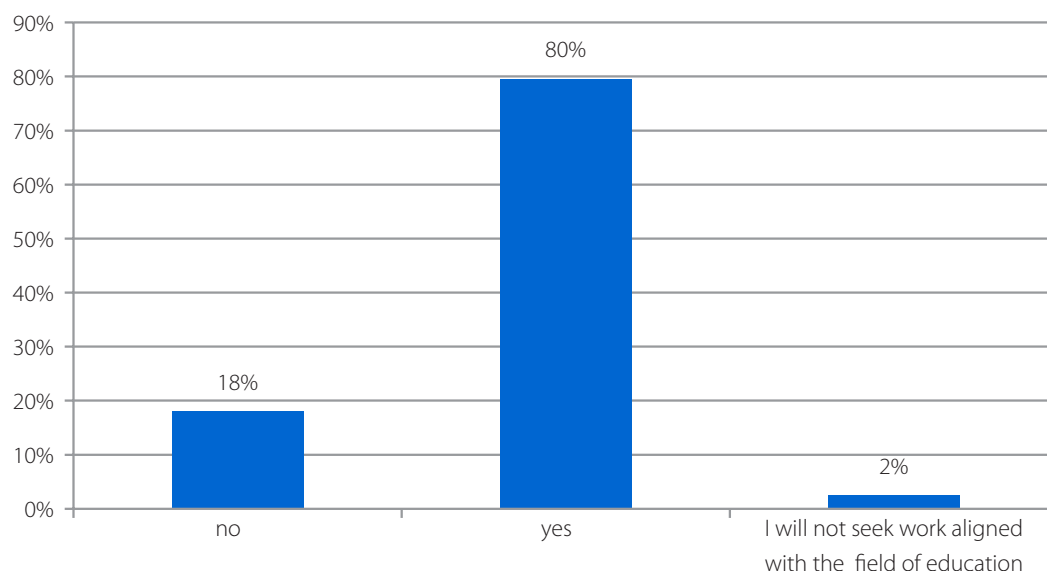
To a somewhat smaller degree, the course of education in the field completed is associated with a successful career by the students of social sciences, business law, and health and social services (with 84% of the respondents declaring that the knowledge and skills gained during the studies will let them find a good job in future), yet in the case of the students, optimism is greater among people graduating from higher schools of economy (90%) than among students of technical universities and academies of physical education (80%).

The link between their chances in the market and the field of education is perceived as decidedly weaker by the students of universities and church schools, where 75% of the respondents declared that the knowledge and skills gained during the studies will let them find a good job in future. Their number includes students who estimate the market significance of their field of education decidedly higher: they are the students in the group of engineering, manufacturing and construction, 85% of whom believe that knowledge and skills obtained during the studies are a precious asset in the market. At the same time, students studying at universities and in church schools in the groups of services, humanities and arts, social sciences, and business and law relatively less often associate the knowledge and skills gained during education with a successful career in future (72%). In the discussion concerning the maladjustment of education to the needs of the labour market, attention is increasingly often paid to the additional indicator of the market success of the students, which is not as much finding a good job but finding a job aligned to the profile of education.

The chart below presents that the optimism of the respondents related to the chance of finding employment in line with the field of education is as high as in the case of the question analysed earlier. First, only 2% of the respondents declared openly that they are not going to look for work aligned with the occupations learnt, secondly, as many as 80% of respondents believe that the knowledge and skills acquired during the studies will let them find a job aligned with the field of education. The belief in finding a job in line with the occupation learnt among the Polish students seems surprising because there is an increasingly insistent discussion concerning the continuously deteriorating situation of graduates of institutions of higher education in the market and the unemployment rate growing within that group.

Chart 11

Do you believe that the knowledge and skills you acquired during the studies will let you find a job aligned with the field of your studies? (N = 26980)



Source: Own study based on: *BKL Study – Study of university students, 2010.*

Assessment of the decision concerning the selection of the institution of higher education and chosen field of education

Let's now analyse which groups of students are most optimistic and which are most pessimistic in this aspect. Attention should be paid to the following:

- the field of education being the factor that to the greatest degree influences the answer of the respondents to the question whether they believe that the knowledge and skills gained during the studies will let them find employment in line with the field of their education in future
- the greatest optimists in this area are the students in the fields that belong to the engineering, manufacturing and construction, and services (86%), and health and welfare (88%), groups, and the greatest pessimists are the representatives of fields in the humanities, arts, agriculture (74% of positive responses), and social sciences, and business and law (73%) groups,
- the level of optimism of the representatives of social sciences, business and law is strongly differentiated by the type of school. Thus, the greatest optimists are the students of higher schools of economics (88% of them believe they will be able to find employment in their occupation), and the smallest – students of universities and state higher schools of vocational education (67% of analogous declarations), even though in the case of universities, the level of optimism was influenced by the fact of studying in Kraków and Warsaw, where 82% of students in the groups of social sciences, and business and law declared that the skills acquired during the studies will let them find employment aligned with the course of education.

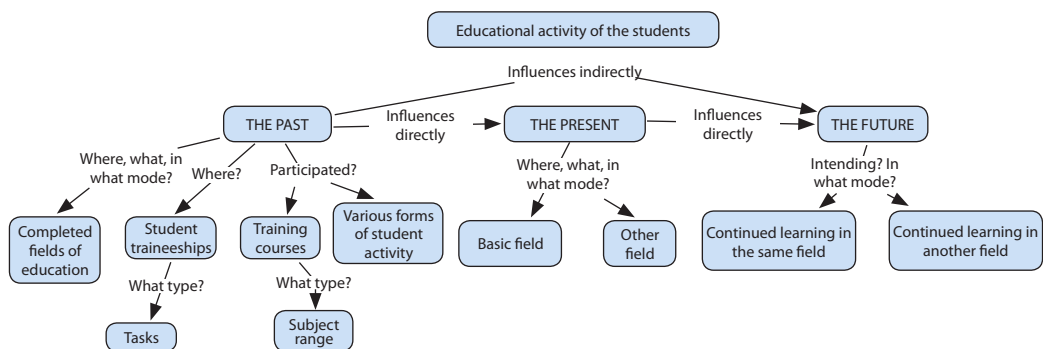
4.3. Educational activity of the students

To increase their market opportunities, students must undertake a number of difficult decisions that are frequently hard to reconcile. One of them is the decision about becoming involved in employment or more intensive activity in education. This chapter analyses the degree of involvement of students in education, (additional) training, and other activities that should increase their attractiveness as future employees.

Their actions will be analysed from two perspectives: first, the current level of involvement in various educational practices will be characterised, which includes the earlier decisions concerning the field of education, and secondly, an analysis of the educational plants of the students survey, with focus on the selection of the future field of education, will be made.

Figure 5

Plan of the chapter on educational activity of the students



Source: Own study.

Current and past education path

Success in professional life of graduates of institutions of higher education to a large extent depends on the field of education they graduated from. Yet it is not the only factor that increases the market success of young Poles – certain opportunities for maximising the opportunities can be a parallel course in education in another field, complementation of the missing qualifications in master degree studies, participation in internships and traineeships, and gaining experience at work in slightly different manner, for example, through increased social activity of the respondents.

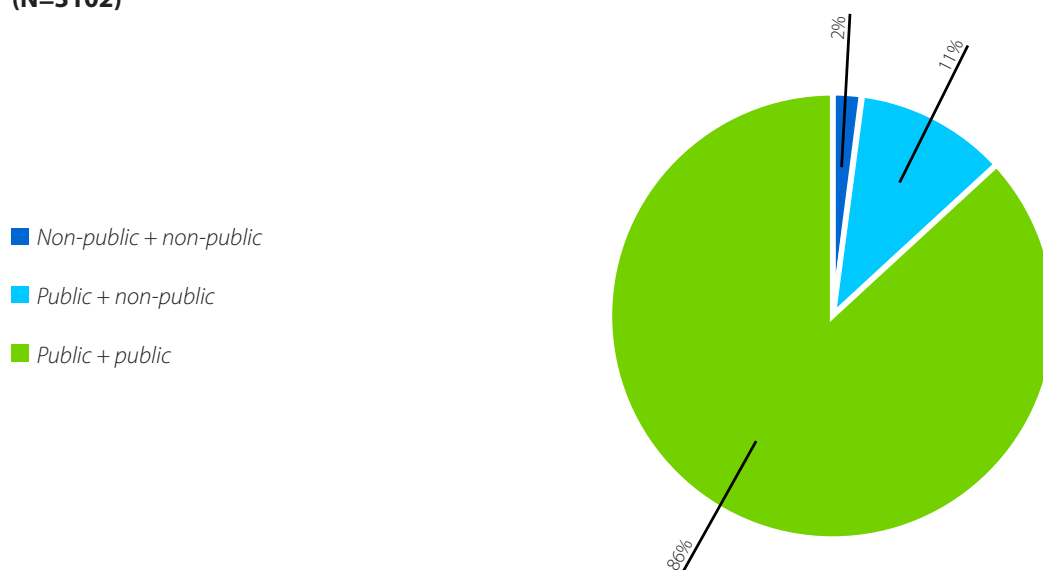
This chapter describes the forms and intensity of what is broadly understood under the terms of (additional) training of young Poles. Analysing the data concerning the additional forms of training selected by the respondents, we will try to answer a few questions that are significant from the point of view of supply of qualifications in the system of higher education. The first question concerns the selection of the second field of education, and whether such a choice really increases the market opportunities of the “two-fielders”, and if so – whether it does not increase their opportunities at the expense of others. Secondly, we will reflect on the advisability of participation of students in internships and training. Thirdly, remembering about the lack of social and interpersonal competencies among the employees of businesses identified by the employers,³⁰ we will analyse the intensity of students’ participation in various forms of collective activities.

Among the body of students investigated in the Study of Human Capital in Poland, 9% were identified as studying in a second field (Annex, Chart 2A), moreover, some schools emerged where the proportion of students learning in parallel in another field amounted to 30%. Majority (i.e. 57%) of people studying in another field study it at the same institution of higher education. In the context of the continuing discussion of the reform of the system of higher education in Poland, including the rationalisation of the system of free studies, questions about the funds used to finance that activity, and who embarks on such activity are valid.

The chart presented below clearly shows that the two-fielders are mostly people learning in public schools as far as both the first and the second field are concerned (86% of the population), some study in one field in a non-public school, and in the other – in a public one (11%). Those who decide to use only the services of non-public institutions of higher education are very few (2%). As far as it is difficult to draw direct conclusions about greater or lesser market cost-effectiveness of double higher education at this stage, if we assume the degree of likelihood to invest in such education to be its indicator, the estimation of the cost-effectiveness estimated in that manner will be rather low.

Chart 12

Students studying in two fields of education vs. the types of schools in which they learn (N=3102)



Source: Own study based on: *Study of Human Capital in Poland – Study of university students*, 2010.

The second question that we ask ourselves concerns who more often learns in two fields at the same time, making use of the benefits of public education.

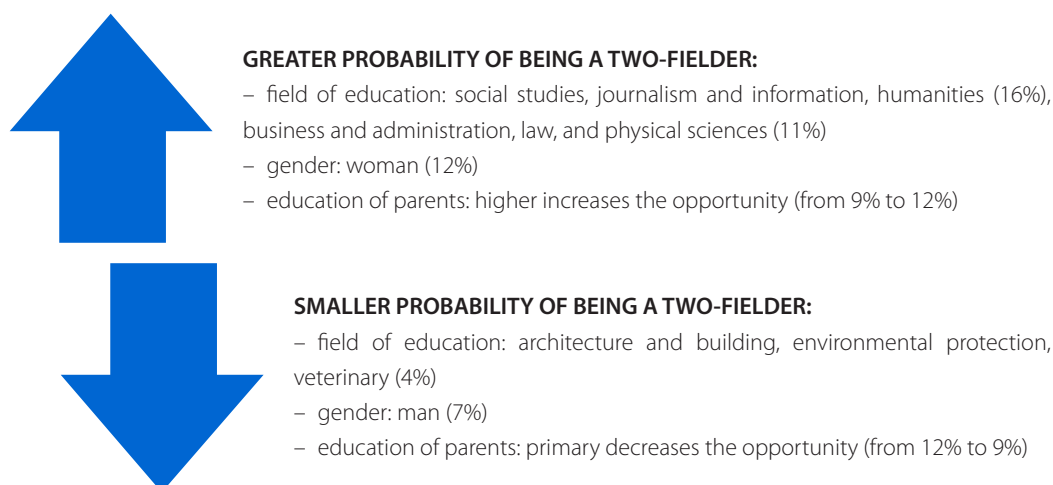
Much more often these are people learning in the following fields: social sciences, journalism and information, humanist, business and administration, law, and physical sciences, and are somewhat more frequently women

Educational activity of the students

coming from well-educated families (in which at least one of the parents has higher education). The factors that decrease the probability of starting studies in another field include: studying architecture and building, environmental protection, and veterinary (very significant factors), being a man, and coming from a family where both parents have either primary or basic vocational education (less significant factors).

Figure 6

Factors that increase/decrease the probability of being a two-fielder



Source: Own study based on: *BKL Study – Study of university students, 2010.*

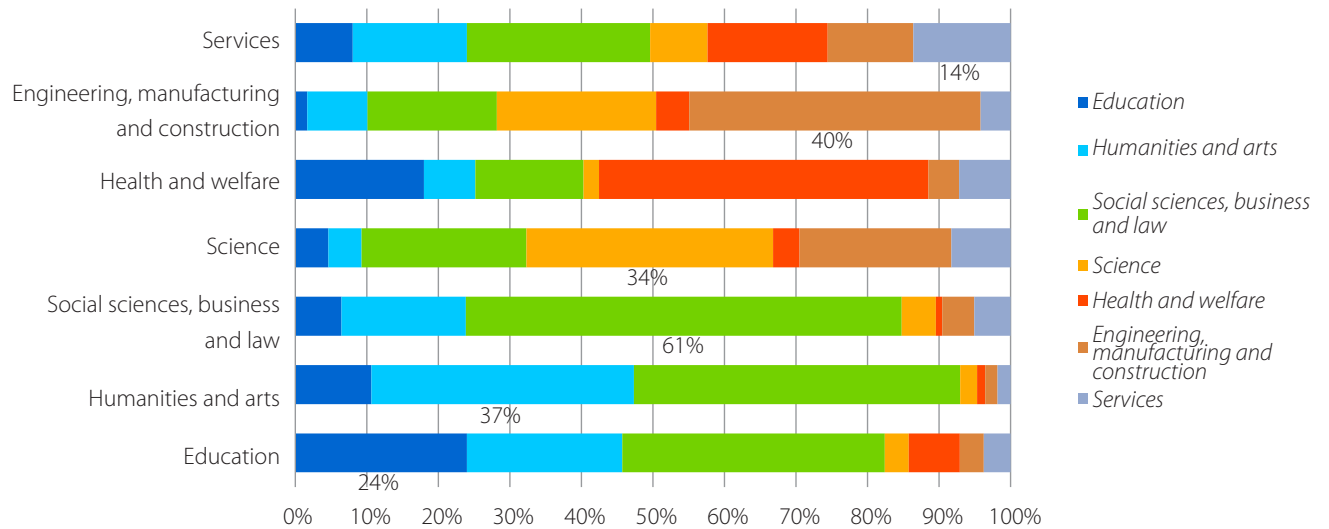
Now, knowing already who is trying to maximise their market opportunities using another field of education, we can analyse the questions concerning what strategies of maximisation of such opportunities are used by the students in question. First, let us examine what field of education is most often selected as the complementing field. Chart No. 3A provided in the annex shows that in most cases students complement their education by learning in the fields that belong to the following groups: social sciences, business and law (43% of fields mentioned as second) and humanities and arts (20%), with the most rarely selected fields in agriculture (1%).

The selection of a specific field of education as a complementation to the current profile of education is different among students learning in the fields of humanities and social and behavioural science, and sciences. First, it is valid to note that the choices of students are to a large degree homogenous, especially among those who study humanities, social studies, business and law, and education. Studying in a field within the groups mentioned above, a student in most cases selects as complementation a field classified into the same set. A far less uniform profile of education emerges in the case of “two-fielders” studying sciences, engineering, or medicine, who combine education in their specific field sometimes with sciences, and at other times – with social sciences and humanities. The most varied profile of education in the group of students learning in minimum two fields of education was identified among those learning in the field of services.

To complement the conclusions drawn above, it is worth adding that social sciences, business and law are most frequently selected as the supplementation to the education obtained (moreover: regardless of the profile – sciences or humanities – of the first field). One is therefore tempted to state that these fields are easiest to combine into relatively coherent profiles of education, with the knowledge and skills that are familiar both to humanists and scientists.

Chart 13

The profile of education in the first and second field of education (N =2920)

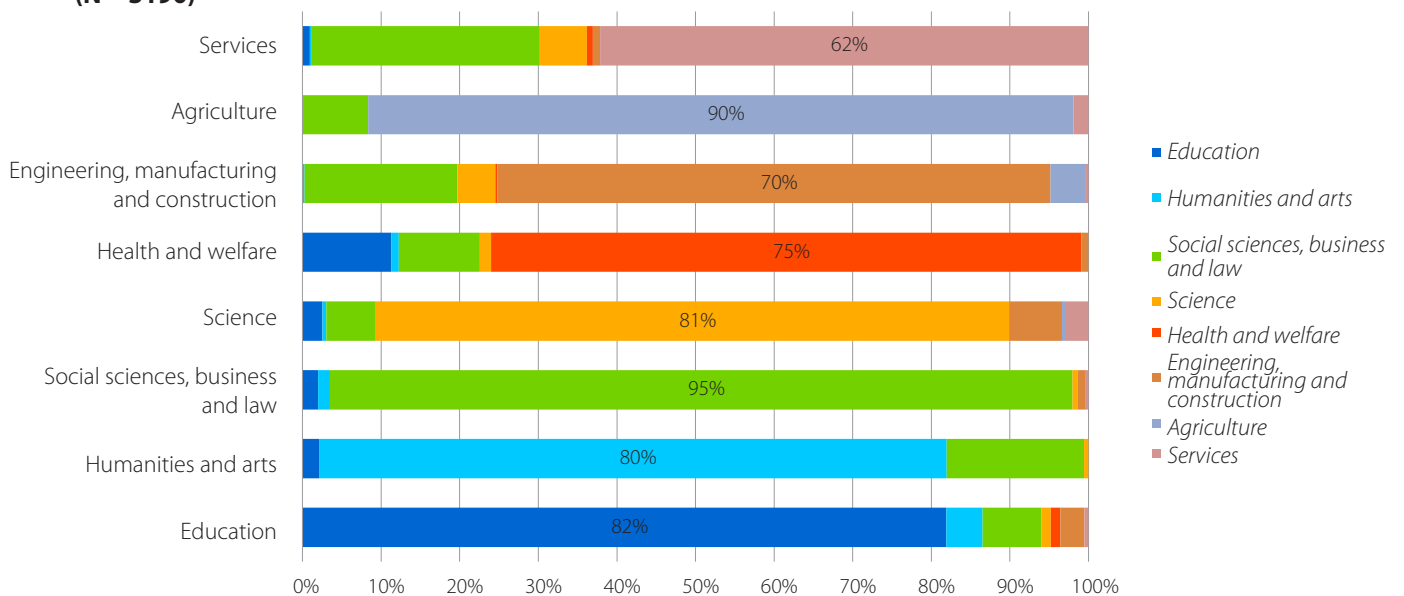


Source: Own study based on: BKL Study – Study of university students, 2010.

A certain alternative to undertaking the hardship of studying in two fields at the same time is a change of the profile of education for the supplementary master degree studies. The division of the system of education at the higher level into the studies of the first and the second cycles, in line with the assumptions of the system, should bring about a greater diversification of profiles of education, which will grow thanks to the opening of the new channel for horizontal mobility. The chart below (Chart 14) shows to what extent students have so far used the opportunity of changing the field of education, having completed bachelor degree studies. The most homogenous selections are visible again among the students of social sciences, business and law, as no fewer than 95% of them select a similar field of education, much like in the case of students of agriculture (90%). This, obviously, does not mean that these students do not change the field of education at the level of master degree studies, yet if they do, they choose an alternative field within the same group. The least consistent selections are characteristic of the graduates of bachelor studies in the services group, as only 62% of them continue education in the same group of fields.

Chart 14

Course of education in bachelor studies vs. the selected field of master degree education (N = 3190)



Source: Own study based on: BKL Study – Study of university students, 2010.

Educational activity of the students

- Education
- Humanities and arts
- Social sciences, business and law
- Science
- Health and welfare
- Engineering, manufacturing and construction
- Services

Educational activity of the students

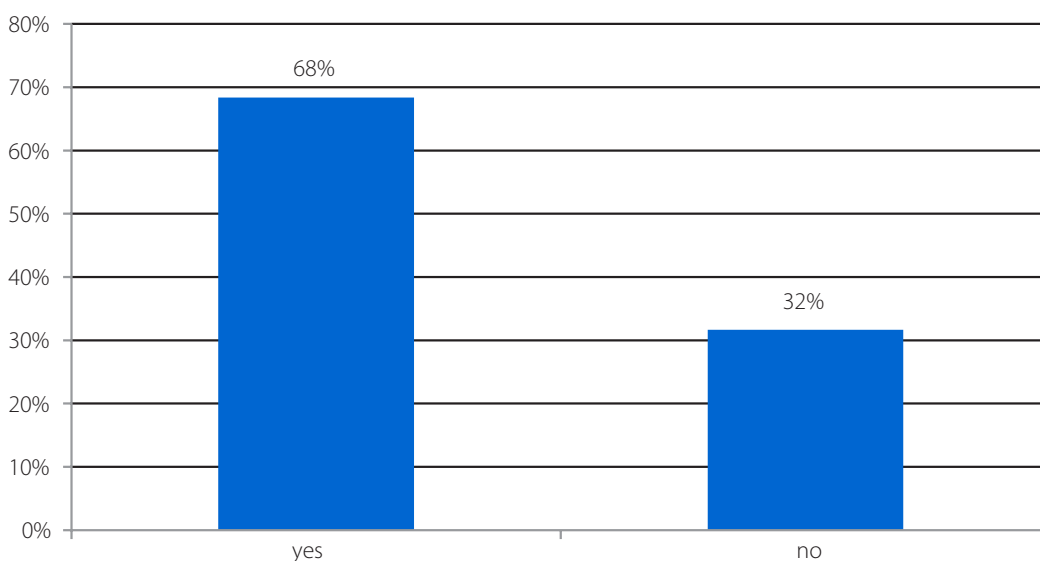
Participation in internships and traineeships

The situation of the graduates of institutions of higher education in the labour market is aggravating from year to year, which is manifested by the growth of the unemployment rate in the group. The lack of eagerness of employers to employ young people is among others related to their small experience in the occupation, but also with the identified competency gaps, primarily among the social and interpersonal skills.³¹ Participation in internships and student traineeships may therefore be treated by young people as one of the alternative ways of increasing own attractiveness in the market.

Most students in day studies (68%) decide to participate in internships and traineeships during the course of their studies. Frequently, yet not as a rule, such internships are closely linked to the profile of education of the students.

Chart 15

Has the respondent participated in any internships or traineeships during the studies? (N = 33272)



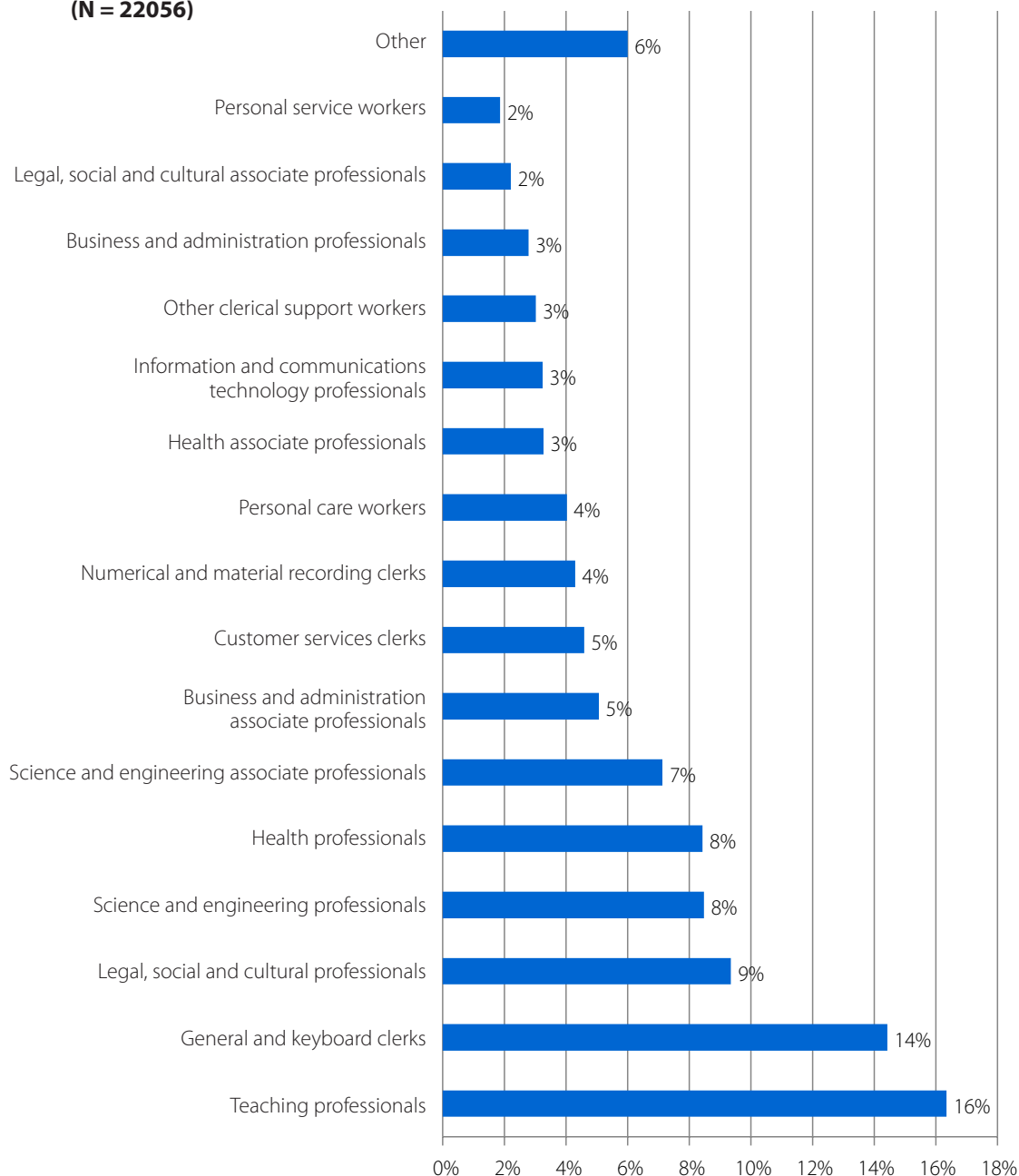
Source: Own study based on: *BKL Study – Study of university students*, 2010.

The highest percentage of the respondents (16% of students in internships) held the post of teaching professional while being an intern. This form is intensively used by the students of fields from the group of education (63%), and by representatives of humanities and arts (47%) (Annex, Table 3A). Furthermore, 9% of the respondents declared that as interns they played the role of legal, social and cultural professionals; they were usually students of humanities and arts (25%), and social sciences, business and law (18%). Moreover, the students of engineering, manufacturing, and construction (25%), and social sciences, business and law (18%) in most cases worked as science and engineering professionals during their internships. Students of medical fields were usually employed as health professional trainees (66%), yet it also happened that they fulfilled the tasks that belong to the duties of health associate professionals (16%). Not only in the case of physicians, was there a high proportion of students in higher education who during the internship worked at posts that did not require high qualifications. For example, students of social sciences, business and law frequently fulfilled the tasks of secretaries and office clerks (34% of trainees). Students of agriculture worked as market-oriented skilled agricultural workers (25%), and students in health and welfare (11%) and education (16%) worked as personal care employees.

31 See: M. Frączek, J. Górniak (ed.), M. Jelonek, K. Keler, S. Krupnik, N. Laurisz, S. Mazur (ed.), B. Worek (2010h), *Dyskryminacja w procesie rekrutacji? Pleć i inne determinanty zaniżonych szans rynkowych Polaków*, (Discrimination in the process of recruitment? Gender and other determinants of low word market opportunities of Poles) Report from employer study – vol. 8, Pracodawcy RP, Warszawa.

Chart 16

What was the work performed during the internship like – the occupation performed (N = 22056)



Source: Own study based on: BKL Study– Study of university students, 2010.

Students engage in training through courses, training sessions, workshops and private tuition less intensively than in the case of internships, yet if the percentage of participants of non-school forms of training in the entire population (13%)³² is compared with the analogous rate for students (23%), the value of the indicators should be the reason for moderate optimism.

The subject range of courses and training selected by students proves first of all intensification of their efforts to master foreign languages (34% of people involved in additional training), and secondly – the relatively high interest of the group in training of hobby type (16%). Moreover, people learning in institutions of higher education frequently participate in education courses (12%), and ones devoted to medicine and social work (11%). The chart below shows also the intensified activity of the respondents in the process of training in food services industry and tourism (10%), which is probably the result of frequent employment of higher education

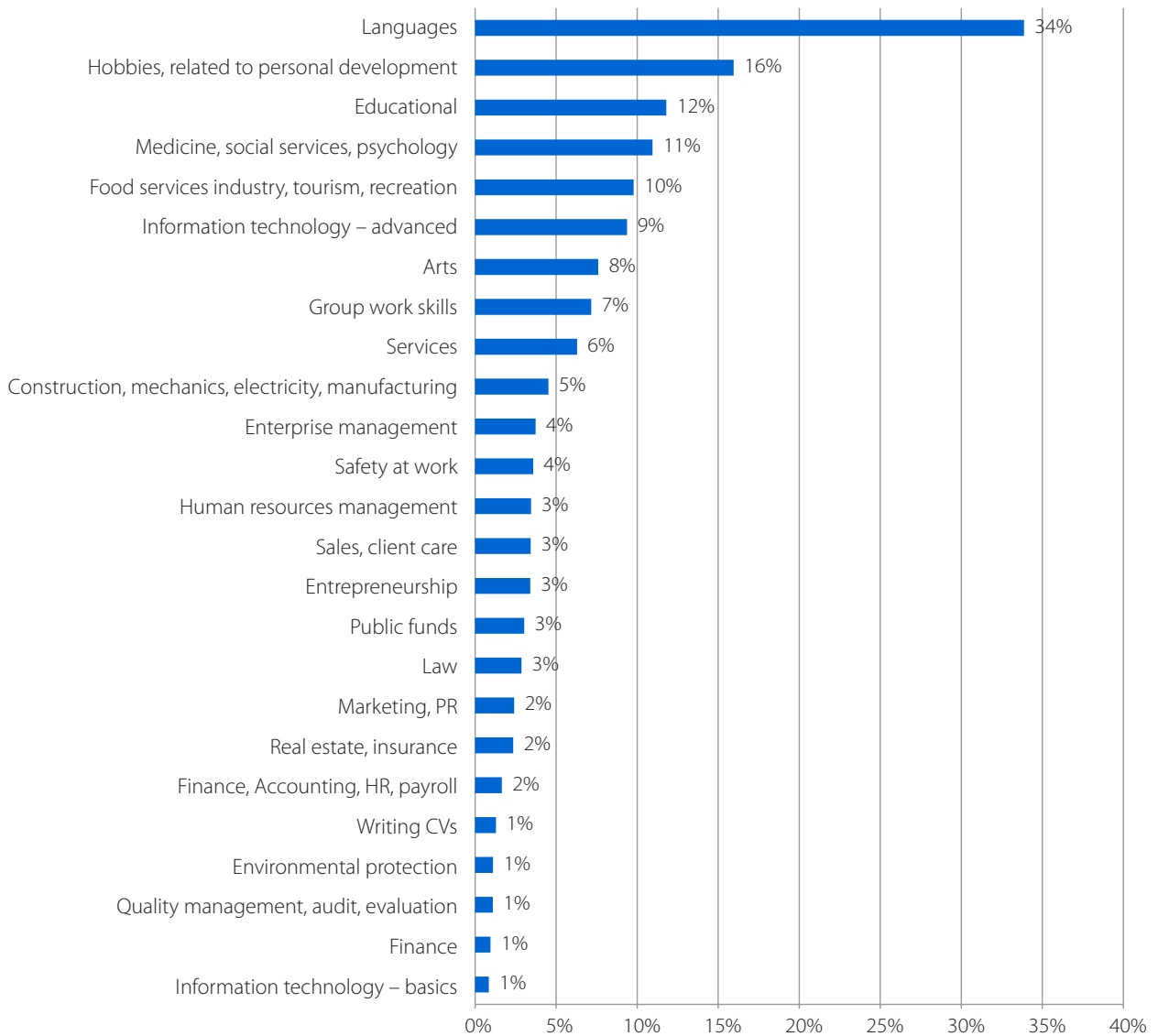
Educational activity of the students

students in posts providing services to clients in food services industry and tourist bureaus. Students often expand their knowledge in advanced computer skills (programming, graphics) – 9%, and also, which can seem surprising, they relatively often develop their social competencies in group training (7%).

A large share of training, in which our respondents participated are related to a broad range of business subjects. This includes the following courses: enterprise management (with participation of 4% of those in (additional) training), human resources management (3%), sales and client care (3%), and a whole range of courses devoted to marketing, PR, finance, and accounting.

Chart 17

The subject range of courses, training, and workshops in which the students participated (N = 12486)



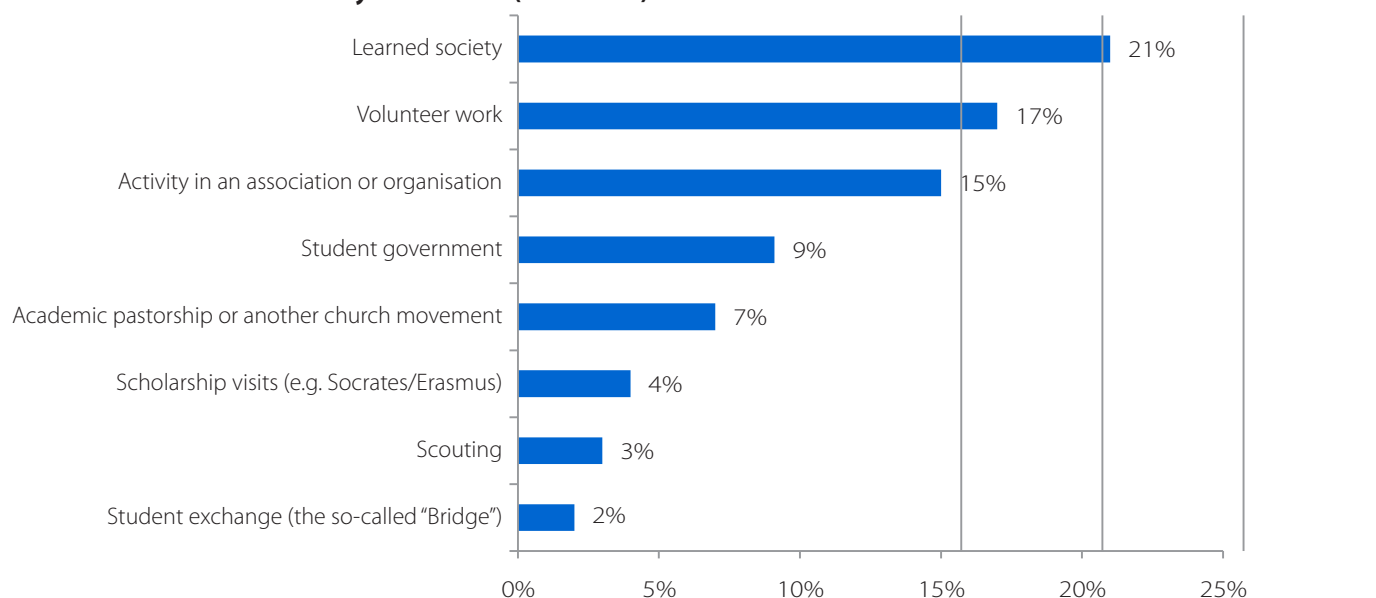
Source: Own study based on: *BKL Study– Study of university students, 2010.*

An alternative way of improving future occupational position is to become involved in group work or student exchanges, which allowed the acquisition of precious organisational and social experience, and which frequently allows the building of the individual's social capital, which increases the individual's opportunities for attractive employment. Students use this form of developing competencies comprehensively, and often belong to learn its societies (21% of all the respondents) and are involved in voluntary work (17% of the re-

spondents). Moreover, they support or participate in more or less formalised groups including associations and organisations (15%), student governments (9%), and academic pastorships (7%). Relatively less often, the respondents declare participation in organisations of the scouting movement (3%). Participation in scholarship visits (4%), and participation in student exchanges (the so-called “Bridge” (Most) – 2%).

Chart 18

Non-educational activity of students (N = 25697)



Source: Own study based on: *BKL Study – Study of university students, 2010.*

Planned education path

Knowing what the actual choices concerning the paths of education, training, and social activity of sciences were, let’s have a closer look at our respondents, analysing their declarations concerning the approaching educational choices. One of such choices is the decision concerning the field of education that students finishing their bachelor (BA/BSc) degree studies will most probably have to make.

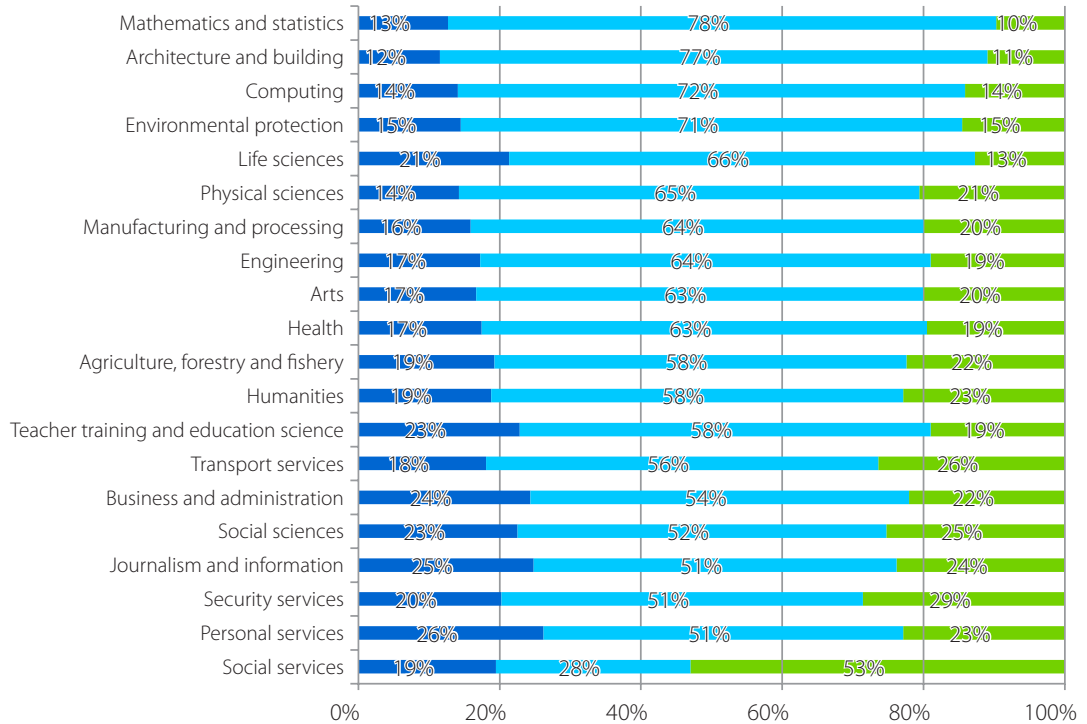
Approximately 20% of the respondents are planning to expand the competencies and qualifications they have by selecting in their master degree studies a field of education different than the one they chose for the first cycle studies,³³ while 59% of the respondents intend to continue education in the same field during the second cycle studies, and 20% are still not sure what decision they will make. If this data is compared with analogous decisions that have already been made by students currently in the second cycle education, it is possible to note that the percentage of people intending to change the field of education grows (at least at the level of declarations).

Whether the respondents intend to continue education in the same field depends on the profile of earlier education. Planning to change the field of education at the level of master degree studies decidedly most often are the students of social services (53% have made up their minds, and 19% still hesitate). Such a decision is considered relatively more often by people studying in the following groups of fields: security services (29% certain of their decisions and 20% of hesitating), personal services (23% have made up their minds, 26% are hesitant), journalism and information (24% certain of their decisions, and 25% hesitating) and social and behavioural science (25% have made up their minds and 23% are hesitant).

³³ The educational plans of the surveyed students are not limited to the nearest future only, as 7% of master degree students in the study declared their intention to continue in the same field of education into doctoral, postgraduate, and MBA studies.

Chart 19

Field of education in bachelor degree studies vs. plans for selecting the same field of education at master degree level (group of fields) (N = 19494)



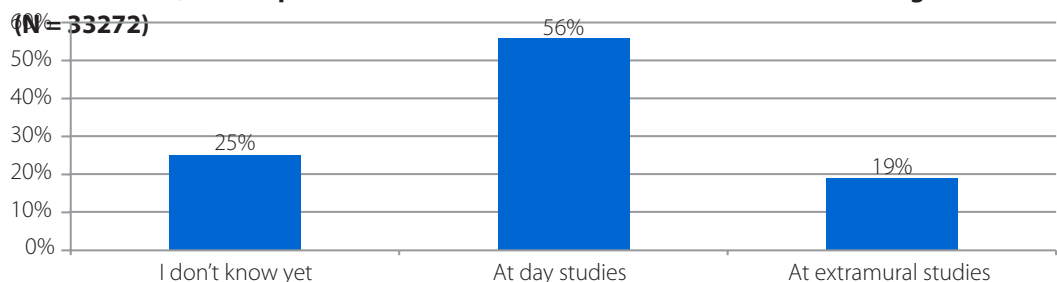
Source: Own study based on: BKL Study – Study of university students, 2010.

Lowest horizontal mobility is demonstrated by representatives of sciences and engineering (70% and 67% intend to continue education in the same field during master degree studies). In the case of the group of mathematics and statistics, and architecture and building, the proportion of such declarations amounts to approximately 78%, in the case of information technologies/computing – to 72%, and among the students of environmental protection –to 71%.

What may seem interesting is the fact that students of intramural studies (as they were surveyed in the Study of Human Capital in Poland) do not limit the manner of choosing education at the second-cycle only to the so-called “day” studies. As many as 19% of respondents intend to continue education in extramural studies, and 25% have still not made the final decision in the matter. This can prove an increasingly stronger focus of the master degree students on practice in the occupation, and the development of a new educational path composed of first cycle intramural studies and extramural studies in the second cycle.

Chart 20

In what mode, the respondent intends to continue education at master degree studies (N = 33272)

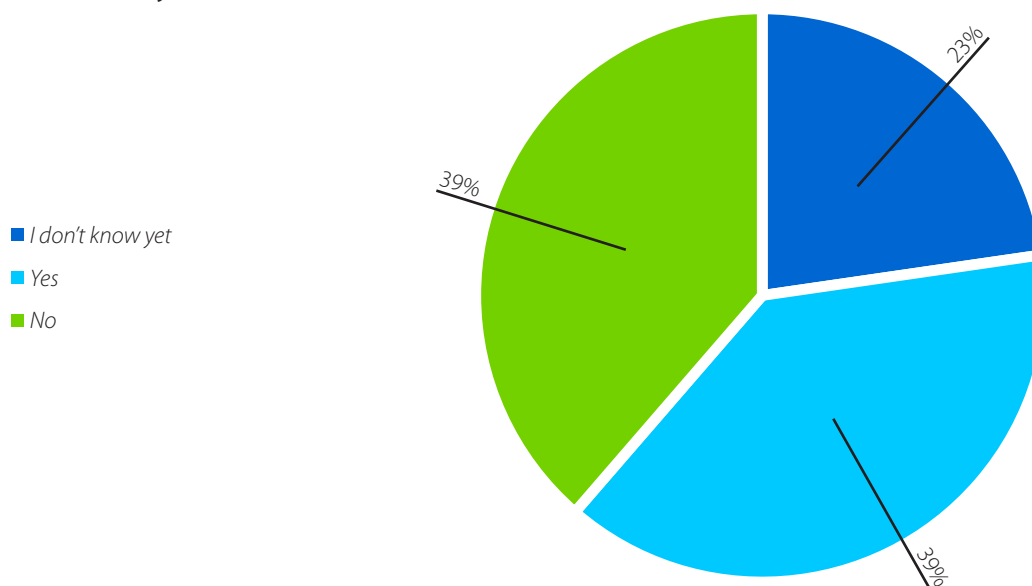


A majority among the people most often declaring readiness to change the mode of education into extramural at master degree studies are students of the following fields: transport services (38%), personal services (33%), welfare (29%), teacher training and education science (27%), medical (26%), business and administration, journalism and education, security services (23%). Least enthusiastic to change the mode of education into extramural are students of the following groups of fields: physical sciences (7%), life sciences (9%) and engineering and engineering trades and arts (10%).

The clasp that brings together the conclusions concerning the educational past and the future of students covered by the study we have made so far is the chart below (Chart 21), which shows generally whether the respondent intends to continue education in future in an entirely different field of education. No fewer than 30% of respondents declared that their educational plans include a change or complementation of the profile followed so far. This information is precious, as it shows us that the young generation are becoming increasingly aware of the potential that the system of education provides, including the possibility of change, and complementation or reorientation of the profile of education they follow. This gives the ground to express hope that the competencies offered in future by the employees in the labour market will be more strongly profiled by individual decisions and preferences of the learners, and not only by the education made available by the schools.

Chart 21

Does the respondent intend to embark in future on studies in the field different than the one currently studied (N = 33272)



Source: Own study based on: *BKL Study – Study of university students, 2010.*

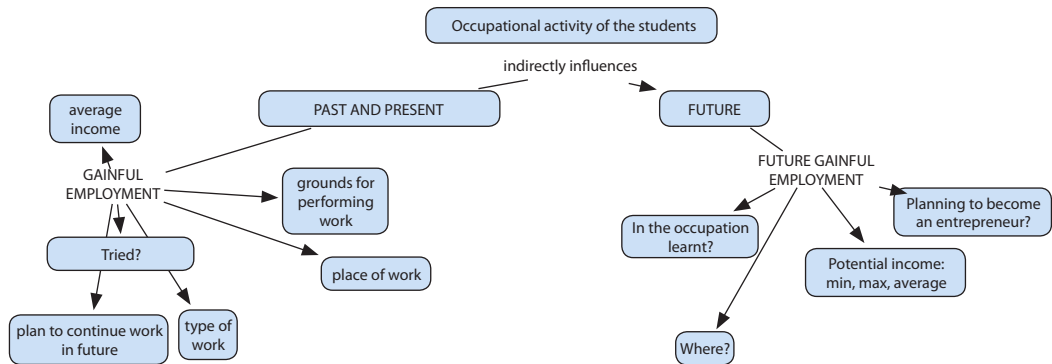
4.4. Occupational activity of students – the present and the future

To supplement the picture of the degree of occupational preparation of the future graduates of institutions of higher education, which was generally drawn by the description of the involvement of students in the process of education, (additional) training, and general social activity, this part provides a characteristic of the level of occupational activity of students of institutions of higher education.

As shown in the analytical plan of the chapter presented below, it discusses two key questions: the present and the past occupational activity of the respondents, together with the plans, occupational preferences, and wage aspirations of graduates of institutions of higher education who will enter the labour market in the coming years.

Figure 7

Plan of the chapter on the occupational activity of students – the present and the future



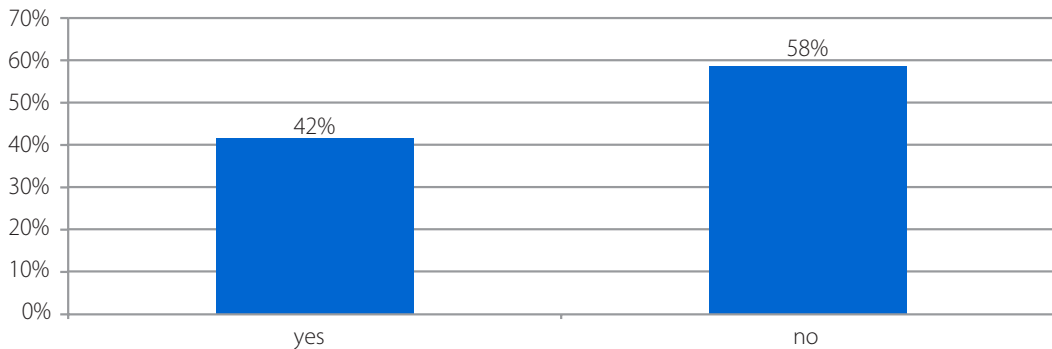
Source: Own study.

Current and past occupational activity

Trying to capture the process of shaping the occupational advantages of the graduates of institutions of higher education, we decided to examine their educational activity, verifying the frequently recovering claims that this activity is rather scarce, and hardly ever increases the opportunities of the students to obtain well-paid jobs. Against the generally spread opinions, a large proportion of students of day studies (42%), was involved in work for profit during the 12 months preceding the study.

Chart 22

Did you work for profit during the last 12 months? (N = 33272)



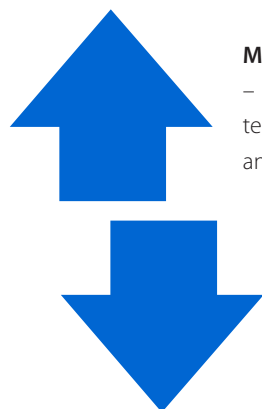
Source: Own study based on: *BKL Study – Study of university students, 2010*.

Moreover, no significant differences in the level activity between women and men, and people coming from larger cities (county capitals) was noticed in this case. Whether the respondent was employed during the last 12 months or not, depended mostly on the field of education. Students of social sciences, personal services, transport services, and arts (46% of all students learning in the fields listed above), and also of teacher training and education science, humanities, business and administration, journalism and information (42% of all students learning in the fields of study is listed above) were more often involved in work for profit. Less likely to enter employment were students of the following fields: mathematics and statistics, agriculture, forestry, and fishery, security services, veterinary (32% of all students in the fields listed above), and law, life sciences, medicine, and environmental protection (36% of all students learning in the fields listed above).

Moreover, people learning in Poznań (47%) and Gdańsk (46%) worked slightly more often than others, while students from Lublin (37%), Kraków (38%) and from outside the main academic hubs (39%) worked least often.

Figure 8

Field of education vs. occupational activity of students



MORE OFTEN ACTIVE IN THE LABOUR MARKET:

– students of social sciences, personal services, transport services, arts (46%), teacher training and education science, humanities, business and administration, and journalism and information

LESS OFTEN ACTIVE IN THE LABOUR MARKET:

– students of the fields of mathematics and statistics, agriculture, forestry and fishery, security services, veterinary (32% worked), law, life sciences, medicine, and environmental protection (36%)

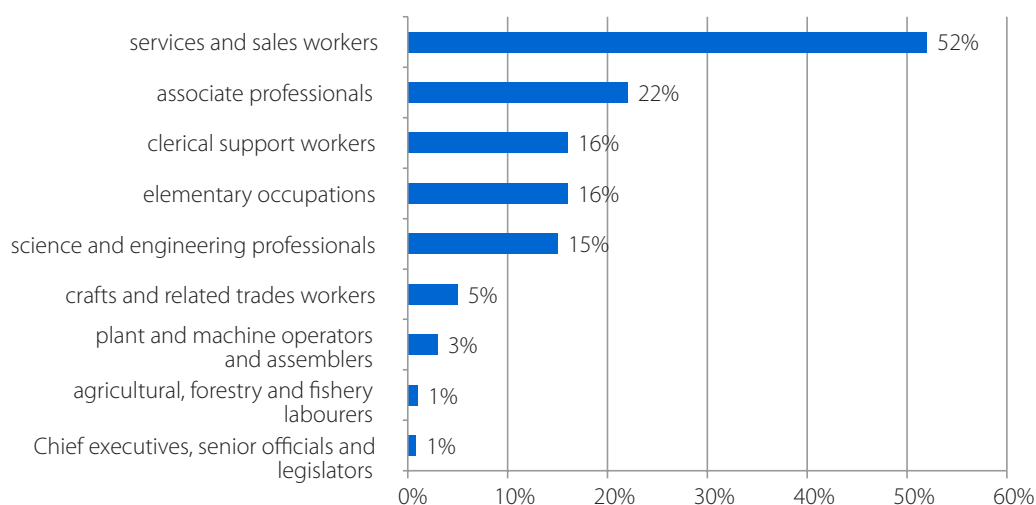
Source: Own study.

The fact that occupational activity is embarked on before the end of studies by people learning in fields that as a rule do not guarantee a good job immediately after graduation from higher education seems to be a positive proof that the students covered by the study begin to maximise their occupational opportunities while still in education. Yet before such a claim becomes corroborated, we must verify in what occupations the respondents work most often.

As a rule, students found employment in services or as sales workers, for which reason, we can suspect that the work was usually of temporary nature, and was undertaken purely for profit, hence it did not necessarily increase the opportunities to find a good job by the future graduates of institutions of higher education. In most cases, they worked in occupations that did not require specialist skills, and held positions designed mostly for personnel with secondary education (services and sales workers, clerical support workers, associate professionals). Relatively often they were employed in basic occupations including crafts and related trades workers (5%), elementary occupations (16%), plant and machine operators and assemblers (3%), which again corroborates the claim made earlier that the students of day studies become active in the labour market mostly to provide additional financial support for themselves.

Chart 23

Type of work – the occupation performed (N = 16196)³⁴



Source: Own study based on: *BKL Study – Study of university students, 2010*.

Besides the respondents who performed work for profit slightly below the qualifications had, there is quite a sizeable group (22%) of people who are involved in education and work in parallel, as already during their

34 The percentages do not add up to 100, because multiple choices were allowed.

Occupational activity of students – the present and the future

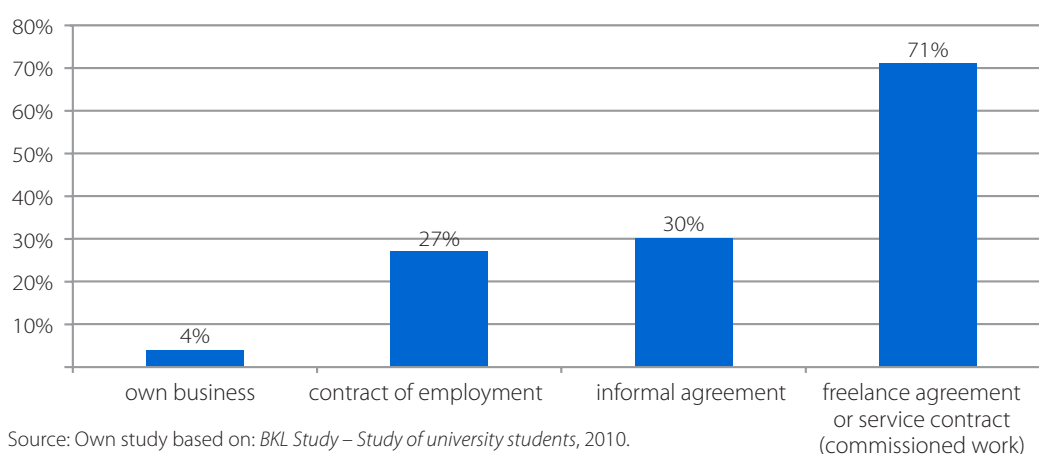
education they were employed in a post of a professional. If we examine what specific occupations they performed (Annex, Chart 7A), we will conclude that students are most frequently employed as teaching professionals (41% of those working as professionals). We can estimate therefore that the students are teachers who improve their skills or students (of various fields) who earn their living as temporary teachers (e.g. of a foreign language). Another large group of professionals who at the same time are students of institutions of higher education includes the legal, social and cultural professionals (22%), science and engineering professionals (15%), and also business and administration professionals (13%). In the case of this group, there is usually a large convergence of the field of education studied with the occupation performed.

In most cases, the respondents declared that the knowledge they acquired during the studies did not have a significant bearing on the work they performed/continue to perform (59%) or was only somewhat helpful (28%) (Annex, Chart 8A). We can therefore suspect that the respondents – which was moreover, corroborated by the data presented earlier – are usually employed in positions that do not require high qualifications, and the knowledge obtained during the studies is not at all useful to perform these works. The usefulness of the knowledge obtained during education is significantly higher in the group of students employed on the post of a professional, which again confirms the claim made earlier that students working in such positions far more often use the knowledge they acquired during the academic education.

These claims corroborate, moreover, the declarations of the respondents that, the work they currently perform will – after the studies – be their main source of revenue, or an additional one, or else the respondent is not at all intending to perform such work. In most cases (80%), the respondents do not intend to continue their education in the same occupation in which they have worked during the last 12 months after the completion of their studies (Annex, Chart 9A). This is visible especially in the case of occupations situated lower in the hierarchy of social prestige, including: elementary occupations, and work in the capacity of crafts and related trades workers, clerical support workers, and services and sales workers. In most cases, students do not want to tie their future to these occupations, or simply classify these occupations as an additional source of income. The professionals more often want to stay in the occupation performed currently, yet even in their case, there is a large group of those who hope for changing the work they perform. Currently, after the completion of the studies, a proof of the temporary character of the gainful employment of students is the form of their employment, which in most cases is a freelance agreement or service contract (71% of respondents declared that form) as well as an informal contract (30%). Far less often (than on the power of a freelance agreement), the respondents were employed on the power of contract of employment (27% of the working students) and a minor proportion of the working students (4%) confirmed that they ran their own business.

Chart 24

Grounds for performing work (N = 17567)³⁵



Source: Own study based on: *BKL Study – Study of university students*, 2010.

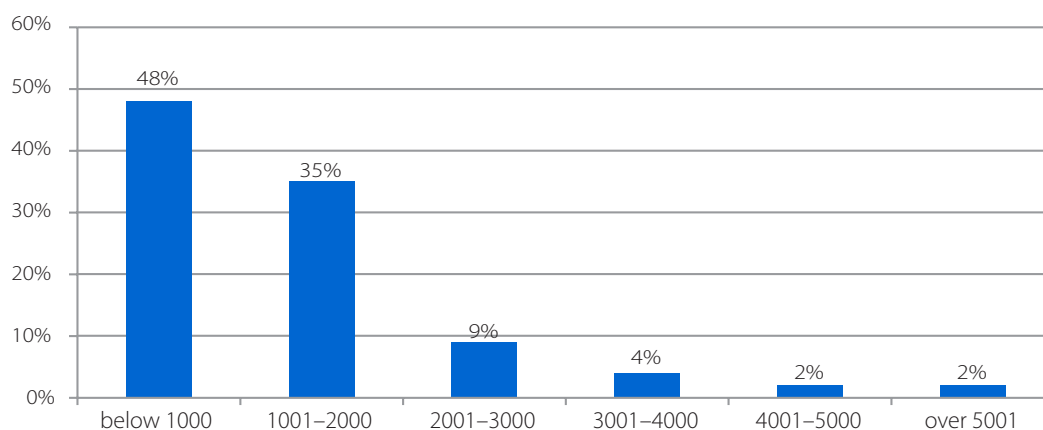
The form of employment of students depends significantly on whether they worked in Poland or abroad. Students working in Poland are far more often employed on the power of freelance agreements and service contracts (89%, compared to 58% in case of those employed abroad). In case of working abroad, the formal conditions of work are more often regulated by a contract of employment (55% of those working abroad, compared to 28% of those employed in Poland), yet in that case, the respondents also more frequently agreed

to the risk-laden form of employment, namely the informal contract (50% of those working abroad, compared to 36% of those working in Poland).³⁶

The incomes of the students are not exceptionally high, therefore they contradict the frequently made claims about the exaggerated wage aspirations of graduates of institutions of higher education, and are related to the character of the work they perform most often (temporary, based on freelance agreements/ service contracts, below their qualifications). Nearly every other working respondent earns on average less than PLN 1000 a month, and 35% declared revenues between PLN 1001 and PLN 2000.

Chart 25

Average net revenue from the last 3 months (N = 11011)



Source: Own study based on: *BKL Study – Study of university students*, 2010.

The incomes of working students significantly differ according to the occupation performed, the place where the work is performed, the type of contract, and also the gender of the employee. Earning far more are students employed as crafts and related trades workers, plant and machine operators and assemblers, working abroad, running their own business, with contract of employment, and men.³⁷

Figure 9

Factors increasing the probability of relatively higher earnings among students



Source: Own study.

³⁶ Choices made by the students concerning the country where they embark on gainful employment are analogous to the choices made by majority of Poles who decide to work outside Poland. Students work most often in Germany (25% of respondents working abroad) and in the United Kingdom (24%), and slightly less often in the Netherlands (13%), the United States (6%), France (5%), and Norway (5%) (Annex, Chart 11A).

³⁷ In case of gender, due to the low counts in the cells, only the group of occupations involved was controlled, and there was no possibility of control at the level of individual occupations.

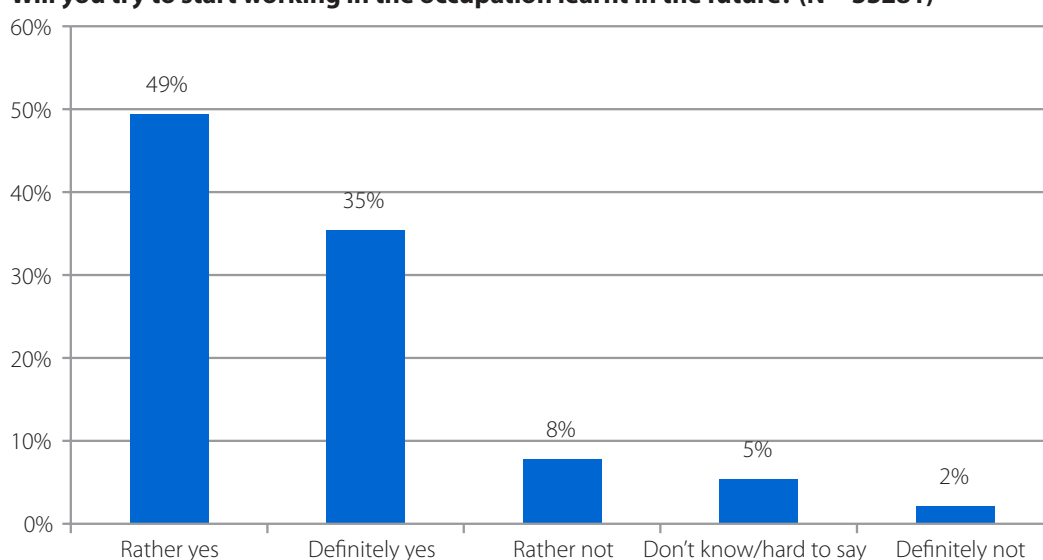
Students' plans and preferred occupations

Already familiar with the scope of occupational activity of the students of Polish institutions of higher education, let us take a look at their plans concerning the period following the completion of the studies: we will verify whether they link their future to the occupations learnt, in what occupation they plan to start working, and whether they see themselves in the role of an entrepreneur, office worker, or an employee in a private firm. Moreover, we will address questions of extreme importance, and frequently mentioned in the public debate, namely, ones related to the wage aspirations of the students, whose recognition beyond doubt is a significant element of a full analysis of the process of adjustment between sales and demand in the labour market.

Students of the final years in most cases (84%) will attempt to start working in the occupations learnt. These plans, however, vary between the students learning in various fields of education, and also between people whose parents worked (or not) in the occupation, which the student is currently learning (see: annex, Figure 7A).

Chart 26

Will you try to start working in the occupation learnt in the future? (N = 33281)



Source: Own study based on: *BKL Study – Study of university students, 2010*.

Attention must be paid to the fact that career plans are most closely linked to the profile of completed education in the case of future graduates of the following groups of fields: computing, architecture and building, health, environmental protection and veterinary (96% declared trying to find work in the occupation). Moreover, focused on finding employment in their occupation are also the students of the following fields: engineering and engineering trades, life sciences, and arts (94%), and also law, security services, business and administration, mathematics and statistics, manufacturing and processing (91%).

Students of agriculture, forestry and fishery, humanities, social and behavioural science, journalism and information and social services slightly less often declare that they will try to find employment in the occupation learnt in future (85% of students learning in these fields). Moreover, in their case, it is also significant whether one of the parents has ever been active in an occupation similar to the one they are currently learning. If a parent has been active in such a profession, the likelihood of seeking future employment in line with the occupations learnt grows to 89% in the case of people learning in the following groups: agriculture, forestry and fishery, social and behavioural science, journalism and information, while – which is curious – the same probability decreases to 83% in the case of students studying in the fields from the following groups: humanities and social services (see: annex, Figure 7A).

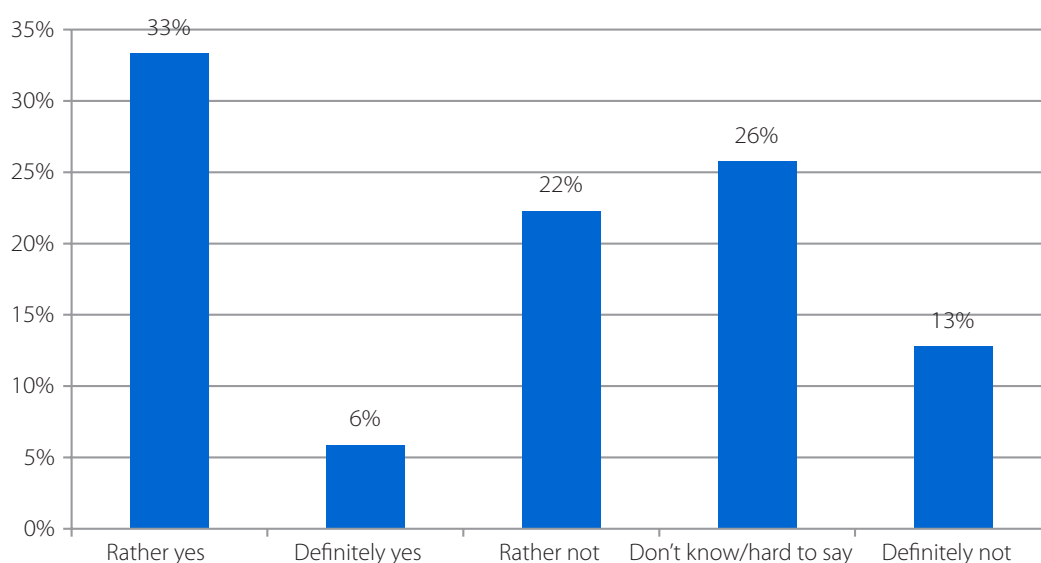
In future, students in most cases see themselves as professionals in social and behavioural science, law, and culture (25%), business and administration (18%), and education (17%). Contrary to the appearances, the future graduates of institutions of higher education do not aspire to managerial posts, and only 4% of them see themselves after the studies as representatives of public authorities, higher officials or directors general (see: annex, Chart 12A). Far more often, last year students lower their aspirations, aiming at occupations that

are designed for people with secondary education – 16% of them intend to start working as secretaries and office clerks, 15% as business and administration associate professionals, and 9% as legal, social, and cultural associate professionals.

The respondents are inclined rather to work in a private business (26%) and take the risk of running own business (25%). Slightly fewer prefer working in a state enterprise (18%), and fewest (6%) declare eagerness to become employed in an office (Annex, Chart 13A). A large share of students (39%)³⁸ consider running own business in future, even though at the same time there is quite a large group of students (33%) who are not absolutely certain whether they would like to run their own business, and also those who will rather not undertake the effort of being an entrepreneur (28%).

Chart 27

Do you intend to run your own enterprise in future (e.g. business, agricultural, foundation, association)? (N = 33272)



Source: Own study based on: *BKL Study – Study of university students, 2010*.

It is worth considering who potentially could become an entrepreneur, analysing the characteristics of students that increase the likelihood of undertaking such business risk (see: annex, Figure 8A). Already a perfunctory analysis suggests a number of significant conclusions that make it possible to draw the level of entrepreneurship of Polish students. Unfortunately, this level is not the same among all students. First, irrespective of the field of studies, men show greater inclination for undertaking risk related to running own business. Secondly, the risk appetite is strongly correlated with the field of education – the following much more often than others want to be entrepreneurs: students of architecture, construction, personal services, and veterinary (74% of women and 80% of men), and students of environmental protection and arts (66% of women and 75% of men). In the case of the last two fields of studies, there is a very interesting dependence: women studying arts far more often plan starting own business activity than women educated in environmental protection (69% vs. 59%), while among men, the tendency is opposite, i.e. a higher proportion of men studying environmental protection show a spirit of entrepreneurship (83%) than is the case with students in the field of arts (71%). This shows the appetite of various people to become classified within masculine and feminine occupations, and to undertake the risk of entrepreneurship in this fields which seem to depend to a greater extent on the features manifested by representatives of different genders.

The appetite for entrepreneurship is somewhat lower in the groups learning in the following fields: business and administration, agriculture, forestry and fishery (64%), and also in law, computing, health, manufacturing and processing (60%). In the case of the latter set, it may be interesting that, despite the generally lower

³⁸ It is valid to note that a larger proportion of the respondents consider starting own business in future than prefer such a form of employment. This may prove, among others, that the respondents are aware of the difficult situation in the market, and – even though running their own business is not the solution they would prefer most – should the need arise, they consider also such form of work.

Occupational activity of students – the present and the future

tendency of women to take the market risk, this likelihood is higher among the students of law, health, and manufacturing and processing (56%) than among those studying computing (44%). Least likely to start entrepreneurial activity are the students of mathematics and statistics and social services, as 39% of them plan to start their own business (35% of women and 49% of men), and of teacher training and education science, humanities, life sciences, and physical sciences (49% are likely to start their own business: 46% of women and 58% of men).

Summing up the section devoted to the occupational aspirations of the students of Polish institutions of higher education, an important question that is exceedingly often mentioned in the public debate must be described, namely the wages aspirations of the graduates of institutions of higher education. The data provided in the table below shows that the average wages-related aspirations of the students of final years exceed slightly the financial capacity of the employers, even though, as can be seen, average expectations of students are not highly exaggerated. The lowest monthly salary (after tax) that the respondents would be ready to accept at work amounts to approximately PLN 1700, a satisfying salary ranges around PLN 2000–2500, and a salary that the respondents could realistically count on (with plenty of luck) is approximately PLN 3000, after tax.

Table 11

Wages aspirations of the respondents

	Lowest salary (N = 31664)	Fairly satisfactory salary (N = 31760)	Salary to be counted on with plenty of luck (N = 31486)
Median	1700	2500	3000
Dominant	2000	2000	3000

Source: Own study based on: *BKL Study – Study of university students, 2010*.

Strongly distinctive in the level of wages aspirations is the field in which the respondent studies. Expecting relatively lower wages are the graduates of the following fields: mathematics and statistics, humanities, teacher training and education science, social services and personal services, with the lowest salary of around PLN 1500, a satisfying one ranging from PLN 2000 to PLN 2500, and a maximum salary – from PLN 2000 to PLN 3000. As corroborated by the research conducted by the wynagrodzenia.pl portal, the median of income in these posts ranges from PLN 1700 (before tax) in the case of teachers to PLN 4000 in the case of graduates of sciences.³⁹ If we account for the fact that the studies conducted by Sedlak & Sedlak included not only graduates, but also people with somewhat longer experience at work, the wages aspirations of the students (related to the lowest salary) must be considered coherent with market tendencies, and the aspirations related to the satisfactory salary – as sometimes minimally exaggerated. Summing up, therefore, it can be claimed that students correctly estimate their market value, even though in the future they will probably have two “sell” their own professional work at the lowest price, and not the one they could call fairly satisfactory.

The students of following fields of education: environmental protection, architecture and building, transport services, veterinary, manufacturing and processing, engineering and engineering trades, security services, information technology, law and arts set their value decidedly higher than students of humanities. The lowest salary they would agree to at the beginning of their employment amounts on average to PLN 2000 before tax, a satisfactory salary ranges from PLN 2000 to PLN 3000, and a definitely high, yet realistic salary amounts to PLN 4000 before tax. Students of these fields estimate the value of their work correctly, as the market prices it relatively higher than that of the humanists. According to the data from the wynagrodzenia.pl portal, the median of wages before tax in technical and engineering fields. Ranges from PLN 4000 to approximately PLN 5000 (without accounting for length of service).⁴⁰ In the context of the studies conducted by Sedlak & Sedlak mentioned above, the relatively low wages aspirations of students in the field of business and administration (PLN 1600–2500–3000) may seem relatively low. Yet the market assessment of economy professionals is very similar to that of engineering professionals, and it must be borne in mind that in our listing of fields of education (ISCED classification), the wages aspirations in the group are brought down by students in the fields of administration, and not business.

³⁹ B. Woźniak, *Wynagrodzenia osób z różnym wykształceniem w 2010 r. (Remuneration of people with various levels of education in 2010)*, wynagrodzenia.pl portal.

⁴⁰ *Ibidem*.

There are different wages forecasts for students of various types of institutions of higher education. Thus, the graduates of medical academies, artistic schools, higher schools of agriculture, higher schools of economy, and technical universities charge most (minimum salary: PLN 2000, satisfactory – ranging from PLN 2500 to PLN 3000, and high yet realistic ranging from PLN 3500 to PLN 4000). The lowest wages aspirations are characteristic of the graduates of universities, teacher education schools, state higher schools of vocational education, and church institutions of higher education (minimum salary: PLN 1500, satisfactory – from PLN 2000 to PLN 2400, and high yet realistic – from PLN 2600 to PLN 3000)

Occupational activity of students – the present and the future

Table 12

Wages aspirations of the respondents vs. the group of fields of education and type of institution of higher education (N min. = 31486)

	Lowest salary (median)	Fairly satisfactory salary (median)	Salary to be counted on with plenty of luck (median)
Mathematics and statistics	1500	2500	3000
Humanities	1500	2200	3000
Teacher training and education science	1500	2000	2500
Social services	1500	2000	2000
Personal services	1500	2000	3000
Social sciences	1600	2500	3000
Business and administration	1600	2500	3000
Life sciences	1600	2400	3000
Journalism and information	1600	2200	3000
Agriculture, forestry and fishery	1600	2200	3000
Physical sciences	1700	2500	3000
Health	1800	2500	3000
Arts	2000	3000	4000
Law	2000	3000	4000
Computing	2000	3000	4000
Engineering and engineering trades	2000	3000	4000
Manufacturing and processing	2000	3000	4000
Veterinary	2000	3000	4000
Transport services	2000	3000	4000
Architecture and building	2000	2500	4000
Environmental protection	2000	2500	3500
Security services	2000	2500	4000
Universities	1500	2400	3000
Teacher education schools	1500	2000	2600
State higher schools of vocational education	1500	2000	2800
Church institutions of higher education	1500	2000	2724
Other schools	1600	2500	3000
Academies of physical education	1800	2300	3000
Technical universities	2000	3000	4000
Higher schools of economics	2000	2700	4000
Higher schools of agriculture	2000	2500	3500
Higher schools of art	2000	3000	4000
Medical academies	2000	2700	3500

Source: Own study based on: *BKL Study – Study of university students, 2010.*

Occupational activity of students – the present and the future

The level of wages aspirations of students of various types of schools is primarily related to the profile of education specific for these schools, even though it is worth mentioning that students of the same fields (e.g. social and behavioural science and economics) learning in schools of economics and in technical universities demand higher salaries than students of analogous fields in universities.

Moreover, the occupational aspirations of the respondents depend on a number of other factors, of which worth mentioning are among others, the fact of studying in a major academic centre. In this case, it is the local labour market that to a large degree shapes the wages expectations of the students – hence it is quite easy to guess that these expectations are highest among the students in Warsaw, even though they do not diverge clearly from the wages aspirations of the students in Wrocław.

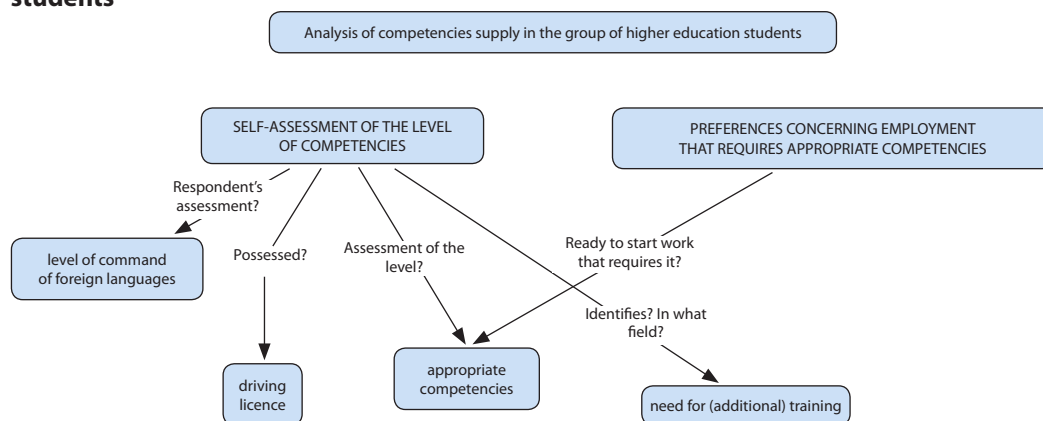
4.5. Analysis of competencies supply in the group of higher education students

As mentioned in the introduction, the attempt to evaluate the level of competencies of various groups of respondents: population, the unemployed, students of upper secondary schools, and students of institutions of higher education was a significant challenge for the Study of Human Capital in Poland project. Designing the manner of assessing the skills of the respondents, we decided to take a look at them from two perspectives. First, the respondents were asked to self-assess the level of competency, and later to declare whether they would potentially be ready to start employment in an occupation requiring the given competency. Such two aspects of self-evaluation made it possible to identify individual competencies that the respondent treats as his or her potential competitive edge.

In this section we will present data concerning how the respondents assess the level of their skills and what factors influence the actual form of the assessment. These conclusions are complemented with an analysis of the responses to the question whether the respondents feel the need to develop certain competencies, and if so – which areas of knowledge require supplementation.

Figure 10

Plan of the chapter analysing competencies supply in the group of higher education students



Source: Own study.

Self-evaluation of competencies vs. likelihood to perform work requiring specific skills

Let us begin consideration of competency deficits from asking a number of important questions. Doubts concern how the Polish students generally assess their competencies, which of the competencies that they have they would they like to use in their future career, is the assessment of general competencies related to the field of education in which the respondents study, in which fields the students assess themselves highest and in which – lowest, what additional factors improve the self-assessment of students? Answers to these questions will allow drawing a general picture of self-assessment of the future graduates in individual fields, showing

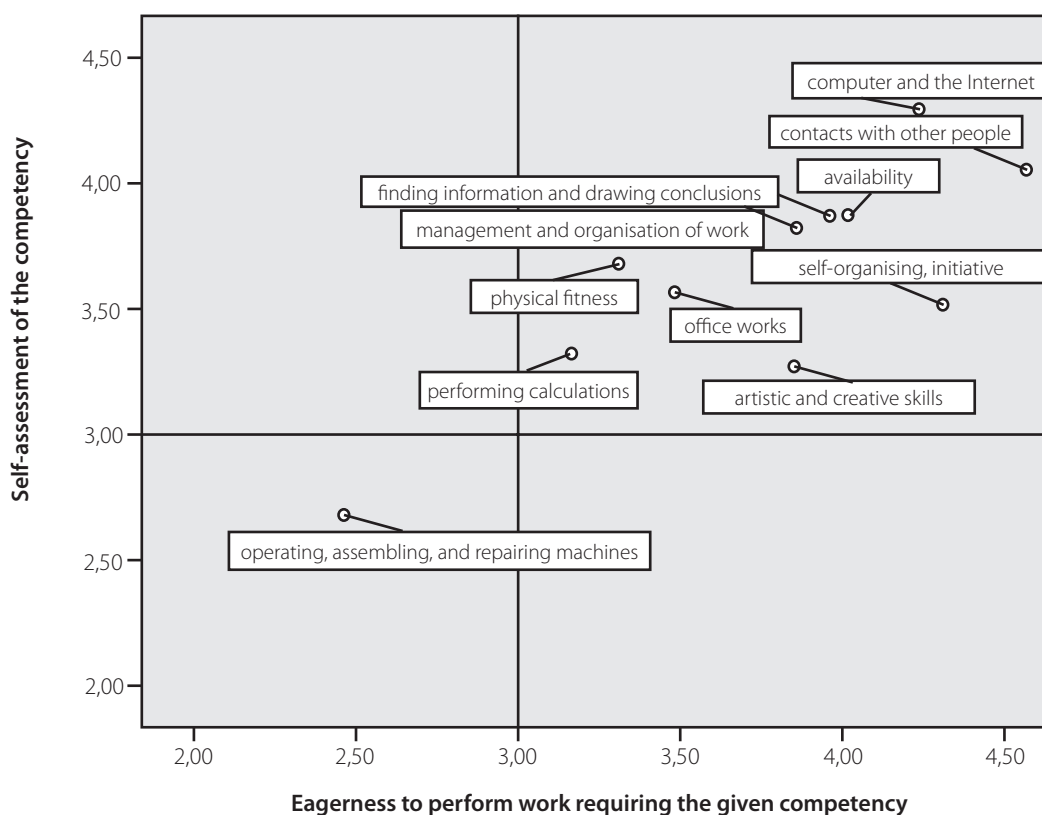
also in what competencies they perceive their competitive edges, and also how they estimate their chances in entering their occupations.

The chart below presents the average self-assessment of competencies had and the average readiness of the respondents to start work that requires specific skills put side by side in a single chart. What can be noticed first is the relatively high self-assessment of the respondents, and secondly – the high convergence of the two scores: the respondents would usually like to perform the work that requires having such competencies that the respondent believes to have. This seems to be a proof of rationality of the individual choices made by the students (who would most eagerly choose the occupation, to which they feel predestined). Unfortunately, the individual logic does not always translate into collective wisdom, as analysing the charts provided in the further part of the chapter, we will come to the conclusion that the majority of the respondents (irrespective of the field in which they study) assess the same competencies highly, and would like to use the same competencies in their future careers.

The chart below presents synthetically the self-evaluation of the competencies had and the degree of readiness to use them at work by the students of institutions of higher education. Generally speaking, the students assessed the level of their competencies very highly, yet some of the skills proved to be somewhat more deficit.

Chart 28

Self-assessment of competencies vs. readiness to be involved in an occupation that requires such competencies⁴¹



Source: Own study based on: *BKL Study – Study of university students, 2010.*

The competency that the respondents believed to be evidently deficit is the skill of operating, assembling, and repairing machines, whose level is assessed at a level more or less slightly above basic. The level of all the other skills is assessed by the respondents above intermediate or high. Thus, two groups of competencies can be identified:

⁴¹ Points in all the charts were calculated as arithmetical means of the assessments: of the competency, and of the readiness to use it at work. The reference lines were placed in the place of the so-called theoretic mean (the average level of competency).

Analysis of competencies supply in the group of higher education students

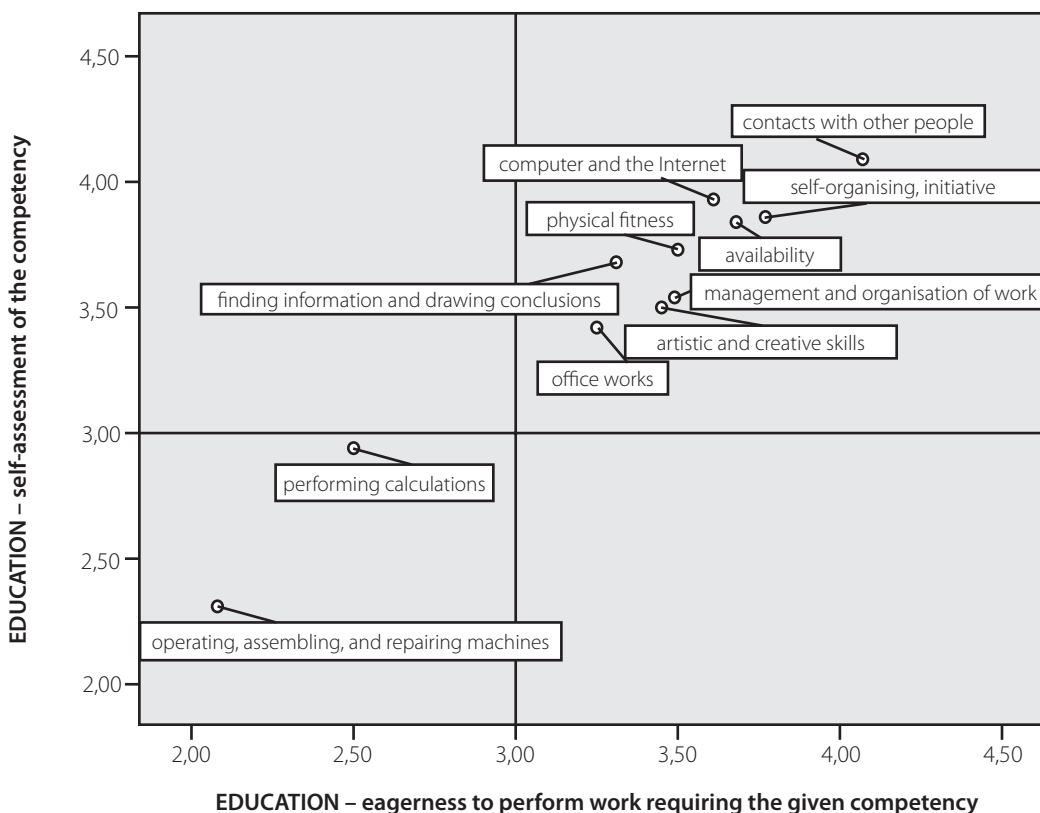
1. Skills assessed highly, including the skill of working with the computer and using the Internet, contacts with other people with whom we run tasks together, availability, finding information and drawing conclusions, self-organising, initiative, physical fitness and management and organisation of work.
2. Competencies assessed slightly over average (intermediary), including performing calculations, and artistic and creative skills.⁴²

The most important factor potentially related to the assessment of competencies students have is the field in which the respondents study. Presented below are data that characterise the assessment of the competencies had and the readiness to use them in future career by the students learning in various groups of fields of education.

The self-assessment of humanists and teacher trainers seems to be very similar. Representatives of both groups have very low self-assessment of their competencies related to operating, assembling, and repairing equipment, and also to performing calculations. The latter competency is seen as a special shortfall in the case of students from the group of humanities and arts. On the other hand, assessed highly in both the fields of education are the skills of making contacts with other people with whom we run tasks together, working with the computer and using the Internet, availability, self-organising, and initiative. Moreover, the representatives of the group assess their physical fitness relatively higher.

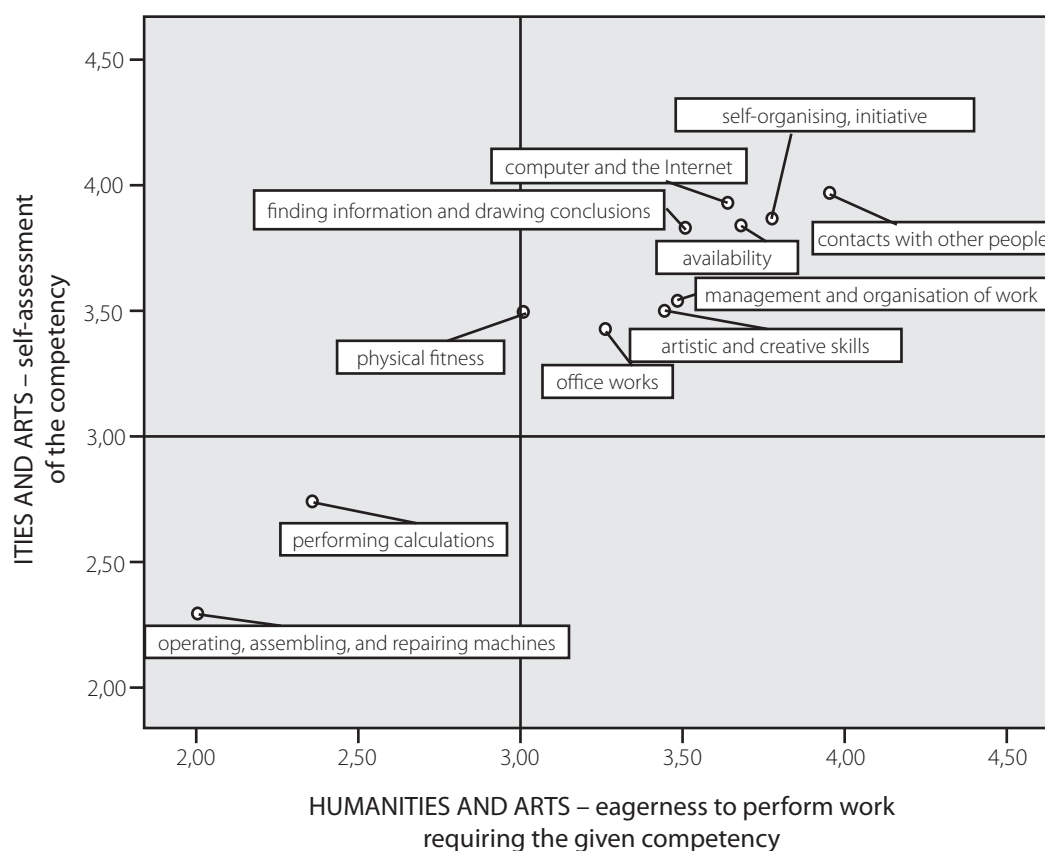
Chart 29

Self-assessment of competencies vs. readiness to perform work that requires this competency (group of fields: EDUCATION and HUMANITIES AND ARTS)



⁴² Analysing the individual competencies, we note that students of all the groups assess highest the following skills: working with the computer and using the Internet (however, including chiefly the command of the MS Office suite), logical thinking, factual analysis, independent making of decisions, timely completion of the tasks planned, contacts with other people with whom we run tasks together, cooperation within the group, ease in establishing contacts, being communicative and sharing ideas clearly, self-organising, initiative, performing simple calculations, finding information and drawing conclusions. Assessed lowest by all the students are the following competencies: operating, assembling, and repairing machines, performing calculations (including predominantly performing advanced mathematical calculations), knowledge of specialist software, writing software, authoring of web-sites, and also artistic and creative skills.

Analysis of competencies supply in the group of higher education students



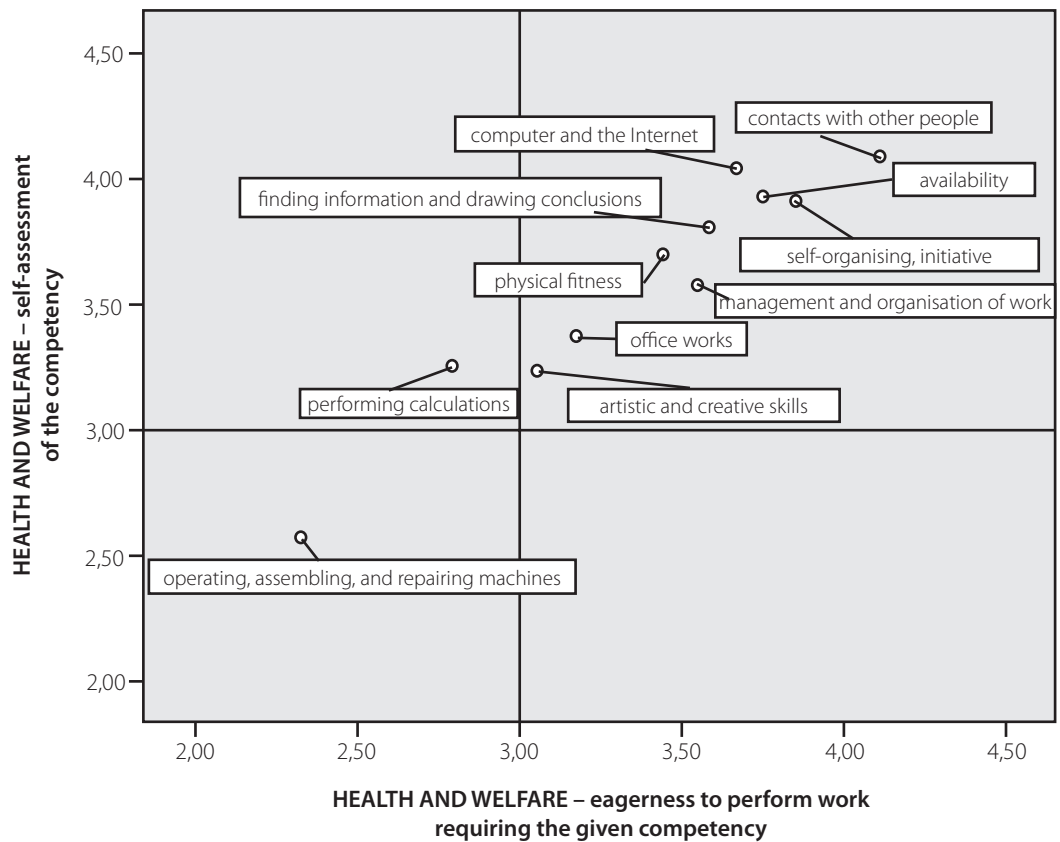
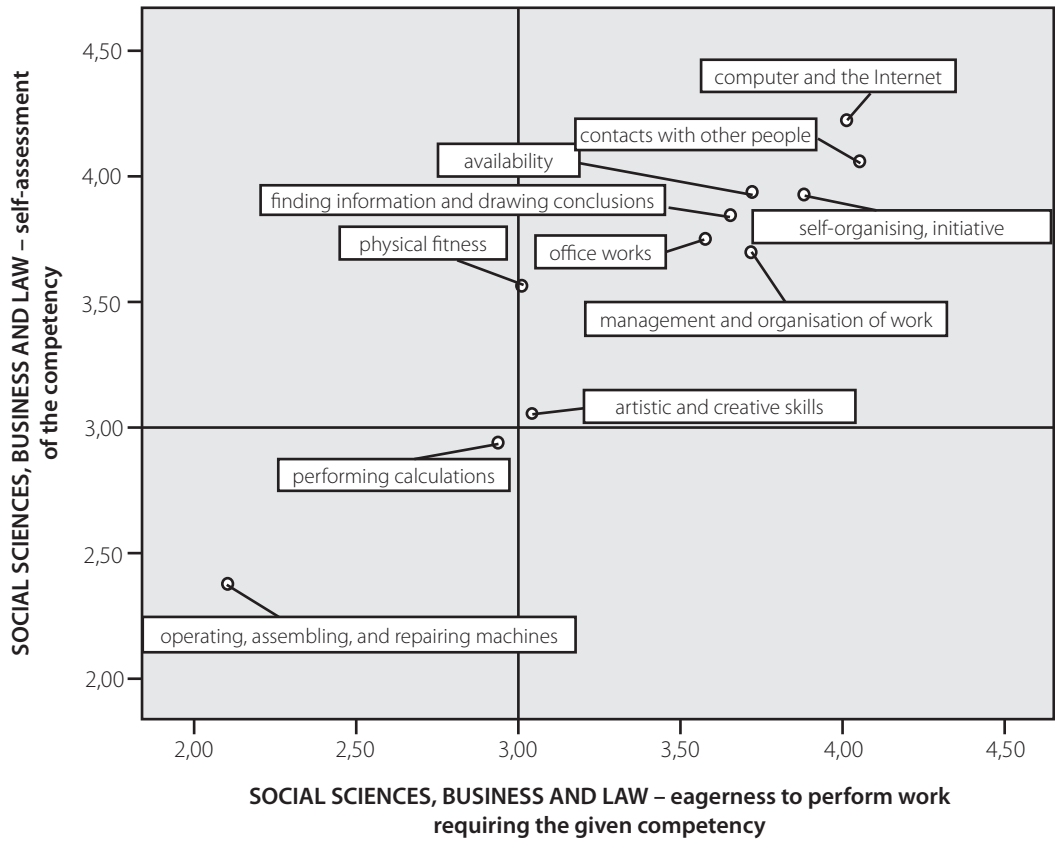
COMPETENCY	EDUCATION		HUMANITIES AND ARTS	
	Self-assessment of the competency	Eagerness to perform work requiring the competency	Self-assessment of the competency	Eagerness to perform work requiring the competency
Finding information and drawing conclusions	3.68	3.31	3.84	3.56
Operating, assembling, and repairing machines	2.31	2.08	2.26	2.05
Performing calculations	2.94	2.50	2.74	2.34
Computer and the Internet	3.93	3.61	3.93	3.67
Artistic and creative skills	3.50	3.45	3.49	3.42
Physical fitness	3.73	3.50	3.47	3.02
Self-organising, initiative	3.86	3.77	3.88	3.78
Contacts with other people	4.09	4.07	4.00	3.94
Office works	3.42	3.25	3.47	3.28
Management and organisation of work	3.54	3.49	3.54	3.46
Availability	3.84	3.68	3.84	3.63

Source: Own study based on: *BKL Study – Study of university students, 2010.*

Another group, fairly coherent internally, are the representatives of social sciences, business and law, and the representatives of the health and welfare group of fields. This is another set of respondents who assess rather low their competencies related to operating, assembling, and repairing equipment, and the skill of making calculations slightly above the average (though significantly higher than it was the case with humanists and teachers) – at par with the artistic skills. The strong suit of the representatives of these groups includes working with the computer and using the Internet (at a higher level among the representatives of social sciences, business and law), finding and analysing information, self-organisation of work and initiative, correct contacts with collaborators. Moreover, the representatives of social sciences, and business and law assess their skills (as a whole) related to managing and organising works, and organisation, and managing office works more highly than humanists, teachers, and representatives of the health and welfare group.

Chart 30

Self-assessment of competencies vs. readiness to perform work that requires this competency (group of fields: SOCIAL SCIENCES, BUSINESS AND LAW and HEALTH AND WELFARE)



Analysis of competencies supply in the group of higher education students

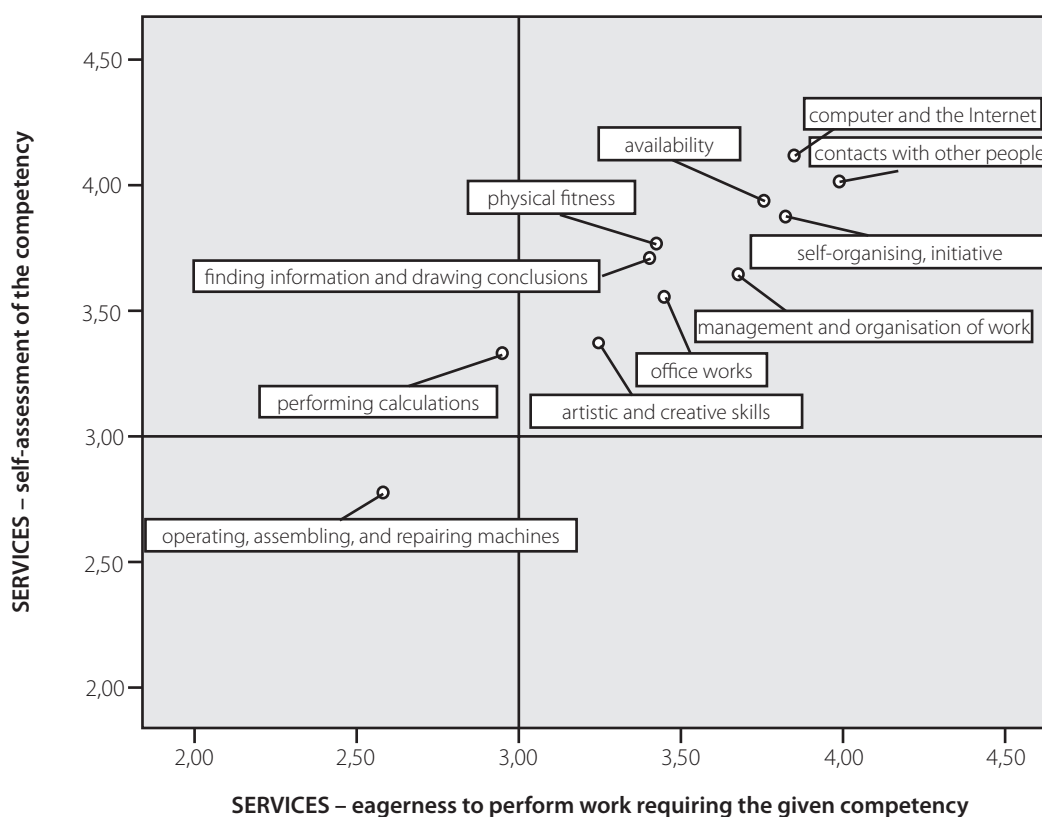
COMPETENCY	SOCIAL SCIENCES, BUSINESS AND LAW		HEALTH AND WELFARE	
	Self-assessment of the competency	Eagerness to perform work requiring the competency	Self-assessment of the competency	Eagerness to perform work requiring the competency
Finding and analysing complex information	3.85	3.65	3.81	3.58
Operating, assembling, and repairing machines	2.39	2.10	2.58	2.33
Performing calculations	3.28	2.93	3.26	2.80
Computer and the Internet	4.22	4.02	4.04	3.67
Artistic and creative skills	3.16	3.03	3.24	3.05
Physical fitness	3.57	3.01	3.71	3.46
Self-organising, initiative	3.92	3.88	3.91	3.85
Contacts with other people	4.06	4.05	4.09	4.13
Office works	3.74	3.57	3.38	3.18
Management and organisation of work	3.70	3.72	3.59	3.55
Availability	3.94	3.72	3.92	3.75

Source: Own study based on: *BKL Study – Study of university students, 2010.*

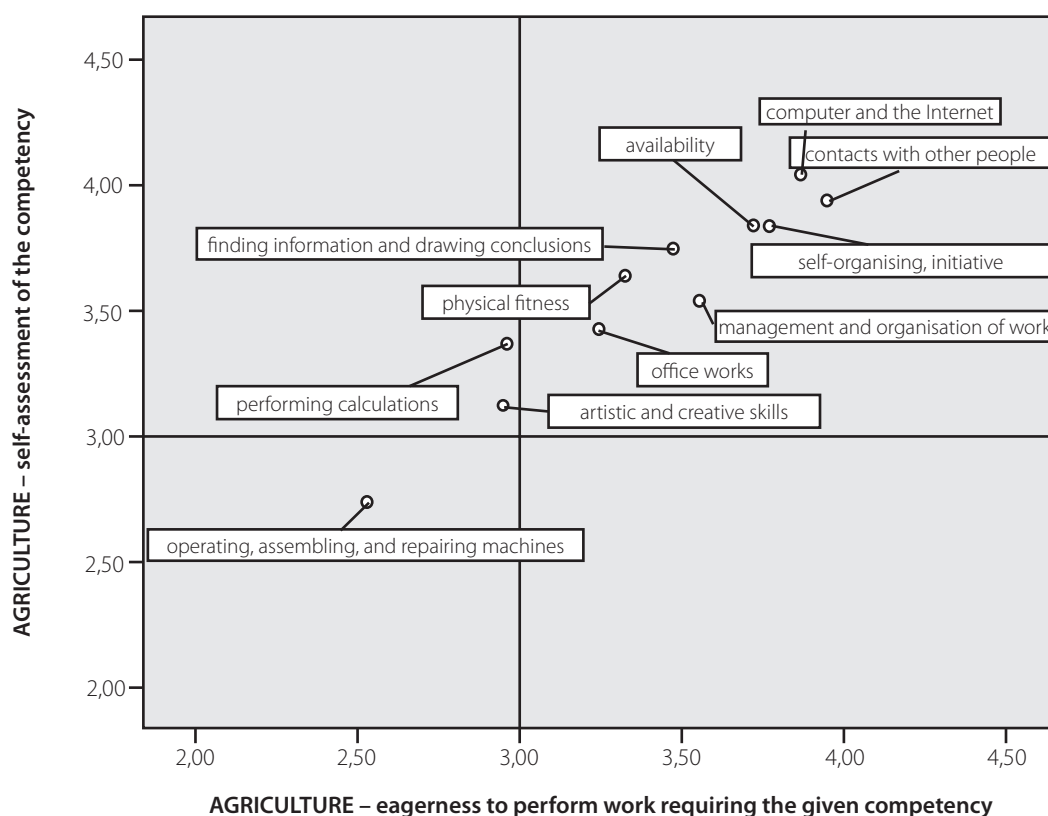
Much like in the case of the previous groups, also among the representatives of the agricultural fields and those classified into the group of services, the skill of operating, assembling, and repairing machines is assessed as rather low (even though higher than in teacher trainers, humanists, and students of social sciences and fields classified into health and welfare group). Students in the fields of agriculture and services assess highly their skill of using computers and the Internet, and ability to collaborate with the people with whom they jointly perform tasks (though in the case of students of agriculture, this assessment is somewhat lower), and also their availability, self-organisation of work, and initiative. This group of students assessed their ability of counting slightly higher than the students discussed earlier.

Chart 31

Self-assessment of competencies vs. readiness to perform work that requires this competency (group of fields: SERVICES and AGRICULTURE)



Analysis of competencies supply in the group of higher education students



COMPETENCY	SERVICES		AGRICULTURE	
	Self-assessment of the competency	Eagerness to perform work requiring the competency	Self-assessment of the competency	Eagerness to perform work requiring the competency
Finding information and drawing conclusions	3.71	3.40	3.76	3.48
Operating, assembling, and repairing machines	2.78	2.58	2.74	2.53
Performing calculations	3.32	2.95	3.39	2.96
Computer and the Internet	4.12	3.85	4.05	3.78
Artistic and creative skills	3.38	3.24	3.12	2.94
Physical fitness	3.77	3.42	3.63	3.32
Self-organising, initiative	3.87	3.81	3.83	3.77
Contacts with other people	4.01	3.99	3.92	3.94
Office works	3.55	3.44	3.41	3.24
Management and organisation of work	3.65	3.67	3.54	3.56
Availability	3.94	3.76	3.85	3.71

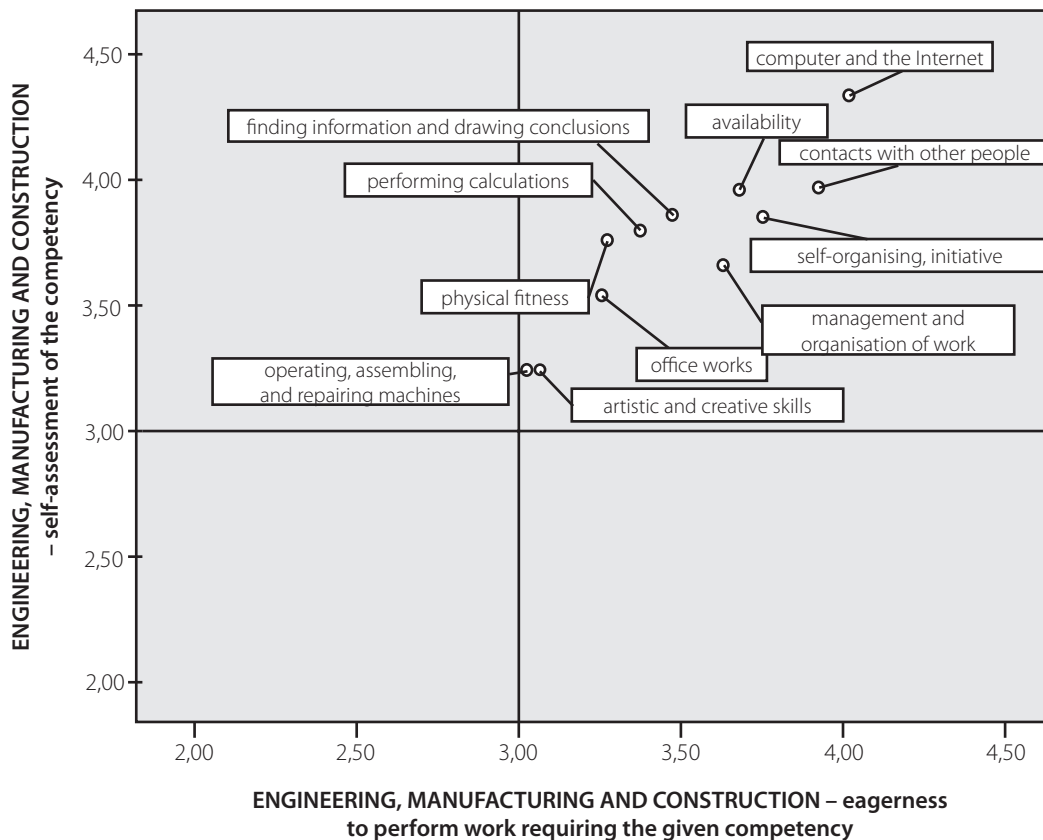
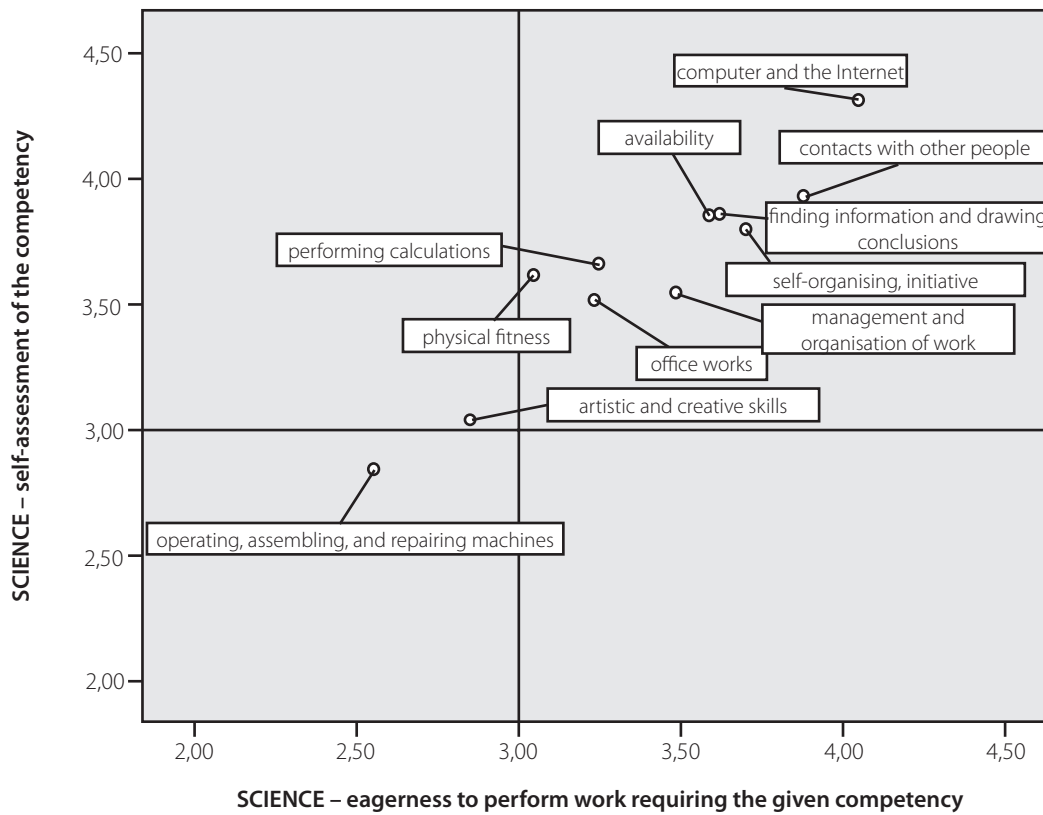
Source: Own study based on: *BKL Study – Study of university students*, 2010.

The group that assessed their degree of advancement of the technical skills most highly are students of engineering, manufacturing and construction. They were the only to assess the skill of operating, assembling, and repairing machines above the average. The representatives of this group assessed their technical skills higher than the representatives of the remaining groups (i.e. also higher than the students of agricultural fields). Representatives of fields related to engineering, manufacturing and construction, and science perceive their strengths in the following skills: use of computers and the Internet, finding information and drawing conclusions (highest marks among all the groups) contacts with other people with whom they run tasks together (slightly lower self-assessment than in the case of other groups), and availability, and self-organisation of work and initiative (assessed below or at par with other groups).

Chart 32

Analysis of competencies supply in the group of higher education students

Self-assessment of competencies vs. readiness to perform work that requires this competency (group of fields: SCIENCE and ENGINEERING, MANUFACTURING AND CONSTRUCTION)



Analysis of competencies supply in the group of higher education students

COMPETENCY	SCIENCE		ENGINEERING, MANUFACTURING AND CONSTRUCTION	
	Self-assessment of the competency	Eagerness to perform work requiring the competency	Self-assessment of the competency	Eagerness to perform work requiring the competency
Finding information and drawing conclusions	3.87	3.61	3.87	3.49
Operating, assembling, and repairing machines	2.84	2.56	3.24	3.02
Performing calculations	3.68	3.24	3.80	3.38
Computer and the Internet	4.33	4.04	4.35	4.01
Artistic and creative skills	3.05	2.85	3.25	3.07
Physical fitness	3.61	3.06	3.76	3.27
Self-organising, initiative	3.80	3.70	3.86	3.75
Contacts with other people	3.92	3.88	3.98	3.91
Office works	3.51	3.23	3.54	3.26
Management and organisation of work	3.56	3.48	3.66	3.63
Availability	3.85	3.59	3.96	3.68

Source: Own study based on: *BKL Study – Study of university students, 2010.*

Analysing the differences within the individual groups of fields of education, a handful of additional, interesting conclusions concerning the competencies of the respondents and competitive advantages related to them can be drawn.

First, the lowest general self-assessment is that of students of the following fields: veterinary, teacher training and education science, security services, and humanities, and highest among the students of engineering and engineering trades, mathematics and statistics, computing, environmental protection, and architecture and building, and – among the humanities – it is the highest among the students of law.

Secondly, of all the groups, the students of law assess themselves highest in the largest number of skills, including finding information and drawing conclusions, quick summarising of large amount of text, continuous learning of new things, self-organising, initiative, independence in making decisions, entrepreneurial spirit, timely completion of planned tasks, contacts with other people, with whom we run tasks together, ease in establishing contacts, being communicative and sharing ideas clearly, solving conflicts between people, managerial skills and organisation of work of others, awarding tasks to other people, coordination of work of other people, and disciplining and reproving others.

Among fields in engineering and sciences, the students of information technology self-assessed themselves high, as they obtained the highest rankings in the following competencies: logical thinking, factual analysis, working with the computer and using the Internet (including both the basic command of an MS Office-type suite, knowledge of specialist software, writing software, authoring of websites, as well as browsing websites and handling e-mail).

Men are likely to self-assess their competencies higher than women, with the exception of finding information and drawing conclusions, continuous learning of new things, artistic and creative skills, self-organising, initiative (including timely completion of the works planned), contacts with other people, with whom we run tasks together (including cooperation within the group, ease in establishing contacts, being communicative and sharing ideas clearly, solving conflicts between people), organisation, and conducting work at the office, availability. The competencies listed above seem to be the strength of women, and are inscribed into the stereotype of the woman – and employee who is focused on other people, has artistic skills, likes to learn, is communicative, and knows how to run an office.

Assessment of additional skills necessary at work vs. analysis of needs for development and identified competency gaps

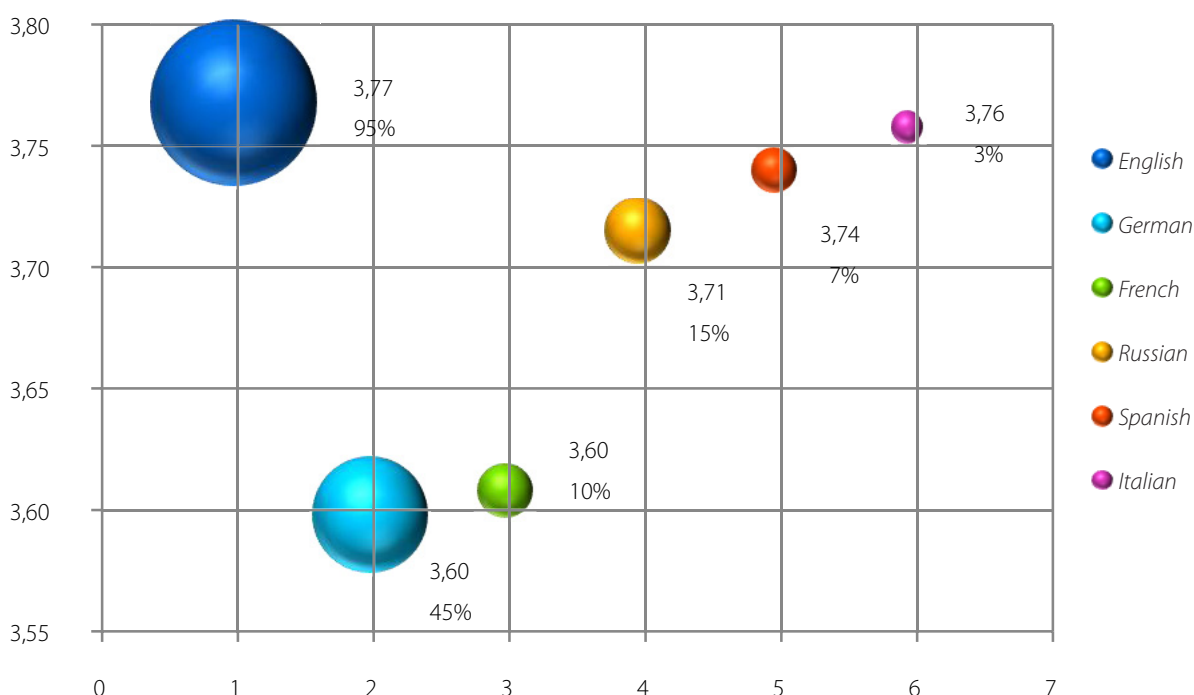
Besides the skills listed above, there are a number of additional competencies that are assessed by employers as extremely useful at work. For example, important attributes of an employee include command of foreign languages, and the fact of having a driving licence. In this part, we will analyse what additional competency gaps (besides operating, assembling, and repairing machines and performing calculations) are characteristic of the students covered by the survey. First, we will verify whether the respondents have driving licences and to what degree they have mastered reading, listening, writing, and speaking skills in foreign languages. We will close with an analysis of competency gaps, and use it to assess the training needs of Polish students.

Describing the degree of command of foreign languages among the respondents, the following conclusions can be drawn: first of all, a large majority of students use English, with the average level of its command among the respondents being assessed as rather high (arithmetic mean of 3.77 for listening skills on a 6-point scale). The second most common language among the students is German (with 45% of respondents declaring ability to communicate in it), yet the degree of command of German is lower than that of English (arithmetic mean of 3.60 for listening skills). The respondents assess the level of command of French much like that of German, yet in the case of this language, there are fewer respondents who declare such a skill (10%). The assessments of the degree of command of languages, including Russian, Spanish, and Italian are similar (ranging from 3.71 to 3.76), with the largest group of the respondents (15%) speaking Russian.

Analysis of competencies supply in the group of higher education students

Chart 33

Assessment of language competencies – listening skills (N=55487)⁴³



Source: Own study based on: *BKL Study – Study of university students, 2010.*

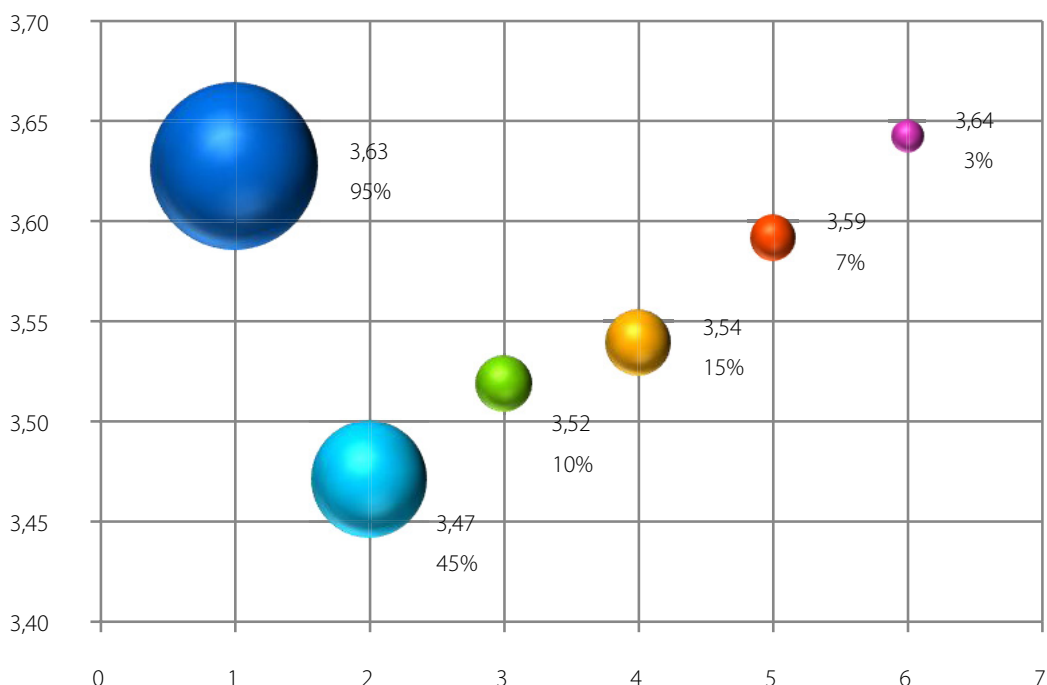
Secondly, attention must be paid to the fact that the respondents assessed most highly the reading skills in the given language, followed by listening skills; moreover, they see their speaking and writing skills in individual foreign languages at similar levels (irrespective of the actual language) (see: annex, Chart 14A, 15A). This conclusion seems very important, especially in the context of future careers of the respondents, in which the practical level of command of the language, mostly in speaking and writing, will significantly increase the opportunity of finding a better job.

⁴³ The size of the bubble corresponds to the percentage of the respondents who use the given language. The higher the bubble is situated, the higher the average assessment of command of the given language among the respondents.

- English
- German
- French
- Russian
- Spanish
- Italian

Chart 34

Assessment of language competencies – speaking skills (N=55487)



Source: Own study based on: *BKL Study – Study of university students, 2010.*

The level of command of foreign language is an extremely important competency used by graduates in the labour market. Yet, in most cases, the fact of commanding a language to a given degree depends on the student's activity outside the institution of higher education (participation in language courses, summer schools, etc.) and not solely on the level of education in foreign languages in higher education.

Driving skills are a competency quite naturally obtained outside the system of higher education, as part of the students' individual activity, nevertheless, that skill is sufficiently important to be worth quoting the data characteristic of the respondents. A large majority of the respondents declare that they have a driving licence (68%), and further 5% are in the process of obtaining it (Annex, Chart 16A). It can therefore be expected that in most cases, students leave institutions of higher education with that skill, even though there is also a group of approximately 25% – 30%, who have no such documents after completion of higher education.⁴⁴

Summing up the above, it is worth taking a complex look at the competencies of the students of Polish institutions of higher education, and describe the gaps that the respondents identify in their education. It can be said that students seem to be aware of the need to complement the education they have, as nearly every other one of them (47%) believes that they could do with additional training or course geared on their professional work (Annex, Chart 18A). This is relatively more often the opinion expressed by women (51%), students of medicine, social sciences, personal services, social services, law, veterinary (54%), and students of church, medical, and economics-related institutions of higher education (50.6%).

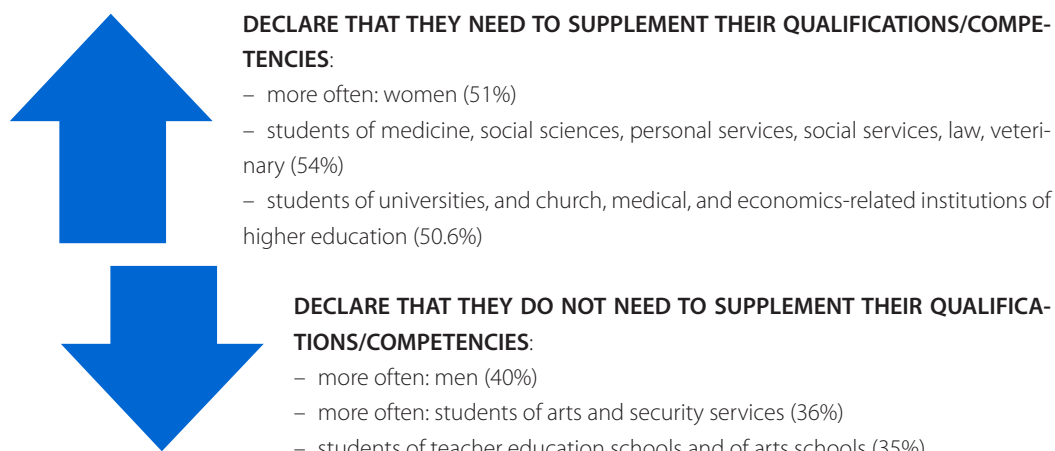
The need to supplement the competencies and qualifications is less often declared by men (40%), students of arts and security services (36%), students of teacher education schools and artistic schools (35%). The self-assessments quoted above do not necessarily prove the actual shortages in competencies of student respondents. They rather point to their subjective perception of own opportunities in the market, which is probably influenced by a range of factors, including also the realistic opportunities that the labour market gives to individual groups. For example, women are convinced about their poor position in the market (let us remember that their conviction does not necessarily have to be related to actual situation), and in this way more often identify significant gaps in their education.

⁴⁴ As many as 98% of students with driving licences are licensed to drive only passenger cars. The respondents hardly ever have driving licences of categories other than B; 4% of those licenced to drive are allowed to ride motorbikes (category A), 1% can drive cars whose weight exceeds 3.5 t (category C), and 1% – passenger cars whose weight does not exceed 550 kilo (category B1) (Annex, Chart 18A).

Figure 11

Who declares more frequently that they need to supplement their qualifications/competencies?

Analysis of competencies supply in the group of higher education students



Source: Own study based on: *BKL Study – Study of university students*, 2010.

Whether the respondents believe that they need to complement the knowledge and skills they have is strongly related to the assessment of the degree of applicability of the knowledge they acquired during studies. These assessments are mutually complementary, which shows that very often the tendency of students to deepen the competencies they have is connected to the limitations of education, namely the transfer of theoretical knowledge with the omission of the important component being practical skills, in the institutions of higher education.

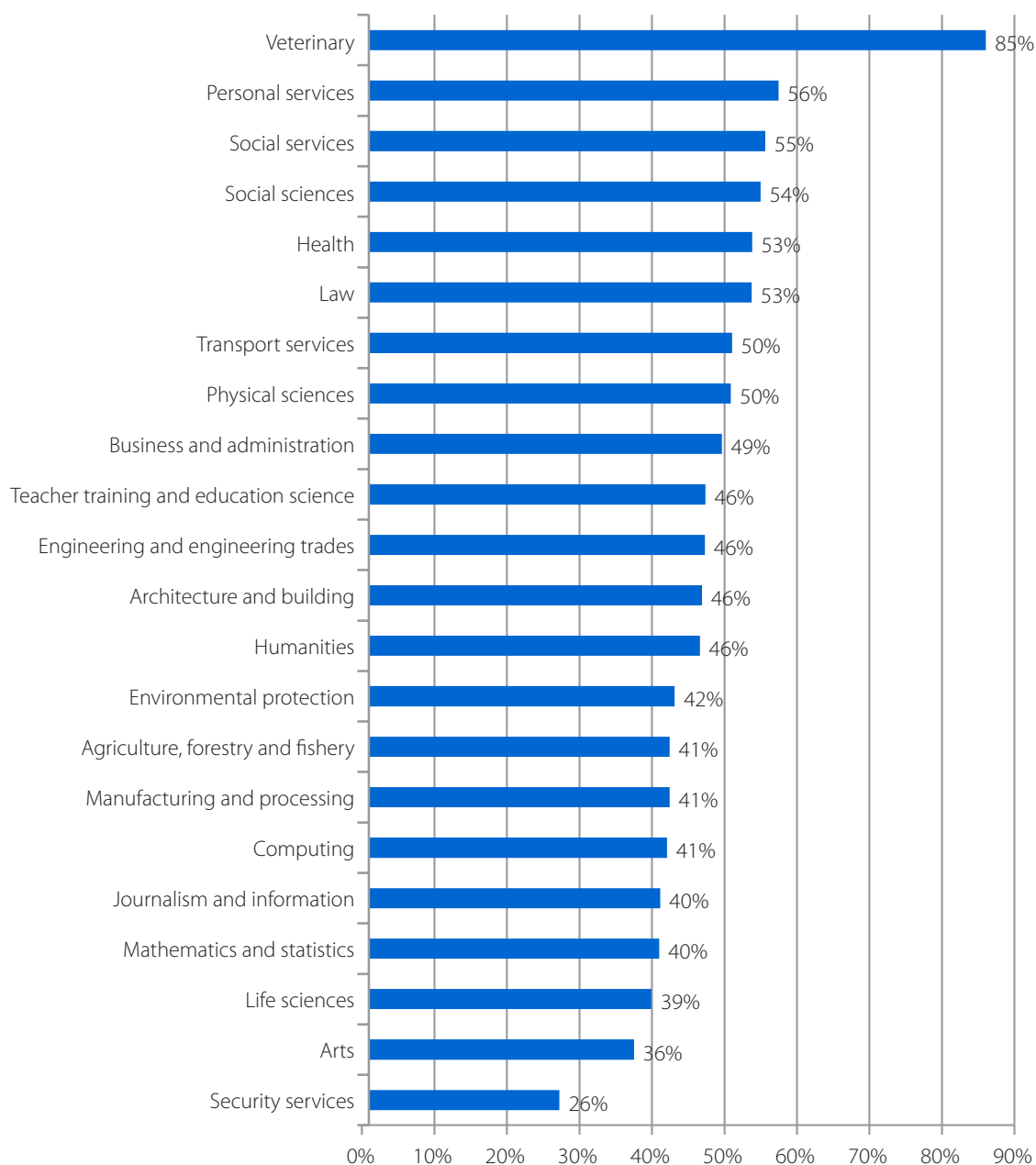
The group of the respondents may be divided into three subsets, defined according to the degree of readiness to complement the qualification/competencies they have. First are the students of veterinary,⁴⁵ personal services, welfare, social sciences, medicine, law, transport services, and the physical sciences group, most of whom declare the need to complement the qualifications they have.

The second group is composed of students of security services, arts and life sciences. In their case, fewest respondents (from 26% to 39%) declare eagerness to take part in (additional) training. The third group are the representatives of the remaining fields, where the percentage of those planning to deepen their knowledge and skills ranges from 40% to 49%.

45 In the case of this group, conclusions must be made with caution, as only 40 students learning in such fields answered the question.

Chart 35

Percentage of students in individual groups of fields, declaring that some training/a course could be helpful for their future work (N = 33272)



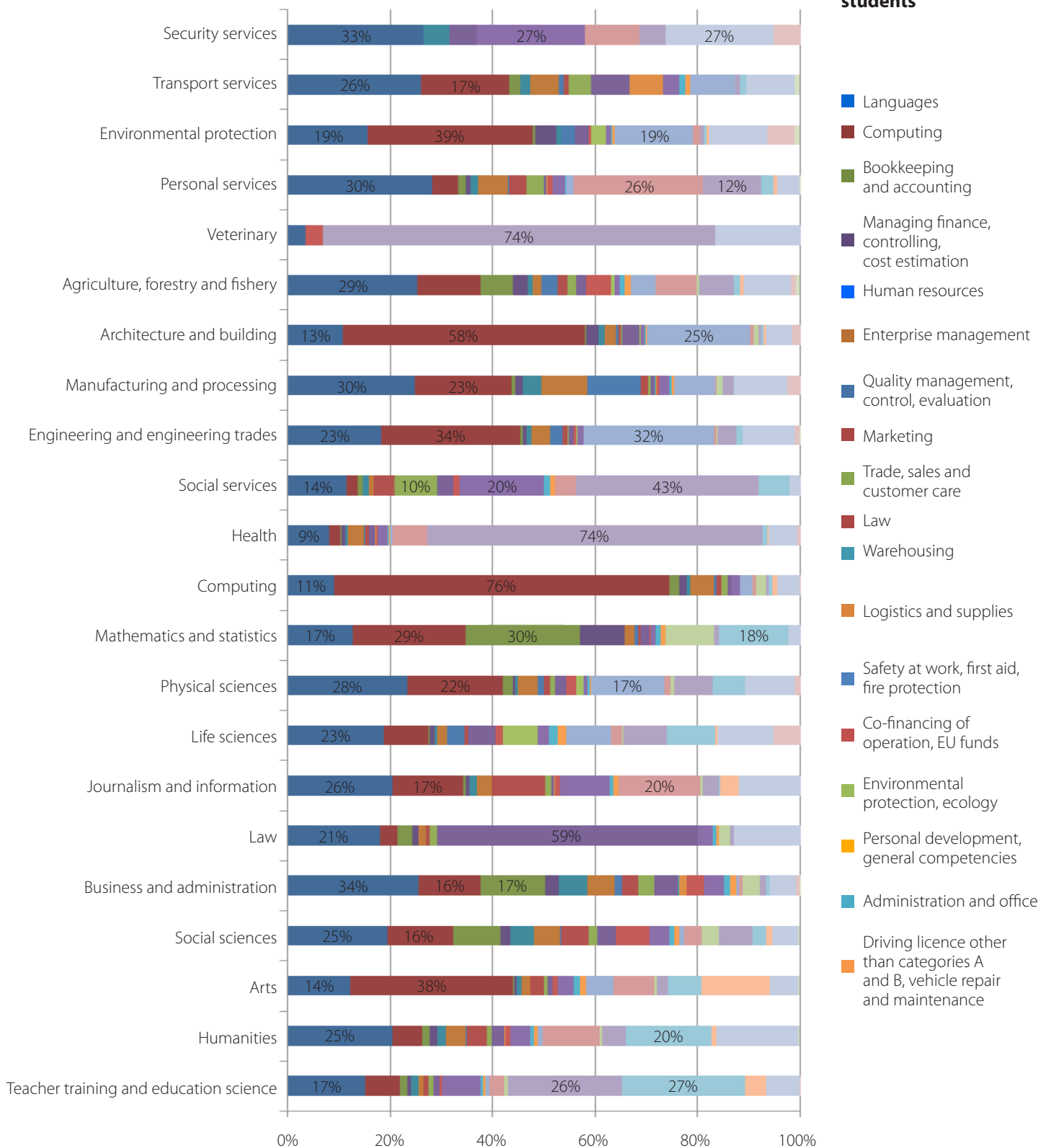
Source: Own study based on: *BKL Study – Study of university students, 2010.*

Not only the level of awareness of competency gaps is distinctive for students of individual fields of education, but so is the thematic area in which they would like to deepen their knowledge/skills as well. Approaching the question generally, the highest percentage of the respondents are eager to improve their language competencies (23% of those who would like to undergo training), computing skills (18%), and medical, first aid and social work (14%) skills. A large proportion of the respondents plan to deepen their knowledge and skills related to education (8%), services (6%), and construction and industry (6%) (Annex, Chart 19A). As has been mentioned, individual selections of the potential path of supplementing the competencies acquired during the studies are closely related to the field of education.

Chart 36

Thematic areas in which students want to complement the qualification/competencies vs. the field of education (group of fields) (N = 17009)

Analysis of competencies supply in the group of higher education students



Source: Own study based on: BKL Study – Study of university students, 2010.

Analysis of competencies supply in the group of higher education students

First, a various percentage of students of individual fields of education would like to improve their language competencies. The smallest proportion of such people was identified in the following fields veterinary, medical, computing, architecture and building, social services (below 15%). This means that the respondents either assess highly their language competencies or do not believe that they will need the command of foreign languages in their future career. Secondly, as far as students are hardly focused on courses/training devoted to personal development, the percentage of respondents who are eager to participate in such courses is significantly higher among the students of law (59%), social services (20%) and security services (27%). Quite obviously, focused on the courses in medicine, psychology, social work, and first aid are mostly students of medicine (74%), veterinary (74%), social services (43%) and teacher training and education (26%); on courses in construction and manufacturing – students of engineering and engineering trades (32%), architecture and building (25%), environmental protection (19%), and physical sciences (19%); on training in finance and accounting – students of mathematics and statistics (30%), business and administration; and on courses in services – students of personal services (26%), and journalism and information (20%).

Enjoying the highest interest – in fact, in all groups of students – are courses in information sciences. Eager to expand the competencies of this type through training are 76% of students of computing, 58% – of architecture and building, 39% – of environmental protection, 39% – of engineering and engineering trades, 38% – of arts, 29% – of mathematics and statistics, 23% – of manufacturing and processing, 22% – of physical sciences, 17% – of journalism and information, and transport services, and 16% – of social studies and business and administration. A large group are the ones who feel the shortage of competences in training and education (or at least would like to deepen such competencies to increase their market opportunities) – they are the students of teacher training and education (27%), of the humanities group (20%), and of mathematics and statistics (18%).

While summing up the section devoted to the identification of competency gaps, one more question needs attending to. As much as there is a clear profile of the necessary additional training visible among the students of law, veterinary, information sciences, and medicine, in the case of students of social and behavioural science, business and administration, life sciences, and physical sciences, opinions concerning the training needed are very varied.

Table 1A

Number of students of the first and second cycle and unified master degree studies in individual fields of education (as of 2009)

FIELD OF EDUCATION	Number of students
Teacher training and education total:	50435
Management	49063
Philology (total):	44332
Information technology	34330
Economics	31005
Law	29414
Administration	25241
Construction	24716
Tourism and recreation	21756
Finance and accounting	19707
Polish philology	19043
Medicine	18586
Production management and engineering	18570
Mechanics and construction of machines	18195
Environmental engineering	16256
Political studies	16140
Physiotherapy	15834
Environmental protection	15605
International relations	15503
English philology (degree subject)	14779
Physical education	14738
Sociology	14349
Psychology	13122
History	12793
Mathematics	12500
Biotechnology	11405
Electronics and telecommunication	11392
Biology	10758
Robotics	10360
Nursing	9952
Cultural studies	9931
Chemical sciences	9723
Architecture and urban studies	9479
Electrical engineering	9379
European studies	8963
Theology	7710
Chemical technology	7651
Journalism and social communication	7588
Food technology and nutrition	7585
Transportation	7451
Geography	7152
Primary teaching including pre-school (degree subject)	6934
Agriculture	6808
Pharmacy	6743
German philology (degree subject)	6710
Philosophy	6338
Logistics	6115
Management and marketing	6101
Computer science and econometrics	6072

Annex: tables

FIELD OF EDUCATION	Number of students
Spatial management	5982
Pedagogy (degree subject)	5841
Geodesy and cartography	5803
Cosmetology	5526
Public health	5502
Zootechnology	5197
Commodity science	4634
Horticulture	4271
Russian philology (degree subject)	4217
International economy relations	4172
Mining and geology	4158
Technical and computer science	4059
Dentistry	4005
Veterinary	3954
Mechatronics	3918
Special education	3861
Material engineering	3776
Power industry	3336
Landscape architecture	3142
National security	3114
Agricultural and forestry technology	2924
Scientific information and librarianship	2905
Technical physics	2896
Physics	2872
Obstetrics	2753
Graphic arts	2605
Medical analytics	2536
Forestry	2532
Instrumental studies	2522
Artistic education in the field of fine arts	2511
Social services	2470
Romance philology (degree subject)	2468
Medical rescue	2379
Archeology	2276
Interior design	2183
Studies of the family	2158
Biomedical engineering	2133
Primary education (degree subject)	2027
Geology	2013
Dietetics	2000
Chemical and process engineering	1975
Industrial design	1969
Macrofaculty (electronics and information technology)	1918
History of art	1860
Aviation and aeronautics	1850
Artistic education in the field of music arts	1832
Slavic philology (degree subject)	1825
Applied computer science (AGH Kraków University of Technology, Nicholas Copernicus University (UMK) in Toruń)	1790
Safety engineering	1740
Philology (Foreign language teacher training colleges)	1716
Ethnology	1659
Applied linguistics (degree subject)	1617
Navigation	1565
Spanish philology (degree subject)	1467
Metal industry	1349

FIELD OF EDUCATION	Number of students
Ocean engineering and ship technology	1274
Painting	1216
Finance and banking	1161
Interfaculty studies in the humanities	1031
Technology of wood	982
Without assigned faculty in the first year of studies (humanities)	917
Without assigned faculty in the first year of studies (business and administration)	917
Italian philology (degree subject)	908
English philology (Adam Mickiewicz University (UAM) in Poznań)	905
Classical philology (degree subject)	901
Interior safety	883
Quantitative methods in economy and information systems	870
English language (degree subject)	860
Social politics	816
Environmental protection technologies (Gdańsk University of Technology, Poznań University of Technology)	787
Interfaculty mathematical and natural science studies	780
Pre-school education (degree subject)	720
Canon law	684
Teleinformation (Wrocław University of Technology, University of Technology and Life Sciences in Bydgoszcz)	651
Rare languages (degree subject)	643
Acting	612
Vocal studies	593
French philology (degree subject)	562
Scandinavian (Swedish, Danish, Finnish, and Norwegian) philology (degree subject)	547
Musicology	529
Culture heritage protection	523
Papermaking and printing	471
Ukrainian philology (degree subject)	461
Sport	455
Oceanography	436
Russian philology with the English language (degree subject)	435
Sculpture	428
Oriental studies (University of Warsaw)	419
Cognitive science (Adam Mickiewicz University (UAM) in Poznań, Nicholas Copernicus University (UMK) in Toruń)	416
Composition and theory of music	412
Oriental philology (degree subject)	408
Textile engineering	406
Fishery	405
Economy and public administration (Kraków University of Economy)	404
Conservation and restoration of works of art	403
German language (degree subject)	397
Theatre studies	387
Dental technics	376
Production of film and television image, and photography	374
Medical physics (AGH Kraków University of Technology, University of Silesia)	370
Astronomy	361
Macrofaculty (Robotics, management)	360
Slavic studies (degree subject)	342
Language of business (degree subject)	333
English language with German language (degree subject)	324
Ethnolinguistics (degree subject)	317
Macrofaculty (Robotics, electronics and telecommunications, information technology)	316
Work safety engineering (Łódź University of Technology)	313

Annex: tables

FIELD OF EDUCATION	Number of students
Applied linguistics (UMCS in Lublin)	312
English and Russian philology (degree subject)	299
Biophysics (Jagiellonian University, Adam Mickiewicz University (UAM) in Poznań)	292
German language with English language (degree subject)	288
Dutch studies (degree subject)	278
Macrofaculty biology and geology	272
Social prevention and resocialisation (University of Warsaw)	269
French language (degree subject)	262
Mathematics and economics	232
Archival science and document management (Nicholas Copernicus University (UMK) in Toruń)	228
Religion studies (Jagiellonian University)	226
Japanese philology (degree subject)	222
Mechanical and medical engineering (Gdańsk University of Technology, Medical Academy in Gdańsk)	221
Macrofaculty life sciences and geography	220
Organization of film and television production	210
Oil and gas engineering (AGH Kraków University of Technology)	208
Directing	202
Logopaedics with audiophonology (Maria Curie-Skłodowska University (UMCS) in Lublin, Medical University in Białystok)	200
Finno-Ugric studies (degree subject)	200
Belarusian philology (degree subject)	195
Macrofaculty (food production bioengineering)	193
Classical philology and Mediterranean culture (degree subject)	191
Jazz and show music	180
European social communication (Adam Mickiewicz University (UAM) in Poznań)	175
East studies	170
Serbian and Croatian philology (degree subject)	168
American studies (degree subject)	167
Culture of Russia and neighbouring nations (degree subject)	163
Acoustics (Adam Mickiewicz University (UAM) in Poznań)	160
Russian and Ukrainian philology (degree subject)	157
Balkan philology (degree subject)	155
Radiology technology	152
Logopedics (University of Gdańsk, Medical Academy in Gdańsk)	150
Macrofaculty – nanotechnology	150
Mediterranean studies (degree subject)	150
Geophysics	148
Italian studies with elements of studies of Christianity (University of Szczecin)	146
Russian sciences (degree subject)	138
Sinology (degree subject)	134
Russian language of business (degree subject)	132
Baltic (Lithuanian, Latvian, Estonian) philology (degree subject)	131
Japanese studies (degree subject)	129
Macrofaculty (chemical technology and engineering)	127
Application of physics in biology and medical sciences	127
Modern Greek philology (degree subject)	125
Linguistics and scientific information (degree subject)	122
Russian and English philology (degree subject)	117
Slavic philology and Polish philology (degree subject)	117
Macrofaculty – Russian studies	108
Macrofaculty: International business	108
English philology with Arabic language (degree subject)	104
French language with English language (degree subject)	104
Macrofaculty (philosophy, history)	102

FIELD OF EDUCATION	Number of students
Korean philology (degree subject)	98
Bulgarian philology (degree subject)	91
Stage design	90
Hi-tech materials and nanotechnology (Jagiellonian University)	89
Macrofaculty (Territorial self-government and regional policy)	87
Musical conducting	83
Philology and cultural interdisciplinary studies	82
Media arts (Academy of Fine Arts in Warsaw, Academy of Fine Arts in Wrocław)	81
India studies (degree subject)	79
German language with English language (degree subject)	79
Macrofaculty – Nature (University of Gdańsk)	76
Vietnamese and Thai philology (degree subject)	73
Arab studies (degree subject)	72
Macrofaculty (materials of modern technologies)	72
Hebrew studies (degree subject)	63
English language and German (degree subject)	63
Sound directing	63
Industrial computer science	62
Polish as foreign language philology (degree subject)	61
Iberian philology (degree subject)	60
Intermedia (Academy of Fine Arts in Kraków, Academy of Fine Arts in Poznań)	60
Technical application of Internet	60
Microbiology (Uniwersytet Łódzki)	58
Turkish studies (degree subject)	58
Macrofaculty (nanotechnology and material processes)	57
Russian language (degree subject)	55
Macrofaculty (nanostructural engineering)	53
Sciences (Cardinal Stefan Wyszyński University)	53
Classical philology and Polish philology (degree subject)	52
Neurobiology (Jagiellonian University)	51
Lithuanian philology (degree subject)	49
Econophysics	47
Russian philology with applied linguistics (degree subject)	46
Macrofaculty (Bioinformatics and biology of systems)	46
Portuguese philology (degree subject)	45
Macrofaculty (applied automatics with computer materials science)	41
Macrofaculty (architectural engineering)	40
Hungarian philology (degree subject)	38
Art of image recording (Academy of Fine Arts in Poznań)	37
Church music	36
Environmental engineering and power	34
Eastern Slavic languages (degree subject)	34
Macrofaculty (economics, finance and accounting)	33
Indonesian and Malay philology (degree subject)	29
Various faculties of the Ministry of National Defence	29
Ancient Greek studies (degree subject)	28
Iberian studies (degree subject)	28
Macrofaculty (engineering and systems of agricultural management)	26
Romanian philology (degree subject)	24
Macrofaculty – environmental engineering and power	24
European studies and Italian philology (Nicholas Copernicus University (UMK) in Toruń)	23
Macrofaculty (aquaculture and food safety)	21
Without assigned faculty in the first year of studies (teaching)	21
Russian philology with German language (degree subject)	17
Czech philology (degree subject)	13

Annex: tables

FIELD OF EDUCATION	Number of students
Dental hygiene (Pomeranian Medical Academy in Szczecin)	10
French language in business and tourism (degree subject)	10
German philology with cultural studies (degree subject)	9
Interfaculty East Slavic studies	6
European social communication (degree subject)	4
German philology with philosophy (degree subject)	1
Slovak philology (degree subject)	0

Source: Own study based on GUS.

Table 2A

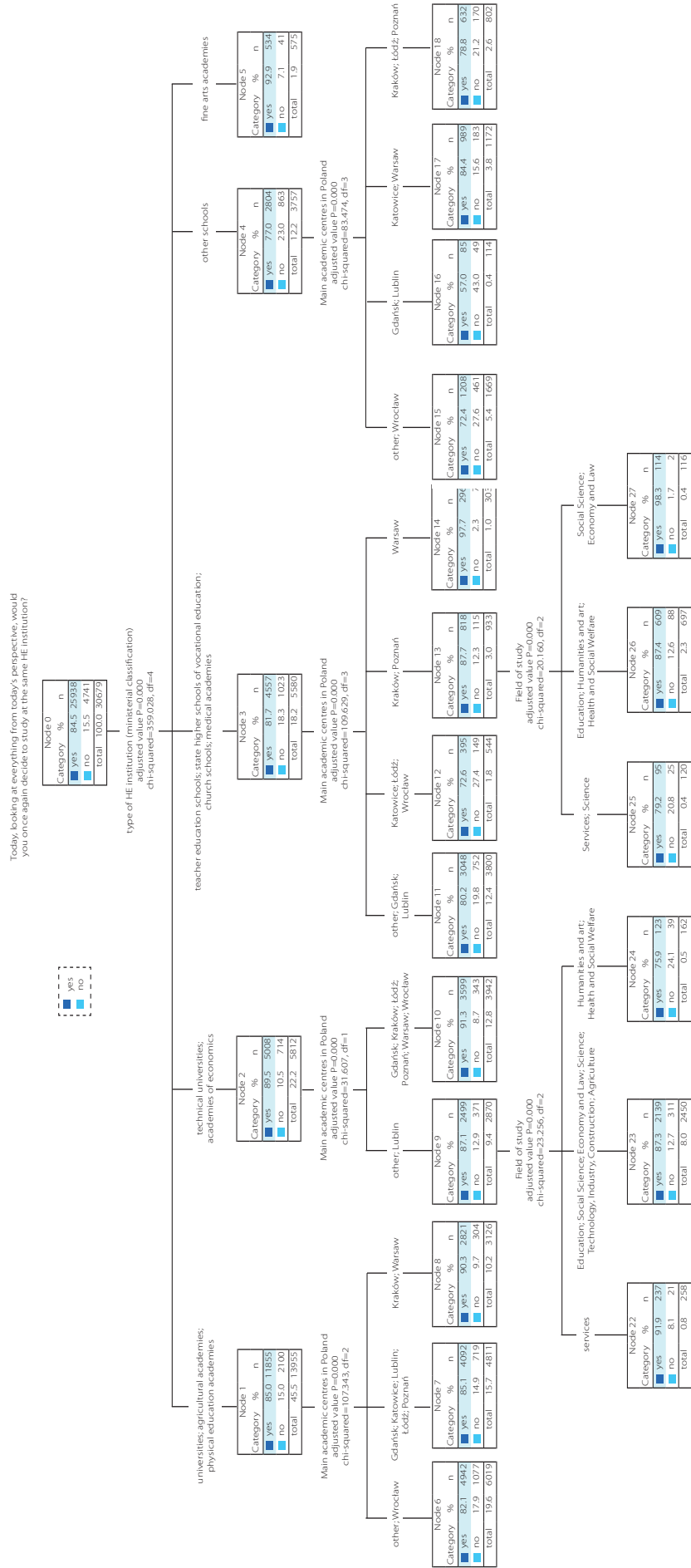
Most popular fields in first-cycle intramural studies and unified master degree studies according to the number of candidates to a place (seat): three or more, in language degree subjects within the field of philology

Field of education	number of candidates per place
Japanese studies	13.1
Spanish language	7.5
Swedish philology	7.1
Arab studies	6.9
Czech philology	6
Russian and English philology	5.3
American studies	4.6
Iberian philology	4.5
Croatian and Serbian philology	4.4
Spanish philology	4
Italian philology	3.8
English philology	3.5
Sinology	3.4
Modern Greek philology	3.1

Source: Own study based on *Ministry of Science and Higher Education, Information about the results of recruitment to higher education studies for the academic year 2009/2010 in the institutions of higher education supervised by the Minister of Science and Higher Education and non-public schools.*

Figure 1A

Classification tree – declaration whether the respondent would once again decide to study at the same institution of higher education vs. the type of institution and field in which the respondent studied



Source: Own study based on: *BKL Study – Study of university students, 2010.*

Figure 2A

Classification tree – declaration of students whether they would embark on studies at another institution of higher education, or whether they would give up education at higher level altogether (among the number of students who, being able to make the decision about the choice of the institution of higher education at the moment, would not choose the school in which they study)

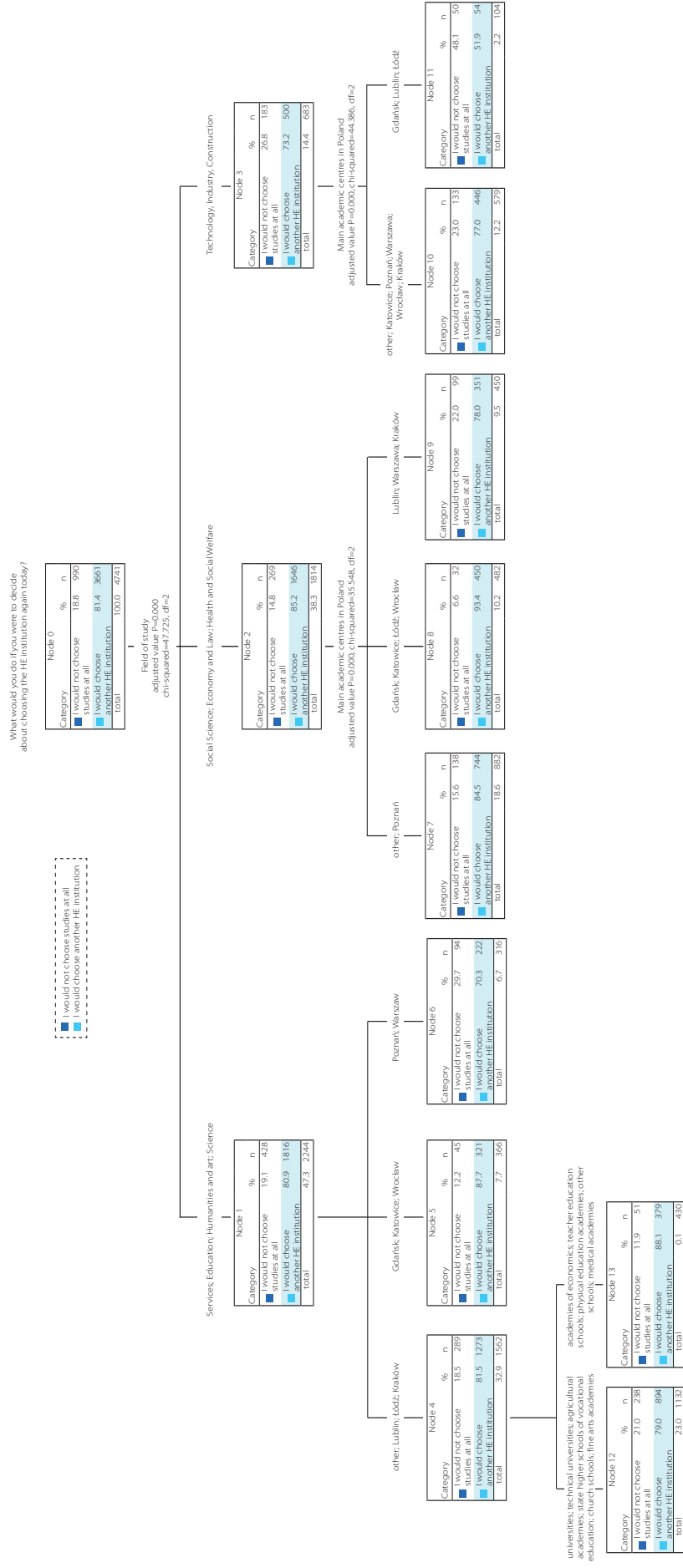
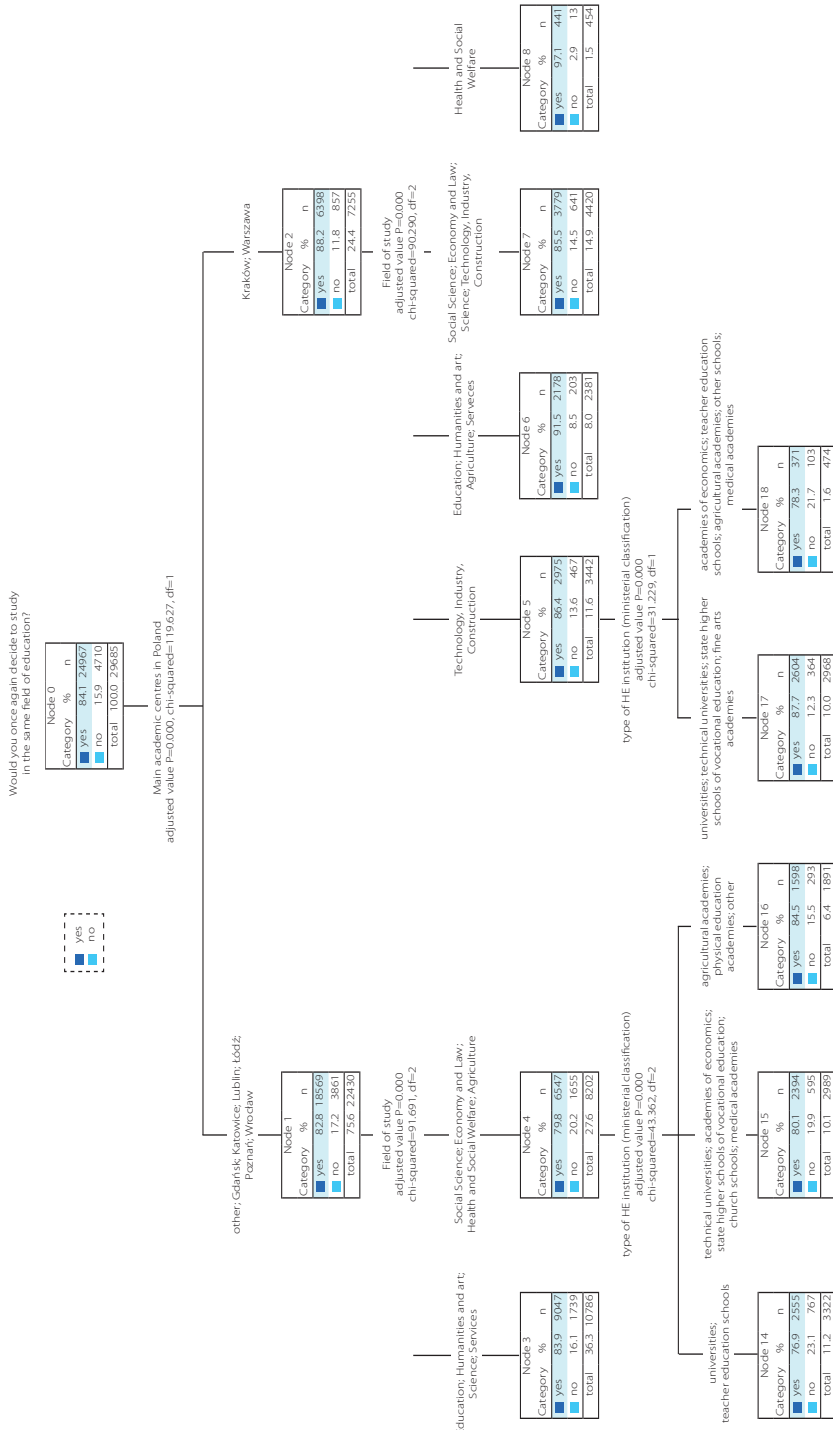


Figure 3A

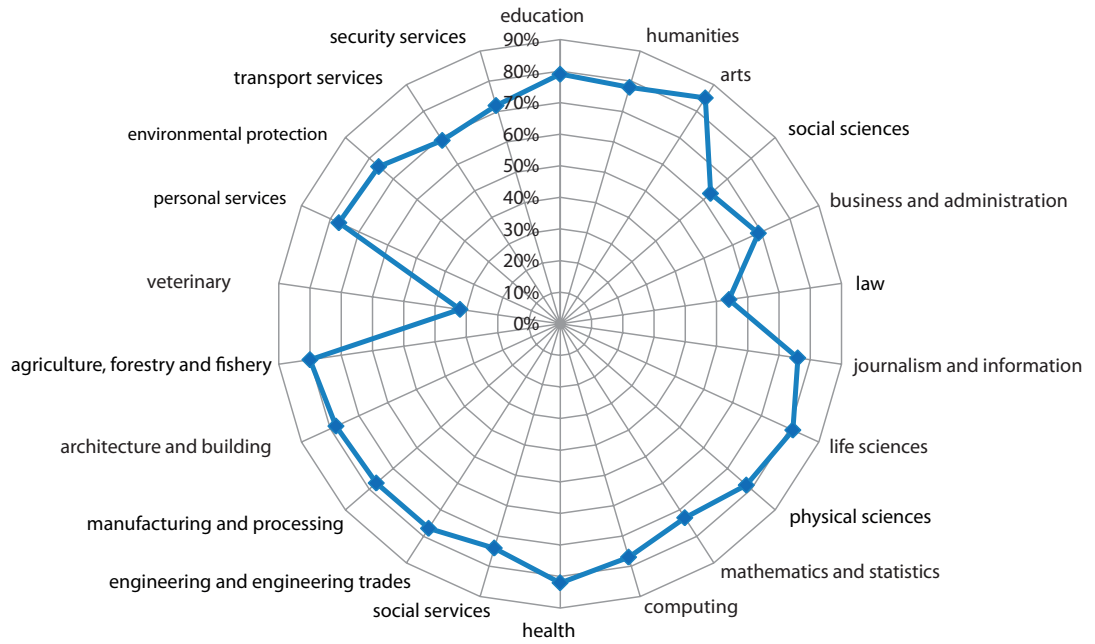
Classification tree – declaration whether the respondent would once again decide to study in the same field of education vs. the type of the institution of higher education (whether it is a main academic hub), and the field that the respondents studied



Source: Own study based on: BKL Study – Study of university students, 2010.

Chart 1A

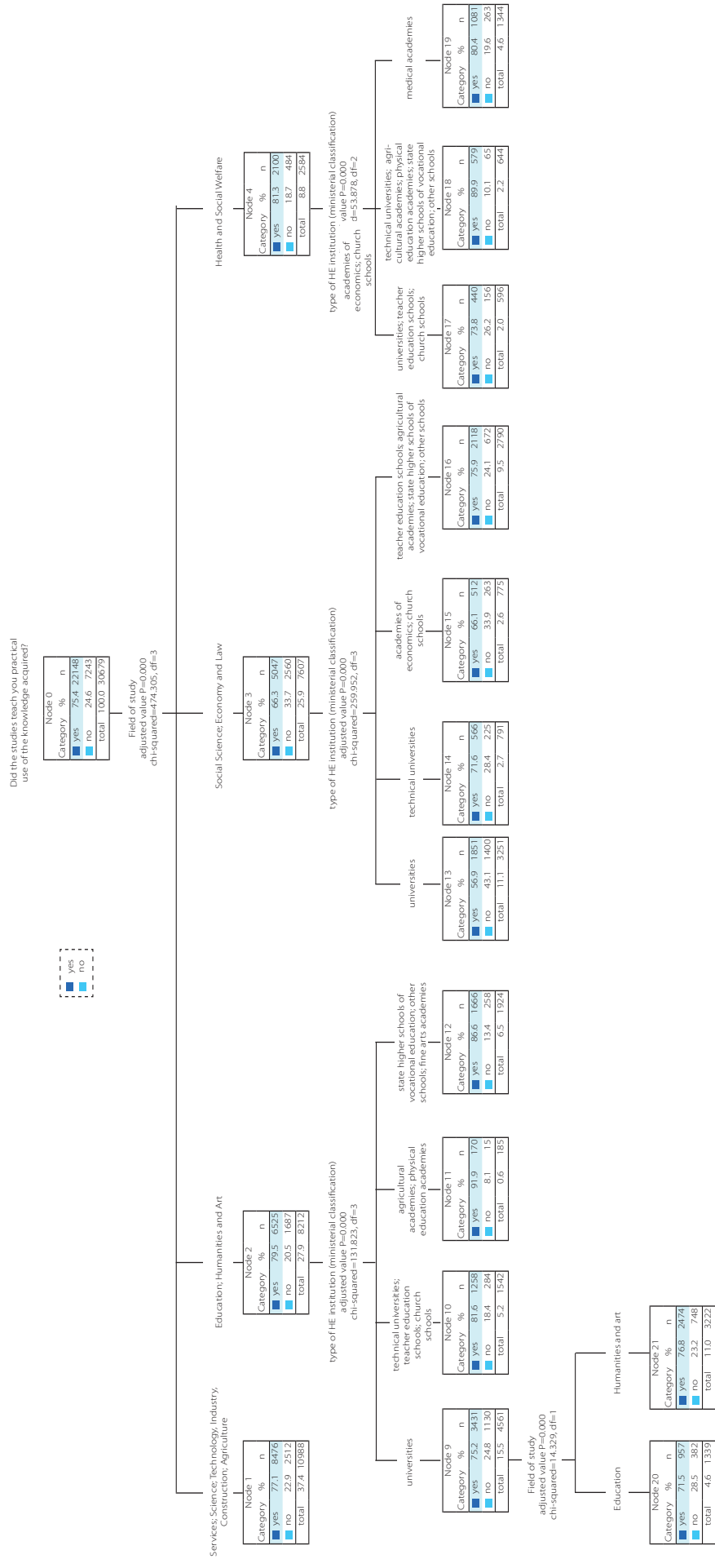
Percentage of students in individual groups of fields of education, declaring that studies taught them practical use of the knowledge they acquired (N = 33272)



Source: Own study based on: *BKL Study – Study of university students*, 2010.

Figure 4A

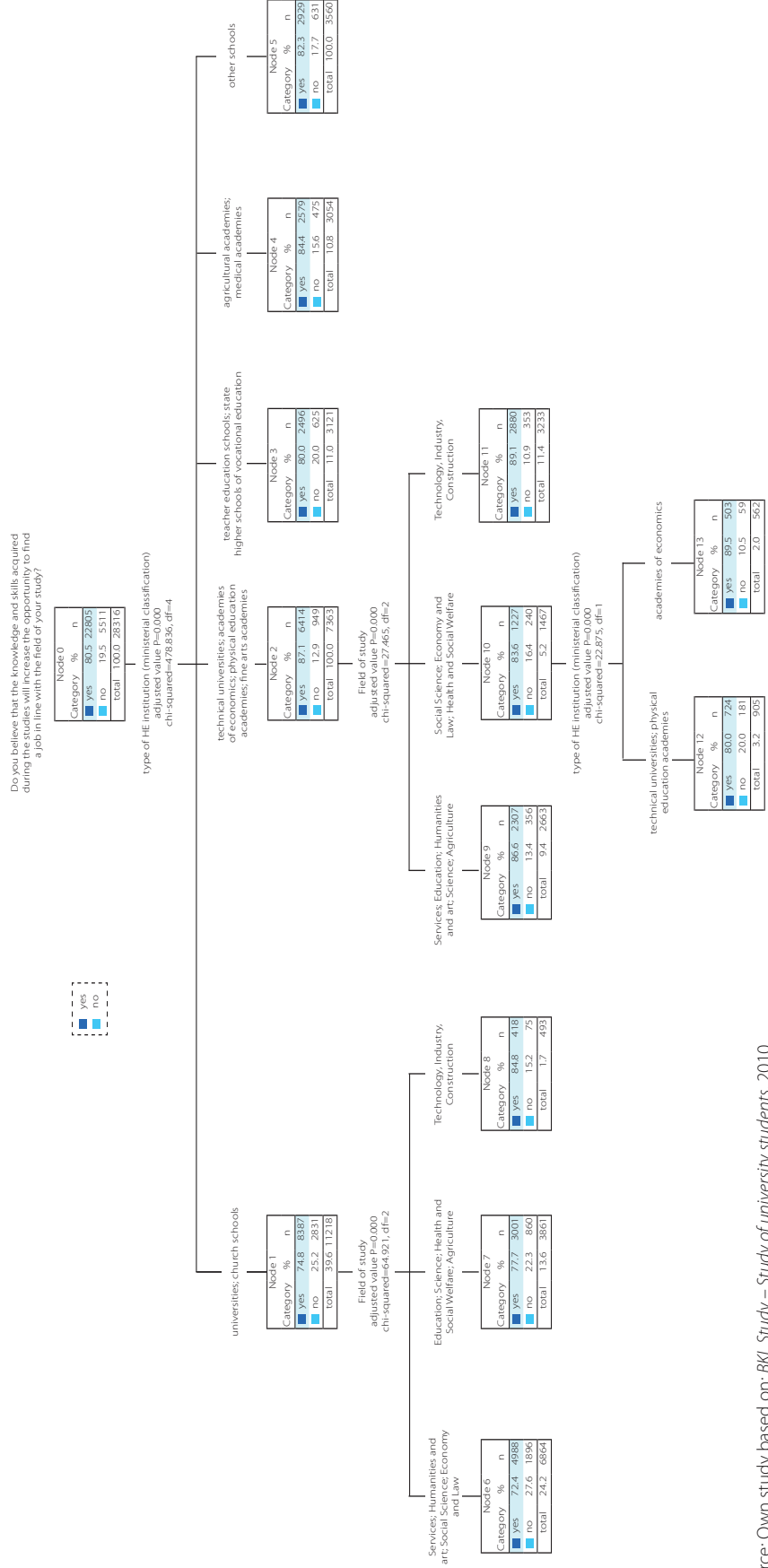
Classification tree – declaration whether the studies taught the respondent practical occupation vs. the type of institution of higher education and the field in which the respondent studied



Source: Own study based on: BKU Study – Study of university students, 2010.

Figure 5A

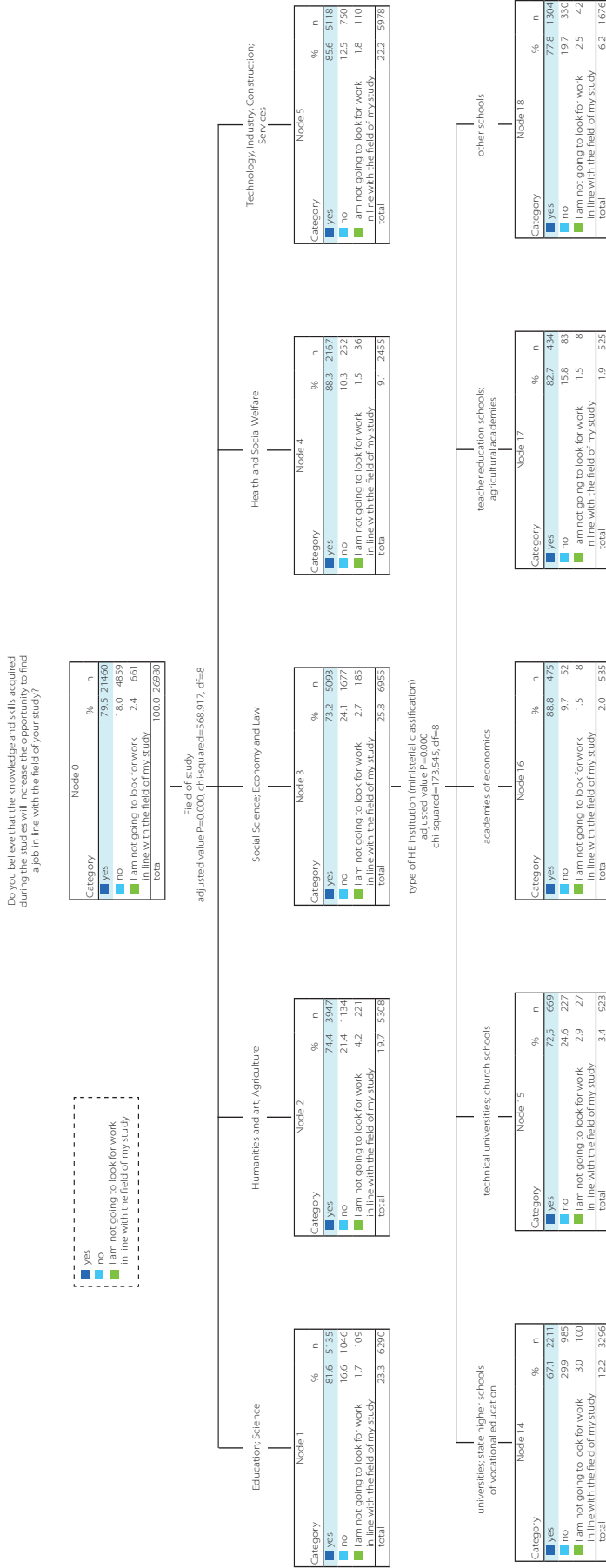
Classification tree – declaration whether the knowledge and skills acquired during the study increase the opportunity to find a good job vs. the type of institution of higher education and the field in which the respondent studied



Source: Own study based on: *BKL Study – Study of university students*, 2010.

Figure 6A

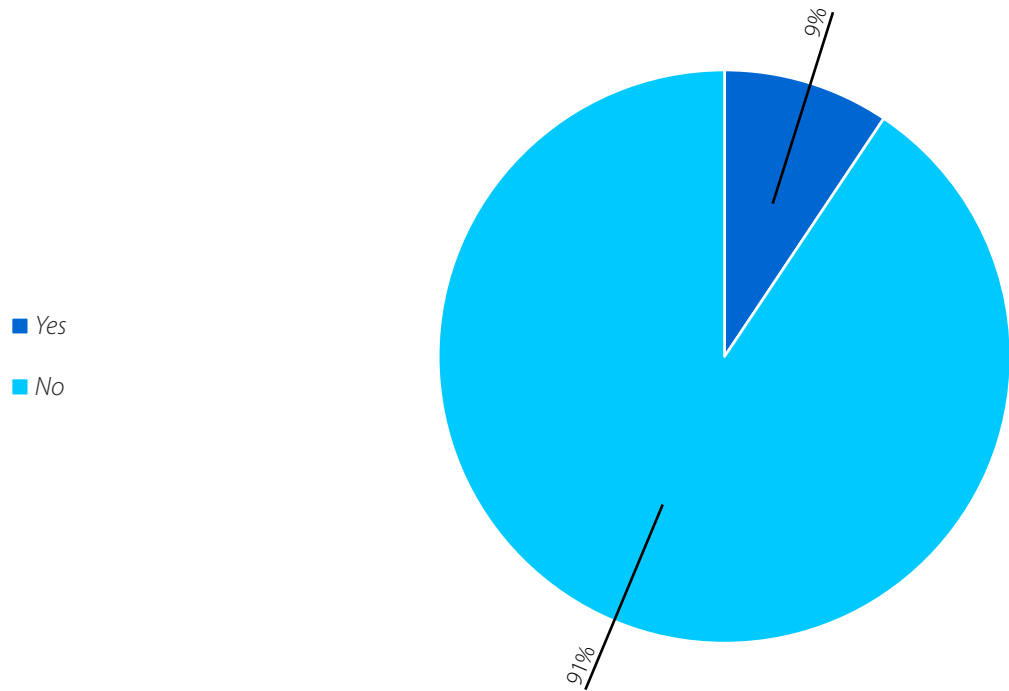
Classification tree – declaration whether the knowledge and skills acquired during the studies increase the opportunity to find a good job vs. the type of institution of higher education and the field in which the respondent studied



Source: Own study based on: BKL Study – Study of university students, 2010.

Chart 2A

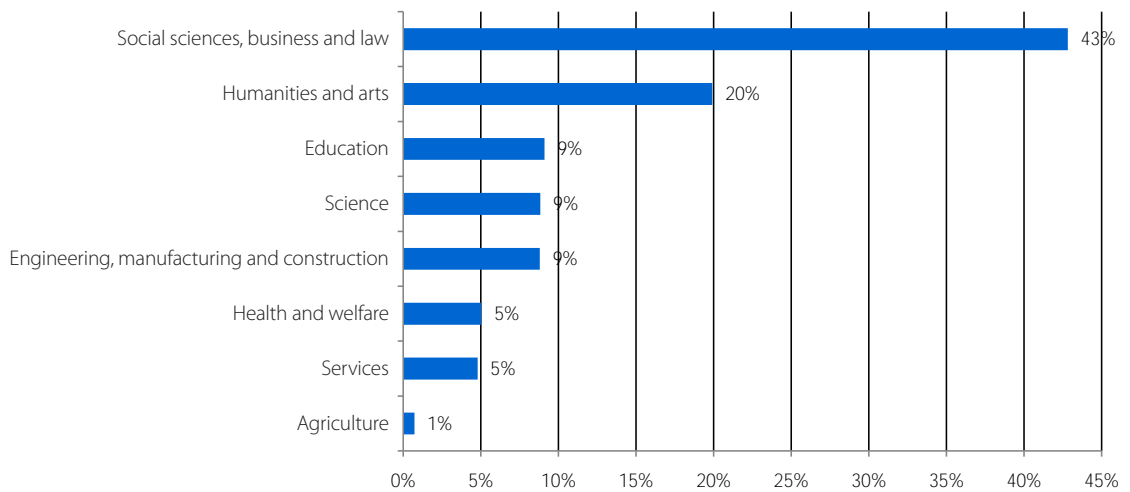
Apart from this field, does the respondents study currently in any other field?
(N = 33272)



Source: Own study based on: *BKL Study – Study of university students, 2010.*

Chart 3A

Second field of education of the respondents (N = 2922)



Source: Own study based on: *BKL Study – Study of university students, 2010.*

Table 3A

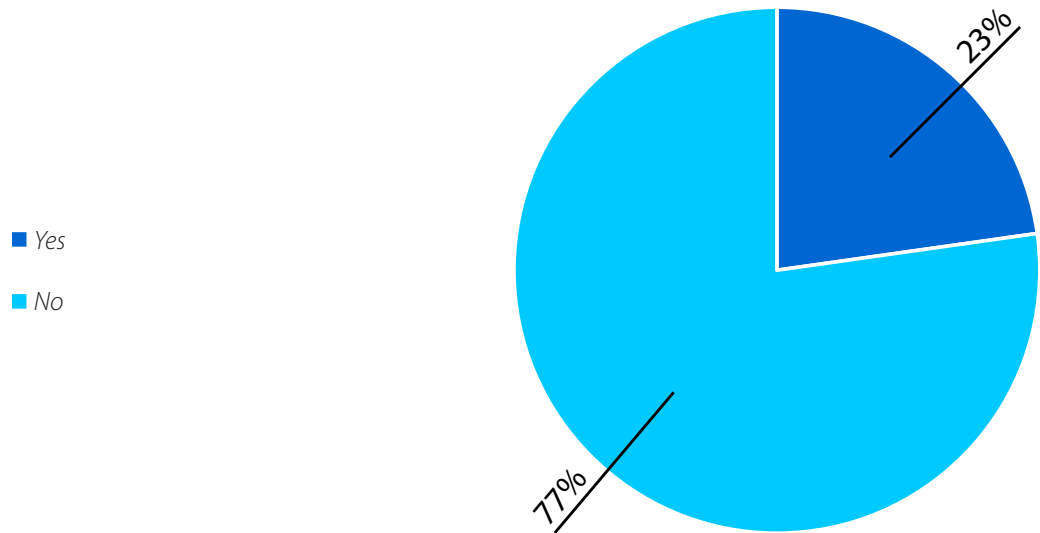
The respondent's field of education vs. the internship in which the respondent participated (N = 20922)

Occupation	Field							
	Education	Humanities and arts	Social sciences, business and law	Science	Health and welfare	Engineering, manufacturing and construction	Agriculture	Services
Science and engineering professionals	0%	2%	3%	13%	0%	35%	19%	9%
Health professionals	2%	0%	1%	3%	66%	2%	15%	1%
Teaching professionals	73%	47%	1%	12%	1%	0%	6%	2%
Business and administration professionals	0%	1%	7%	1%	0%	1%	0%	2%
Information and communications technology professionals	0%	0%	1%	19%	0%	5%	0%	0%
Legal, social and cultural professionals	4%	25%	18%	1%	1%	0%	0%	0%
Science and engineering associate professionals	0%	0%	1%	18%	2%	30%	9%	4%
Health associate professionals	2%	0%	0%	6%	16%	2%	3%	2%
Business and administration associate professionals	1%	2%	11%	4%	1%	1%	2%	5%
Legal, social and cultural associate professionals	4%	4%	3%	0%	2%	0%	1%	2%
Information and communications technicians	0%	0%	1%	5%	0%	3%	0%	0%
General and keyboard clerks	2%	6%	34%	9%	2%	6%	3%	7%
Customer services clerks	0%	3%	5%	2%	1%	0%	1%	37%
Numerical and material recording clerks	0%	1%	11%	2%	0%	3%	0%	1%
Other clerical support workers	0%	5%	6%	1%	1%	1%	3%	1%
Personal service workers	0%	0%	0%	1%	1%	0%	3%	23%
Personal care workers	16%	6%	1%	0%	11%	0%	0%	1%
Market-oriented skilled agricultural workers	0%	0%	0%	0%	0%	0%	25%	0%
Agricultural, forestry and fishery labourers	0%	0%	0%	0%	0%	1%	8%	0%

Source: Own study based on: BKL Study – Study of university students, 2010.

Chart 4A

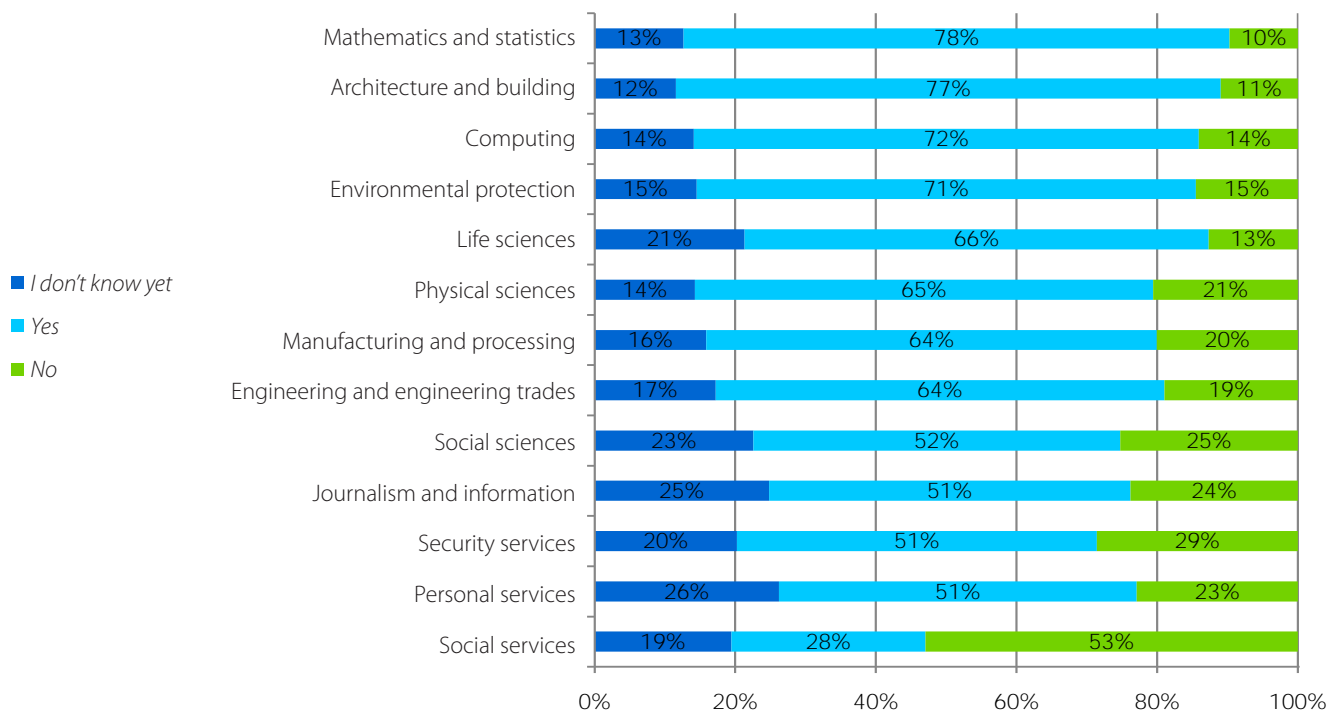
Has the respondent participated during the last 12 months in any courses, training, workshops, private tuition, etc., besides the activities organised as a standard during the course of studies? (N=33272)



Source: Own study based on: *BKL Study – Study of university students, 2010.*

Chart 5A

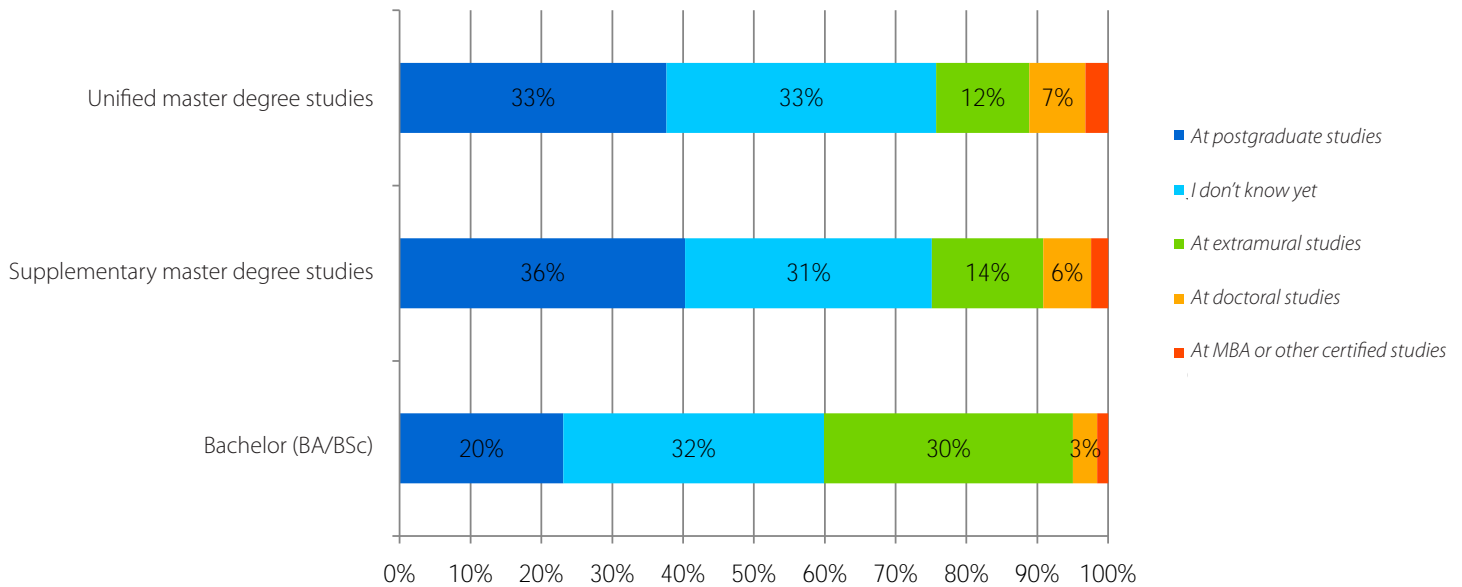
Does the student intend to study in the same field of education at master degree studies (group of fields of education) (N = 19494)



Source: Own study based on: *BKL Study – Study of university students, 2010.*

Chart 6A

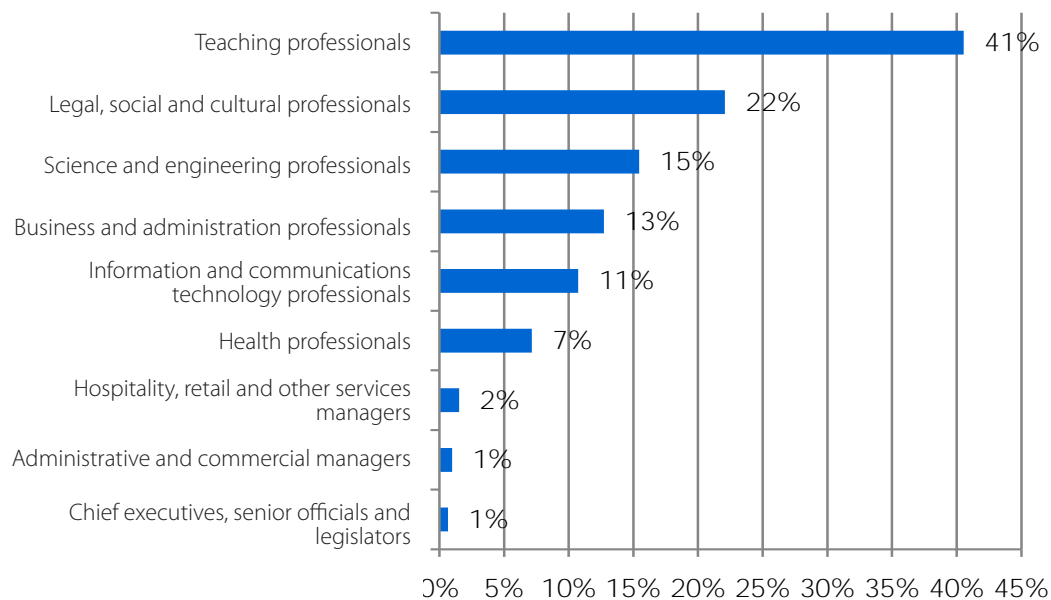
With the respondent will continue education (N = 12857)



Source: Own study based on: BKL Study – Study of university students, 2010.

Chart 7A

Professional occupations in which the respondents worked during the previous 12 months*

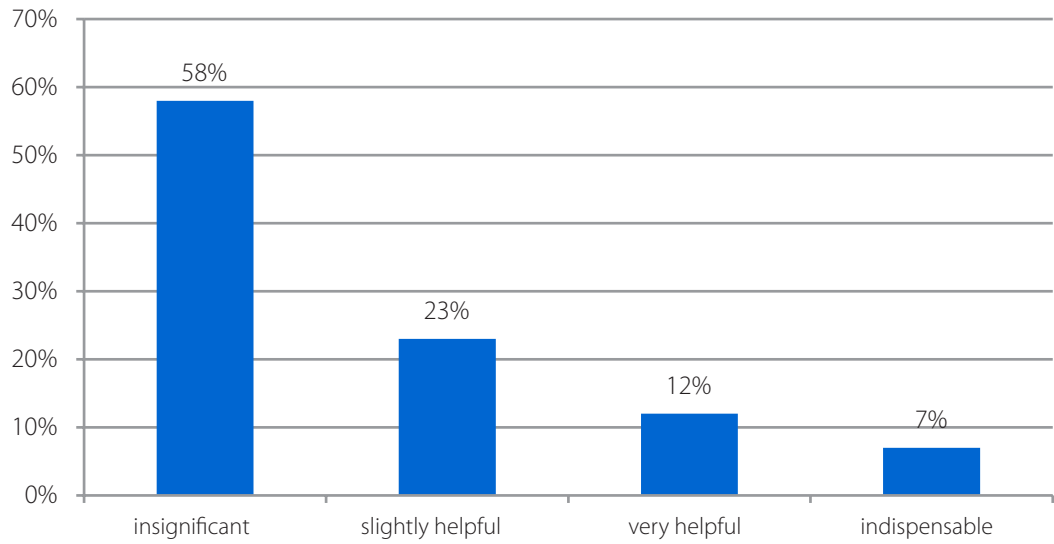


* The percentages do not add up to 100, because multiple choices were allowed.

Source: Own study based on: BKL Study – Study of university students, 2010.

Chart 8A

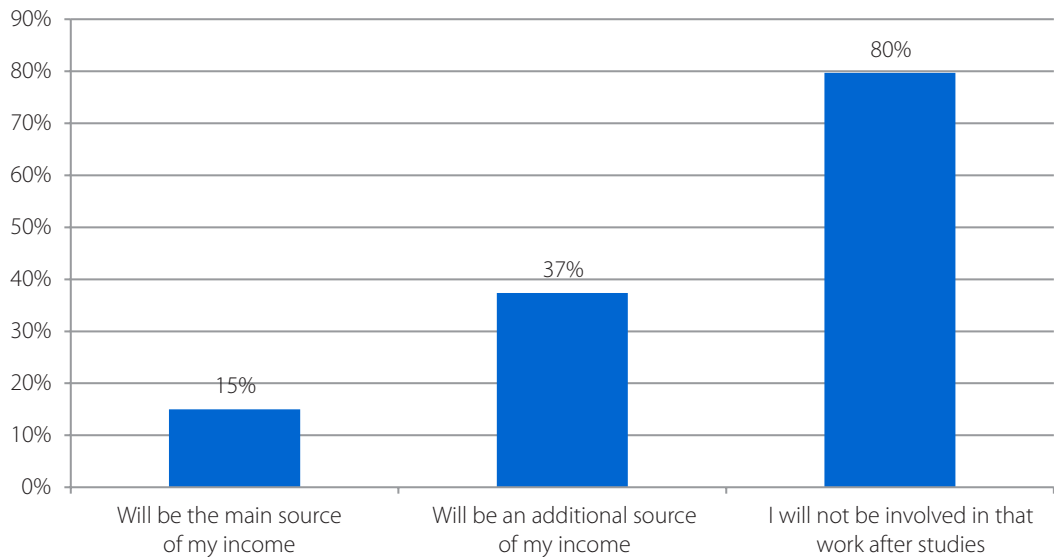
**To what degree the knowledge acquired during the studies was useful in that work?
(N = 17567, % of answers)**



Source: Own study based on: *BKL Study – Study of university students, 2010.*

Chart 9A

**After the completed studies, will the current work of the respondent be his or her main source of income, an additional source, or will he or she not perform this work at all?
(N = 17518)***

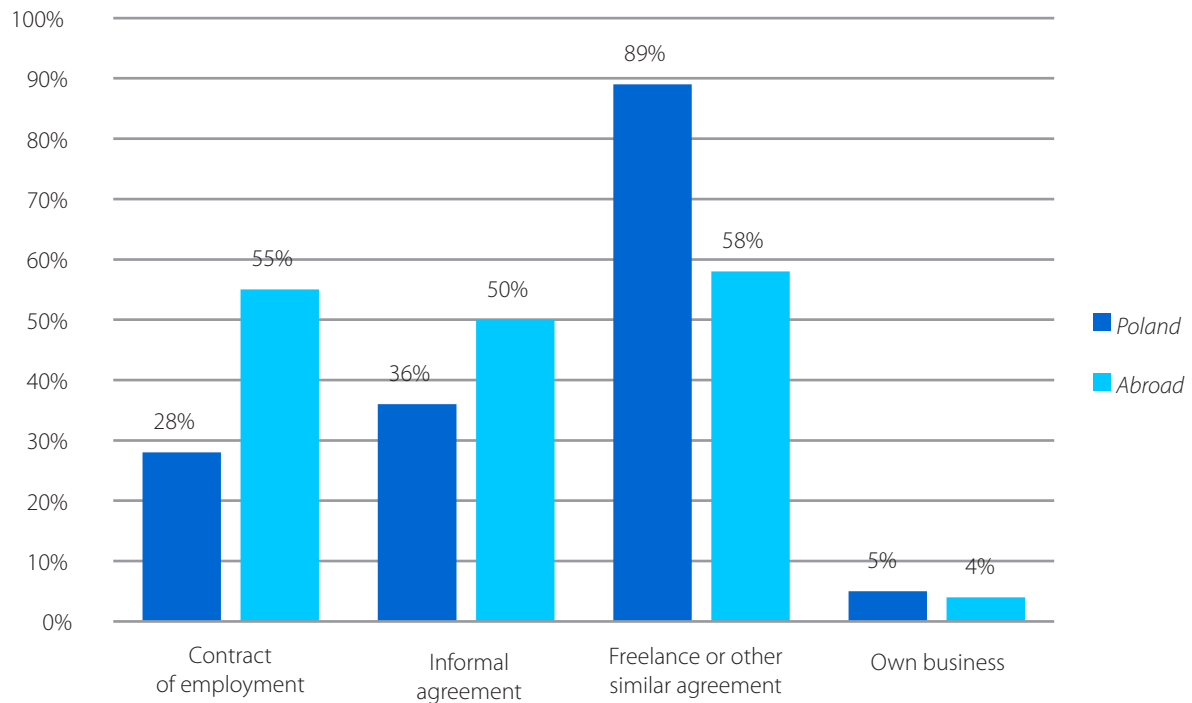


* The percentages do not add up to 100, because multiple choices were allowed.

Source: Own study based on: *BKL Study – Study of university students, 2010.*

Chart 10A

Grounds for performing work vs. the place of work
(N = 13222; Poland – 15711, abroad – 1776)*

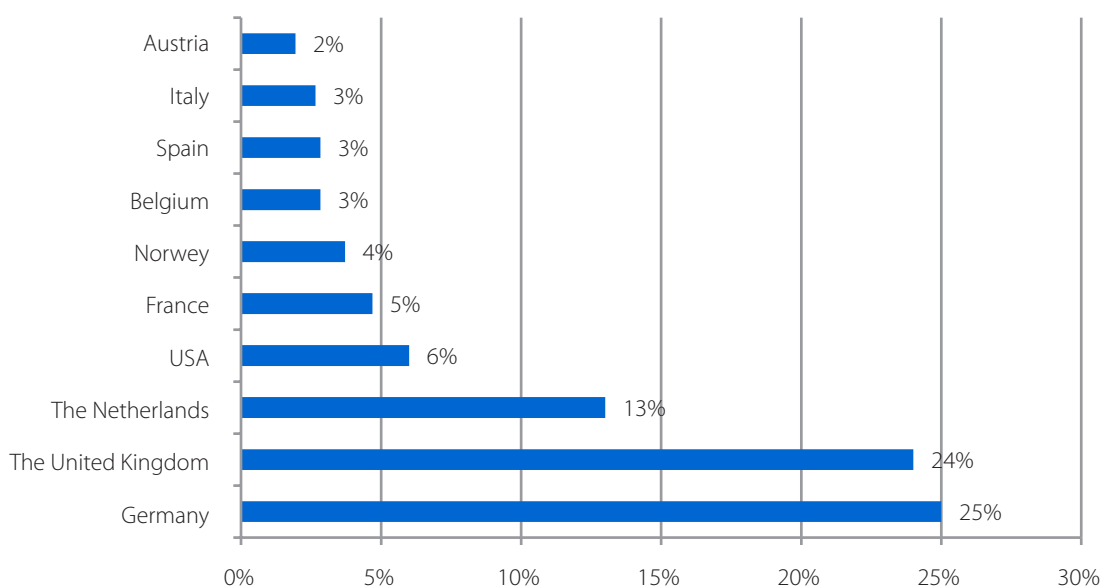


* The percentages do not add up to 100, because multiple choices were allowed.

Source: Own study based on: *BKL Study – Study of university students, 2010.*

Chart 11A

Country where the respondent worked (N = 1240)*

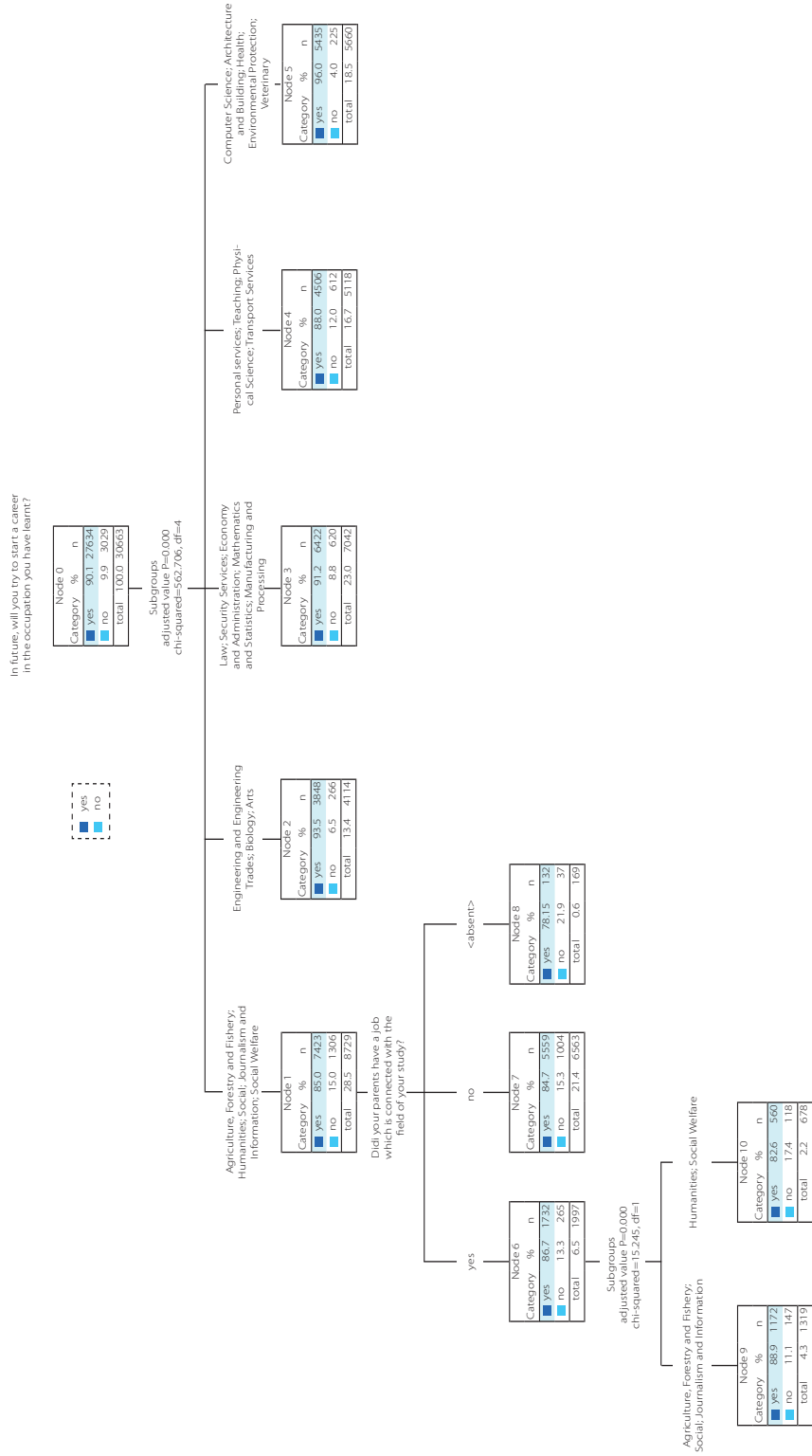


* The percentages do not add up to 100, because multiple choices were allowed.

Source: Own study based on: *BKL Study – Study of university students, 2010.*

Figure 7A

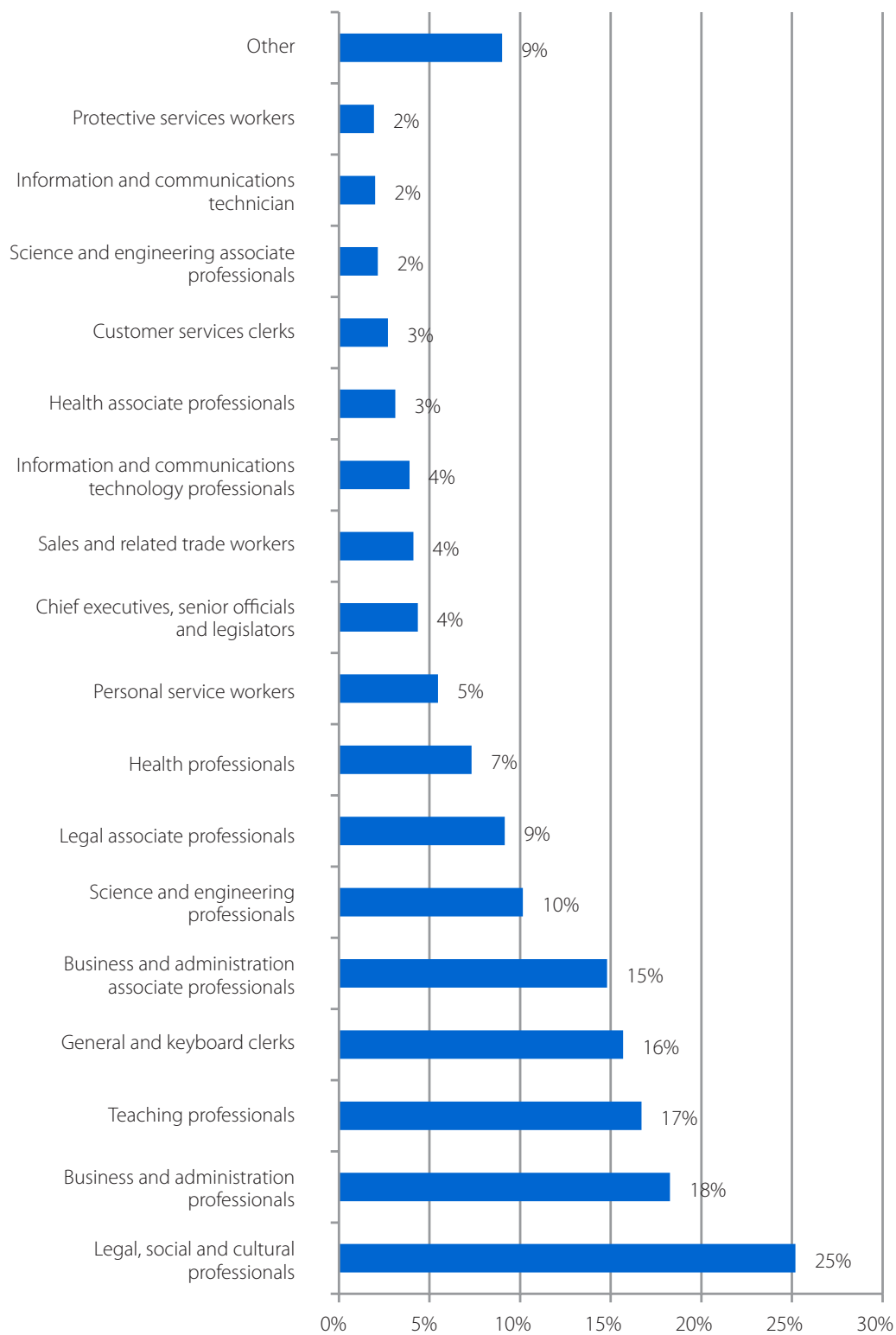
Will the respondent try to start a career in his occupation in future?



Source: Own study based on: BKL Study – Study of university students, 2010.

Chart 12A

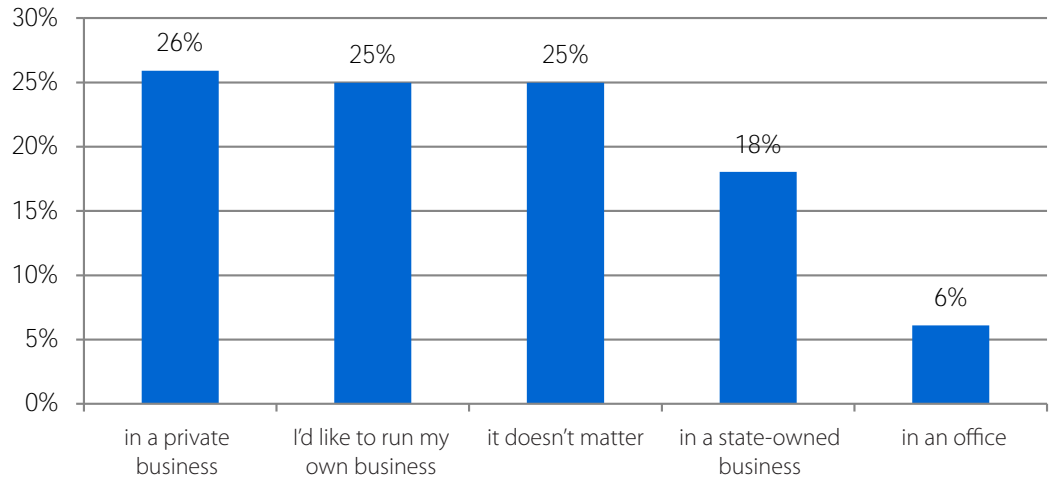
In what occupation will the respondent try to start a career in future? (N = 4470)



Source: Own study based on: *BKL Study – Study of university students, 2010.*

Chart 13A

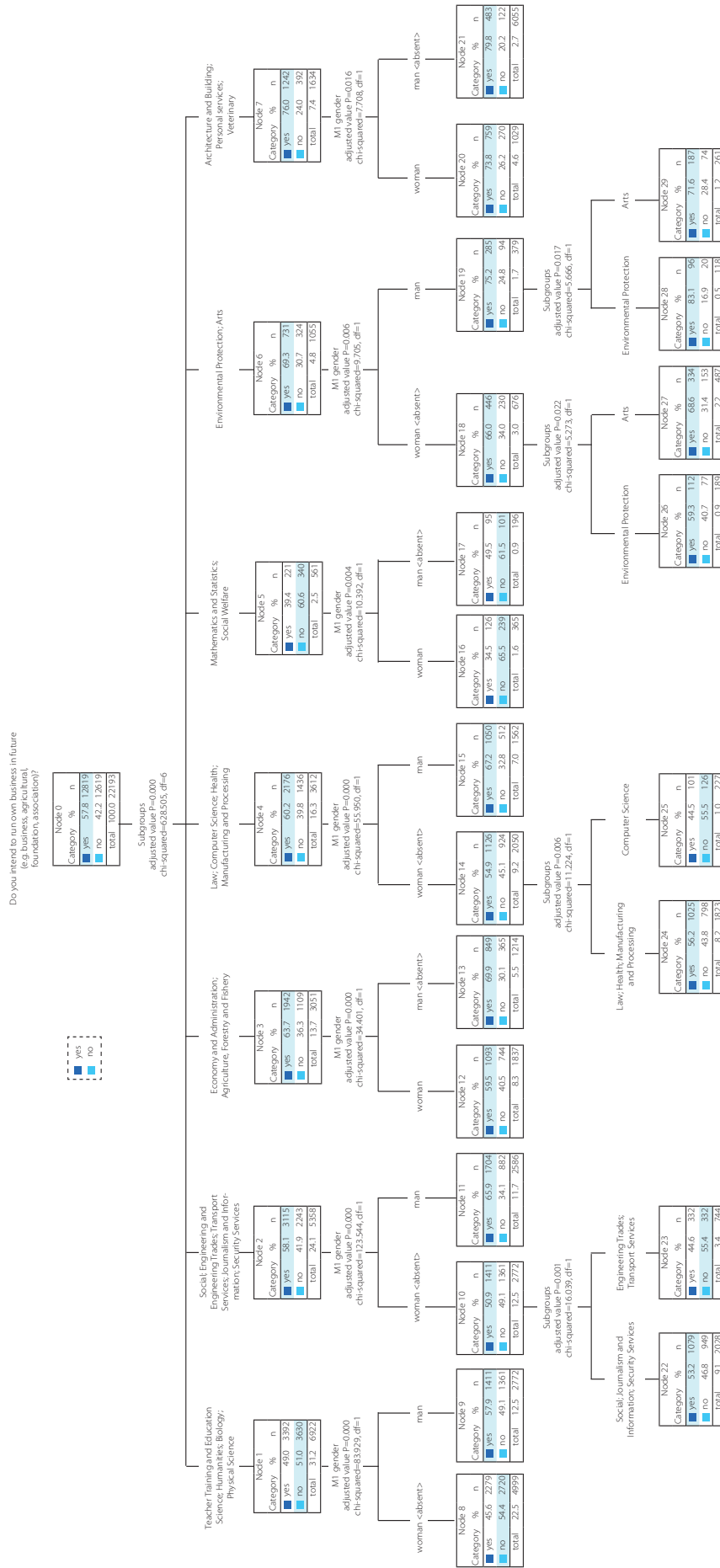
Where would the respondent be most glad to start work? (N = 33272)



Source: Own study based on: *BKL Study – Study of university students*, 2010.

Figure 8A

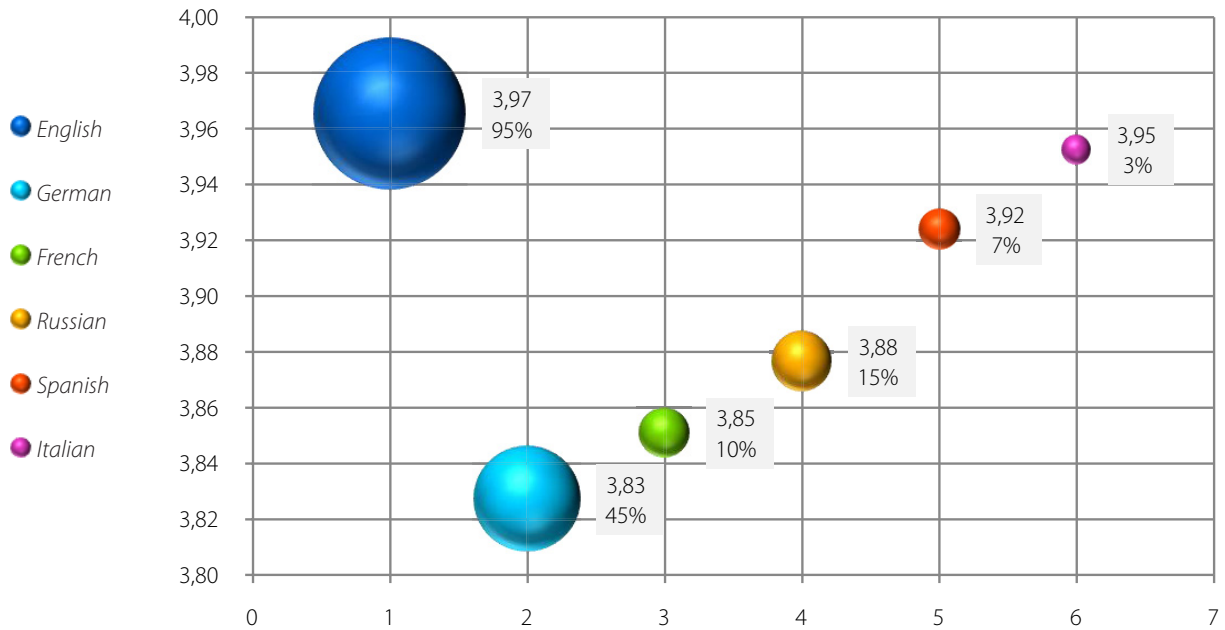
Does the respondent intend to run own business in future (e.g. business, agricultural, foundation, association)?



Source: Own study based on: BKL Study – Study of university students, 2010.

Chart 14A

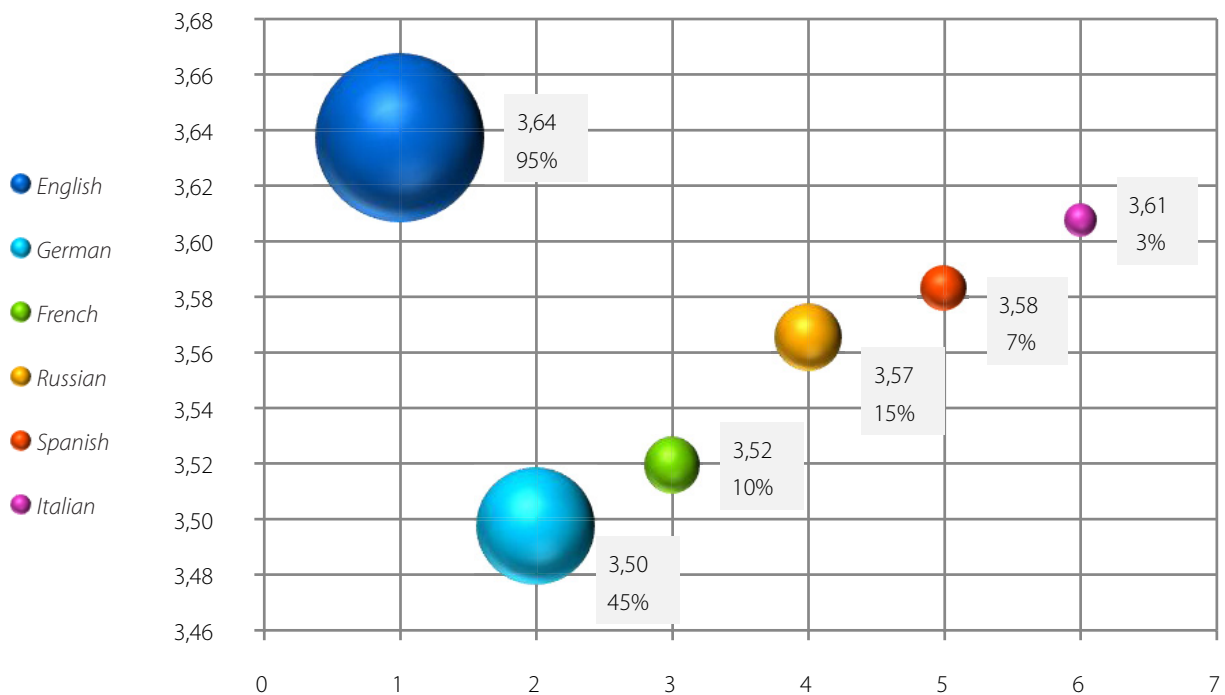
Assessment of language competencies – reading skills (N=55487)



Source: Own study based on: *BKL Study – Study of university students, 2010.*

Chart 15A

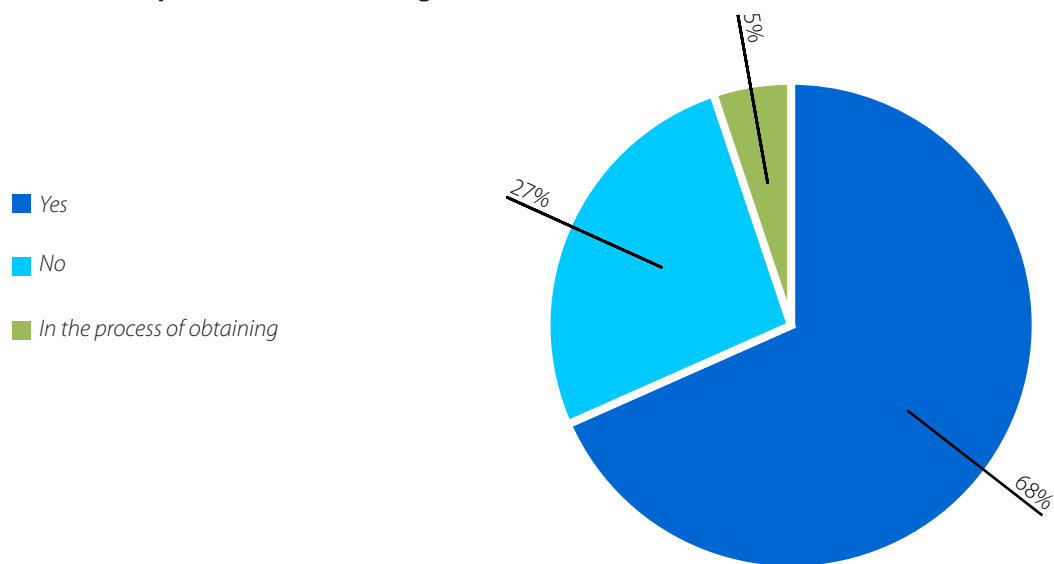
Assessment of language competencies – writing skills (N=55487)



Source: Own study based on: *BKL Study – Study of university students, 2010.*

Chart 16A

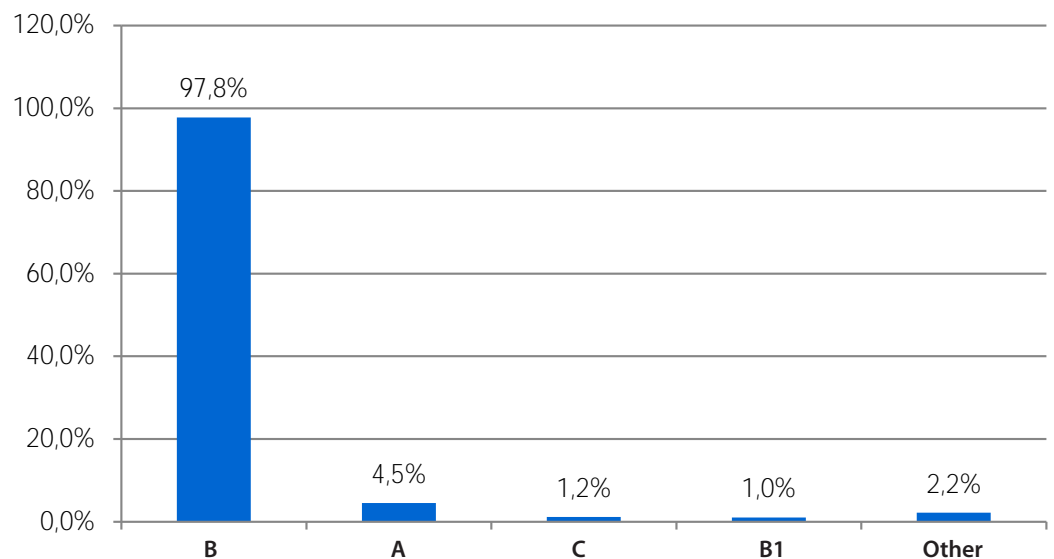
Does the respondent have a driving licence? (N = 33035)



Source: Own study based on: BKL Study – Study of university students, 2010.

Chart 17A

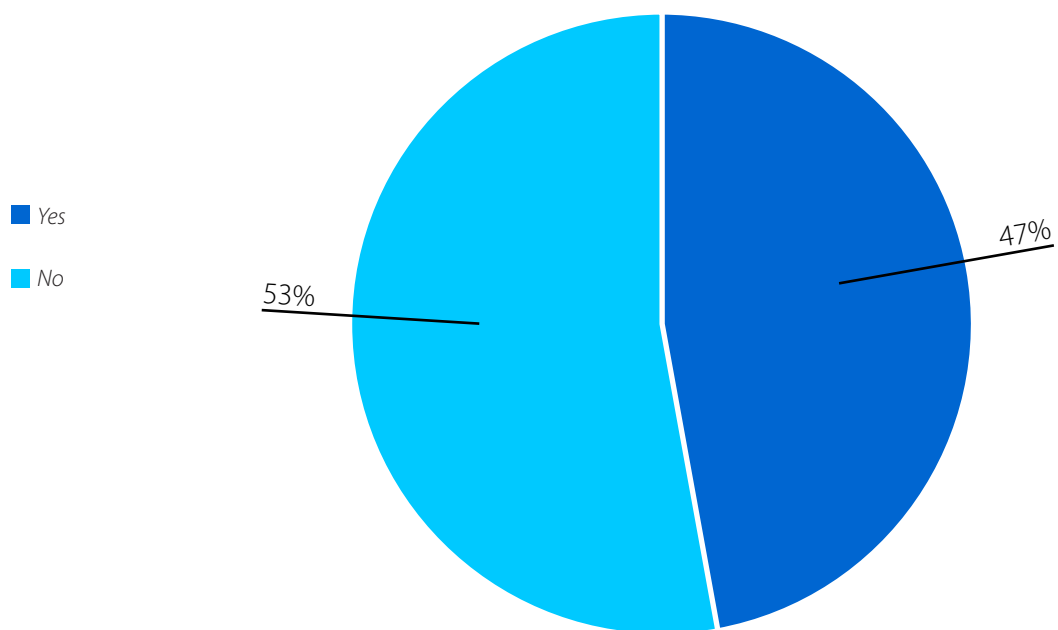
Categories of driving licences of the respondents (N = 22200)



Source: Own study based on: BKL Study – Study of university students, 2010.

Chart 18A

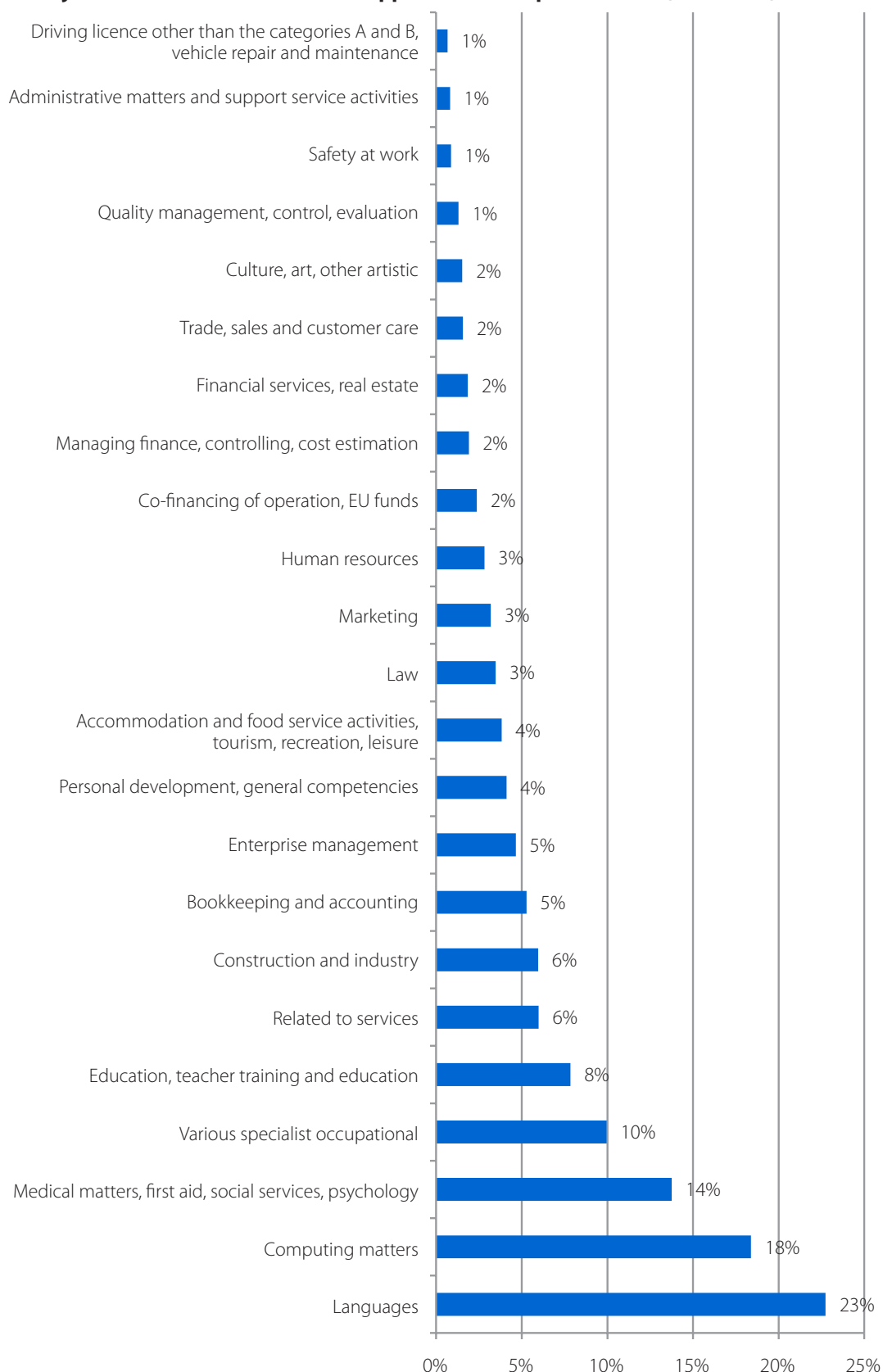
Do you think that additional training or a course would be useful for your career?



Source: Own study based on: *BKL Study – Study of university students, 2010*.

Chart 19A

Subject in which students want to supplement their qualifications (N = 17009)



Source: Own study based on: *BKL Study – Study of university students, 2010.*

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The Polish Agency for Enterprise Development (Polska Agencja Rozwoju Przedsiębiorczości, PARP) is a government agency reporting to the Minister of Economy. It was established on the power of the Act of 9th November 2000. The task of the agency is to manage funds received from the State Treasury and the European Union allocated to manage entrepreneurship and innovativeness and to develop human resources.

For over a decade, PARP has supported entrepreneurs in implementing competitive and innovative projects. The goal of the agency is to conduct programmes aimed at developing the economy, supporting innovation and research activity in small and medium-size enterprises (SMEs), regional development, growth of export, development of human resources, and the use of new technologies.

The Agency's mission is to establish favourable conditions for sustained development of the Polish economy by supporting innovation and international activity of businesses and promotion of environmentally friendly forms of production and consumption.

In the financial perspective 2007–2013, PARP is responsible for the implementation of tasks in three operational programmes: **Innovative Economy, Human Capital, and Development of Eastern Poland.**

One of the Agency's priorities is the promotion of innovative attitudes and encouraging entrepreneurs to apply state-of-the-art technologies in their businesses. To achieve this, PARP operates a web portal devoted to innovation – www.pi.gov.pl – and organises the annual competition **Polish Product of the Future (Polski Produkt Przyszłości)**. Representatives of SMEs are welcome to participate in regular meetings of the **Club of Innovative Enterprises**. The objective of the educational portal **Akademia PARP** (PARP Academy, www.akademiaparp.gov.pl) is facilitation of access and dissemination of business knowledge through e-learning among micro-, small and medium-sized businesses. Moreover, PARP supports the development of e-business through its website web.gov.pl. Operating at the agency is a centre of the **Enterprise Europe Network**, offering entrepreneurs information on EU law and the principles of conducting business in the Single Market.

PARP initiated the development of the **National SMEs Service Network (Krajowy System Usług, KSU)**, which helps business start-ups and companies developing their business activity. In over 150 KSU centres (including KSU Consultation Points, KSU National Innovation Network, and loan and guarantee funds collaborating within the KSU) situated all over Poland, enterprises and start-ups are welcome to acquire information, participate in training on how to run business, and receive loans and/or guarantees. Besides the above, the agency runs the KSU website (www.ksu.parp.gov.pl). PARP's regional partners in the implementation of selected activities are the Regional Financing Institutions (RFIs).

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