

■ UNIVERSITY OF HELSINKI CAREER MONITORING REPORT— DOCTORAL GRADUATES OF 2004–2018

Aki Hagelin

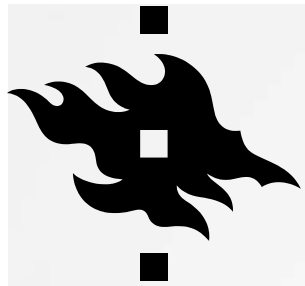
Institutional Research and Analysis

Eric Carver

Strategic Services for Teaching

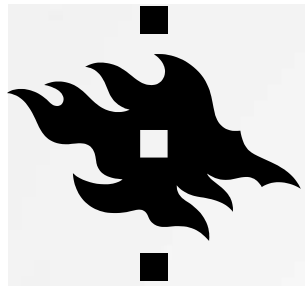
Jonas Lindholm

Institutional Research and Analysis



CONTENT

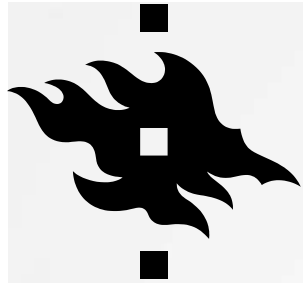
- Accessibility of the report
- Revised employment monitoring of graduates at the University of Helsinki
 - Career monitoring surveys of Finnish universities
 - Statistics Finland Statistics
 - Report description
- Employment and Career Destinations of University of Helsinki's doctoral graduates
 - Job market situation of doctoral graduates after graduation
 - Employer sector and main nature of duties
 - Correlation between education and employment (education requirements, satisfaction with degree)
 - Factors affecting employment
 - Professional skills needs



ACCESSIBILITY OF THE REPORT

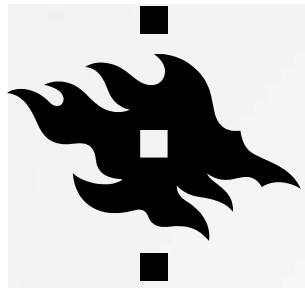
- The graphs in the report are not fully accessible. However, the key results and observations are explained in the report.

REVISED CAREER MONITORING REPORT OF DOCTORAL GRADUATES AT THE UNIVERSITY OF HELSINKI



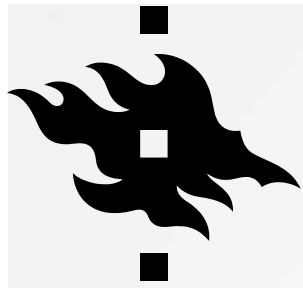
- The revised career monitoring report of the University of Helsinki reports on topics related to the employment and post-graduate careers of doctoral graduates thematically, utilizing both Statistics Finland's statistics and the answers to university career monitoring surveys.
- The table describes the data content of the report and the data sources used.

Teema	Doctoral career monitoring survey (2018 graduates, surveyed in 2021)	Statistics Finland statistics
Job market situation of doctoral graduates after graduation	3 years after graduation	1, 3 ja 5 years after graduation
Employer sector and main nature of duties	Employer sector and main nature of duties 3 years after graduation	See Vipunen (profession group)
Salary	Monthly salary 3 years after graduation	Average yearly income 1, 3 and 5 years after graduation
Correlation between education and employment	Requirements of current job matches well with academic qualifications? Able to use the knowledge and skills acquired at the University in the current job Satisfied with the degree from a career perspective	See Vipunen (profession group)
Factors affecting employment	Assess how the following factors have affected your employment after graduation	
Professional skills needs	How important are the following knowledge and skills in your current job? How did your university studies develop these working life capabilities? How do you assess the development of the importance of the following skill sets within the five upcoming years?	



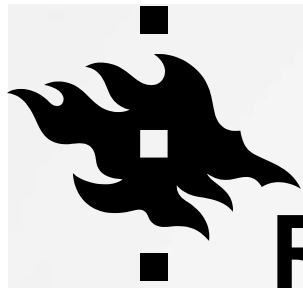
CAREER MONITORING AT FINNISH UNIVERSITIES

- Nationwide career monitoring surveys:
 - Surveys of master's graduates five years after graduation
 - Surveys of doctoral graduates two or three years after graduation (three years in the most recent surveys)
- The career monitoring group of the Aarresaari network of university career services is responsible for the surveys, while universities are responsible for utilising their data.
- The data on the töissä.fi website are based on career monitoring: <https://toissa.fi/home-en-us/>.
- Further information on career monitoring: https://www.aarresaari.net/career_monitoring
- The latest career monitoring data on master's graduates: 2016 graduates (responses October–December 2021)
- The latest career monitoring data on doctoral graduates: 2018 graduates (responses October–December 2021)



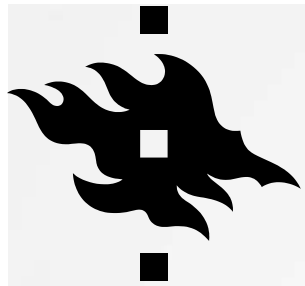
DATA COLLECTION IN CAREER MONITORING SURVEYS

- Career monitoring surveys are sent to all graduates in the relevant target group.
- The target group for master's graduate career monitoring includes all master's graduates as well as all those with a Bachelor of Science (Pharmacy) degree or a Bachelor of Arts (Education) degree in kindergarten teacher education.
- Doctoral graduate career monitoring surveys are sent to all graduates in the relevant target group.
- Information on the target group is obtained from the national VIRTATA database (which combines data from the student records of Finnish universities).
- The background variables of respondents are supplemented with information from the student records (major subject, degree programme, department, faculty).
- Address details are retrieved from the Population Register.
- The 2021 surveys were sent to respondents by text message (to those whose phone number was known) or by mail (all others). Additionally, the universities distributed the survey by email to those in the target group whose details were found in alumni registers.
- The data were collected in a nationwide and central manner by Research Stats Service TUPA of the University of Tampere and CSC – the IT Centre for Science, in collaboration with the career monitoring group of the Aarresaari network.
- Responses are always processed confidentially and so that individual respondents cannot be identified.



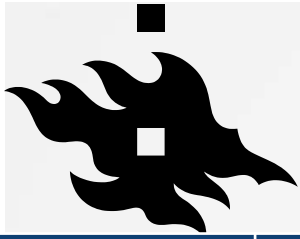
RESPONSE RATES AND REPRESENTATIVENESS OF CAREER MONITORING SURVEY

- The survey answer rate for doctoral career monitoring surveys has been between 45-50% during the past years. 47% of doctoral graduates from the year 2018 answered the survey in the fall of 2021. Differences in response rates between faculties are significant.
- In European comparison, this response rate of about 44-50 % of Finnish universities is quite good for a career follow-up survey conducted 3 years after graduation.
- The following table describes the university and faculty surveys for the different survey years. The table first shows the absolute number of responses and the response rate in parentheses next to it.
- At the University of Helsinki, women and Finnish citizens are slightly over-represented and men and non-Finnish citizens are under-represented in the survey data. A comparison of respondents and graduates is provided in the table below. It is possible that the unemployed are underrepresented in the survey data.



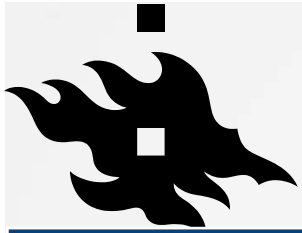
RESPONDENTS

- 68 % of the respondents were women (62 % of graduates).
- 83 % of the respondents were Finnish citizens (77 % of graduates).
- The average age of the respondents upon graduation was 38 (that of graduates was 38).



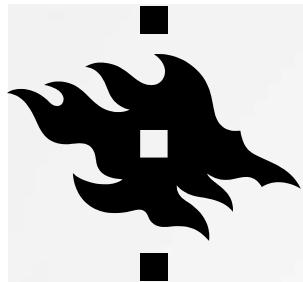
RESPONSE RATES 1/2

Year of graduation (survey conducted)	Biological and Environmental Sciences	Veterinary Medicine	Pharmacy	Medicine	Agriculture and Forestry	Science	University total
2018 (2021)	20 (48 %)	7 (54 %)	6 (35 %)	52 (39 %)	14 (42 %)	42 (59 %)	208 (47%)
2017 (2020)	23 (46 %)	9 (56 %)	10 (59 %)	48 (39 %)	19 (50 %)	35 (48 %)	233 (49 %)
2016 (2019)	27 (45 %)	8 (44 %)	3 (19 %)	47 (44 %)	21 (45 %)	35 (44 %)	237 (47 %)
2015 (2018)	28 (44 %)	10 (40 %)	9 (47 %)	67 (51 %)	25 (62 %)	38 (43 %)	260 (49 %)
2014 (2017/18)	14 (27 %)	10 (56 %)	6 (46 %)	53 (40 %)	19 (39 %)	27 (40 %)	200 (42 %)
2012-13 (2015)	42 (45 %)	10 (50 %)	14 (50 %)	135 (52 %)	46 (58 %)	60 (47 %)	447 (50 %)
2010-11 (2013)	44 (47 %)	17 (55 %)	9 (36 %)	122 (48 %)	29 (45 %)	55 (46 %)	435 (49 %)
2008-09 (2011)	63 (53 %)	14 (58 %)	13 (48 %)	143 (52 %)	42 (55 %)	56 (46 %)	491 (53 %)
2006-07 (2009)	61 (50 %)	7 (37 %)	9 (47 %)	112 (51 %)	41 (68 %)	63 (48 %)	421 (51 %)
2004-05 (2007)	58 (61 %)	16 (73 %)	11 (65 %)	129 (61 %)	37 (67 %)	57 (46 %)	461 (59 %)

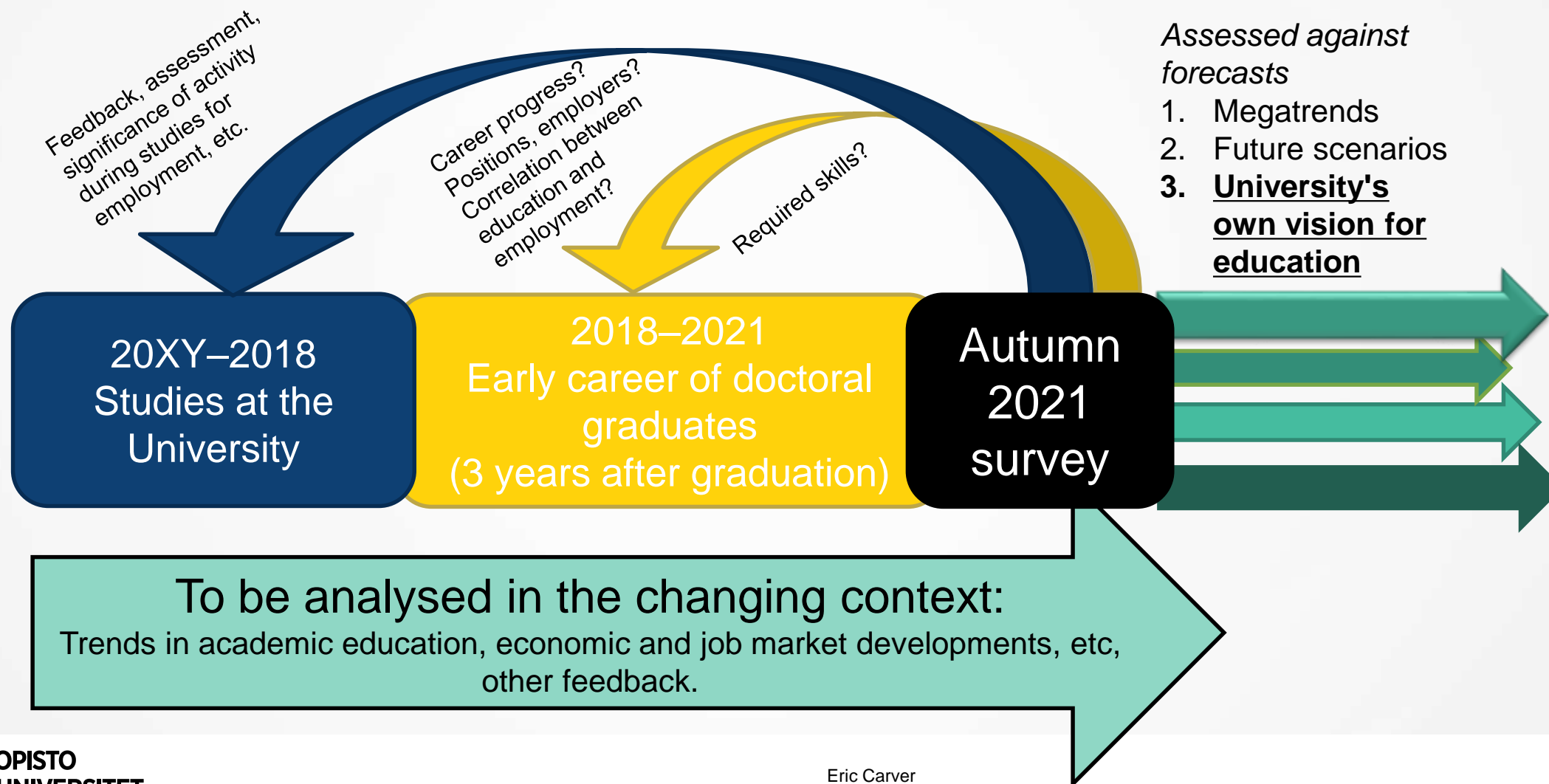


RESPONSE RATES 2/2

Year of graduation (survey conducted)	Arts	Educational Sciences	Law	Theology	Social Sciences	University total
2018 (2021)	20 (45 %)	11 (52 %)	5 (38 %)	8 (57 %)	23 (53 %)	208 (47%)
2017 (2020)	37 (66 %)	9 (50 %)	10 (53 %)	9 (47 %)	24 (53 %)	233 (49 %)
2016 (2019)	28 (47 %)	23 (55 %)	9 (56 %)	9 (64 %)	27 (56 %)	237 (47 %)
2014 (2017/18)	31 (46 %)	8 (38 %)	2 (17 %)	9 (64 %)	21 (57 %)	200 (42 %)
2012-13 (2015)	56 (51 %)	16 (53 %)	10 (43 %)	15 (52 %)	43 (52 %)	447 (50 %)
2010-11 (2013)	55 (49 %)	21 (57 %)	16 (53 %)	21 (66 %)	46 (57 %)	435 (49 %)
2014 (2017/18)	31 (46 %)	8 (38 %)	2 (17 %)	9 (64 %)	21 (57 %)	200 (42 %)
2008-09 (2011)	61 (56 %)	26 (67 %)	12 (57 %)	16 (59 %)	45 (55 %)	491 (53 %)
2006-07 (2009)	38 (49 %)	24 (69 %)	13 (50 %)	12 (46 %)	41 (51 %)	421 (51 %)



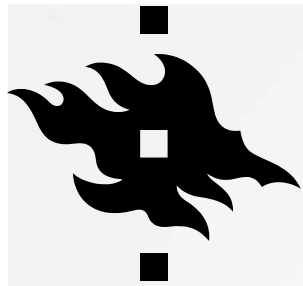
USE OF CAREER MONITORING IN THE DEVELOPMENT OF EDUCATION (E.G., DOCTORAL EDUCATION)





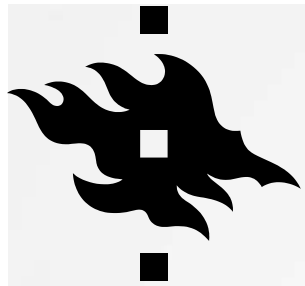
STATISTICS FINLAND STATISTICS

- **This report focuses on Statistics Finland's statistics on the employment of doctoral graduates of 2007-2019. The data is from the statistical years 2008-2020.**
- The University of Helsinki annually purchases statistics from Statistics Finland on the employment, income and further education of university graduates. The same classification is used for reporting Statistics Finland's statistics as for reporting responses to career tracking surveys.
- Description for the Transition from school to further education and work statistics (Statistics Finland, https://www.stat.fi/meta/til/sijk_en.html)
 - " These statistics examine graduates' employment and entry into further education, and their regional transition within a given time period from graduation. The phenomena are described at the end of the year according to transition to employment, unemployment, further studies, military service or other activity. In addition, the statistics describe the transition by area, industry, employer sector or other information. The statistics are produced by combining a number of Statistics Finland's individual-based data files. No surveys are conducted among graduates [...]
 - In accordance with the Statistics Act, the personal data from which these statistics are compiled are confidential. As a rule, the statistics produced from them are public.[...]
 - The data are produced by combining Statistics Finland's individual-based total data files. Data on those who have completed qualifications are produced from Statistics Finland's Register of Completed Education and Degrees. Data on further education are produced from Statistics Finland's individual-based student data and data on employment and labour force from Statistics Finland's employment statistics. The employment statistics are compiled from several registers and, in addition to Statistics Finland's registers, the biggest ones are the Population Information System of the Population Register Centre, various Tax Administration's data, state and municipal employment relationship and pension registers, private sector employment and service relationship registers, and so on."
- The results of the career monitoring surveys and Statistics Finland's statistics are also partly available in Vipunen - Education Statistics Finland. Vipunen is the education administration's reporting portal.. The classification used in the leverage differs in some respects from the classification used by the University of Helsinki



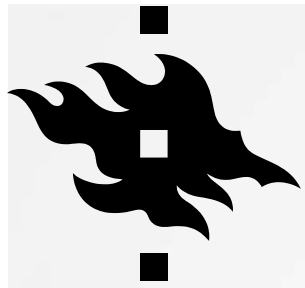
CAREER MONITORING AT THE UNIVERSITY OF HELSINKI

- The University of Helsinki uses the data obtained from career monitoring surveys, for example, to develop education, guide and counsel students, provide career guidance and conduct research.
- Since 2017, career monitoring surveys have been conducted at the University through cooperation between several units. Career Services was previously responsible for coordinating the surveys, but this responsibility shifted to Strategic Services for Teaching at the beginning of 2019.
- Composition of the University's project group for career monitoring in the 2020–2021 academic year:
 - Eric Carver, Strategic Services for Teaching
 - Aki Hagelin, Institutional Research and Analysis
 - Jarkko Immonen, Career Services
 - Kirsi Korpiaho, Research Services
 - Kati Salmivaara, Communications
 - Merja Savolainen, Digital Communications
 - Tarja Tuononen, Centre for University Teaching and Learning
 - Minnis Vierikko, Alumni Relations



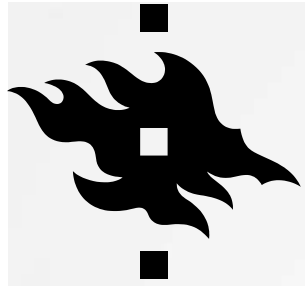
CONTENT OF THE CAREER MONITORING REPORT

- The report focuses on the latest career monitoring survey, conducted in autumn 2021.
- The target group of the nationwide survey consisted of doctoral graduates of 2018.
- The report also uses the results of previous career monitoring surveys (graduates of 2004–2017) to enable a temporal comparison.
- In comparing the results, it is important to note that the graduates of 2005, 2007, 2009, 2011 and 2013 took the survey two years after graduation, while others completed the surveys three years after graduation. Until 2015, career-tracking surveys were conducted by alternately targeting those who had graduated two or three years ago. Since 2017, the survey has been conducted annually by focusing on those who have graduated three years ago.
- Faculty-level results are often reported by adding up the results of several survey years.
- The results of the University of Helsinki are reported in accordance with the faculty structures that have been in place since early 2017. In practice, this means that psychology and logopedics graduates are included in the results for the Faculty of Medicine, and phonetics and cognition science graduates are included in the results for the Faculty of Arts.



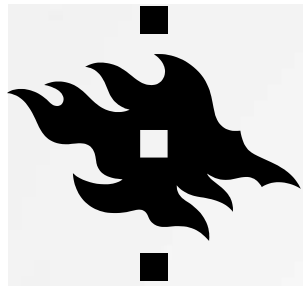
NOTES ON THE GRAPHS USED IN THE REPORT

- The graduates' employer sector and the primary nature of employment are reported using a model in which only the major response options 4–6 are displayed. All other responses are categorised under 'Other'. This solution makes it easier to interpret the graphs and identify the key response options.
- In the career-tracking report for doctoral graduates, the graphs for the University and doctoral school levels focus on the responses of the graduates of 2018. The reporting of faculty-level results mainly incorporates the responses of the graduates of 2017–2018.
- In the case of questions with six or seven response options, the responses are reported by classifying them so that options 4-6 (fully agree, agree, slightly agree) are added up. This same principle has also been used for the breakdown of responses to compare faculties and disciplines.



LEGEND

Symbol	Meaning
	Increase, statistically significant
	Increase, statistically insignificant
	No change (change less than 1% unit)
	Decrease, statistically insignificant
	Decrease, statistically significant

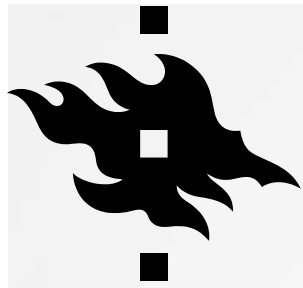


JOB MARKET SITUATION OF DOCTORAL GRADUATES (STATISTICS FINLAND)

- According to Statistics Finland statistics, the employment situation of doctoral graduates of 2018 and 2019 was good 1 year after graduation (situation at the end of 2019 and 2020). At the University level employment rate in Finland is relatively high (76% employed and employed students combined) and employment rate is low (3%). However, a quite high share of Faculty of Agriculture (6%), Faculty of Arts (6%), Faculty of Education (7%) and Faculty of Pharmacy (6%) graduates were unemployed 1 year after graduation.
- Almost 20 percent of doctoral graduates have left Finland 1 year after graduation (the groups “emigrated” and “other or not known” combined, as most graduates in the “other and not know” group are in fact graduates who have emigrated). Non-Finnish citizens are 4,7 times more likely to have emigrated 5 years after graduation than Finnish citizens (graduates of 2012-15 combined).
- There is a big difference in the employment situation of doctoral graduates living in Finland based on nationality. The employment situation of doctoral graduates with Finnish citizenship in Finland is substantially better. The employment rate gap when comparing the share of employed in the workforce in Finland is 9 percent points 1 year after graduation, 8 percent points 3 years after graduation and 7 percent points 5 years after graduation.

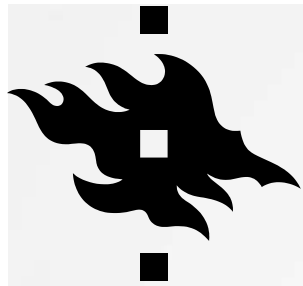
JOB MARKET SITUATION ONE YEAR AFTER GRADUATION, BY FACULTY, GRADUATION YEARS OF 2018 AND 2019

Faculty (N)	Employed	Employed students	Unemployed	Full-time study	Other or not known	Emigrated
Agr & For (70)	61 %	4 %	6 %	3 %	11 %	14 %
Arts (97)	73 %	3 %	6 %	0 %	4 %	13 %
Bio & Env Sc (95)	56 %	3 %	1 %	1 %	8 %	31 %
Educ Science (44)	82 %	2 %	7 %	0 %	7 %	2 %
Law (28)	75 %	4 %	0 %	4 %	11 %	7 %
Faculty of Medicine (299)	79 %	6 %	1 %	1 %	4 %	9 %
Medicine/Dentistry (183)	90 %	4 %	0 %	1 %	3 %	2 %
Medicine (PhD) (97)	58 %	8 %	3 %	1 %	7 %	23 %
Psyc/speech ther. (19)	79 %	11 %	0 %	0 %	0 %	11 %
Pharmacy (35)	57 %	3 %	6 %	0 %	11 %	23 %
Science (141)	67 %	2 %	1 %	0 %	11 %	18 %
Soc Science (85)	71 %	7 %	4 %	0 %	4 %	15 %
Theology (29)	69 %	21 %	3 %	0 %	3 %	3 %
Vet Med (24)	67 %	4 %	0 %	4 %	8 %	17 %
UH total (947)	71 %	5 %	3 %	1 %	7 %	14 %



JOB MARKET SITUATION, BY NATIONALITY, GRADUATES OF 2012–2015

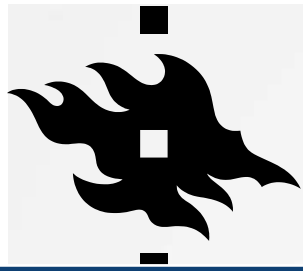
Job market situation	One year after graduation		Three years after graduation		Five years after graduation	
	Finnish	Other	Finnish	Other	Finnish	Other
Nationality	Finnish	Other	Finnish	Other	Finnish	Other
Employed	72 %	35 %	75 %	32 %	78 %	29 %
Employed students	8 %	2 %	6 %	1 %	5 %	1 %
Unemployed	5 %	7 %	3 %	4 %	3 %	3 %
Share of employed in the workforce	94 %	85 %	96 %	88 %	97 %	90 %
Full-time study	1 %	1 %	1 %	1 %	1 %	0 %
Other or not known	7 %	22 %	6 %	25 %	6 %	23 %
Emigrated	8 %	33 %	9 %	38 %	8 %	43 %
Number:	1561	333	1561	333	1561	333



KEY RESULTS/ OBSERVATIONS

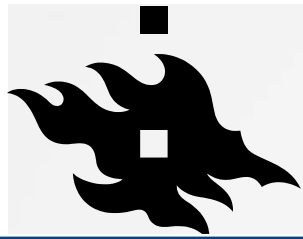
(CAREER MONITORING SURVEY. JOB MARKET SITUATION OF THREE YEARS AFTER GRADUATION)

- The job market situation of 2018 doctoral graduates in 2021 was excellent. 98% were employed, 1% unemployed and 1% outside of the workforce. The survey is also done for graduates living outside of Finland (when contact details are available). Share of employed in the workforce was really high: 98 %.
- The labor market situation of 2021 respondents is close to what it was in the 2020 survey, with few exceptions. There are more respondents with fixed-term full-time job and scholarship researcher and less respondents in the categories self-employed/entrepreneur/freelancer, and family leave (with employment contract).
- It is possible that the unemployed are underrepresented in the survey data.
- The university sector is the most important employer sector for doctoral candidates who have graduated 3 years ago, followed by private companies and the state. Differences between faculties are substantial.
- Research is the leading nature of employment, with 47% of respondents reporting that their main duty is research. Most “research-intensive” faculties are Faculty of Agriculture and Forestry, Faculty of Science, Faculty of Biological and Environmental and Faculty of Social Sciences (faculty comparison done using data from 2017-18 graduates).



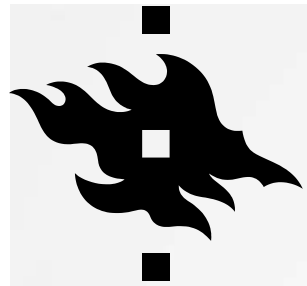
JOB MARKET SITUATION OF 2018 GRADUATES AT THE TIME OF THE SURVEY

Share [%]	UH 2021 (N = 208)	UH 2020 (N = 232)	All universities 2021 (N = 842)
Permanent full-time job	51,5 %	47 %	52 %
Fixed-term full-time job	28,9 %	27 %	26 %
Permanent part-time job	0,5 %	3 %	1 %
Fixed-term part-time job	1,0 %	1 %	1 %
Self-employed/entrepreneur/freelancer	4,9 %	6 %	5 %
Scholarship researcher	7,8 %	6 %	5 %
Subsidised employment/practical training	0 %	0 %	0 %
Family leave (with employment contract)	2,9 %	4 %	2 %
Total employed	98 %	94 %	93 %
Unemployed jobseeker	1,47 %	1 %	2 %
Labour market training or equivalent	0 %	0 %	0 %
Total unemployed	1 %	1 %	2 %
Full-time study	0 %	1 %	0 %
Family leave (without employment contract)	0,5 %	0 %	1 %
Other	0,5 %	3 %	4 %
Total outside the workforce	1 %	5 %	5 %



JOB MARKET SITUATION OF 2018 GRADUATES AT THE TIME OF THE SURVEY

Share [%]	Biol & Env (20)	Vet Med (7)	Phar (6)	Arts (20)	Educ (11)	Med (52)	Agr & For (14)	Sc (42)	Law (5)	Theo (8)	Soc Sc (23)	UH (208)
Permanent full-time job	50 %	57 %	83 %	45 %	60 %	44 %	57 %	52 %	40 %	57 %	57 %	51,5 %
Fixed-term full-time job	35 %	29 %	0 %	25 %	40 %	30 %	14 %	33 %	60 %	14 %	26 %	28,9 %
Permanent part-time job	0 %	0 %	17 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0,5 %
Fixed-term part-time job	0 %	0 %	0 %	0 %	0 %	4 %	0 %	0 %	0 %	0 %	0 %	1,0 %
Self-employed/entrepreneur/freelancer	0 %	0 %	0 %	10 %	0 %	10 %	0 %	2 %	0 %	14 %	4 %	4,9 %
Scholarship researcher	10 %	14 %	0 %	20 %	0 %	4 %	14 %	5 %	0 %	0 %	13 %	7,8 %
Subsidised employment/practical training	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %
Family leave (with employment contract)	5 %	0 %	0 %	0 %	0 %	6 %	7 %	2 %	0 %	0 %	0 %	2,9 %
Total employed	100 %	100 %	100 %	100 %	100 %	98 %	93 %	95 %	100 %	86 %	100 %	98 %
Unemployed jobseeker	0 %	0 %	0 %	0 %	0 %	0 %	7 %	5 %	0 %	0 %	0 %	1,47 %
Labour market training or equivalent	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %
Total unemployed	0 %	0 %	0 %	0 %	0 %	0 %	7 %	5 %	0 %	0 %	0 %	1 %
Full-time study	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %
Family leave (without employment contract)	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	0 %	14 %	0 %	0,5 %
Other	0 %	0 %	0 %	0 %	0 %	2 %	0 %	0 %	0 %	0 %	0 %	0,5 %
Total outside the workforce	0 %	0 %	0 %	0 %	0 %	2 %	0 %	0 %	0 %	14 %	0 %	1 %



CAREER DESTINATIONS OF 2018 DOCTORAL GRADUATES THREE YEARS AFTER GRADUATION (CAREER MONITORING)

- Most common employer sectors

University: 37 %

Private company: 22 %

State: 13 %

Most common primary nature of work

Research: 47%

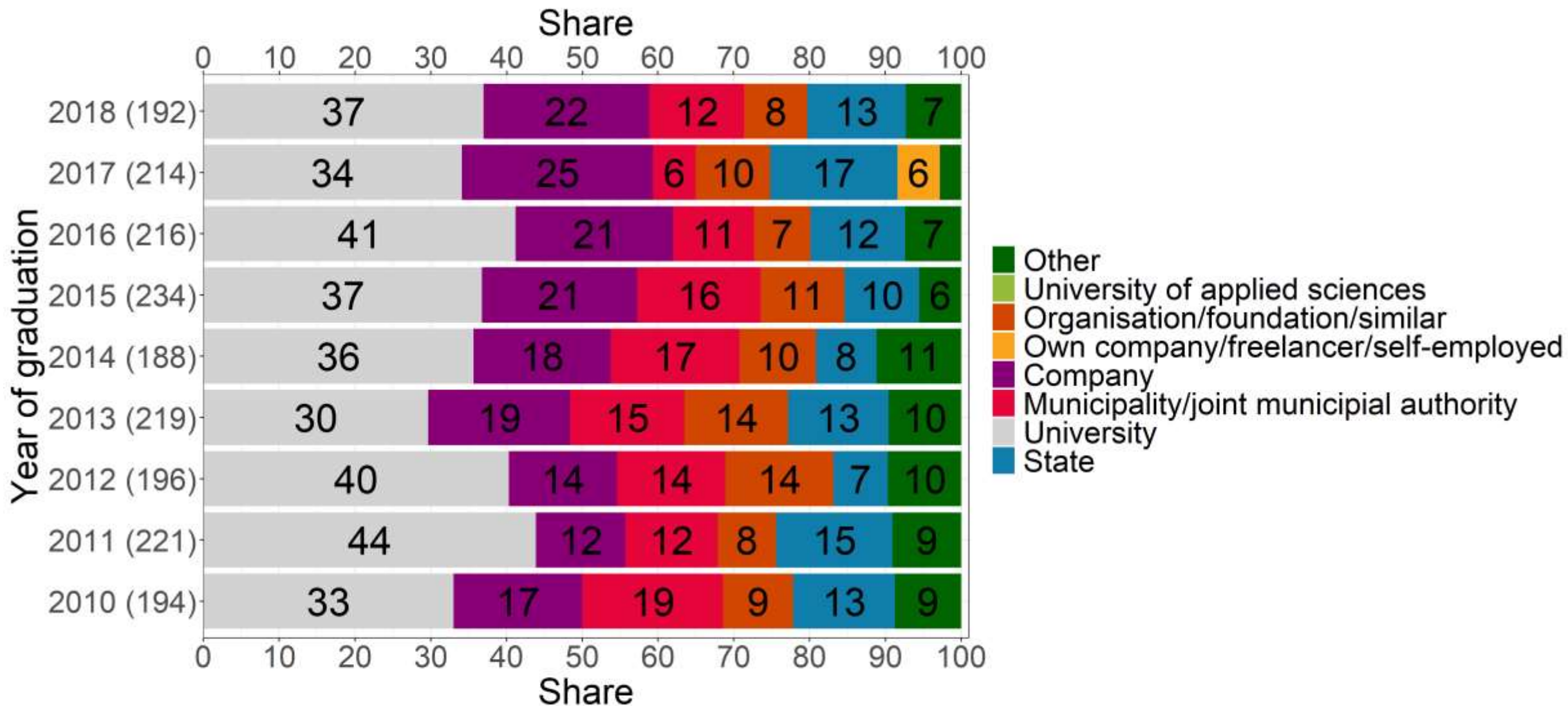
Planning and development duties 13%

Client/patient work 12%

Teaching or education 11%

- Median monthly salary: 3800 €

Employer sector two-three years after graduation

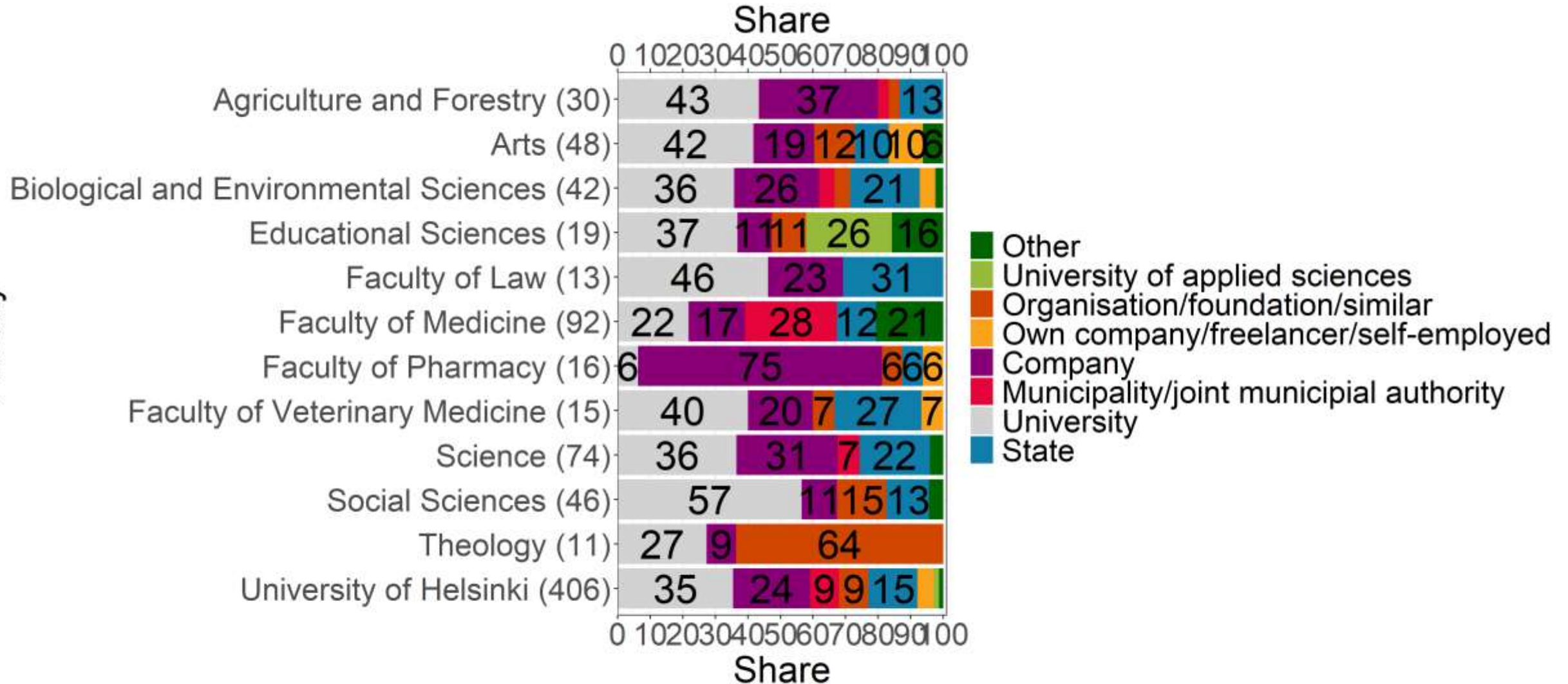


Number of respondents in brackets.

Maximum 6 options is shown.

The rest of the respondents are included in the category 'Other'.

Employer sector two-three years after graduation



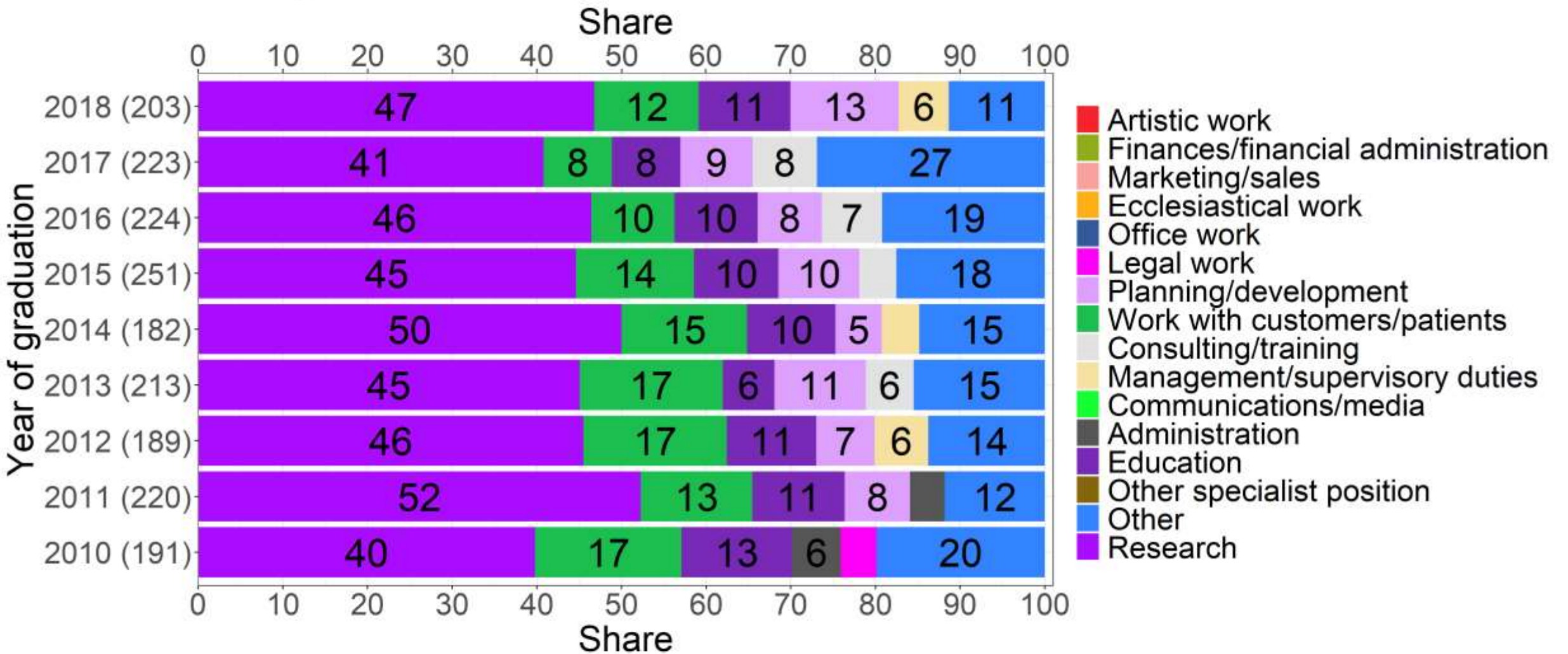
The graph displays information on the graduates of 2017, 2018

In brackets number of respondents

Maximum 5 options is shown.

The rest of the respondents are included in the category 'Other'.

Nature of employment two-three years after graduation

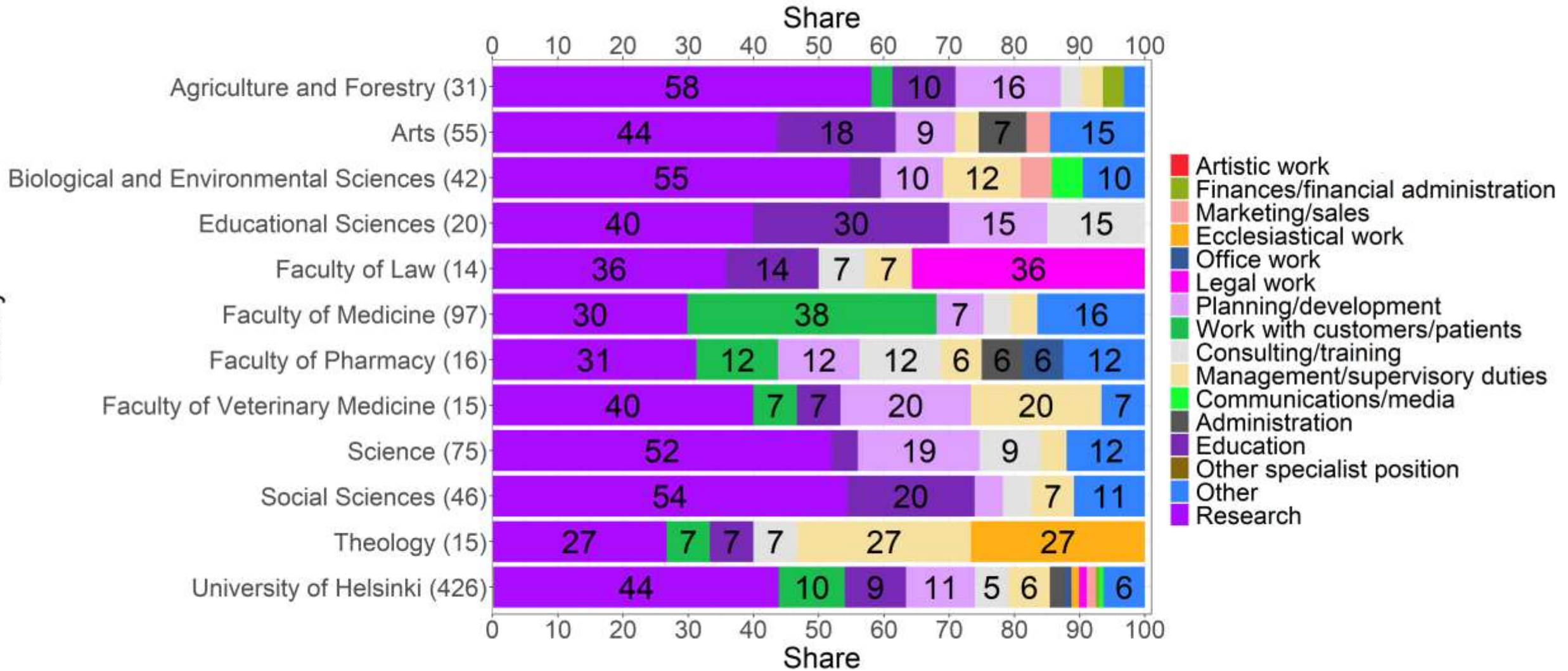


Number of respondents in brackets.

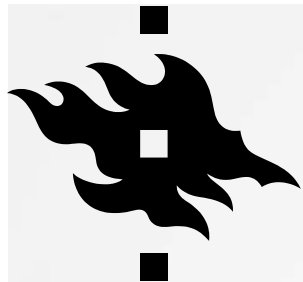
Maximum 6 options is shown.

The rest of the respondents are included in the category 'Other'.

Nature of employment two-three years after graduation



The graph displays information on the graduates of 2017, 2018
 In brackets number of respondents
 Maximum 6 options is shown.
 The rest of the respondents are included in the category 'Other'.



SALARIES

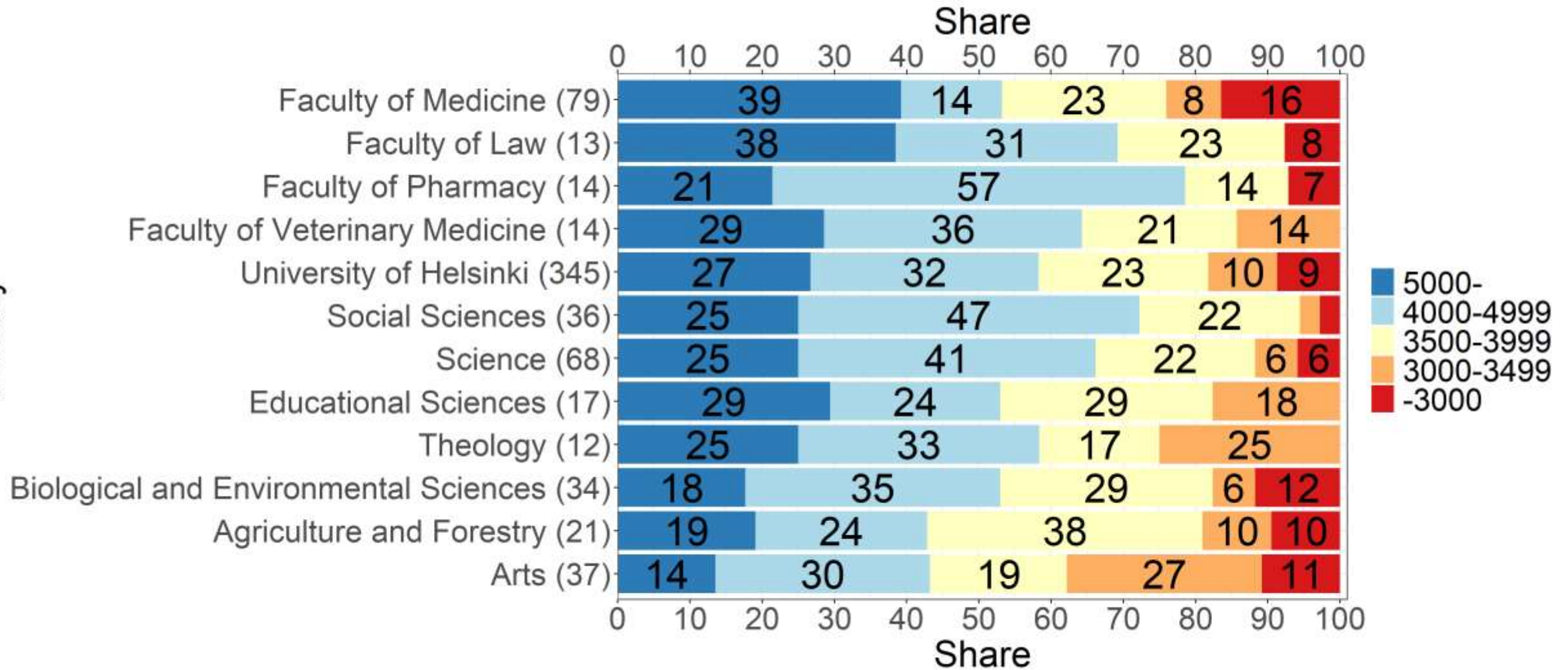
- There are significant differences in the income level of doctoral graduates from different faculties after graduation. The difference is seen both in Statistics Finland's annual earnings statistics and in the monthly earnings statistics of the career monitoring survey.
- Statistics Finland's statistics describe average annual earnings. The highest average earnings are for graduates of the Faculty of Medicine (Doctors of Medicine and Dentistry) and Law, the lowest for graduates of the Faculty of Arts and Faculty of Biological and Environmental Sciences.
- The career monitoring survey asks for a monthly salary. In the report, salary information is reported by monthly salary groups. At the forefront of the median comparison of monthly salaries are the the Faculty of Medicine, Faculty of Law, Faculty of Pharmacy and the Faculty of Veterinary Medicine and the Faculty of Medicine. It is important to note, however, that the pay gap within groups is significant. All faculties, including those at the lower end of the faculty salary comparison, have members at the top of the pay scale (5,000 euros and more per month).



■ ANNUAL INCOME (AVERAGE), BY FACULTY, GRADUATES OF 2014–2015

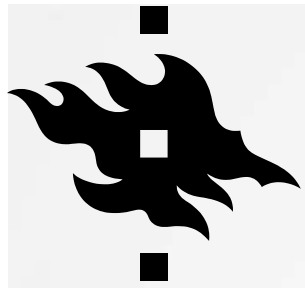
Faculty	One year after graduation	Three years after graduation	Five years after graduation
Agriculture and Forestry (N= 53-58)	40 000	45 000	47 000
Arts (N= 85-89)	34 000	36 000	43 000
Biological and Environmental Sciences (N= 71-74)	36 000	38 000	46 000
Educational Sciences (N= 27-31)	43 000	51 000	59 000
Law (N= 25-27)	65 000	75 000	66 000
Faculty of Medicine (N = 205-212)	72 000	73 000	82 000
Medicine/Dentistry (N= 113-116)	93 000	96 000	105 000
Medicine (PhD) (N= 71-78)	44 000	45 000	57 000
Psychologist/speech therapist (N= 18-21)	51 000	48 000	53 000
Pharmacy (N= 15-23)	44 000	43 000	55 000
Science (N= 96-111)	40 000	48 000	55 000
Social Sciences (N= 60-71)	45 000	46 000	53 000
Theology (N= 21-23)	39 000	44 000	50 000
Veterinary Medicine (N= 31-33)	48 000	54 000	61 000
UH total (N= 701-740)	50 000	53 000	60 000 ²⁹

Salary classification organised according to the median



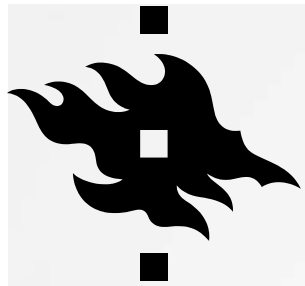
The graph displays information on the graduates of 2017, 2018
In brackets number of respondents

The figures include those in full-time employment as well as entrepreneurs/self-employed/freelancers.



HAS THE PROPORTION OF DOCTORS EXPERIENCING UNEMPLOYMENT INCREASED?

- In 2021, the career monitoring survey changed the way respondents were asked about experiencing unemployment after graduation.
- Previously, it was asked whether the respondent had been unemployed and, if so, for how long. The respondent was asked for information in years and months. In 2021, ready-made response options were provided for the duration of unemployment. For this reason, the results of the annual surveys are not directly comparable (see next slide).
- It is possible that the previous way of asking questions led to non-reporting of very short periods of unemployment, such as less than a month or 1-3 months.
- When the quantitative unemployment period responses of previous surveys are classified according to the classification of the 2021 survey, it seems that the share of graduates who have been unemployed for less than 6 months has increased. The share of those who have experienced unemployment for more than 6 months has decreased.
- It is also possible that the increase in short-term unemployment after graduation is a real phenomenon, and changing the survey is not the only explanatory factor. The increase in unemployment after short-term graduation could be explained, among other things, by the coronavirus pandemic, because many, including graduates of the University of Helsinki, had furloughed for some time, especially in spring 2020 (see University of Helsinki Career Monitoring Reports 2021).
- It is also entirely possible that the change is explained by both the change in the survey and the coronavirus pandemic.



HOW WAS THE QUESTION CHANGED?

Previous years

Have you been an unemployed job seeker after completing your doctorate?

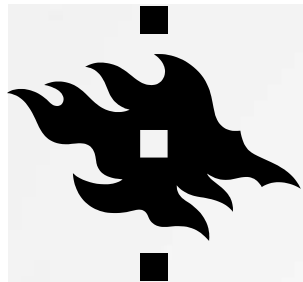
- 1 I have not been unemployed
- 2 Yes, in total _____years
_____ months

change

2021 survey

Have you been an unemployed job seeker after completing your doctorate?

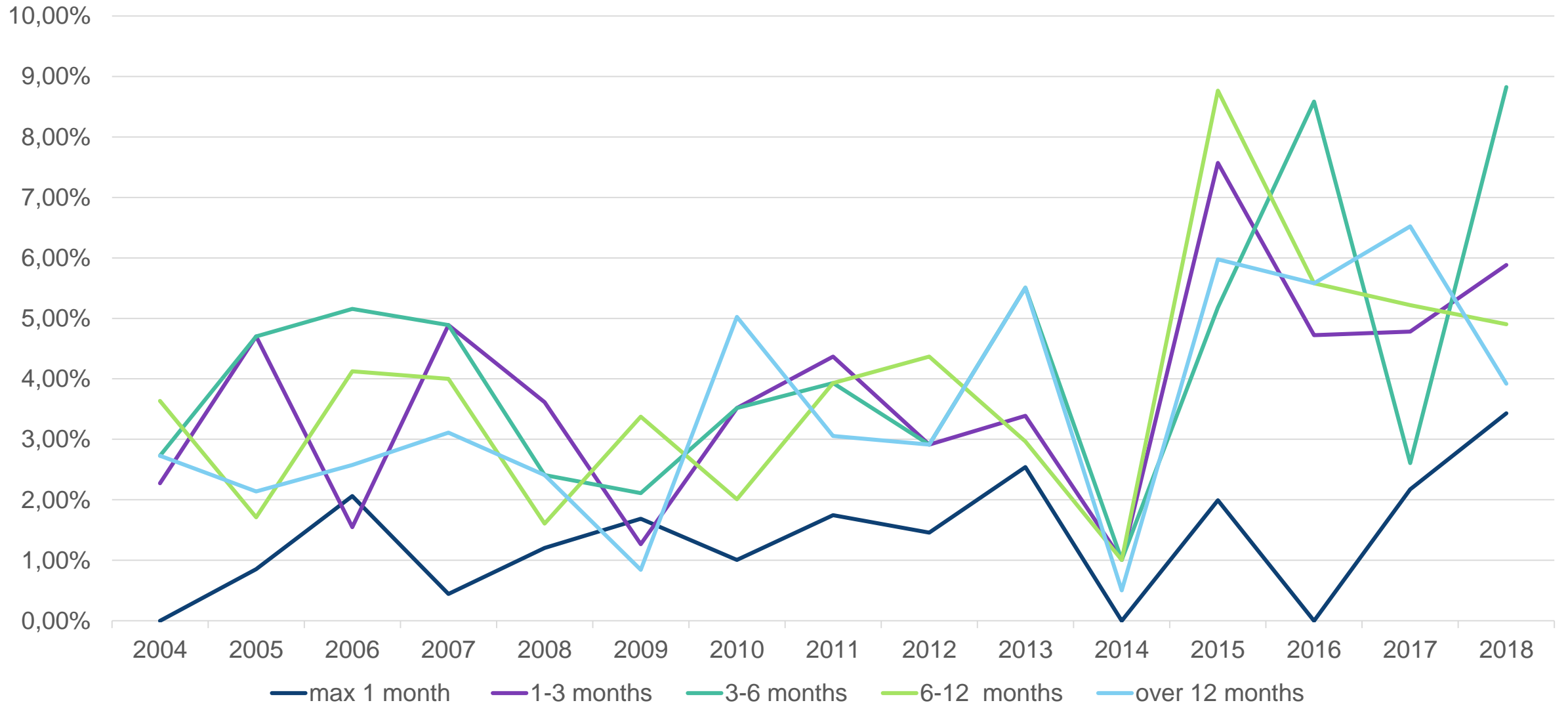
1. I have not been unemployed
2. Max 1 month
3. Over 1 month - max 3 months
4. Over 3 months - max 6 months
5. Over 6 months - max 12 months
6. Over 12 months

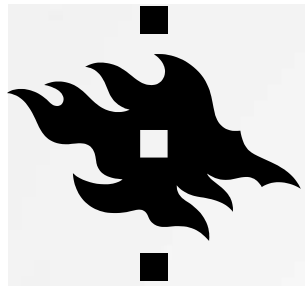


HAS BEEN UNEMPLOYED AFTER GRADUATION, CATEGORIZED BY THE LENGTH OF UNEMPLOYMENT, SHARE OF RESPONDENTS (%), UNIVERSITY OF HELSINKI DOCTORAL GRADUATES 2018

	Has not been unemployed	Has been unemployed				
		Max 1 month	1-3 months	3-6 months	6-12 months	Over 12 months
Biological and Environmental Sciences (N 20)	55,00 %	5,00 %	10,00 %	25,00 %	5,00 %	0,00 %
Veterinary Medicine (N 7)	71,43 %	0,00 %	0,00 %	0,00 %	28,57 %	0,00 %
Pharmacy (N 6)	66,67 %	0,00 %	16,67 %	16,67 %	0,00 %	0,00 %
Arts (N 20)	70,00 %	10,00 %	0,00 %	10,00 %	5,00 %	5,00 %
Educational Sciences (N 11)	90,00 %	0,00 %	0,00 %	0,00 %	10,00 %	0,00 %
Faculty of Medicine (N 52)	86,00 %	6,00 %	2,00 %	0,00 %	2,00 %	4,00 %
Agriculture and Forestry (N 14)	57,14 %	0,00 %	0,00 %	28,57 %	0,00 %	14,29 %
Science (N 42)	66,67 %	2,38 %	11,90 %	7,14 %	9,52 %	2,38 %
Law (N 5)	40,00 %	0,00 %	40,00 %	0,00 %	0,00 %	20,00 %
Theology (N 8)	100,00 %	0,00 %	0,00 %	0,00 %	0,00 %	0,00 %
Social Sciences (N 23)	78,26 %	0,00 %	4,35 %	13,04 %	0,00 %	4,35 %
University of Helsinki (N 208)	73,04 %	3,43 %	5,88 %	8,82 %	4,90 %	3,92 % ³³

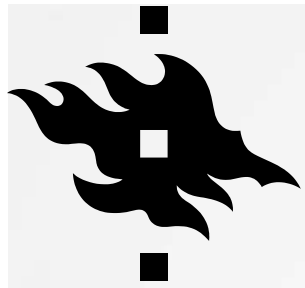
Has been employed after graduation, categorized by the length of unemployment, share of respondents (%), University of Helsinki Doctoral graduates 2004-2018





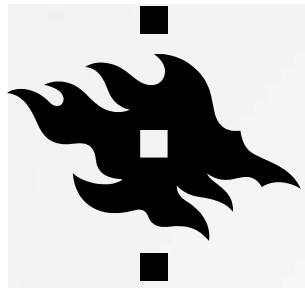
CORRELATION BETWEEN EDUCATION AND EMPLOYMENT AMONG 2018 GRADUATES

- Respondents used a six-level scale. The figures show response options 4–6 (slightly satisfied-very satisfied/somewhat agree-fully agree).
- Requirements of current job matches well with academic qualifications: 80 % respondents ▼
- Able to use the knowledge and skills acquired at the University in current job: 87 % ▲
- Satisfied with the degree from a career perspective: 86 % ↔



KEY RESULTS/ OBSERVATIONS

1. Degree satisfaction remains high. 86% are satisfied with their doctoral degree from a career perspective. There is no change to the previous survey. There are significant differences between faculties.
2. 80% assess that the requirements of their current job matches well with academic qualifications. This assessment is more critical than in the previous survey, but the change is not statistically significant.
3. Faculty level assessment of answers from years 2021 and 2020 (2017-18 graduates) shows some worrying signs of career polarization between doctoral graduates in some faculties.
 - Over 20% Faculty of Arts, Faculty of Educational Sciences and Faculty of Medicine doctoral graduates report that their work does NOT match well with their academic qualifications. Faculty of Theology graduates are the most critical. Only 53% think that their job matches well with the level of their education.
 - Only 73% of Faculty of Arts and Faculty of Theology doctoral graduates see that they are able to use the knowledge and skills acquired at the University in the current job.

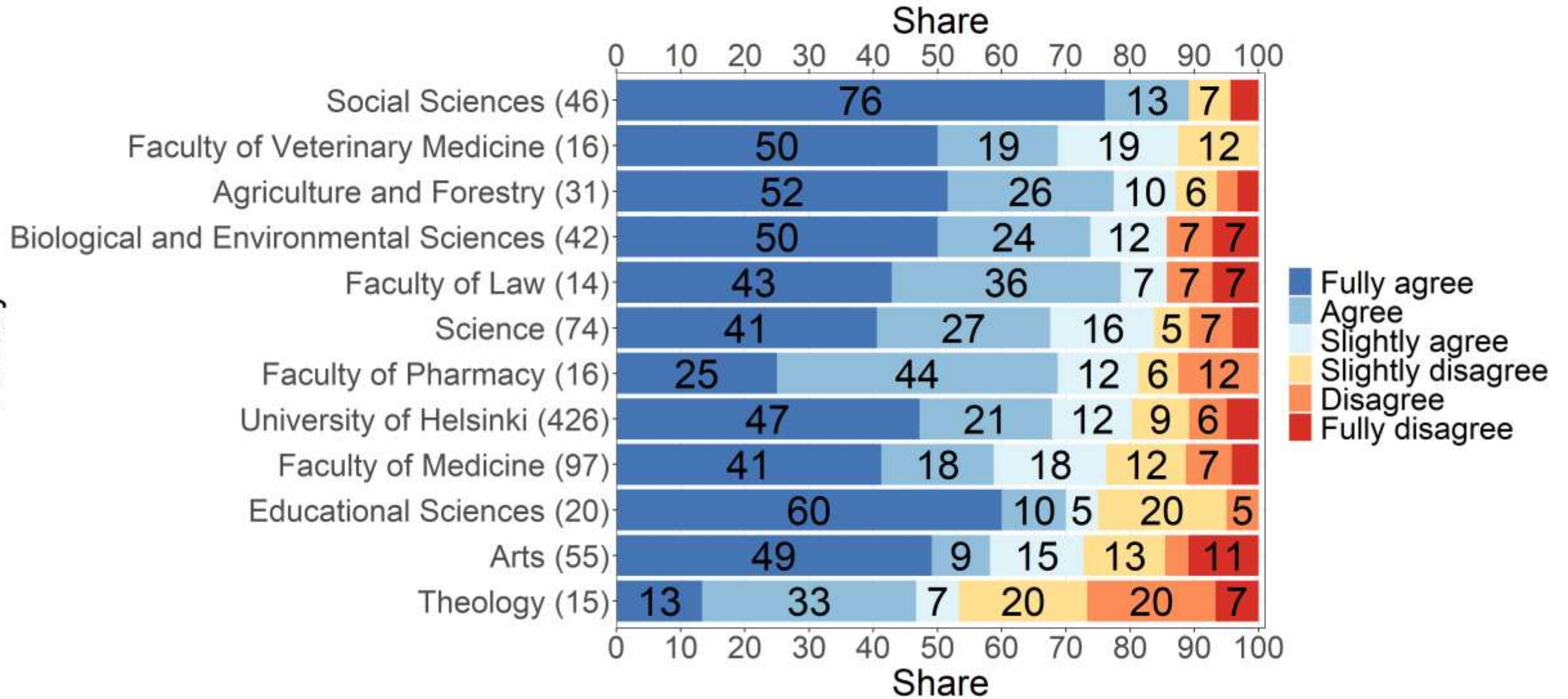


CORRELATION BETWEEN EDUCATION AND EMPLOYMENT, 2017–2018 GRADUATES BY FACULTY

Faculty, number of respondents in brackets	Requirements of current job matches well with academic qualifications*	Able to use the knowledge and skills acquired at the University in the current job*	Satisfied with the degree from a career perspective*
Biological and Environmental Sciences (42-43)	86 %	88 %	86 %
Veterinary Medicine (16)	88 %	69 %	94 %
Pharmacy (16)	81 %	100 %	94 %
Arts (54-55)	73 %	73 %	74 %
Educational Sciences (20)	75 %	90 %	85 %
Medicine (97-99)	76 %	88 %	89 %
Agriculture and Forestry (31-33)	87 %	90 %	82 %
Science(74-77)	84 %	91 %	90 %
Law (14-15)	86 %	79 %	73 %
Theology (15-16)	53 %	73 %	88 %
Social Sciences (46-47)	89 %	93 %	91 %
University of Helsinki (426-436)	80 %	86 %	86 %

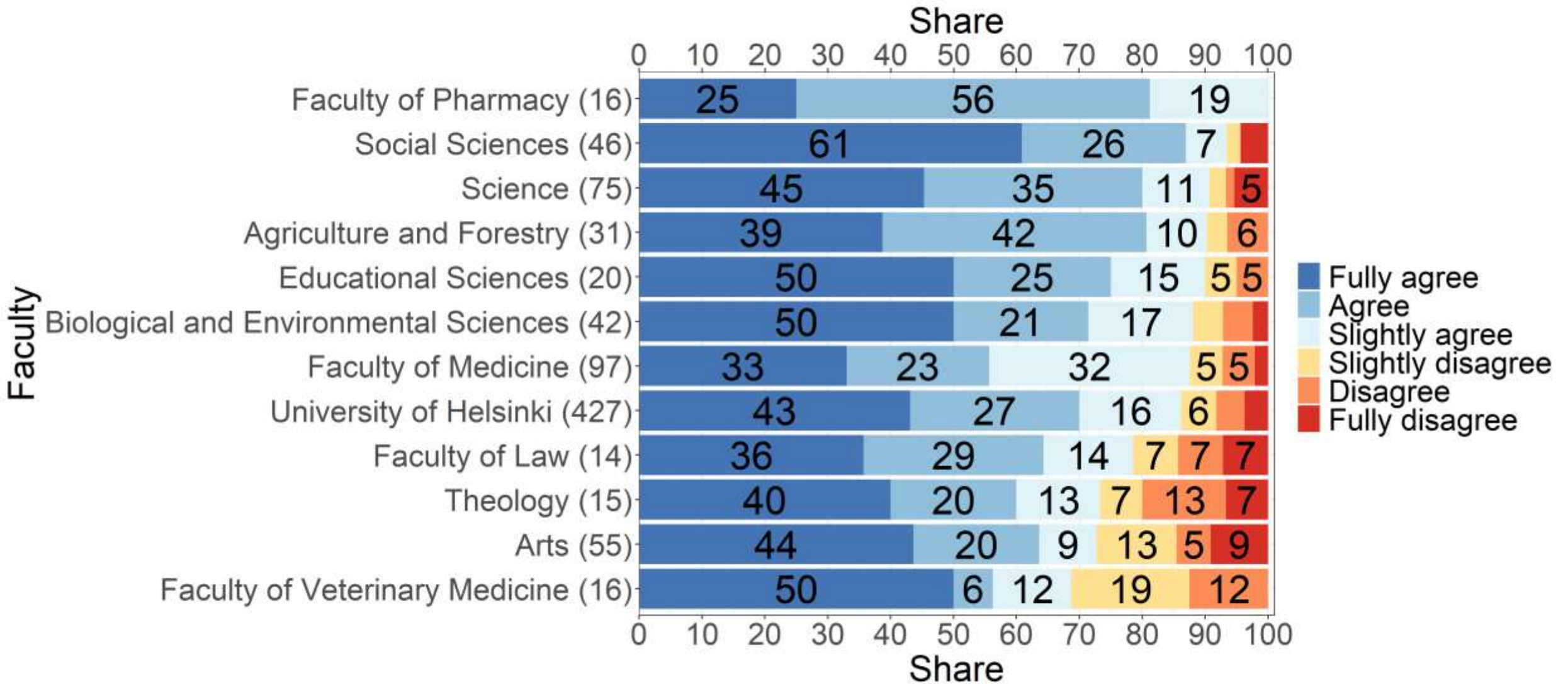
Share of options 4–6 (slightly agree/agree/fully agree) on a six-level scale

The requirements of current job correspond well with academic qualifications



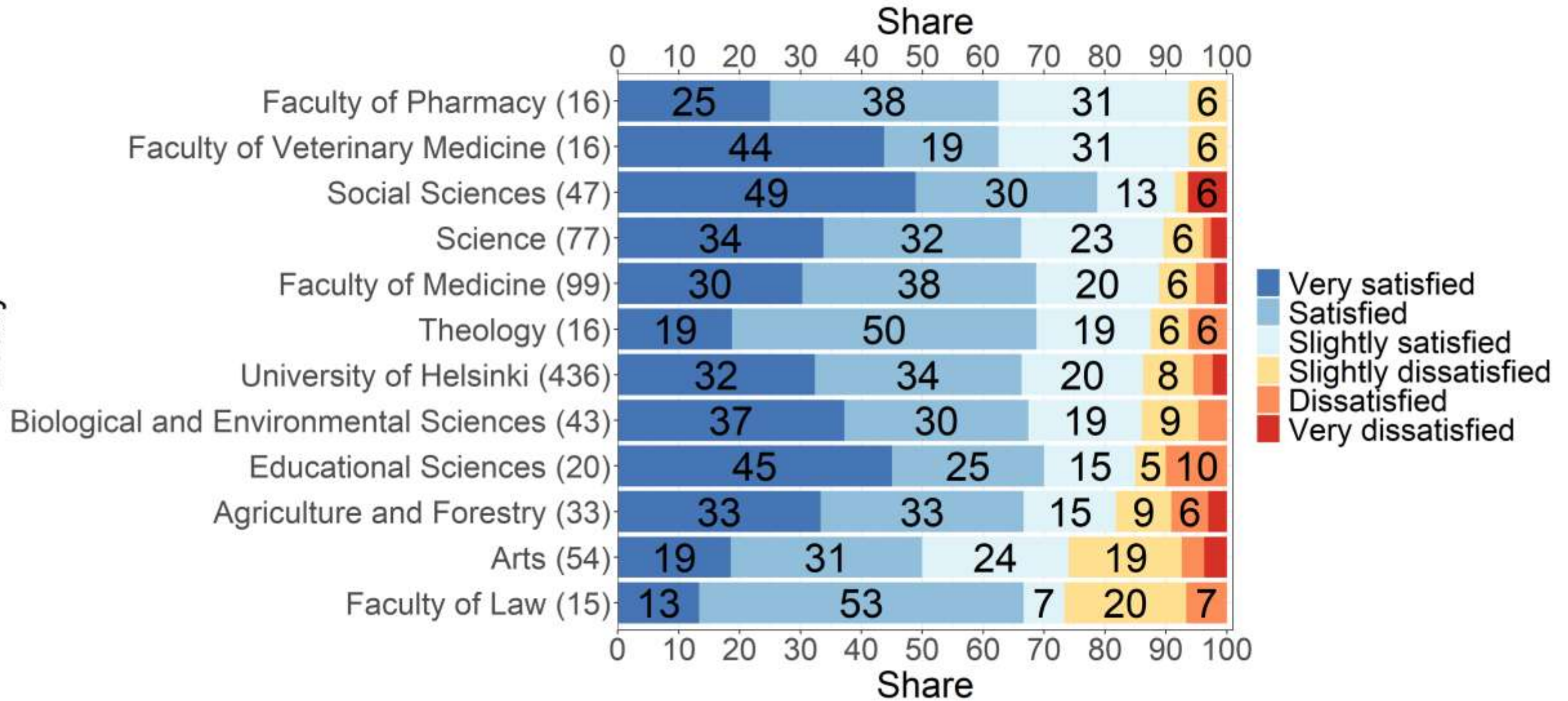
The graph displays information on the graduates of 2017, 2018
In brackets number of respondents

The skills and knowledge I learned at the university can be applied well in my current job

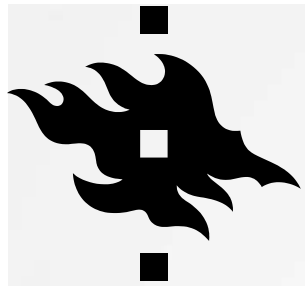


The graph displays information on the graduates of 2017, 2018
In brackets number of respondents

Overall satisfaction with the degree in terms of career

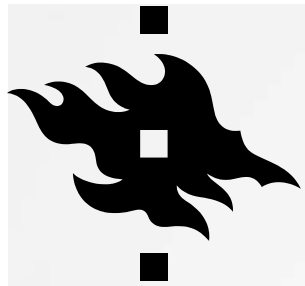


The graph displays information on the graduates of 2017, 2018
In brackets number of respondents



FACTORS AFFECTING EMPLOYMENT AND PROFESSIONAL SKILLS NEEDS, 2018 GRADUATES

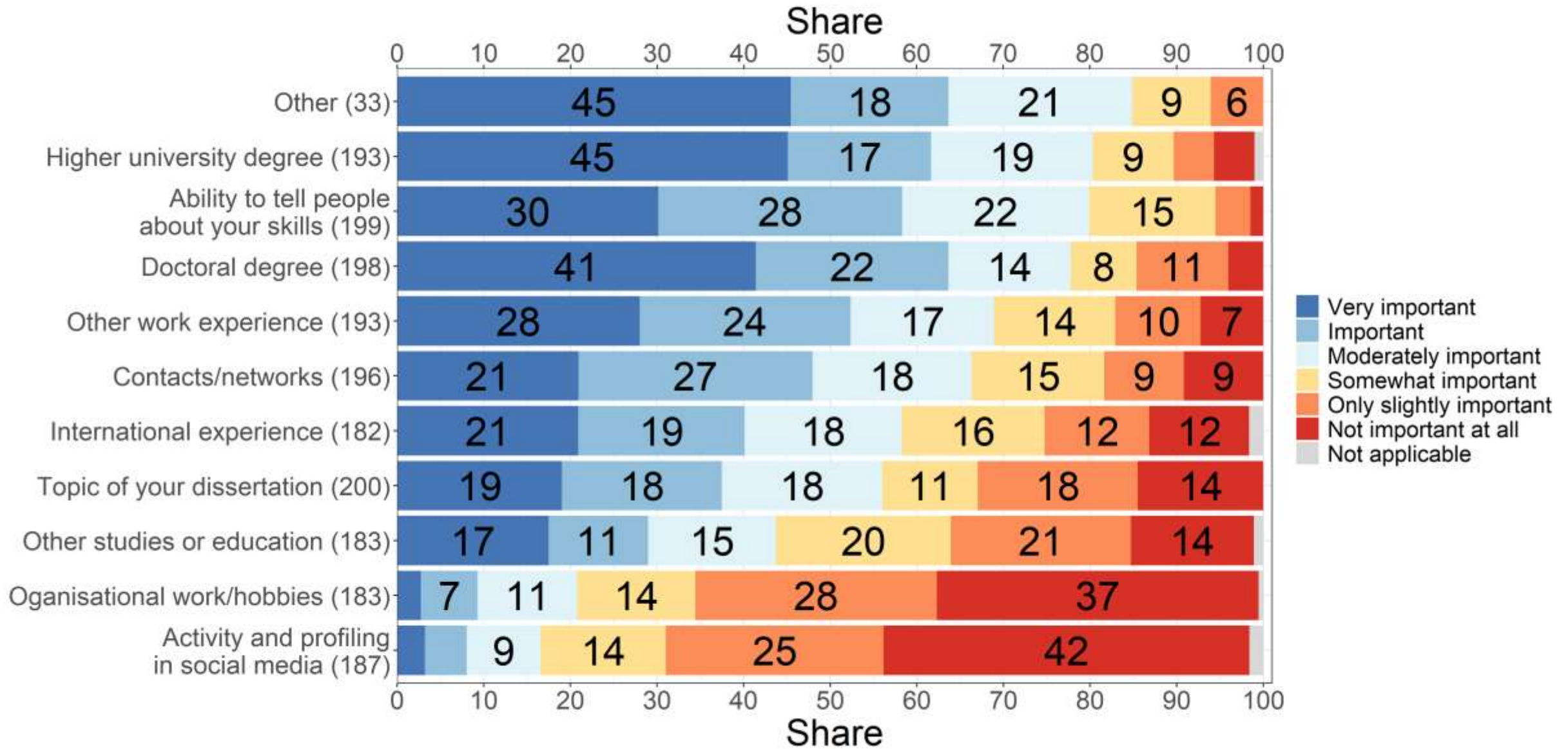
- Most important factors affecting employment*
 - Higher university degree/ Second-cycle degree
 - Ability to describe one's knowledge and skills
 - Doctoral degree
 - Other work experience
 - Contacts and networks



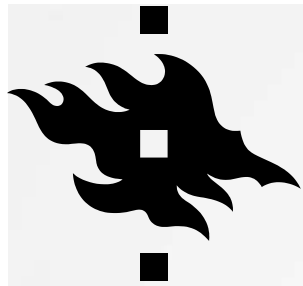
KEY RESULTS/ OBSERVATIONS

- According to the respondents, Higher university degree/ second-cycle (master's level) degree and the ability to describe one's knowledge and skills are the has been most important factors that affected their employment after graduation. Doctoral degree, work experience and contacts and networks are also very important.
- Doctoral degree and second-cycle (master's level) degree are both seen as important for employment. Their relevance differs based on the type of position and organization doctoral graduates have sought to work in. Doctoral graduates working in the university sector and in research positions (in all sectors) see their doctoral degree as highly important, while graduates working outside the university sector and in other expert positions than research tend to highlight the importance of their second-cycle degree more than their doctoral degree (please see the 2020 [doctoral career monitoring report](#), Kangas, Carver, & Sarasjärvi 2020).
- The significance of doctoral degree is especially highlighted by doctoral graduates from Faculty Education, Faculty of Science and Faculty of Social Sciences. International experience is especially important for Faculty of Education, Faculty of Agriculture and Forestry, Faculty of Law and Faculty Social Sciences graduates.

The factors that have affected employment

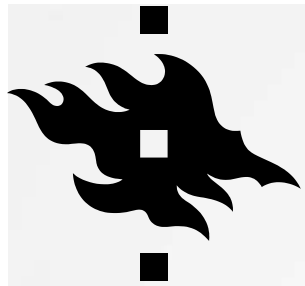


The graph displays information on the graduates of 2018
In brackets number of respondents



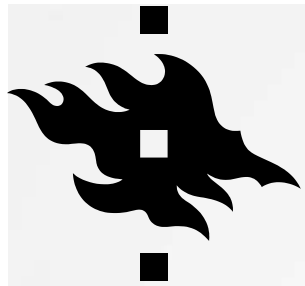
FACTORS AFFECTING EMPLOYMENT, 2017-2018 GRADUATES, BY FACULTY

	Biol & Env	Vet Med	Phar	Arts	Educ	Med	Agr & For	Sc	Law	Theo	Soc Sc	UH
Ability to describe one's knowledge and skills	91 %	75 %	100 %	85 %	82 %	70 %	85 %	83 %	86 %	81 %	83 %	82 %
Second-cycle degree	71 %	93 %	94 %	79 %	76 %	86 %	85 %	71 %	86 %	69 %	82 %	80 %
Doctoral degree	74 %	75 %	67 %	60 %	82 %	67 %	76 %	84 %	79 %	27 %	84 %	72 %
Contacts and networks	65 %	75 %	56 %	65 %	71 %	57 %	76 %	72 %	86 %	75 %	76 %	68 %
Other work experience	48 %	88 %	69 %	74 %	61 %	77 %	72 %	53 %	57 %	69 %	76 %	67 %
Dissertation topic	56 %	62 %	50 %	50 %	83 %	41 %	64 %	54 %	57 %	44 %	71 %	54 %
International experience	59 %	38 %	53 %	50 %	76 %	35 %	68 %	58 %	79 %	53 %	69 %	54 %
Other studies or training	45 %	79 %	44 %	37 %	41 %	54 %	45 %	41 %	43 %	44 %	30 %	44 %
Other	42 %	50 %	38 %	31 %	35 %	43 %	30 %	31 %	21 %	50 %	32 %	36 %
Experience related to NGO activities or hobbies	19 %	13 %	38 %	16 %	18 %	13 %	25 %	17 %	21 %	56 %	24 %	20 %
Activity and profile on social media	22 %	12 %	19 %	8 %	18 %	12 %	22 %	21 %	29 %	25 %	20 %	17 %



MOST IMPORTANT SKILLS

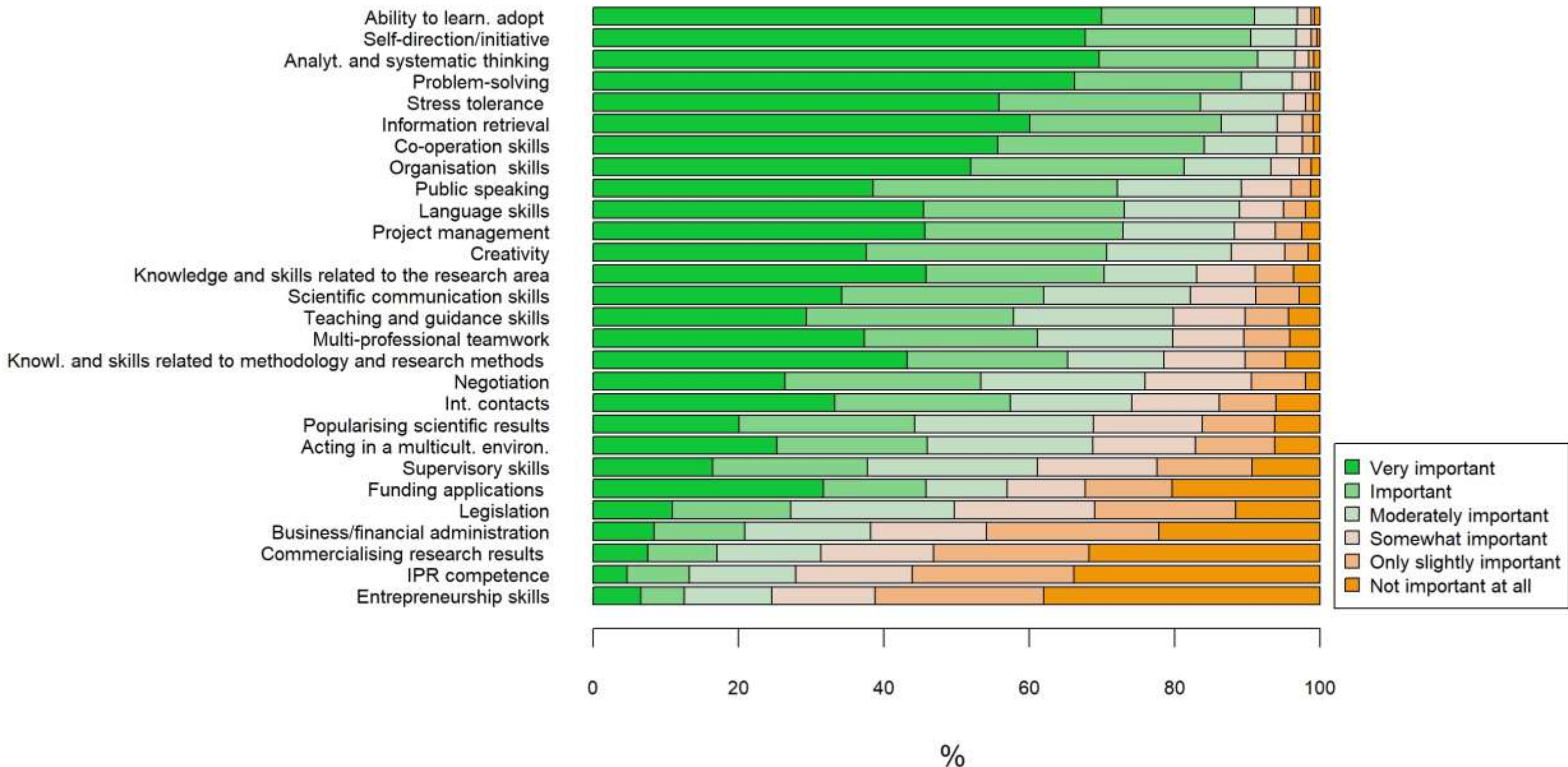
- Most important skills needs in work
 - Ability to learn
 - Self-management / taking the initiative
 - Analytical and systematic thinking skills
 - Problem-solving skills
 - Resistance to stress
- Most important skills areas in the future
 - Knowledge-integration (e.g. theoretical skills within your own field, practical skills within your own field, skills in information retrieval, interdisciplinary skills, ability to work in multiprofessional groups)
 - Self-regulation skills (e.g. ability to learn and adopt new skills, stress tolerance, ability to take initiative, curiosity)
 - Thinking skills (e.g. problem solving, decision making, analytical skills, critical thinking skills and creativity)



KEY RESULTS/ OBSERVATIONS

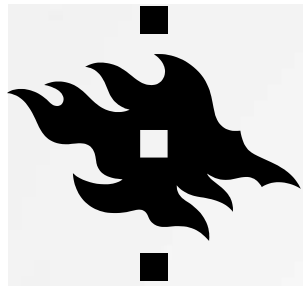
- Most important skills needs in current work for doctors are metacognitive skills like ability to learn, self-management skills and high level cognitive skills like Analytical and systematic thinking skills and problem-solving skills. The same skills are also going to be important in the future.
- Skills needs differ according to work tasks and fields of science. There is, however, a high level of consensus about the most important skills like the metacognitive and high level cognitive skills.
- Interdisciplinarity and working in multidisciplinary groups is especially important for Faculty of Bio and Environmental Sciences and Faculty of Pharmacy. Operating in a multicultural environment is highlighted especially by Faculty of Agriculture and Forestry and Faculty of Science graduates.

Skills currently needed in working life



Skills and competences needed in current work, skill at least quite important, share of respondents (%)

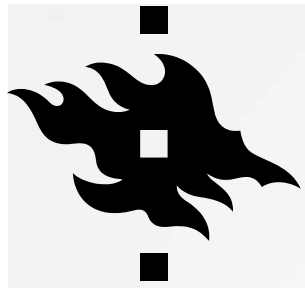
	Biol & Env	Vet Med	Phar	Arts	Educ	Med	Agr & For	Sc	Law	Theo	Soc Sc	UH
Analytical, systematic thinking skills	98 %	100 %	94 %	91 %	95 %	97 %	97 %	96 %	100 %	94 %	98 %	96 %
Self-management / taking the initiative	98 %	94 %	100 %	91 %	100 %	95 %	97 %	96 %	100 %	94 %	98 %	96 %
Ability to learn and adopt new information	100 %	100 %	93 %	91 %	100 %	97 %	94 %	96 %	93 %	94 %	96 %	96 %
Problem-solving skills	100 %	94 %	100 %	88 %	95 %	97 %	97 %	97 %	93 %	88 %	96 %	95 %
Resistance to stress	95 %	94 %	100 %	89 %	100 %	96 %	97 %	96 %	79 %	81 %	96 %	94 %
Cooperation skills	100 %	94 %	100 %	88 %	85 %	95 %	97 %	92 %	86 %	81 %	96 %	93 %
Information acquisition skills	95 %	100 %	94 %	88 %	90 %	91 %	97 %	95 %	100 %	88 %	96 %	93 %
Organizational and coordination skills	98 %	88 %	94 %	91 %	95 %	89 %	94 %	97 %	79 %	73 %	96 %	92 %
Project management skills	98 %	88 %	100 %	86 %	90 %	85 %	97 %	93 %	86 %	88 %	87 %	90 %
Language skills	93 %	88 %	81 %	88 %	90 %	84 %	91 %	91 %	93 %	88 %	85 %	88 %
Performing skills	91 %	94 %	88 %	82 %	95 %	80 %	91 %	90 %	93 %	81 %	93 %	87 %
Creativity	91 %	88 %	75 %	81 %	100 %	74 %	94 %	94 %	100 %	88 %	96 %	87 %
Scientific communication skills	72 %	69 %	75 %	75 %	80 %	83 %	88 %	86 %	71 %	75 %	85 %	80 %
Knowledge and skills related to the research area	86 %	73 %	75 %	67 %	95 %	73 %	88 %	82 %	93 %	75 %	94 %	80 %
Interdisciplinarity/working in multidisciplinary groups	91 %	81 %	94 %	67 %	70 %	76 %	88 %	88 %	79 %	62 %	77 %	80 %
Teaching, training and guidance skills	72 %	56 %	62 %	77 %	95 %	78 %	73 %	83 %	93 %	94 %	85 %	79 %
Methodology and research methods	84 %	67 %	69 %	68 %	75 %	73 %	85 %	84 %	64 %	38 %	76 %	75 %
Negotiating skills	74 %	81 %	81 %	68 %	85 %	71 %	79 %	75 %	50 %	69 %	74 %	73 %
. International contacts and networks	84 %	94 %	75 %	68 %	75 %	56 %	76 %	82 %	86 %	62 %	74 %	73 %
Operating in a multicultural environment	72 %	56 %	69 %	68 %	80 %	62 %	81 %	86 %	69 %	69 %	64 %	71 %
Popularising scientific results	49 %	69 %	69 %	61 %	75 %	61 %	82 %	68 %	86 %	94 %	74 %	67 %
Supervisory or leadership skills	67 %	81 %	69 %	49 %	58 %	64 %	73 %	64 %	71 %	44 %	52 %	62 %
Funding applications	56 %	50 %	25 %	47 %	65 %	41 %	70 %	66 %	64 %	19 %	64 %	53 %
Knowledge of legislation	40 %	81 %	73 %	45 %	65 %	55 %	58 %	45 %	86 %	31 %	38 %	51 %
Basic knowledge of business/financial administration	33 %	50 %	56 %	35 %	20 %	38 %	45 %	52 %	29 %	31 %	30 %	39 %
Commercialising research results	35 %	44 %	50 %	16 %	25 %	23 %	45 %	51 %	29 %	19 %	13 %	31 %
Intellectual property rights competence	35 %	20 %	31 %	26 %	30 %	25 %	42 %	34 %	29 %	12 %	13 %	28 %
Entrepreneurial skills	30 %	31 %	38 %	28 %	21 %	26 %	24 %	25 %	21 %	19 %	13 %	25 %



FUTURE DEVELOPMENT OF SKILLS NEEDS IN WORKING LIFE 1/2

- Career monitoring survey of 2021 had new question about the future development of skills needs in the working life. Doctoral graduates of 2018 were asked the following question:
- **How do you assess the development of the importance of the following skill sets within the five upcoming years?**
- Please select the most suitable option. 1 = importance decreases clearly, 2 = importance decreases slightly, 3 = importance remains the same, 4 = importance increases slightly, 5 = importance increases clearly, 0 = I cannot assess the development of the importance

1. Thinking skills (e.g. problem solving, decision making, analytical skills, critical thinking skills and creativity)	1	2	3	4	5	0
2. Knowledge-integration (e.g. theoretical skills within your own field, practical skills within your own field, skills in information retrieval, interdisciplinary skills, ability to work in multiprofessional groups)	1	2	3	4	5	0
3. Social competence (e.g. cooperation skills, negotiation skills, emotional intelligence)	1	2	3	4	5	0
4. Language skills and cultural competence	1	2	3	4	5	0
5. Self-regulation skills (e.g. ability to learn and adopt new skills, stress tolerance, ability to take initiative, curiosity)	1	2	3	4	5	0
6. General skills (e.g. organizational and coordination skills, public speaking skills, ICT skills, project management skills)	1	2	3	4	5	0



FUTURE DEVELOPMENT OF SKILLS NEEDS IN WORKING LIFE 2/2

Respondents estimate that the importance of virtually all of these areas of expertise will increase in the future.

How do you assess the development of the importance of the following skill sets within the five upcoming years?

