



## **Main results of the second cycle of Cyprus' National Graduate Tracking Survey (2023)**

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# Abbreviations

Abbreviation	Description
<b>AH</b>	Arts and Humanities
<b>BA</b>	Business Administration
<b>CCES</b>	Career Counselling and Educational Services
<b>DHE</b>	Department of Higher Education
<b>EA</b>	Engineering and Architecture
<b>ECTS</b>	European Credits Transfer and Accumulation System
<b>EEA</b>	European Economic Area
<b>EHEA</b>	European Higher Education Area
<b>EQF</b>	European Qualifications Framework
<b>ESGs</b>	Standards and Guidelines for Quality Assurance
<b>ESS</b>	Employers' Skills Survey
<b>ETT</b>	Education and Teacher Training
<b>EU</b>	European Union
<b>GDPR</b>	General Data Protection Regulation
<b>HE</b>	Higher Education
<b>HEA</b>	Health
<b>HEI</b>	Higher Education Institutions
<b>ICT</b>	Information and Communication Technologies
<b>ISCED</b>	International Standard Classification of Education
<b>ITE</b>	Institutions of Tertiary Education
<b>L&amp;D</b>	Learning & Development
<b>MESY</b>	Ministry of Education, Sport, and Youth
<b>NESS</b>	National Employers' Skills Survey
<b>NGTS</b>	National Graduate Tracking Survey
<b>NQF</b>	National Qualifications Frameworks
<b>NS</b>	Natural Sciences (including Mathematics)
<b>PwC</b>	PricewaterhouseCoopers Ltd.
<b>SER</b>	Services
<b>SSJ</b>	Social Sciences and Journalism

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# Executive summary

Skills mismatch appears to be a major concern across Europe. According to CEDEFOP, Europe's challenge is not just to improve skills levels, but to align individuals with the appropriate skills to suitable jobs. Skills mismatches take various forms, including overqualification, underqualification, horizontal mismatch, over- and under-skilling, skills gaps and skills obsolescence, among others (Cedefop, 2023). These mismatches significantly contribute to rising unemployment and create increasing challenges for individuals transitioning from education to the labour market in securing jobs that align with their potential. In Cyprus, skills mismatch has been identified as a major cause of concern in a multitude of policy reports. Despite being recognised as a critical challenge at the national level requiring urgent attention, there is a lack of comprehensive national data on the type and extent of various forms of skills mismatches. Identifying and measuring different forms of skills mismatches is essential, as each has distinct implications and necessitates tailored interventions.

The project of the Department of Higher Education (DHE) of the Ministry of Education, Sport, and Youth (MESY) entitled "Development of a National Graduate Tracking Mechanism and Design and Implementation of an Employers' Skills Survey" is included in the Cyprus Recovery and Resilience Plan (RRP) aims to address this need by collecting longitudinal national data on graduates' pathways after leaving Higher Education as well as data on labour market's current and future needs in terms of skills. In this way, the project aims to identify, measure and monitor on a longitudinal basis the different types of skills mismatches, drawing on data from two key sources: graduates and employers. By providing a robust evidence base, the project seeks to support informed decision-making by a wide range of stakeholders, including policymakers in relevant ministries, services, and organisations, Cyprus Higher Education Institutions, the Human Resource Development Authority, counselling services, researchers, employers, and students. Ultimately, this effort aims to enhance the responsiveness of Cyprus' education and training system to the needs of the labour market. In the context of DHE's project i two national surveys have been developed and implemented for collecting high quality data that will contribute to a comprehensive understanding of the mismatch between the skills acquired by graduates of Cyprus Higher Education Institutions (supply) and the skills required by the local labour market that will employ them (demand). These surveys are the National Graduate Tracking Survey (NGTS) and the National Employers' Skills Survey (NESS). Cyprus also funds its participation through this project in two waves (2022 and 2026) of the European Graduate Tracking Survey i.e. EUROGRADUATE Survey. This report presents the theoretical and policy context, the methodology, implementation, and main results of the second cycle of the National Graduate Tracking Survey 2023 in Cyprus.

The methodology employed by the National Graduate Tracking Survey adheres to the standards, guidelines, and methodology established by EUROGRADUATE. Data is collected through an online questionnaire, with personalized invitation links sent via email to all graduates through their respective Higher Education Institutions. The questionnaire is administered in two languages, Greek and English and covers core topics that are repeated in each cycle. These core topics are: "Education Experience", "Labour Market Participation and Labour Market Outcomes", "International mobility of graduates after graduation", "Skills Mismatch" and "Upskilling and reskilling during employment" and "Personal and social background". In each cycle additional thematic areas are included according to special interest and policy priorities. In the second cycle new questions were added regarding the labour market participation of graduates with disabilities, the usefulness of various teaching and learning modes in acquiring skills as well as future plans of graduates. Moreover, more skills were incorporated into the skills framework to align the scale with that used in the NSEE. By aligning the survey with the Employers' Skills Survey, the NGTS aims to ensure consistency in the assessment of skills demand and supply, facilitate comparability of data across surveys, and provide a comprehensive understanding of labour market needs and graduate outcomes. To ensure data quality and comparability, the questionnaire includes a variety of question types, standardized lists, and international taxonomies. The National Graduate Tracking Survey follows a census approach, ensuring that all graduates from all Cyprus Higher Education Institutions are invited to participate. The target groups for the second cycle of National Graduate Tracking Survey (for 2023) were all graduates of the academic years 2017/18 (i.e., five years after graduation – T+5) and 2021/22 (i.e., one year after graduation – T+1) from all Higher Education Institutions in Cyprus, both private and public. Specifically, the total population included graduates of all nationalities, all enrolment statuses (e.g., full-time, part-time, distance learning) who completed programs of study at ISCED level 5 (Certificates and Diplomas), ISCED level 6 (Bachelor's degrees) and ISCED level 7 (Master's degrees).

The total target population comprised of 26,158 graduates, out of which 10,798 were T+5 graduates and 15,360 were T+1 graduates.

Data collection for the second cycle took place during January and June 2024. Throughout the data collection period, extensive support was provided to both the participating graduates and the involved Higher Education Institutions. Additionally, various dissemination activities were carried out to enhance awareness and the visibility of the National Graduate Tracking Survey. These efforts aimed to encourage high participation and ensure a sufficient response rate, highlighting the importance of the survey for graduates and stakeholders alike.

Altogether, 2,251 graduates completed the questionnaire. However, the final number of participants was determined based on EUROGRADUATE's definition of valid cases. According to this definition, the total number of valid respondents was 2,156, 829 for T+5 (2017/18) and 1,327 for T+1 (2021/22).

In terms of demographic, educational, and socioeconomic characteristics, in the 2017/18 cohort, approximately 39% were males and 61% were females, while in the 2021/22 cohort, 34% were males and 66% were females. It should also be noted that 0.02% of the population in both cohorts identified themselves as 'non-binary or other'. Regarding age at graduation, the majority of graduates in both cohorts were "under 25" years old. Age distribution at the time of the survey differed, with most participants in both cohorts falling into the "35 and over" category. In relation to the birthplace of graduates, in the 2017/18 cohort, 54% of participants were born in Cyprus, which this figure decreased to 43% in the 2021/22 cohort. The percentage of participants from EU countries reached the 37% in 2017/18 and 46% in 2021/22. Participants from non-EU countries remained relatively stable at 10% for the 2017/18 cohort and 11% for the 2021/22 cohort. Approximately 5-6% of graduates in both cohorts reported having a visible or invisible disability, learning difficulty, or serious medical condition. The majority of graduates in both cohorts came from universities (81% in the 2017/18 and 82% in the 2021/22). In the 2017/18 cohort, 11% of graduates earned a degree at ISCED level 5, 34% at ISCED level 6, and 55% at ISCED level 7. In the 2021/22 cohort, 8% obtained a degree at ISCED level 5, 28% at ISCED level 6, and 65% at ISCED level 7. The most popular fields of study were Business Administration (32% in 2017/18 and 28% in 2021/22) and Education and Teacher Training (20% in 2017/18 and 32% in 2021/22).

The main findings are organised into seven sections, following the core topics of the questionnaire.

### **Experiences from Higher Education**

Regarding the findings on graduates' experiences from their studies in Higher Education, graduates from both cohorts reported a high overall satisfaction with their education. The highest satisfaction scores were reported by graduates in the fields of Education and Teacher Training (85%) and Business Administration (80%) for the 2017/18 cohort. In 2021/22 cohort, the fields with the highest graduate satisfaction rates were Law and Information and Communication Technologies (87%). In terms of the contribution of their program of study to their professional career and personal development, graduates from both cohorts reported that it was very beneficial, especially for their personal development. In relation to the teaching and learning modes employed by their programmes of study, most graduates (>50%) within both cohorts reported a learning environment that relied on lectures and traditional modes of study. The learning experience heavily emphasized written and group assignments. Lecture were the mode of study used at the highest extent in both cohorts (over 85%), whilst the graduates reported as the most useful to be: internships and work placements (over 74%) and lectures (70% and 72% in 2017/18 and 2021/22 respectively). Most graduates also indicated that their program of study did not offer many opportunities for participation in internships or work placements, which establish a strong connection between learning and work. Moreover, the levels of satisfaction with the opportunities to gain work experience were lower compared to other aspects of studies such as content of programme and quality of teaching. The survey also examined graduates' experiences abroad, as participation in mobility programs offers valuable opportunities for personal and professional development. The percentage of graduates who had at least one experience abroad as part of their study program was approximately 20% in both cohorts. Most graduates reported that studying abroad was the main reason for the time spent abroad, while a significant percentage in both cohorts reported internships or work placements as a second reason.

Regarding skill development, the survey highlighted the following key findings. Self-Management Skills were the most notably developed, with a high percentage of graduates across both cohorts reporting substantial development. In terms of hard skills, graduates reported significant development, particularly in the fields of Health and Information and Communication Technologies. The development of soft skills is also worth reporting, with graduates from fields such as Social Sciences and Journalism reporting significant

development. However, there was a noted need for further improvement in certain areas, such as effective communication. While there was some development in digital skills, the survey indicated room for further development. Information and Communication Technologies graduates reported the highest contribution to digital skills development, but overall, digital skills were among the least developed across all fields, consistently receiving lower ratings across all ISCED levels. This underscores the need for higher education programs to more effectively integrate topics related to environmental sustainability.

In terms of pathways after completing their program of study, more than 10% of graduates in both cohorts decided not to enter the labour force after graduation and to pursue further studies in Higher Education. In both cohorts, ISCED 6 level had the highest percentage of graduates who reported pursuing further studies after graduation when compared to ISCED 5 and ISCED 7 levels. The field of Natural Sciences had the highest percentage of graduates continuing their studies after graduation, while the field of Education and Teacher Training the lowest in both cohorts.

### **Transition to Work**

Regarding the transition of graduates to work, the survey revealed several key trends. The trend for ISCED 5 and 6 graduates in both cohorts is that they started looking for paid work after graduation with the latter recording the highest percentage (57% in the 2017/18 cohort and 65% in the 2021/22 cohort). In contrast, the majority of ISCED 7 graduates reported having a job already and did not want a new role (50% in the 2017/18 cohort and 48% in the 2021/22 cohort) indicating they were satisfied with their employment status. Among the participants who responded positively in looking for a paid job most reported looking for a job within their field of study, particularly graduates from STEM and Health fields. In the other fields the situation was more mixed as a notable group also looked for jobs outside their field. The primary reason for seeking employment outside their area of study was the lack of available work available (50% of the 2017/18 cohort and 37% of the 2021/22 cohort) and lack of necessary experience (17% and 22% respectively). These findings underscore the limited job opportunities in certain fields and the challenges graduates face in securing positions within their chosen field of study. The persistent challenge of insufficient work experience highlights the need for stronger connections between programs of study and the labour market.

### **Labour Market Participation**

In relation to labour market participation, as expected, the percentage of 2017/18 graduates who are part of the labour force (93%) is higher than the corresponding percentage of 2021/22 graduates (87%), as the former had more time to make the transition into employment. Consequently, the percentage of graduates who reported that they are unemployed or out of the labour force is higher in the 2021/22 cohort. In relation to sectors of employment, most participants reported working in the private sector in both cohorts. Specifically, in both the 2017/18 and 2021/22 cohorts, most graduates were employed in the private sector, with 46% in the 2017/18 cohort and 48% in the 2021/22 cohort. A significant percentage of graduates were also employed in the public sector, with 43% in the 2017/18 cohort and 44% in the 2021/22 cohort. A smaller percentage of graduates reported being self-employed compared to those working in the private and public sectors. Specifically, in the 2017/18 cohort, 11% of graduates were self-employed, while in the 2021/22 cohort, this percentage decreased to 8%. This indicates that self-employment was the least common employment type among the graduates surveyed in both cohorts. This may indicate a preference for more stable or traditional forms of employment in the private or public sectors, or it could reflect barriers or challenges graduates face in pursuing self-employment.

Regarding the place of employment (Cyprus or abroad), it is noted that a high percentage of graduates in both cohorts have found employment in Cyprus. This percentage is higher in the 2017/18 cohort when compared to the 2021/22 one (59% and 48% respectively). By exploring the relationship between place of employment and country of birth, the following pattern emerged in both cohorts: most Cypriots (>90%) found employment in Cyprus, the vast majority (>88%) of graduates from EU countries are employed outside Cyprus, more than half of the graduates from non-EU countries are employed in Cyprus and the other half abroad. For graduates from EU countries, this finding may be largely attributed to the significant number of distance learners from Greece.

Three indicators of job quality were also explored: job security, working hours and earnings for graduates who have made a successful transition to the labour market. Job security refers to the security of finding and keeping a job and more specifically to holding permanent contracts or contracts of unlimited duration. Most graduates reported having a contract of unlimited duration at 67% in 2017/18 and 55% in 2021/22. This

suggests that a significant portion of graduates in both cohorts secured stable employment with permanent contracts, although there is a shift towards more temporary or less secure employment contracts. In relation to working hours (both contracted and actual) significant differences were found in actual working hours among graduates from specific fields of study, with graduates in the field of Law and Engineering and Architecture reporting a high number of actual working hours but remaining within the limits set by European regulations and Cyprus law. Additionally, median annual earnings of the 2017/18 cohort were significantly higher (23.943 euros) than that of the more recent one (18.000 euros). This could reflect the impact of accumulated experience over time, as individuals with more years in the workforce typically earn higher salaries. Higher media earnings were reported by males, ISCED 7 graduates and graduates aged 35 and over which this finding might suggest that gender, level of education, and experience (or age) play a significant role in determining earnings. This finding also might indicate that more advanced qualifications and increased experience over time can enhance earning potential in the labour market. Findings also indicated the presence of a gender pay gap among graduates. This is well-cited in the relevant literature and indicates that gender-related disparities in earnings persist, even among graduates.

Time taken to find a job after graduation was also explored. It is evident that it took a longer time for graduates in the 2017/18 cohort to find employment (median time of 12,1 months), compared to the 2021/22 cohort (median time 3,0 months). Additionally, a higher proportion of graduates reported finding a job after graduation in the 2017/18 cohort (63%), when compared to graduates in the 2021/22 cohort (41%). It is also important to note that when comparing the two cohorts for a fixed period of 18 months after graduation, both graduate cohorts took the same amount of time—3.0 months—to secure a job after graduation. In relation to the field of study, in the 2017/18 cohort, graduates from the field of Education and Teacher Training reported the longest time taken (approximately 19,7 months) and graduates from the field of Engineering and Architecture the shortest, while in the 2021/22 cohort graduates from the field of Social Sciences and Journalism had the highest time taken, when graduates from the field of Services the lowest. In all fields of study, the percentages of graduates that found a job after graduation do not exhibit significant discrepancies.

The survey also assesses job satisfaction, which on average appears to range from moderate to high in both cohorts with marginal gender age, type of education and field of studies differences. Additional analyses have been conducted regarding different aspects of satisfaction e.g. studies and employment related. The highlights of these findings lay on the fact that graduates are less satisfied with their career advancements and earnings compared to other factors.

Finally, in terms of labour market participation for graduates with disabilities, approximately 6% of graduates in each cohort reported having some type of disability. The general trend in both cohorts is that graduates with disabilities reported a slightly lower rate of employment than graduates without disabilities. In the 2017/18 cohort, most graduates with disabilities were employed in the public sector (46%), whereas in the 2021/22 cohort, most of these graduates were working in the private sector (52%). In the 2017/18 cohort, 48% of graduates reported that their disability restricted them for entering the labour market at a high/ very high extent, while in the 2021/22 cohort, this figure decreased to 15%. Both cohorts indicated a high level of agreement that their employers were supportive in relation to their disability. This suggests that although graduates with disabilities face certain challenges in the labour market, there has been improvement over time in terms of employment accessibility and support from employers.

### **Mobile Graduates**

Mobile graduates are graduates who are now located in a different country from that of graduation for purposes of work or further learning. The analysis reveals that the percentage of mobile graduates in both cohorts is relatively modest, standing at 9% for 2017/18 cohort and slightly higher at 11% for the 2021/22 cohort. Particularly, an interesting trend emerges regarding gender differences in international mobility. In both cohorts, males exhibit a higher propensity to migrate compared to their female counterparts, suggesting that male graduates are more inclined to seek opportunities outside the country. Additionally, age at graduation plays a significant role in graduates' mobility, as younger graduates are more likely to embark on international journeys in search of career prospects compared to the older ones. This pattern highlights the dynamic nature of young graduates seeking diverse experiences abroad. When considering the graduates' level of study, bachelor's graduates appear to be more inclined towards mobility. A detailed examination of the field of study reveals interesting insights. In both cohorts, the fields of Law and Natural Sciences record the highest proportion of mobile graduates.

## Skills Mismatches

Graduates' successful transition into the labour market hinges on finding employment that aligns with their educational qualifications and field of study. Findings suggest a high extent of overqualification which does not come as a surprise. Cyprus has one of the highest percentages of Higher Education graduates in the age groups 25-34 in the EU, thus indicating the high educational level of the workforce. Specifically, a substantial percentage of graduates, over 40% in both cohorts, reported that they are overqualified for their current positions (vertical mismatch). A significant proportion of graduates, 20% in the 2017/18 cohort and 16% in the 2021/22 cohort, reported misalignment between their education and job roles (horizontal mismatch).

A new composite variable that combined both horizontal and vertical mismatches was created in this report, which integrated these two dimensions into five distinct categories: Well-Matched, Overqualified (higher qualifications than required for their job but matched in terms of the field of study), Underqualified (lower qualifications than required for their job but matched in terms of the field of study), Field of Study Mismatch (matched qualifications for their job but mismatched in terms of the field of study), Full/Double Mismatch (mismatched qualifications and mismatched in terms of the field of study), to provide a more comprehensive assessment of the mismatches experienced by graduates. The findings indicated that only one third of graduates in both cohorts (33% for 2017/18 and 35% for 2021/22) had a job that aligned with their education indicating that two-thirds of employed graduates experienced some form of mismatch. Specifically, a significant percentage of graduates reported full mismatch (29% in 2017/18 and 27% in 2021/22), while others reported overqualification (16% in 2017/18 and 19% in 2021/22), field mismatch (14% in both cohorts), and underqualification (7% in 2017/18 and 4% in 2021/22). Younger, bachelor, university graduates recorded higher levels of well-matched in both cohorts. In terms of fields of study, Law graduates recorded higher levels of well-matched horizontally and vertically.

Graduates evaluated their proficiency across a range of skills, including hard, soft, core, self-management, green, manual, and digital skills, as well as the levels of these skills expected by their current jobs. Graduates in both cohorts reported high proficiency in all assessed skills. Graduates also indicated that their current jobs require high levels of various skills, suggesting that their education has equipped them well for their roles. All graduates indicated over-skilling in all types of skills assessed. Interesting findings emerged regarding graduates' current own level of skills compared to the level of skills required by their job within and between different sub-groups of graduates (based on demographic variables and variables related to their Higher Education studies).

## Participation in upskilling and reskilling activities

Graduates' participation in upskilling and reskilling activities during their employment is a significant aspect of their career development but also might indicate whether they were adequately prepared by their higher education studies for the demands of the labour market. Based on findings, It is apparent that graduates actively engage in upskilling and reskilling activities during their employment. It was observed that a higher percentage of graduates from the 2017/2018 cohort (53%) reported their participation in these activities compared to the 2021/22 cohort (45%) indicating that earlier graduates were more likely to pursue additional training. The primary motivation for participating in upskilling and reskilling activities, was to acquire hard skills relevant to their current job roles reflecting the graduates' awareness of the need to the need to constantly update and/or to acquire new skills to adjust to rapidly changing skill demands. Online training was the prevalent method employed for training. These results underscore the importance of continuous learning and skill development in the contemporary workforce.

## Future plans

Regarding the plans of graduates for Fall 2024, similar patterns have been observed across both cohorts. The most common response was "continue in my current position" (58% and 49% respectively). However, when examining future plans in relation to the four categories of mismatches (Overqualified Underqualified, Field of Study Mismatch, Full/Double Mismatch distinct trends emerged. Specifically, the most popular opinion among all categories of mismatch is continue in my current position. Full mismatched graduates appeared more likely to seek new jobs followed by field of study mismatched, suggesting that graduates that face a full mismatch between their qualifications and their job roles are more likely to seek new job opportunities compared to other categories of mismatch. Field of study mismatched graduates showed also an inclination towards entrepreneurship. Additionally, underqualified graduates in the 2021/22 cohort seem more likely to consider further study, which might indicate their desire to improve their qualifications and address their skills gap

This report provides an overview of main findings in relation to graduates' experiences in Higher Education, as well as from their transition and participation in the labour market. Further analysis is underway to better understand the factors that influence employment outcomes, the acquisition of high-level skills, and various forms of skill mismatches. Future cycles of the NGTS will address the challenges faced during the second cycle, explore ways to improve response rates but will also explore the possibility of combining data from surveys, as well as from administrative sources. Finally, this report illustrates the importance of collecting national data on the pathways of Cyprus Higher Education graduates and provides insightful results that can inform various national policies and strategies.

# 1. Introduction

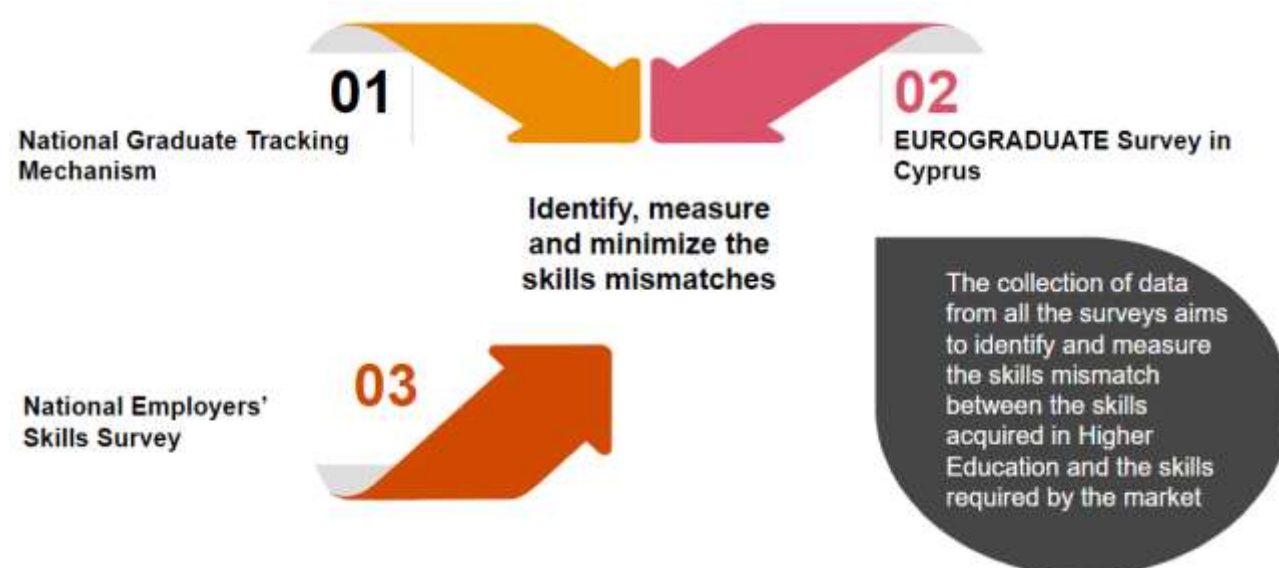
## 1.1. The context of the project – Identifying the “problem”

The Department of Higher Education (DHE) of the Cyprus Ministry of Education, Sport, and Youth (MESY) commissioned PwC Cyprus through the tender procedure (DHE 17-21), for the implementation of the project “Development of a National Graduate Tracking Mechanism and Design and Implementation of an Employers’ Skills Survey” which is financed by the Recovery and Resilience Facility instrument of the European Commission as well as by national funds. This project was developed to measure and monitor both the supply and demand for skills in the Cyprus market, with an emphasis on Cyprus’ Higher Education graduates. By contrasting the supply versus the demand for skills based on high-quality longitudinal data this project aimed to provide important insights on possible skills mismatches, as well as insights about the employability of Higher Education graduates.

Skills mismatch has been defined as the discrepancy between what the education system delivers and what the labour market needs (Quintini, 2011). It is a “complex phenomenon affecting individuals, enterprises, economies, and societies”. Skills mismatch appears to be a major challenge across Europe. According to the European Centre for the Development of Vocational Training (Cedefop, 2010), Europe’s challenge is not just to improve skills levels, but to match people with the right skills to the right jobs. There are various types of skills mismatches, such as vertical mismatch, horizontal mismatch, double mismatch, skills gaps, over- and under skilling, and skills obsolescence etc. These mismatches are significant contributors to rising unemployment and increasing challenges for individuals entering the labour market to find jobs that align with their potential. In Cyprus, skills mismatches have been identified as a major weakness in several policy reports, including the Cyprus Competitiveness Reports of 2019, 2020, and 2021 (CECC, 2021). The most recent report highlights both vertical and horizontal skills mismatches, noting that “findings suggest that the educational system is not successful in delivering a skilled workforce corresponding to market needs. This is an important competitiveness issue as it means that employers, are constrained by a lack of appropriately skilled workers (CECC, 2021). Although, skills mismatches have been identified as a great challenge at national level that needs to be urgently addressed, national data on the type and extent of different types of skills mismatches are scarce. The identification and measurement of different types of skills mismatches (such as overqualification – underqualification, over-skilling – under-skilling, horizontal mismatch, etc.) is important as these have different implications and call for different actions.

The overall aim of this project is to provide longitudinal national data on graduates’ pathways after leaving Higher Education, as well as on the labour market’s current and future needs in terms of knowledge and skills. This evidence will help identify and quantify the types and magnitude of various skills mismatches in Cyprus. For this purpose, within the context of this project, three surveys (Figure 1) have been developed and implemented to collect quality data that will help understand the gap/mismatch between the skills acquired by graduates of all Higher Education Institutions (HEIs) in Cyprus and the skills required by the local labour market that will employ them. These surveys are the National Graduate Tracking Mechanism, the National Employers’ Skills Survey and the EUROGRADUATE Survey. Information generated through these surveys will form the evidence-base to various stakeholders (e.g., policy makers in the Ministry of Education, Sport, and Youth and other relevant Ministries/ Services/ Organisations, Cyprus Higher Education Institutions, Human Resource Development Authority, Counselling Services, researchers, employers, students, etc.) to make informed decisions that will ultimately contribute to increasing the responsiveness of Cyprus’ education and training system to the labour market needs, while benefitting the individuals, but also the economy as a whole.

Figure 1: The three surveys in the context of the project “Development of a National Graduate Tracking Mechanism and Design and Implementation of an Employers’ Skills Survey”



Survey	Target Group	Data	Aim	Data	Target Group	Survey
National Graduate Tracking Mechanism	Higher Education Graduates' Perspective	Experiences form Higher Education	Identify, measure, and monitor the skills mismatches	Skills needed by the labour market	Employers' perspective	Employers' Skills
EURO-GRADUATE		Experiences from entering the labour market		Skills gaps and shortages		
		Skills Utilisation Employment				

The specific objectives of this project (Figure 2) are:

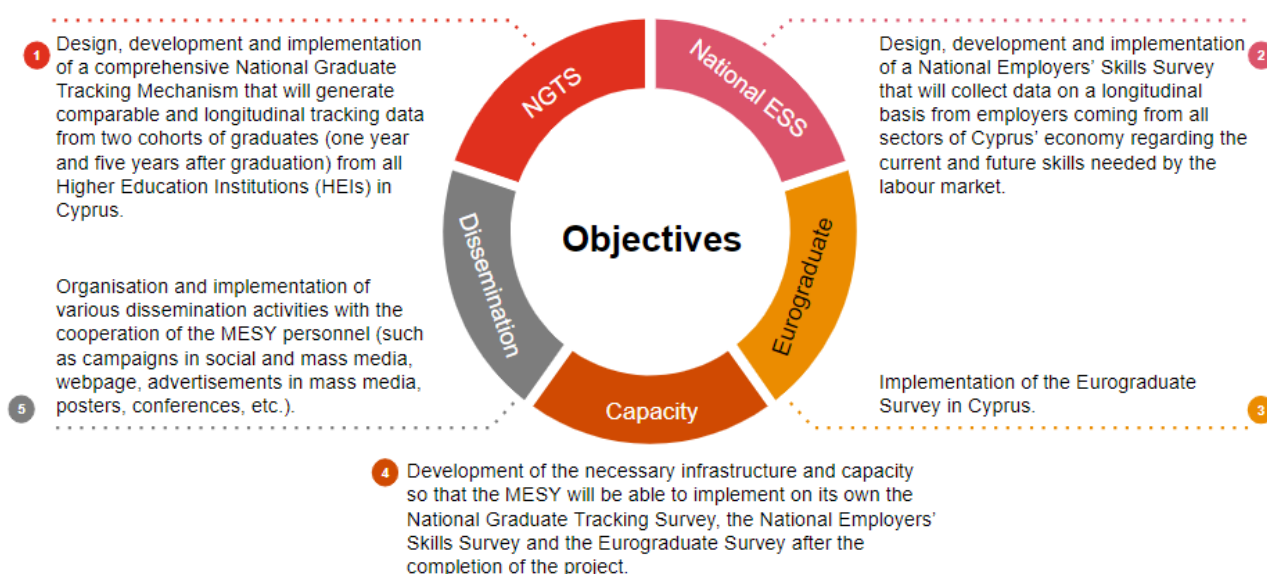
1. The development and implementation of five waves of the National Graduate Tracking Mechanism, which will collect data on Higher Education graduates' pathways one and five years after graduation on an annual basis.
2. The development and implementation of two waves of the National Employers' Skills Survey, which will collect data from employers in both public and private sectors regarding the current and future needs of the labour market in terms of skills.
3. The implementation of two waves of EUROGRADUATE Survey (2022 and 2026) in Cyprus. EUROGRADUATE survey aims to map the impact that experiences of European graduates during

their time as students have had on their professional lives and their lives as European citizens (EUROGRADUATE, 2022).

4. The development of the necessary infrastructure for collecting, analysing, and presenting data from the National Tracking Survey and the National Employers' Skills Survey (e.g., a dynamic platform for the presentation of results of all three surveys in a user-friendly format with the use of infographics).
5. The implementation of various dissemination activities at different phases of the project to:
  - a. Communicate and promote the scope of the surveys, highlighting their added value.
  - b. Raise awareness for the importance of the project.
  - c. Strengthen the participation and engagement of the target groups (i.e., both graduates and employers).
  - d. Disseminate findings from all three surveys.

The current report presents the methodology and findings from the implementation of the second cycle of the National Graduate Tracking Survey. This report also presents activities undertaken in relation to Objectives 4 and 5.

Figure 2: Objectives of the project “Development of a National Graduate Tracking Mechanism and Design and Implementation of an Employers' Skills Survey”



## 1.2. European initiatives regarding tracking graduates

Graduate data is considered important to understand the causes of graduates' employability problems but also to identify solutions for these problems. Employability hinges on various factors, including the level of qualification, field of study, as well as socio-demographic and socioeconomic backgrounds. Hence, the comprehensive data collection on the impact of these factors is essential to tackle weaknesses within the system. High quality graduate data can contribute to strengthening career guidance and help students to make informed choices about their studies and career path, but also for Higher Education Institutions (HEIs) to be able to assess and improve their programmes and teaching methods. It is also important for policy and decision-makers for making funding and legislative decisions.

A Council Recommendation on tracking graduates was issued and adopted unanimously by all Member States on the 20<sup>th</sup> of November 2017 (EU Council, 2017) highlighting the importance of developing systems in EU countries for collecting, analysing, and using data on the outcomes of graduates from Higher Education and Vocational Education and Training. To achieve the objectives of the 2017 Council Recommendation, the European Commission launched the European Graduate Tracking Initiative (EGTI). The EGTI aims to create the conditions for building comparative EU evidence on how higher education and VET systems prepare EU graduates for the European and national labour market (Cedefop, 2023). Several activities were undertaken within the context of the European Commission's European Graduate Tracking Initiative such as a study on mapping graduate tracking policies and practices in the EU and other EEA countries, the formation of an Expert Group on Graduate Tracking, capacity-building activities to support countries to address their capacity shortages and enable their participation in the European graduate tracking mechanism, a EUROGRADUATE survey etc.

Graduate tracking systems collect, analyse, and use data on the outcomes for Higher Education graduates, are not well developed in many Member States of the Union. Cyprus is among the countries where a National Tracking Mechanism had not been implemented until 2022. This absence contributed, among other challenges, to a lack of comparable graduate data across Member States, making it difficult to draw meaningful conclusions about differences in trends or outcomes between countries.. In order to improve the availability and quality of national data about the activities of Higher Education graduates and the availability of comparable information on graduate employment and social outcomes, the Council recommended a full roll-out of a European graduate survey in Higher Education, i.e., the EUROGRADUATE survey. EUROGRADUATE survey aims to facilitate the monitoring of progress towards the European Education Area and identify areas that require more investment and resources. Moreover, strengths and weaknesses between the Higher Education systems of the European Member States will be recognized, leading to improved preparation of graduates for the labour market and the society as a whole.

In Autumn 2018, the EUROGRADUATE pilot project was carried out in eight countries (Austria, Czech Republic, Croatia, Germany, Greece, Lithuania, Malta, and Norway) and aimed to provide the European Commission and participating countries with evidence on whether a Europe-wide graduate survey could be conducted periodically. The pilot study covered graduates on ISCED-2011 levels 6 (Bachelor) and 7 (Master or long degree programmes), one and five years after graduation, covering the short-term and the mid-term development of graduates. Based on findings from the pilot study, it was decided that a full roll out of a European graduate survey was feasible, starting in 2022 with half of the EU/EEA countries and up to 80% of the EU/EEA countries in 2026. The first wave of EUROGRADUATE survey took place in 2022, where 17 EU/EEA countries participated with decentralised data collected at national level. Cyprus was among these countries. The survey was coordinated by the EUROGRADUATE consortium which consisted of four partners with substantial expertise in the field of Higher Education policy analysis and research: DZHW (Germany, central coordinator), IHS (Austria), ROA (the Netherlands), and cApStAn (Belgium). EUROGRADUATE 2022 collected data through an online questionnaire and/or administrative sources from graduates on ISCED-2011 levels 6 (Bachelor) and 7 (Master or long degree programmes) from two cohorts: one year after graduation (Cohort 2020/21) and five years after graduation (Cohort 2016/17).

A European Network of Graduate Tracking was officially launched by the European Commission in May 2022. The European Network of Graduate Tracking was an important milestone towards the implementation of the Council Recommendation on tracking graduates as it was introduced to promote the cooperation and mutual

learning of EU Member States on the design and implementation of graduate tracking systems. It is noted that, the Department of Higher Education of the MESY actively participates in this Network and significant support is received by the Network for the design and implementation of the National Graduate Tracking Mechanism.

## 1.3. The structure of this report

This report presents the design, implementation, and main findings from the second cycle of the National Graduate Tracking Survey. Specifically, the current report has the following structure:

**Section 2:** provides a brief overview of the **Higher Education system in Cyprus**, and the population of Higher Education students/graduates in Cyprus.

**Section 3:** presents the overall **methodology** employed. Specifically, this section presents the development and administration of the questionnaire, fieldwork procedures, as well as methods for analysing the data in the context of the National Graduate Tracking Survey.

**Section 4:** presents the definition of target population and sample, as well as statistical information for the **population and sample** per cohort by demographic variables and by variables related to their Higher Education studies.

**Section 5:** presents the **main findings** from the analysis of national data collected during the implementation of the second cycle of the National Graduate Tracking Survey.

**Section 6:** presents the **main challenges and limitations** faced during the implementation of the second cycle of the National Graduate Tracking Survey that should be taken into consideration for improving the implementation of future cycles of both surveys.

**Section 7:** presents the **conclusions** of the second cycle, by providing an overview of the main findings, highlighting their significance and limitations, as well as suggestions for improvement for future cycles.

## 2. Higher Education system in Cyprus and demographic profile of graduates

### 2.1. Higher Education in Cyprus

The Department of Higher Education (DHE) of the Ministry of Education, Sport and Youth (MESY) has been assigned with the responsibility for the design and implementation of policies in Higher Education. The DHE has set two strategic objectives for 2024-2026 as follows:

- a) the development and modernization of Cyprus Higher Education,
- b) the improvement of the connection of Cyprus Higher Education with the labour market needs.

It is noted that, the DHE's project "Development of a National Graduate Tracking Mechanism and Design and Implementation of an Employers' Skills Survey" is directly linked with the second strategic objective.

The Cyprus Higher Education System is closely aligned with the European Higher Education Area (EHEA), as outlined by the Bologna Process. Cyprus is an official member of the Bologna Process since 2001 and has implemented various tools for facilitating fair recognition of foreign qualifications and/or study periods abroad. Specifically, as part of the EHEA, Cyprus implemented the following Bologna requirements/tools: a three-cycle Higher Education System consisting of Bachelor's, Master's and Doctoral studies, the European Credits Transfer and Accumulation System (ECTS) for all programmes of study and the Diploma Supplement issued automatically (free of charge) after completion of studies by HEIs. Moreover, Cyprus implemented the Standards and Guidelines for Quality Assurance (ESGs) and has also developed its National Qualifications Framework (Figure 5) which is linked to the European Qualifications Framework. It is important to clarify that Higher Education in Cyprus covers NQF levels 5 (Certificates, Diplomas and Higher Diplomas), 6 (Bachelor's degree), 7 (Master's degree) and 8 (Doctoral degree) of the National and European Qualification Frameworks (MESY Cyprus, 2008).

Higher Education in Cyprus is offered by public and private Universities and Institutions of Tertiary Education (ITE)<sup>1</sup>. In the academic year 2022/23, Higher Education system in Cyprus included a total of fifty-eight (58) Higher Education Institutions (HEIs). Over the last decade, the number of students in Cyprus Higher Education has significantly grown, as depicted in Figure 3 **Error! Not a valid bookmark self-reference.** and Figure 4. It is evident that there is a general upward trend in the total number of students until the academic year 2020/21, with a slight decrease (3%) thereafter. Numbers of students showed an increase again in academic year 2022/23 reaching the 56 314 students. The 83.8% of these were University students (47 213) compared to the 16.2% (9 101) studying in Institution of Tertiary Education. According to Figure 4, the total number of students at Universities shows an increasing trend over the last nine (9) academic years. The same pattern does not apply for Institutions of Tertiary Education, as the total number of students decreased by 17% in the academic year 2020/21 compared to 2019/2020. The total number of students decreased further (by 20%) in the next academic year (2021/22) and by 36% in the 2022/23.

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<sup>1</sup> In the context of first cycle of the survey (and the EUROGRADUATE 2022 survey), the term non-University was used.

Figure 3: Total number of students at Cyprus Higher Education Institutions from the academic year 2013/14 up to the academic year 2022/23

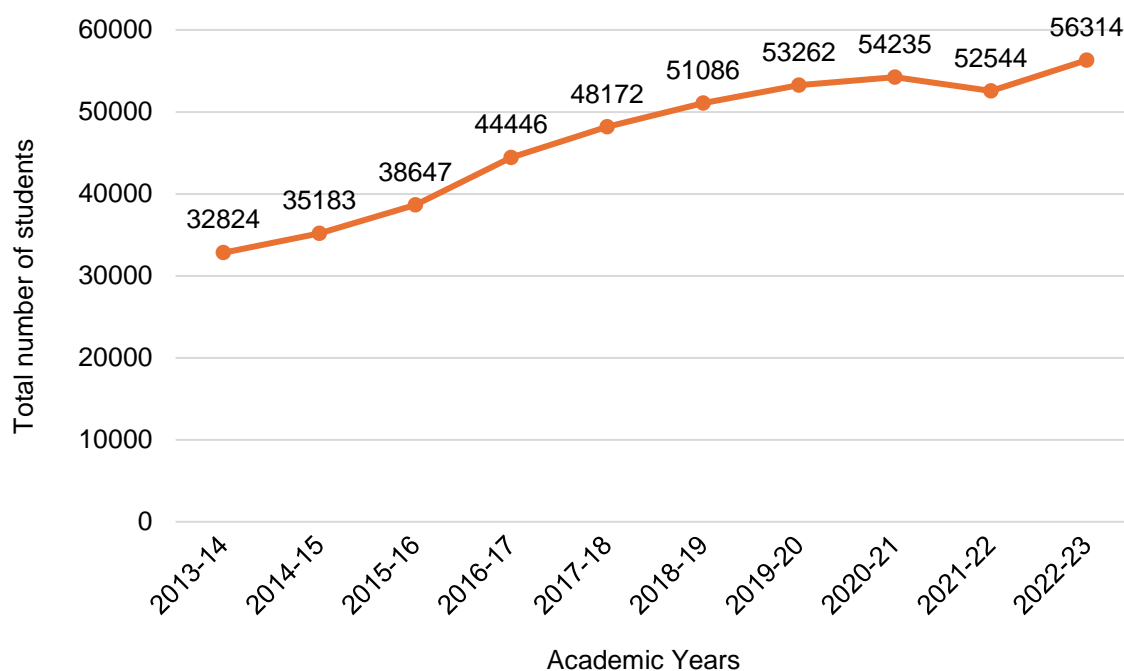


Figure 4: Total number of students at Universities and Institutions of Tertiary Education (ITE) from the academic year 2013/14 up to the academic year 2022/23

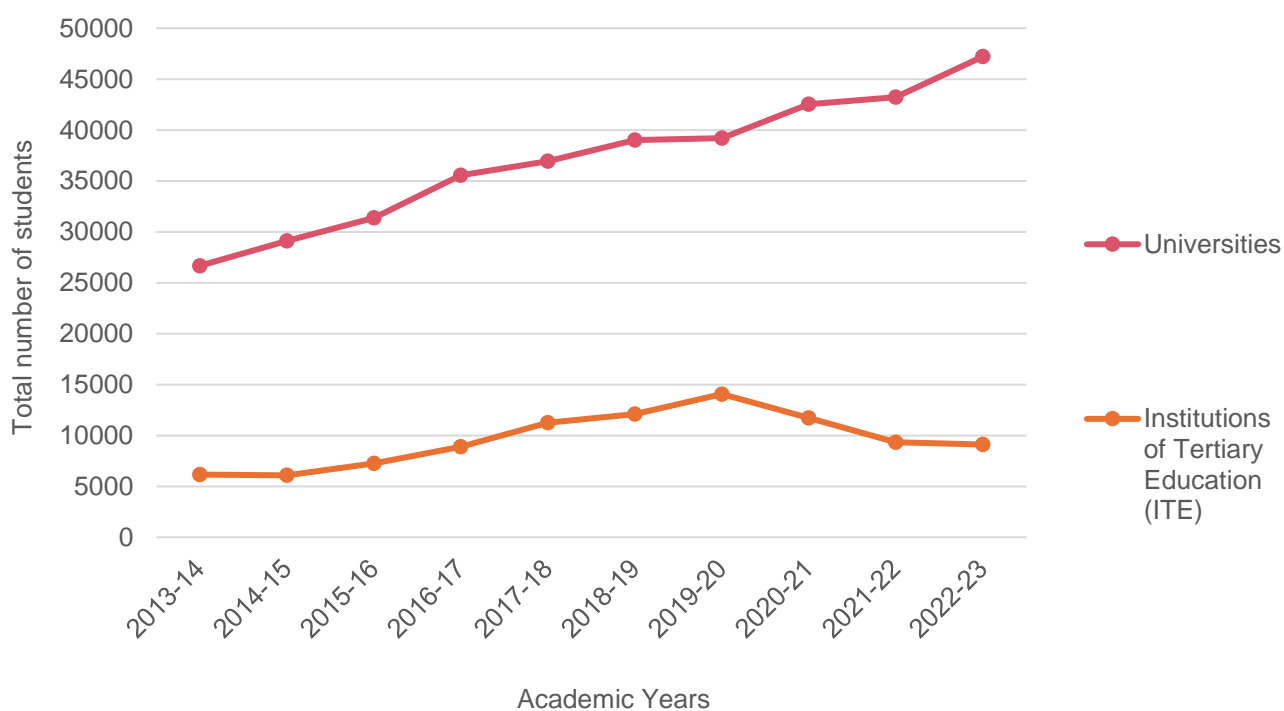


Figure 5: Cyprus National Qualification Framework

THE CYPRUS QUALIFICATIONS FRAMEWORK					
NQF LEVELS	EDUCATIONAL/ACADEMIC QUALIFICATIONS		Occupational/Vocational Qualifications	EQF LEVELS	
8	DOCTORAL DEGREE			8	
7c	MASTER'S DEGREE			7	
7b	POST GRADUATE DIPLOMA				
7a	POST GRADUATE CERTIFICATES				
6	UNIVERSITY DEGREE (PTYCHION/BACHELOR'S DEGREE)		SVQ Level 6	6	
5c	HIGHER CERTIFICATES AND DIPLOMAS (3 years or more)		SVQ Level 5	5	
5b	POST SECONDARY CERTIFICATES AND DIPLOMAS (2 years)				
5a	POST SECONDARY CERTIFICATES AND DIPLOMAS (1 year)				
4	UPPER SECONDARY GENERAL EDUCATION AND EVENING SCHOOLS CERTIFICATES (12th Class-or 12&13th for some private schools)- APOLYTERION	UPPER SECONDARY TECHNICAL AND VOCATIONAL EDUCATION AND EVENING TECHNICAL SCHOOLS CERTIFICATES (12th Class)- APOLYTERION	SVQ Level 4	4	
3	LOWER SECONDARY EDUCATION CERTIFICATE 10th Class		NEW MODERN APPRENTICESHIP CERTIFICATE	SVQ Level 3	3
2	COMPULSORY LOWER SECONDARY EDUCATION CERTIFICATE 9th Class		PREPARATORY PROGRAMME (NEW MODERN APPRENTICESHIP)		2
1	COMPULSORY EDUCATION CERTIFICATE (Elementary School Leaving Certificate, and/or graduates of 7th and /or 8th Class)				1
*SVQ=SYSTEM OF VOCATIONAL QUALIFICATIONS					

## 2.2. Target group definition

Based on the EUROGRADUATE guidelines followed in the first cycle of the survey (which were adopted, with slight moderations, for the National Graduate Tracking Mechanism), the target group for the second cycle of the National Graduate Tracking Survey encompassed graduates of academic years **2017/18** and **2021/22** who had obtained degrees at **ISCED 2011 (NQF) levels 5, 6 or 7**, corresponding to diplomas, higher certificates, bachelor's degrees or equivalent, and master's degrees or equivalent respectively.

Specifically, the selection criteria for participants in the National Graduate Tracking Survey for 2023 were the following:

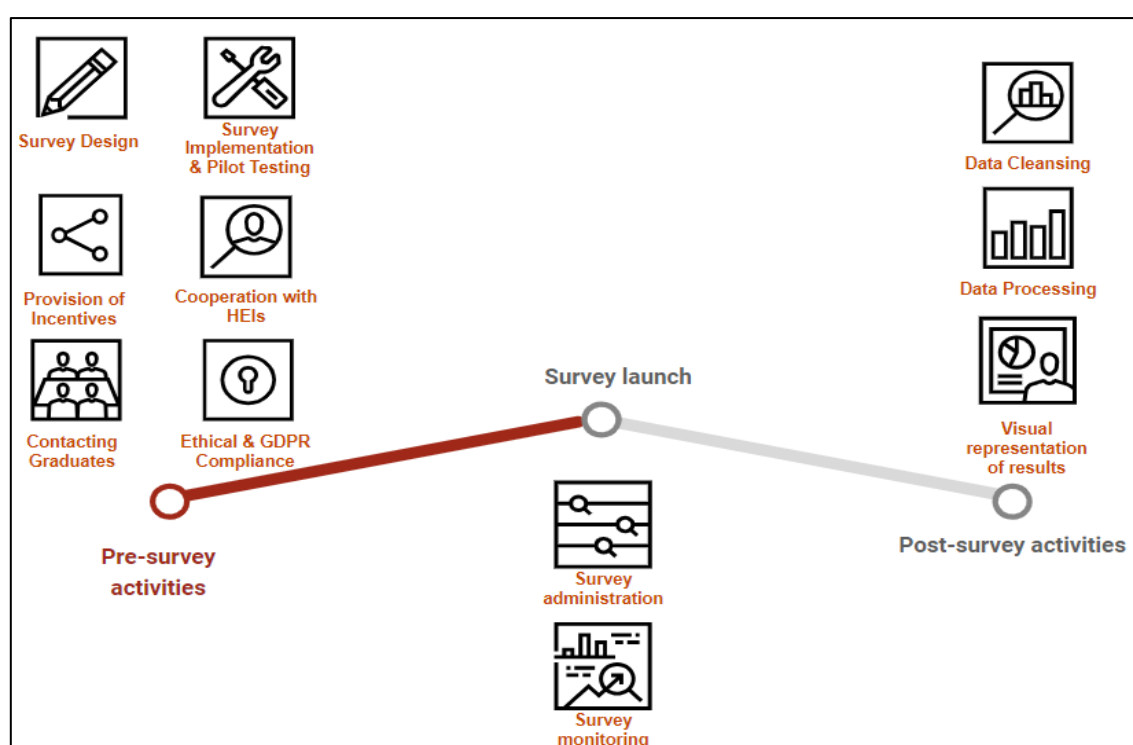
1. Graduates of academic years 2017/18 and 2021/22 from all Higher Education Institutions in Cyprus (both private and public Universities and Institutions of Tertiary Education).
2. Graduates holding degrees corresponding to ISCED 2011/ NQF levels 5, 6, and 7.
3. Graduates of all nationalities, irrespective of their location prior to their education (e.g., school or first degree) and their current or permanent location after graduation (the survey sample includes graduates of Cyprus Higher Education Institutions, whether they reside within or outside Cyprus).
4. Graduates of all enrolment statuses (e.g., full-time, part-time, distance learning).

By adhering to these criteria, the survey aimed to gather comprehensive data about Higher Education graduates in Cyprus and provide valuable insights about their educational experiences and career paths.

# 3. Methodology

The methodology of National Graduate Tracking Survey<sup>2</sup> relies upon three pillars as follows: (1) “Pre-Survey Activities” which describes all the activities for the preparation of data collection, (2) “Survey Launch” which describes the activities performed during the period when the National Graduate Tracking Survey was live, and (3) “Post-Survey Activities” which sets out the activities undertaken following data collection to prepare the final dataset as well as the methods employed for data analysis. Another key component of the implementation of the National Graduate Tracking Survey was the visibility/dissemination activities which aimed to promote the survey and increase awareness not only of the Higher Education graduates who were invited to participate, but also of the relevant stakeholders and the public. As described in detail in this section, the primary objective of these activities was to communicate the significance of the survey and its benefits to current and future generations of graduates, particularly in their pursuit of successful employment. Each pillar is analysed in detail in this section. The activities included in each pillar are presented in Figure 6.

Figure 6: Overview of the activities within each pillar



## 3.1. First Pillar: Pre-Survey Activities

Pre-survey activities concerned all activities that were undertaken before data collection. These activities involved the design, translation, and implementation of the National Graduate Tracking questionnaire in an online platform, the pilot testing activities for the smooth administration of the survey and the relevant communication activities with the Cyprus Higher Education Institutions. Ethical considerations, data protection and GDPR compliance were also important aspects of pre-survey activities.

<sup>2</sup> It is noted that, during the years that EUROGRADUATE survey is running, data for both the National Graduate Tracking and the EUROGRADUATE surveys are collected through a common questionnaire, therefore participants see and complete only one survey.

### 3.1.1. The design of the National Graduate Tracking Questionnaire

The questionnaire of the National Graduate Tracking Survey comprises six core thematic areas: 'Education History,' 'Transition to Employment,' 'Employment,' 'Skills/Competencies,' 'Upskilling and Reskilling in Employment,' and 'Regional Mobility.' Additionally, it includes a section for collecting data on personal and social background. This structure enables the analysis and estimation of key indicators on a longitudinal basis. Each year, a limited number of additional questions on various topics are incorporated to address emerging issues. The questionnaire is always administered in two languages (Greek and English).

In the second cycle of the National Graduate Tracking Survey (NGTS), several significant adaptations were made to enhance the quality and effectiveness of the questionnaire. These changes aimed to improve participants' understanding and increase response rates by simplifying complex questions and reducing the overall length of the questionnaire. The modifications also included the addition of new questions to capture the adoption of emerging elements in higher education studies and to assess the development of key skills among graduates. Here is a detailed elaboration on these adaptations:

- **Simplification and Length Reduction:** Complex questions from the previous version of the survey were simplified to make them more accessible and easier for participants to understand. This was intended to reduce the cognitive load on respondents and improve the accuracy of the data collected. The overall length of the questionnaire was reduced to encourage higher participation and completion rates. By streamlining the survey, it became less time-consuming for participants, which likely contributed to an increase in response rates.
- **Adoption of New Elements in Studies:**
  - Environmental Sustainability:** The survey included questions to assess how environmental sustainability topics have been integrated into various programs of study. This reflects the increasing importance of sustainability in education and its relevance to the job market.
  - Artificial Intelligence Tools:** Questions were added to evaluate the incorporation of AI topics and tools in study programs. This is crucial given the growing influence of AI across industries and the need for graduates to be proficient in these technologies.
- **Usefulness of Study Elements:** Graduates were asked to evaluate the usefulness of different elements in their studies, such as teaching methods, curriculum content, and practical experiences. This feedback helps identify areas where educational programs can be improved to better meet the needs of students and employers.
- **Skills Assessment:** The survey included additional questions to assess the development of key skills among graduates. This was done to achieve better alignment between the Graduates and Employers surveys. The seven key skills assessed were: soft, core, self-management, digital, manual, green and hard skills.

These adaptations were designed to provide a comprehensive understanding of how well graduates are equipped with the necessary skills and knowledge to meet current and future labour market demands. By aligning the survey with the Employers' Skills Survey, the NGTS aims to identify gaps and opportunities for improvement in higher education curricula, ensuring that graduates are better prepared for the workforce.

Various question types were included such as single-choice, multiple-choice, rating scales, and open-ended to ensure comprehensive data collection. The questionnaire also included several standardized lists and taxonomies to enhance the quality and comparability of the gathered data. Specifically, the following lists and taxonomies were used:

- ISCED-F 2013 - Detailed field descriptions,
- Countries (ISO 3166-1),
- Languages (ISO 639-1),
- Currencies (ISO 4217-1),
- Economic Activity Sector Classification (Industry)-NACE,
- ISCO-Occupations.

### 3.1.2. The implementation of the questionnaire in an online platform and pilot testing activities

DESAN CAI platform was used to administer the questionnaire online in both Greek and English languages. This platform had previously (prior to its use in the first cycle of the National Graduate Tracking Survey) been selected for data collection, storage, and analysis in the context of the EUROGRADUATE pilot survey in 2018, as well as for various other online surveys (among others, for graduate tracking and employers' skills surveys) in Netherlands.

The platform met all the requirements set by EUROGRADUATE consortium (as presented by the consortium through webinars held prior and during the survey), which included the following key elements:

- Multilingual Support, i.e., the platform could accommodate multiple languages, ensuring a smooth experience for users from diverse linguistic backgrounds.
- Individual access links for each participant with the ability to pause and resume their progress in the questionnaire.
- Filter questions and routing based on multiple answers enabling this way the formation of personalized paths based on respondents' specific answers and enhancing the relevance of the survey experience.
- Unlimited participant capacity.
- The versatility of questions, i.e., wide range of question types was integrated into the platform, leading to the gathering of diverse and valuable data.
- Compatibility with multiple devices, either computers, laptops, or smartphones to enable respondents to participate using their preferred devices.
- Data safety and General Data Protection Regulation (GDPR) compliance to guarantee data security and compliance with GDPR, privacy and confidentiality to the responders.
- Autocompletion of fields to streamline the survey experience and minimize the possibility of errors in data entry.
- Intelligent input checks and warnings to guide the participants through the survey and ensure the accuracy of their responses.

The questionnaire was implemented in the online platform following the same guidelines provided by the EUROGRADUATE consortium in the first cycle of the National Graduate Tracking Survey. A landing page was also added on the project's website<sup>3</sup> (in both English and Greek) for providing additional information and support to participants or interested parties, as shown in Figure 7. It is noted that, respondents visiting the landing page were asked to enter their credentials in order to access the questionnaire. When logged in the questionnaire, a starting page (Figure 8) provided useful information to respondents regarding the survey (e.g., its purpose), the time needed for completion and the ability to pause and continue the completion at a later point.

With the implementation of the questionnaire in the online platform, several rounds of checks were made to ensure that important features were smoothly operating. The online questionnaire was fully tested in relation to content, user experience and functionality before sharing it with the graduates. Dedicated access codes were created and provided to the PwC and MESY teams for this purpose.

Testing activities aimed at ensuring and verifying that all questions were correctly assigned, programmed, and labelled, as well as that questions' filtering was properly implemented. Furthermore, testing activities examined the accessibility to the survey, including the participants' ability to pause and resume the questionnaire, the overall user experience, the content, and the syntax/ grammar of the questions included. It was also ensured that the respondents were offered the option to change the questionnaire's language at any point during its completion. The testing process additionally ensured users' privacy and anonymization.

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<sup>3</sup> Project's website: <https://skilltracking.highereducation.ac.cy/>

Figure 7: Survey's landing page in English

**CY** —  
GRADUATES

[Download Informed Consent](#)[Contact details of HEIs representatives](#)

Welcome to the homepage of the National Graduate Tracking Survey, which is conducted by the Department of Higher Education of the Ministry of Education, Sport and Youth (MESY), in cooperation with PricewaterhouseCoopers (PwC) Cyprus Limited.

The NGTS collects data on the experiences of graduates from their studies in Cyprus Higher Education Institutions and the impact of these experiences on their professional lives. This will help us **improve graduates' employability as well as the connection between Cyprus Higher Education and the labour market.**

Participants for this second cycle are:

- Graduates of the academic years 2017-2018 and 2021-2022 from all Cyprus Higher Education Institutions.
- Graduates from Programs of Study that led to the acquisition of one of the following degrees: Certificate, Diploma, Higher Diploma, Bachelor or Master.

You are invited to complete an online questionnaire which takes approximately **10-12 minutes**. You can interrupt the completion of the questionnaire at any time and return to where you left by clicking on the direct link again or by typing the access code sent to you by the Higher Education Institution you have graduated from.

Your participation in the survey is **voluntary** but very important. Your responses will remain **anonymous** and will be kept **confidential**.

Following the completion of the questionnaire, you will **receive a gift (15% discount for purchases at MODE&, the online marketplace of Voici La Mode group of companies)** and will also participate in a draw to **win big prizes (flight ticket, hotel stays and gift vouchers)**.

Please enter your personal access code below, which was sent to you by the Higher Education Institution you graduated from, to start completing the questionnaire. In case you did not receive your access code, you can contact the Higher Education Institution from which you graduated so that it can be communicated to you (please refer to the list of contact persons from each Higher Education Institution which is available [here](#)).

Thank you very much for your time and contribution.

**Please enter your personal access code below to complete the questionnaire.**

**Start**

## Do you have any questions?

In case of questions about general information on the research project or about data protection, the staff members of both the Ministry of Education, Sport and Youth and PwC Cyprus will be happy to support:

Rebecca Nicolaidou (PwC):  
Tel: [+357 22555646](tel:+35722555646)  
Email: [cy\\_graduatetracking@pwc.com](mailto:cy_graduatetracking@pwc.com)

Alexandra Petridou (MESY):  
Tel: [+357 22800966](tel:+35722800966)  
Email: [apetridou@moec.gov.cy](mailto:apetridou@moec.gov.cy)

Figure 8: Survey's starting page in English

**Κύπρος — το αύριο** CY GRADUATES

Με τη χρηματοδότηση της Ευρωπαϊκής Ένωσης NextGenerationEU

English A+ A- Moon Power

0% completed 0% 100%

infostart -  
Welcome to the homepage of the National Graduate Tracking Survey!

The National Graduate Tracking Survey (NGTS) aims to improve graduates' employability and the connection between Cyprus Higher Education and the labour market. For this purpose, graduates from all Cyprus Higher Education Institutions are invited every year to participate in this very important survey.

The NGTS is funded by the Cyprus Recovery and Resilience Plan and it is conducted by the Department of Higher Education of the Ministry of Education, Sport and Youth (MESY), in collaboration with PricewaterhouseCoopers (PwC) Cyprus Limited.

You are invited to complete the following online questionnaire. The completion takes approximately **10-12 minutes**. You can interrupt the completion of the questionnaire at any time and return to where you left by clicking on the direct link again or by typing the access code sent to you by the Higher Education Institution you have graduated from.

Your participation in the questionnaire is **voluntary** but very important. Your responses are **anonymous** and **strictly confidential**.

Following the completion of the questionnaire, you will receive a gift (15% discount for purchases at **MODE8**, the online marketplace of Voici La Mode group of companies) and will also participate in a draw to win big prizes (flight ticket, hotel stays and gift vouchers).

Thank you very much for your time and contribution!

Next

Εντυπιο συναδελφικής συναίνεσης Informed Consent Project website

### 3.1.3. Providing incentives

Various incentives were offered to graduates in order to increase response rates and reduce the risk of dropout during questionnaire completion. Building on best practices from other countries with extensive experience in graduate tracking surveys, a small gift was provided to each respondent completing the questionnaire.

Specifically, graduates who completed and submitted the questionnaire, received a 15% discount voucher for online purchases at Voici La Mode Group of Companies. This voucher was sent via email to each participant a few days after the completion of the questionnaire. The graduates were also advised to contact the PwC project team at [cy\\_graduatetracking@pwc.com](mailto:cy_graduatetracking@pwc.com) in case they did not receive their discount voucher within 7-10 days from completing the survey. Additionally, participants who successfully completed the questionnaire had an opportunity to participate in a lottery with a number of bigger prizes from Louis Group:

- 1 gift voucher of 150 euros for a flight ticket with Louis Travel,
- 2 gift vouchers of 100 euros each for a hotel stay at Louis Hotels,
- 4 gift vouchers of 50 euros each for Akakiko Restaurants.

### 3.1.4. Establishing the cooperation of the HEIs

HEIs are recognised as main stakeholders in the context of this project. Their role and contribution for the successful implementation of the National Graduate Tracking Survey was very important. HEIs acted as liaisons and were responsible for the communication between the project team (PwC Cyprus and DHE-MESY) and participating graduates, while maintaining the anonymity of graduates. HEIs contributed to the promotion of the project by sharing visibility activities, such as informative banners/articles, to their websites or by uploading relevant posts on their Social Media accounts.

All HEIs had identified contact points for the purposes of the NGTS according to the DHE's instruction. To foster clear communication and ensure a shared understanding of the project's objectives, an informative session was thoughtfully organized on the 07<sup>th</sup> of December 2023. During this session, representatives from the HEIs were provided with a comprehensive presentation<sup>4</sup> describing the project's scope, the specific purpose of each survey, and the crucial role of HEIs within the overall initiative. In addition, the HEIs were provided with detailed instructions on the required actions on their behalf. Furthermore, the benefits of HEIs participating in this project were highlighted, emphasizing the value of their contributions, as well as the positive impact of their involvement on the success of the National Graduate Tracking Mechanism.

The project team provided detailed guidelines to the HEIs on how to contact graduates and provide them with their unique IDs and access codes, as well as how to send the invitations while ensuring that the communication with the graduates would be compliant with the relevant data protection legislations. These initial tasks were completed into three (3) distinct stages, as described below:

1. The first stage referred to the provision of data (by the HEIs to the PwC and DHE-MESY project teams) regarding **anonymised data regarding their graduates**. Specifically, the HEIs shared with PwC and MESY teams anonymised data regarding their graduates in relation with gender, cohort (T+1 and T+5), programme of study, level of study, consent for communication with HEI, availability of contact details. The purpose of this exercise was to, firstly, have general information on the population and, secondly, to generate the respective amount of credentials/ unique access codes per graduate. The survey required the use of personalised login codes, which gave the respondents access to the questionnaire. Once the credentials were separately prepared for each HEI, they were shared with each HEI's representatives.
2. The second stage referred to the process of **matching the credentials with the personal details of each graduate**. Each HEI was responsible to locally match the credentials with the personal contact details of each graduate. The specific process was only performed locally by each HEI (without sharing the data with DHE or PwC) in order to protect graduates' personal (contact) data. In this way, all activities were conducted in accordance with the provisions of the GDPR legislation. The credentials encompassed a Unique ID for each graduate, giving them access to the questionnaire through the platform. On PwC's side, these credentials (without any additional information to enable their matching with any graduate) were used for response tracking purposes, ensuring that the reminders for the completion of the survey would only be sent to participants who haven't completed the survey up to that point.
3. The third stage involved the **provision of the Unique IDs to the graduates** along with a short description of the survey. Each HEI forwarded the Unique ID separately to each graduate and informed them:
  - That their Unique IDs will only be used by PwC and DHE-MESY for response tracking purposes without the ability to connect those to their personal details. Therefore, graduates were informed that access to their personal information was unauthorized and prevented.
  - That their Unique ID (along with their access code) would be used by them to access the platform and the questionnaire.
  - About the incentives that were available to the graduates who would have completed the survey.

The project team has maintained continuous and direct communication with the administration departments of the HEIs to offer assistance and provide any necessary information. This communication extended beyond

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<sup>4</sup> Conference call's presentation deck: <https://skilltracking.highereducation.ac.cy/wp-content/uploads/2024/01/Presentation-to-the-HEIs-NGTS-2023v2.pdf>

the specific tasks mentioned earlier and encompassed the entire survey process, including the pre-release and survey launch phases. For this purpose, the project team had established a helpdesk with members of both the PwC's and the DHE-MESY's teams. The helpdesk served as a means to address inquiries, respond to questions, and offer comprehensive support as required.

### 3.1.5. Contacting graduates and sending invitations

The approach for contacting graduates was identical to the one followed during the first cycle of the National Graduate Tracking Survey. Contacting graduates in the context of the second cycle of NGTS fell within Scenario B (Table 1), which meant that the sampling frame was accessible centrally, but the contact details were only stored locally within the HEIs and could not be provided to the DHE-MESY.

Table 1: Different scenarios regarding access to sampling frame and to graduates' contact information

		Contact information	
		central access	decentral access
Sampling frame	central access	A (all central)	B (mixed)
	decentral access	D (mixed, unlikely)	C (all HEI)

As already mentioned, HEIs were responsible for sending the invitations to graduates, as well as reminders for the completion of the survey, on behalf of the project team. A timeline (Figure 9) was provided to HEIs for this purpose. HEIs also needed to complete a Process Report (Figure 10), i.e., a short report providing feedback regarding the process of sending invitations and reminders. It is noted that, a template of the report was prepared by the PwC project team in the form of a table and was shared via a Google Form, so that each HEI's representative could provide the information required.

Figure 9: Timeline for sending invitations and reminders by the Higher Education Institutions

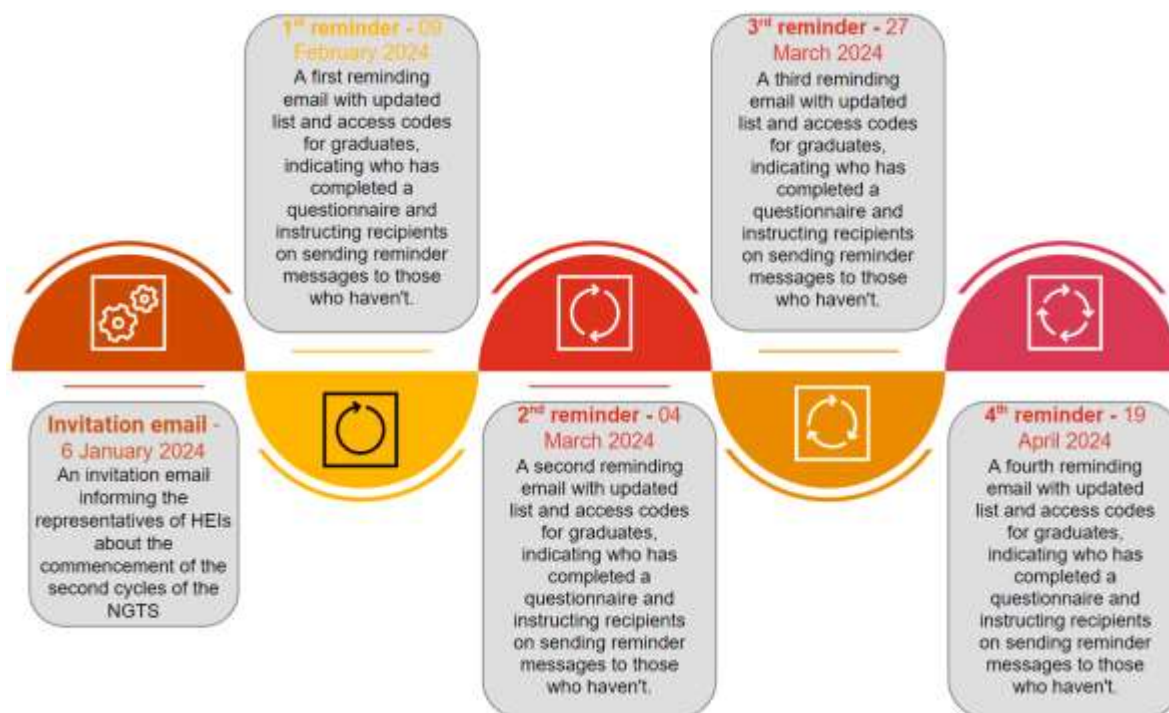


Figure 10: Process Report provided in the National Graduate Tracking Survey 2023

## National Graduate Tracking Survey Invitation - Process Report

Thank you for supporting our team in the implementation of the second cycle of the National Graduate Tracking survey!

Following the survey invitation sent to the graduates of your Higher Education Institute, you are requested to complete the following process report so we can keep track of responses, logistics and content.

panayiotis.theodorides@pwc.com [Switch account](#)

\* Indicates required question

Email \*

Your email

Name of HEI: \*

Your answer

Name of responsible person \*

Your answer

Contact details of the responsible person \*

Your answer

### Initial invitation

The following information need to be provided by the HEIs, after completing the survey invitation process

When were the invitations sent? \*

Date

dd----yyyy

How many emails/SMS were sent for graduates of the academic year **2017-2018**?

Your answer

How many emails/SMS were sent for graduates of the academic year **2021-2022**?

Your answer

How many emails/SMS bounced ("not deliverable" message returned) for graduates of the academic year **2017-2018**?

Your answer

How many emails/SMS bounced ("not deliverable" message returned) for graduates of the academic year **2021-2022**?

Your answer

Other Remarks

Your answer

The invitations to graduates were either sent via email or a text message (SMS), using relevant templates that were prepared and shared by the project team. Templates required customisation from each HEI in order to refer to the name of the HEI, the academic year of graduation (i.e., 2017/18 or 2021/22), the personalised URL and the personalised access code per graduate. In order to ensure that the activities/steps to be performed during the process of sending the invitations and reminders were clear and understood by the HEIs representatives, the PwC project team organised and requested each HEI to perform relevant testing activities. More specifically, the HEIs representatives were given a sample list of email addresses, Unique IDs and personalised URLs for each participating cohort, and were asked to follow the provided guidelines (i.e., amend the text where needed and send an individualized email to the correct recipient) in order to send the test invitation emails. Then, the project team provided feedback, making sure that possible questions were addressed and that minor mistakes were corrected (and avoided in the original invitations sent).

### 3.1.6. Ethical considerations, data protection and GDPR compliance

Ethical considerations in social research are important for many reasons, such as to protect the rights and well-being of research participants as well as enhance research validity and reliability. Key ethical

considerations are always involved when collecting data from people. In the context of the National Graduate Tracking Survey, special attention was given to the following ethical issues:

- **Voluntary participation** – The survey invitation underlined the principle of voluntary participation, emphasising the autonomy of the participants in both participating and consenting to the survey. The respondents were also free to skip or opt-out from questions during questionnaire completion.
- **Informed consent** – The introductory page of the survey included the informed consent statement (in English and Greek) which provided a concise explanation of what they are consenting to, of the data collection procedures and the intended purposes for which their information would be gathered (Appendix I). A privacy statement was also prepared, which informed respondents about the exact conditions and means of use of their data. Respondents were encouraged to read the statement thoroughly and give their explicit consent before participating in the survey. The aim of this was to foster a trusting environment that respects the rights and privacy of all participants. By laying these conditions out, respondents could give informed consent for their data to be processed for the purposes of the project.
- **Anonymity** – Graduate anonymity was ensured by assigning unique IDs for participation instead of accessing personal contact details. Response data were meticulously anonymized, preventing individual graduate identification. Any personally identifying information was eliminated, and information aggregation that could potentially lead to respondent identification was avoided. Detailed explanations regarding the protection of respondents' anonymity were provided in the informed consent statement.
- **Confidentiality** - Respondents' identities and contact information were strictly confidential and they were not disclosed to any third parties. Their responses to the survey were safeguarded by utilizing unique identifiers and data processing followed rigorous protocols to ensure anonymity, making it impossible to trace responses back to individual participants.
- **No harm** – To minimise the risk of harming the participants, the following practices were employed: obtaining informed consent, protecting the anonymity and confidentiality of participants and providing participants with the right to withdraw from research at any time.

In relation to data protection and the project's compliance with the General Data Protection Regulations (GDPR), several actions were taken. It must be noted that in the National Graduate Tracking Survey context, personal data was relevant in two ways:

- 1) Directly identifying information, such as addresses, names, e-mail addresses, etc. This data may be available to the researchers to contact graduates or to distribute incentives.
- 2) Survey data that can be used for indirect identification. The responses graduates provide in the questionnaire can potentially be used to reveal their identity by combining them with other sources of data/knowledge.

Graduates participating in the survey were informed and assured that any data containing direct identifying information or information that could potentially lead to indirect identification (non-anonymized data) will be promptly deleted within a reasonable timeframe. This included sampling data, contact details, and raw survey data. In addition, it was clarified to the respondents that all published data will be factually anonymized so that the identification of individuals will not be feasible.

## 3.2. Second Pillar: Survey Launch

Invitations were sent to graduates on the 6th of January 2024. The PwC project team was responsible for monitoring the data collection process on the platform, ensuring its smooth progress. A comprehensive support was offered to the HEIs involved in the survey throughout the data collection period. More specifically, the project team provided assistance, guidance, and clarifications to the HEIs' representatives, particularly in situations where graduates reached out with inquiries concerning the questionnaire completion or the survey's scope.

During the data collection period, the PwC project team was also responsible for monitoring the number of responses per cohort on the platform. On this note, three (3) reminders were also sent to the graduates to improve the response rates. Finally, following relevant communication with the DHE-MESY project team, a fourth reminder was decided to be sent by all HEIs.

Each reminder was systematically scheduled to be dispatched following a reasonable lapse of time to avoid exerting undue pressure on respondents. The PwC team was responsible for notifying the HEIs prior to each reminder scheduled date and providing them with the unique IDs of the graduates who did not respond by that time, so that they could follow the required steps and send the reminders. It is noted that, following each reminder sent, each HEI was again required to complete and submit the Process Report, via the dedicated Google Form.

Once all the necessary preparations for each reminder were completed, the PwC team was sending separate emails to each HEI's representative, providing the following information:

- The lists of the Unique IDs for their graduates in both cohorts who had not completed the questionnaire.
- The templates for the reminder messages to be sent to the graduates, both in email and text message (SMS) formats.

By consistently following the above-mentioned steps, it was ensured that there was an organized process for managing the Unique IDs, preparing updated lists, and facilitating the communication with HEIs and their graduates throughout the survey.

The HEIs were also provided with access to the platform for live monitoring of the progress of their graduate's responses to the survey. Specifically, the representatives had access to the total number of completed cases through time, the number of completed, started and not started case per cohort, as well as the breakdown of these cases according to their level of study.

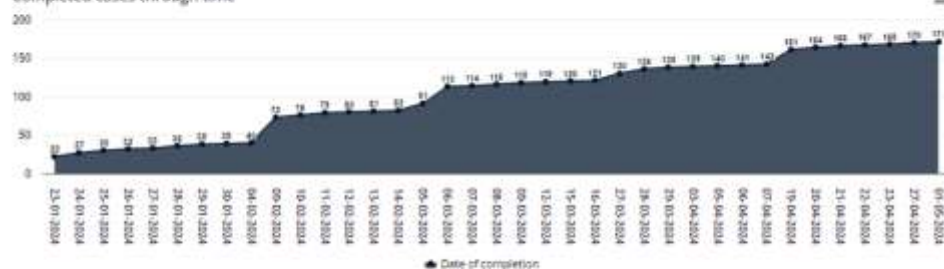
Data collection ended on the 6th of June 2024.

Figure 11: Response Overview for live monitoring by HEIs during the data collection cycle

## HEIs Response Overview

Numbers are updated every 5 minutes

### Completed cases through time



	i=1				i=5				Total			
	Not started	Started	Completed	Total	Not started	Started	Completed	Total	Not started	Started	Completed	Total
WPI	1,127	81	99	1,326	876	83	72	1,002	2,002	104	171	2,289
Total	1,127	81	99	1,326	876	83	72	1,002	2,002	104	171	2,289

What is the level of study of the degree awarded?	i=1			i=5			Total		
	Started	Completed	Total	Started	Completed	Total	Started	Completed	Total
Certificate (1 year)	0	0	0	0	0	0	0	0	0
Diploma (2 years)	0	10	10	0	4	4	0	14	14
Higher Diploma (3 years)	1	3	4	1	1	2	2	4	6
Bachelor	16	34	49	7	23	40	23	66	89
Master	12	62	69	16	38	49	26	87	114
Total	29	89	128	24	70	98	53	171	226

## 3.3. Third Pillar: Post-Survey Activities

The post-survey activities were those performed after the data collection ended. These activities mainly involved data cleansing procedures and data processing.

### 3.3.1. Data Cleansing

Following the completion of data collection, several data cleansing activities were carried out before starting data analysis to improve the dataset's quality and ensure it is accurate and usable. The following data cleansing activities were performed:

1. **Initial exploration of the data:** An initial exploration of the dataset using descriptive statistics, and summaries in SPSS was performed to get a better understanding of the data, gain insights into the data's distribution and identify potential issues.
2. **Classification of Valid Cases according to the nonresponse rate.** To ensure that the quality of responses provided is good, cases having a high proportion of nonresponse values (i.e. question was seen by respondent, no answer was selected or indicated) were considered as invalid and were removed from the dataset.
3. **Plausibility checks and answer pattern analysis:** To assess the quality of responses and prevent data consistency problems, several variables were checked for implausible values. Different scenarios could hint implausibility or negligent response behaviour:
  - implausibility when a value is logically impossible (for instance, a date in the future is reported as birth date) or implausibility if a value is unlikely, but not entirely impossible (for instance, school graduation and Higher Education entry at an unusual young age).
  - answer patterns can imply that respondents did not apply much care when responding to the questionnaire. For example, straight-lining, which refers to respondents that select the same scale point for all items in a scale.

For each type of implausibility, an implausibility flag was raised. Cases with multiple flags were treated as invalid and thus removed from the dataset.

4. **Manual recoding of open text fields:** Some variables in the dataset were open text fields that required manual recoding. This meant that all text responses in these variables were read by the research team and a decision was made on how to categorize the open responses into a workable set of categories. Responses that could not be categorized remained as "other" option.
5. **Definition of missing values:** Different types of missing values were defined, so that any missing values within the sample could be identified. The different types of missing values are described below:
  - Nonresponse: Question was seen by respondent, no answer was selected or indicated.
  - System missing: Question was not seen by respondent due to target group or question filter (e.g. question was only asked to one of the two target cohorts or only to employed individuals).
  - Implausible value: Question was seen by respondent; an implausible answer was indicated.
  - Don't know: Question was seen by respondent, a "don't know" option was selected or indicated (if available).
  - Inapplicable: Question was seen by respondent; an option implying inapplicability was selected/indicated.
6. **Weighting:** Survey data is generally weighted based on population data to ensure the representativeness of the study, in cases where it is suspected that the sample is biased for whatever reason, or that certain groups are more likely to participate in the survey than others are. This is a necessity with almost all surveys and a common quality standard. The method used was the so-called "raking procedure". The results presented in this report are, unless explicitly stated otherwise, based

on the raking procedure considering the following variables: “Cohort”, “Gender”, “Age at Graduation”, “Degree ISCED level”, “Degree Field” and “HEI type”.

### 3.3.2. Data Processing

Following the completion of the data cleansing phase, several data processing methods were applied to visually and statistically explore the data to gain insights, identify patterns, and explore relationships between variables. These methods included:

1. **Descriptive Statistics:** Indicators of central tendency (such as mean, median, quartiles) and measures of dispersion (such as standard deviation) were used to summarize and provide basic information about variables in the dataset.
2. **Tables and Data Visualization:** Frequency tables, crosstabs and various types of diagrams (such as bar charts, lines graphs and boxplots) were created to visualize the distribution of different categories within a variable and to highlight potential relationships between different variables.
3. **Inferential statistics:** Various parametric and non-parametric inferential statistics were used to determine statistically significant differences or relationships between sub-groups of graduates (such as chi-square test of independence, paired samples and independent samples t-tests, Mann-Whitney, Kruskal-Wallis, one-way ANOVA) and to make generalizations and conclusions about the population from the sample data.

## 3.4. Visibility Activities

One of the main objectives of the project is to organise and implement various dissemination activities to maximize the visibility of these surveys and encourage a high participation from graduates. For this purpose, the PwC project team developed a communication strategy and a dissemination plan for the promotion of the National Graduate Tracking Survey, which was approved by the DHE.

To achieve this, various activities were employed that would effectively promote the surveys. One of the activities was utilising social media platforms for survey campaigns. The efforts were mostly focused on Instagram and Facebook, recognizing their wide user base and potential reach. Every social media post contained specific messaging to be used in the promotion of the surveys. The approach involved a combination of visuals, such as pictures and videos, alongside concise text paragraphs. The incorporation of these elements into social media posts (see Figure 12 and Figure 13), aimed at capturing the attention of the graduates and at communicating the purpose and scope of the surveys. In addition, within the text, special emphasis was given on the benefits of the participating graduates, along with their chance to win one of the prizes available.

In addition to the social media campaign, activities were undertaken by the HEIs offering further visibility and awareness for the ongoing surveys. Some HEIs hosted advertising banners in their websites and reposted social media posts in the HEI's accounts, as well as in their alumni accounts in social media.

Further visibility activities were undertaken by the DHE-MESY. Specifically, radio advertisements and press releases were funded by the Ministry, assisting in further visibility and increased awareness about the survey (CYGraduates-CYEmployers, 2023)

An additional activity performed as per the dissemination plan developed, was the organisation and execution of a 2-day conference titled: "Connecting Higher Education with Labour Market: Building the Future-Ready Workforce" on the 9<sup>th</sup> and 10<sup>th</sup> of May 2024. The event presented the two national surveys conducted under the Recovery and Resilience Plan; the National Graduate Tracking Survey and the National Employers' Skills Survey. It focused on how the findings could inform decision-making and policy development to better align Higher Education with the labour market. Keynote speakers included international experts from Poland, Italy, and the EUROGRADUATE consortium. The conference was attended by HEIs representatives, public officials and stakeholders from Cyprus, with online participation open to the public (on one of the two days).

Overall, the objective of all these activities was to increase both the number of graduates who would respond to the surveys (both for graduates and employers), the use of data to inform policy and practice and the overall awareness about this project. Through this multi-faceted approach using social media, HEIs engagement, radio advertising, and press releases, the main objective in relation to this report was to increase participation in the National Graduate Tracking Survey.

Figure 12: Social Media posts on Instagram





cygraduates.cyemployers

cygraduates.cyemployers Ολοκληρώθηκε με επιτυχία ο 2ος κύκλος συλλογής δεδομένων της έρευνας CYGraduates του Υπουργείου Παιδείας, Αθλητισμού και Νεολαίας!

Απόφοιτοι/αποφοίτισες των ακαδημαϊκών ετών 2017-2018 και 2021-2022, ευχαριστούμε που μοιραστήκατε μαζί μας τις εμπειρίες σας.

The 2nd cycle of data collection of the CYGraduates survey of the Ministry of Education, Sport, and Youth has been successfully completed!

Graduates of the academic years 2017-2018 and 2021-2022, thank you for sharing your experiences with us.

#cygraduates

Follow Us: [See how we do it](#)

Add a comment...

Figure 13: Social Media posts on Facebook





## 4. Population and Sample

Understanding the characteristics of the surveyed population and the composition of the obtained sample is crucial for interpreting the findings of this survey accurately. In this section, a comprehensive overview of the target population is presented, as well as the sample that responded to the survey. For the purposes of the second cycle of the NGTS and, a census approach was conducted. A census approach involves the collection of data from the entire target population of T+5 (2017/18) and T+1 (2021/22) graduates.

The total target population comprised of 26.158 graduates, out of which 10.798 were T+5 graduates and 15.360 were T+1 graduates. During the Invitation and Reminders phases, 3.950 graduates were unreachable (either due to lack of contact details or unwillingness to be contacted), therefore the net population decreased to 22.208 (Table 2). A total of 2.251 graduates responded to the questionnaire. The final number of participants was identified based on EUROGRADUATE consortium's definition for valid cases which included the following two criteria: a) they completed all/most of the questions, and b) their response was considered as "valid" after running several plausibility and answer pattern analysis checks (refer to section 3.3.1 – "Data Cleansing"). Based on the above-mentioned definition for valid cases, the total number of respondents was 2.156, 829 for T+5 (2017/18) and 1327 for T+1 (2021/22).

Table 2: Population and survey participants per cohort

Cohort – Population and Sample					
Cohort	Total population	Unreachable graduates	Net population	Sample	Response rate%
Cohort 2017/18	10.798	2.029	8.769	829	9,45%
Cohort 2021/22	15.360	1.921	13.439	1327	9,87%
<b>Total</b>	<b>26.158</b>	<b>3.950</b>	<b>22.208</b>	<b>2.156</b>	<b>9,71%</b>

## 4.1. Description of the population

This section presents statistical information for the population of each cohort by demographic variables (such as gender and age at graduation) and by variables related to their studies (such as Level of programme of study, Field of Study, HEI Type). This information was provided by HEIs. Figure 14 presents the gender and age distribution for each cohort. It should be noted that, for the gender variable, three options were provided: males, females, and non-binary. In the 2017/18 cohort, approximately 39% were males and 61% were females, while in the 2021/22 cohort, 34% were males and 66% were females. It is also noted that, a percentage of 0.02% of the population identified as “non-binary or other” in both cohorts. Regarding age at graduation, the majority of graduates in both cohorts were under 25 years old.

Figure 14: Population distribution by demographic variables

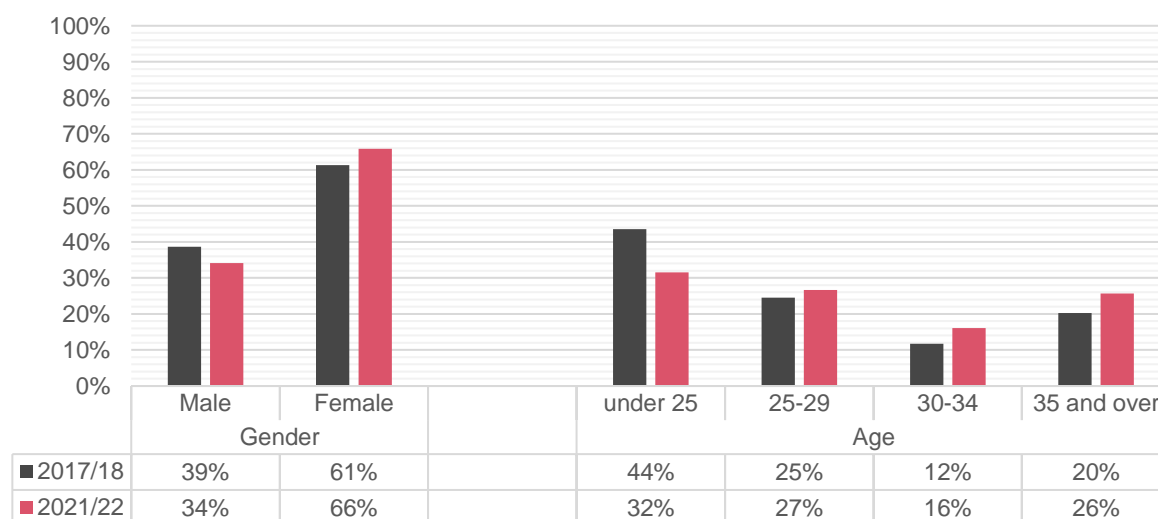


Figure 15 presents the population distribution for each cohort by the level of studies (UNESCO Institute for Statistics, 2012), HEI type and field of study in each cohort. Data regarding graduates' field of study was collected for population data from HEIs based on the International Standard Classification of Education (ISCED) for fields of education and training (2013) was used. This specific classification contains 11 broad fields (2 digits), 29 narrow fields (3 digits) and about 80 detailed fields (4 digits). The broad fields of education in ISCED-F 2013 are as follows:

- 00 – Generic programmes and qualifications
- 01 – Education
- 02 – Arts and humanities
- 03 – Social sciences, journalism and information
- 04 – Business, administration and law
- 05 – Natural sciences, mathematics and statistics
- 06 – Information and Communication Technologies
- 07 – Engineering, manufacturing and construction
- 08 – Agriculture, forestry, fisheries and veterinary
- 09 – Health and welfare

## 10 – Services

In the EUROGRADUATE 2022 Survey, the EUROGRADUATE consortium suggested the use of an adapted version of the ISCED-2013 study fields (Table 3) in cases where the classification of certain fields is so broad that they can obscure some important differences between graduates of certain disciplines. The adapted version of the ISCED-2013 study fields employed by both National Graduate Tracking and EUROGRADUATE surveys splits very broad study fields into fields that are internally more homogenous, reflecting the differences within existing categories to a higher degree. This adapted version is still based on the detailed (4-digit) ISCED-2013 study fields. It should be noted that, Cyprus excluded category 0 (Generic Programmes) as it includes programmes of study which do not belong to Cyprus' Higher Education (e.g., programmes designed to teach fundamental skills in reading, writing and arithmetic to adults). However, for analysis and presentation purposes of the current NGTS 2023 Survey, the 19 ISCED field categories were combined into 11 categories as presented in Table 4.

Table 3: Adapted ISCED-2013 classification of fields of study in the context of EUROGRADUATE 2022

NEW	ISCED-Fields								Label
0 <sup>1</sup>	00	UNK							Generic programmes and qualifications PLUS unknown
1	0110	0111	0119	018					Education Science
2	0112	0113	0114						Teacher Training
3	021								Arts
4	020	022	028	029					Humanities
5	023								Languages
6	0310	0311	0312	0314	0319	032	038	039	Social sciences, journalism and information
7	0313								Psychology
8	040	041	048	049					Business and administration
9	042								Law
10	05								Natural sciences, mathematics and statistics
11	06								ICT
12	070	071	072	0730	0732	078	079		Engineering, manufacturing, construction
13	0731								Architecture and town planning
14	08								Agriculture, forestry, fisheries, veterinary
15	0911	0912							Medicine, Dental Studies
16	0910	0913	0914	0915	0917	0919	098	099	Health
17	0916								Pharmacy
18	092								Welfare
19	10								Services

Table 4: New categorisation for fields of study for the purposes of data analysis

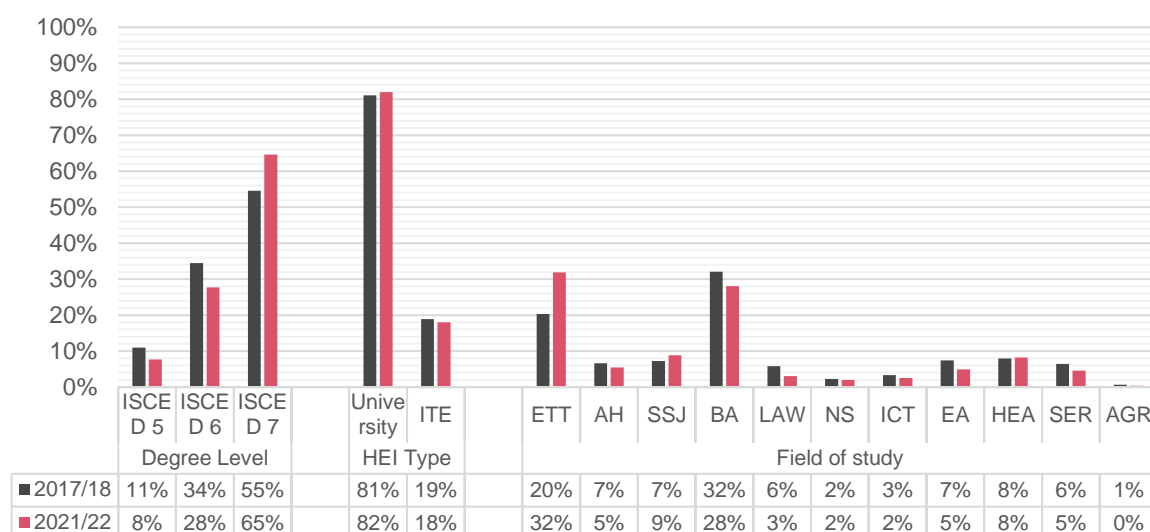
New categorisation for ISCED fields of study for NGTS 2023	Adapted ISCED 2013 classification of fields of study	
	Field number	Field of study
<b>1. Education and Teacher Training (ETT)</b>	1	Education Science
	2	Teacher Training
<b>2. Arts and Humanities (AH)</b>	3	Arts
	4	Humanities
	5	Languages
<b>3. Social Sciences and Journalism (SSJ)</b>	6	Social sciences, journalism and information
	7	Psychology
<b>4. Business, Administration and Law (BA)</b>	8	Business and administration
<b>5. Law</b>	9	Law
<b>6. Natural Sciences (including Mathematics) (NS)</b>	10	Natural sciences, mathematics and statistics
<b>7. Information and Communication Technologies (ICT)</b>	11	Information and Communication Technologies
<b>8. Engineering and Architecture (EA)</b>	12	Engineering, manufacturing, construction
	13	Architecture and town planning
<b>9. Agriculture, forestry, fisheries, veterinary (AGR)</b>	14	Agriculture, forestry, fisheries, veterinary
<b>10. Health (HEA)</b>	15	Medicine, Dental Studies
	16	Health
	17	Pharmacy
	18	Welfare
<b>11. Services (SER)</b>	19	Services

In terms of the population distribution across the fields of study within each cohort, Figure 15 shows that the highest percentages were noted in the fields of Business Administration (BA) and Education and Teacher Training (ETT). Specifically, in the 2017/18 cohort, 32% of graduates were in Business Administration and 20% in Education and Teacher Training. In the 2021/22 cohort, 28% were in Business Administration and 32% in Education and Teacher Training. The field with the lowest percentage in both cohorts was Agriculture (AGR), with 1% in 2017/18 and 0% in 2021/22. As a result, AGR was excluded from the analysis due to its small population size.

Regarding the level of study, in the 2017/18 cohort, 11% of the graduates obtained a degree at ISCED level 5 (short cycle Higher Education), 34% at ISCED level 6 (bachelor's or equivalent), and 55% at ISCED level 7 (Master's or equivalent). In the 2021/22 cohort, the distribution was similar, with 8% of graduates obtaining a degree at ISCED level 5, 28% at ISCED level 6, and 65% at ISCED level 7.

In relation to the type of Higher Education Institution (HEI), in both cohorts, the majority of graduates were from Universities. In 2017/18, 81% of graduates were from a University and 19% from Institutions of Tertiary Education (ITE). In the 2021/22 cohort, this distribution shifted slightly to 82% from Universities and 18% from ITE.

Figure 15: Population distribution by variables related to graduates' Higher Education studies



Note: Fields of study ETT-Education and Teacher Training, AH-Arts and Humanities, SSJ-Social Sciences and Journalism, BA-Business Administration, LAW-Law, NS-Natural Sciences (including Mathematics), ICT-Information and Communication Technologies, EA-Engineering and Architecture, HEA-Health, SER-Services. "Agriculture, Forestry, Fisheries, Veterinary and Services" is excluded from the analysis due to its small population size.

Table 5 illustrates the differences in educational qualifications obtained by gender across the 2017/18 and 2021/22 cohorts. A notable trend can be observed in the distribution of qualifications by gender within each cohort.

In both cohorts, the majority of graduates hold ISCED 7 qualifications (55% and 65% respectively), followed by ISCED 6 graduates. The attainment of ISCED 5 degrees (short-cycle Higher Education) remains low in both cohorts. A similar pattern is observed among both males and females, with the majority obtaining an ISCED 7 degree—though this percentage is higher for females. A significant proportion of both males and females earned an ISCED 6 degree, with this percentage being higher for males, while a small percentage attained an ISCED 5 degree, also slightly higher among males. This trend reflects a strong preference for higher-level qualifications, particularly among females.

Table 5: Population distribution by ISCED-level and gender

Cohort			Gender		Total
			Male	Female	
2017/18	Degree Level	ISCED 5	16%	8%	11%
		ISCED 6	38%	32%	34%
		ISCED 7	46%	60%	55%
	Total		100%	100%	100%
2021/22	Degree Level	ISCED 5	14%	5%	8%
		ISCED 6	38%	23%	28%
		ISCED 7	48%	72%	65%
	Total		100%	100%	100%

Table 6 presents the distribution of graduates by field of study and gender for the 2017/18 and 2021/22 cohorts. The data reveal differences in the fields of study chosen by males and females across both cohorts. For female graduates, Education and Teacher Training and Business Administration were the most popular fields in both cohorts. Among male graduates, Business Administration was the dominant field in both cohorts. In 2017/18, 38% of male graduates pursued degrees in this area, and this figure rose slightly to 39% in 2021/22. Engineering and Architecture was the second most popular field for males, with 14% in 2017/18. In 2021/22 the second most popular field for males was Education and Teacher's Training at 13%.

The field of Natural Sciences (including Mathematics) had the lowest representation for both genders, with only 2% of male and female graduates in 2017/18 and 3% and 2% respectively in 2021/22. ICT showed similar results, with 6% of male graduates and 2% of female graduates pursuing degrees in this field in both years.

Participation in other fields remained relatively stable between the two cohorts. The comparison highlights Education and Teacher Training as the most popular field for females in both years, with a notable increase between the two cohorts. Business Administration remained the leading choice for males, with Engineering and Architecture consistently ranking second. Fields such as Natural Sciences, ICT, and Agriculture maintained low participation rates for both genders across both cohorts.

Table 6: Population distribution by field of study and gender

Cohort			Gender		Total
			Male	Female	
2017/18	Field of Study	Education and Teachers Training	9%	28%	20%
		Language, Arts and Humanities	5%	8%	7%
		Social Sciences and Journalism	5%	9%	7%
		Business, Administration	38%	28%	32%
		Law	6%	6%	6%
		Natural Sciences (incl. Mathematics)	2%	2%	2%
		ICT	6%	2%	3%
		Engineering and Architecture	14%	4%	7%
		Agriculture/forestry/fisheries/veterinary	1%	0%	1%
		Health	7%	9%	8%
		Services	9%	5%	6%
		<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>
2021/22	Field of Study	Education and Teachers Training	13%	42%	32%
		Language, Arts and Humanities	4%	6%	5%
		Social Sciences and Journalism	6%	10%	9%
		Business, Administration	39%	23%	28%
		Law	4%	3%	3%
		Natural Sciences (incl. Mathematics)	3%	2%	2%
		ICT	6%	1%	2%
		Engineering and Architecture	11%	2%	5%
		Agriculture/forestry/fisheries/veterinary	1%	0%	0%
		Health	8%	8%	8%
		Services	7%	3%	5%
		<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

Table 7 presents the population distribution by field and level of study for the 2017/18 and 2021/22 cohorts. Several key insights emerge from the data, highlighting prominent fields, degree levels, and noticeable shifts across the two cohorts. In general, Business Administration field is the most popular among all degree levels and both cohorts.

At ISCED 5 level, two fields dominate in the 2017/18 cohort: Business Administration at 37% followed by Services at 35%. In the 2021/22 cohort three fields are most popular among employees which are again Business Administration (37%), Services (27%) and Engineering and Architecture (20%).

At ISCED 6 level, two fields dominate in the 2017/18 cohort: Business Administration again at 23% followed by Law and Health at 13%. In the 2021/22 cohort three fields are most popular among employees which are again Business Administration (28%) and Health at 18%.

At ISCED 7 level, Business administration field is the most dominant at 37% followed by Education and Teachers Training at 34%. In the 2021/22 results are similar with Education and teachers training recording the highest percentage at 32% followed by Business Administration at 28%.

Table 7: Population distribution by field of study and ISCED-level

Cohort			Degree level			Total
			ISCED 5	ISCED 6	ISCED 7	
2017/18	Field of Study	Education and Teachers Training	2%	5%	34%	20%
		Language, Arts and Humanities	5%	9%	5%	7%
		Social Sciences and Journalism	1%	11%	6%	7%
		Business, Administration	37%	23%	37%	32%
		Law		13%	2%	6%
		Natural Sciences (incl. Mathematics)		4%	1%	2%
		ICT	4%	4%	3%	3%
		Engineering and Architecture	12%	10%	5%	7%
		Agriculture/forestry/fisheries/veterinary	3%	1%	0%	1%
		Health	3%	13%	6%	8%
		Services	35%	6%	1%	6%
	Total		100%	100%	100%	100%
2021/22	Field of Study	Education and Teachers Training	2%	4%	47%	32%
		Language, Arts and Humanities	1%	8%	5%	5%
		Social Sciences and Journalism	1%	9%	10%	9%
		Business, Administration	37%	28%	27%	28%
		Law		7%	2%	3%
		Natural Sciences (incl. Mathematics)		5%	1%	2%
		ICT	5%	4%	2%	2%
		Engineering and Architecture	20%	7%	2%	5%
		Agriculture/forestry/fisheries/veterinary	4%	1%		0%
		Health	3%	18%	5%	8%
		Services	27%	9%	0%	5%
	Total		100%	100%	100%	100%

## 4.2. Participants

Statistical information is presented in this section for the participants from each cohort, by demographic variables (such as age at graduation, age at the time of the survey, gender, country of birth, academic background of parents and disability) and by variables related to their studies (such as Degree Level, Field of Study, HEI Type). This information was elicited from the HEI sampling files and the questionnaire, specifically through relevant questions included in the section Personal and Social Background of the questionnaire.

According to Figure 16 similar patterns are observed in terms of gender with females recording higher percentage. In the 2017/18 cohort, 63% of respondents were female compared to 37% of males. In the 2021/22 cohort female participants were more than males recording 64% and 36% respectively. In the 2017/18 cohort 30% of respondents belonged to the “under 25” age group. However, the largest proportion of graduates, 34%, were aged “35 and over” highlighting a significant representation among older graduates. A smaller proportion, 14%, fell within the “30 and 34” age range. In the 2021/22 cohort, the distribution across age groups became more balanced. 25% of graduates were aged under 25, while an equal proportion, 25%, were in the “25 to 29” age category. Notably, the “35 and over” group increased to 37%, making it the largest age group in this cohort. As in the previous cohort, fewer graduates responded within the 30-34 age range, at 14%. In both cohorts, the “30 to 34” age category consistently had the lowest representation, with 13% in 2017/18 and 14% in 2021/22, showing only a slight increase. Regarding age at the time of the survey, in the 2017/18 there were no participants in the age group of “under 25”, 24% reported being “25 to 29”, followed by “30 to 34” at 26% and “35 and over” age group to represent half of the sample for this cohort. In the 2021/22 cohort, the majority of participants belong to the “35 and over” group (41%), followed by “25 to 29” at 30%. The lowest percentages was recorded by “under 25” followed by “30 to 34” at 17%.

Figure 16 also presents additional demographic characteristics, such as country of birth and academic background of graduates' parents. Regarding country of birth, in the 2017/18 cohort, the majority of participants (54%) were born in Cyprus. This proportion decreased slightly in the 2021/22 cohort to 43%. In contrast, the percentage of participants from EU countries increased from 37% in 2017/18 to 46% in 2021/22, marking a notable rise. The proportion of participants from non-EU countries remained relatively low, increasing slightly from 10% in 2017/18 to 11% in 2021/22. Regarding the academic background of participants' parents, a shift is also noticeable. In the 2017/18 cohort, 56% of participants reported that their parents had no higher education background 44% reported that at least one of their parents had academic backgrounds. In the 2021/22 cohort, this gap narrowed, with 52% of participants stating that their parents had no higher education experience, while 48% had at least one parent with an academic background. Finally, according to Figure 16 in the 2017/18 cohort, a 5% of graduates and in the 2021/22 a 6%, reported having a disability/ disorder/ learning disability/ serious medical condition.

Figure 16: Sample distribution by demographic variables

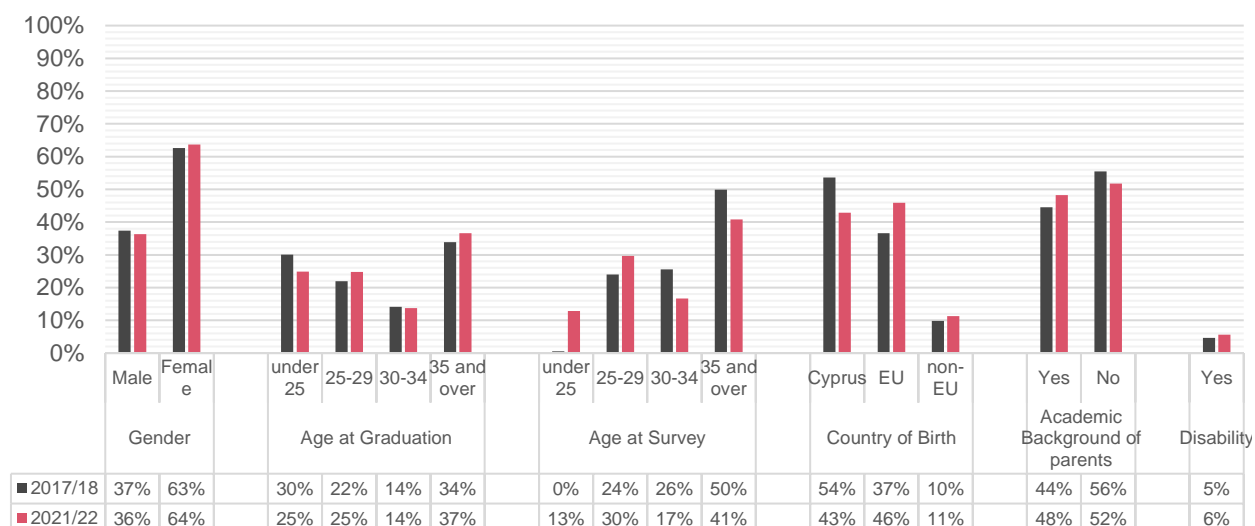
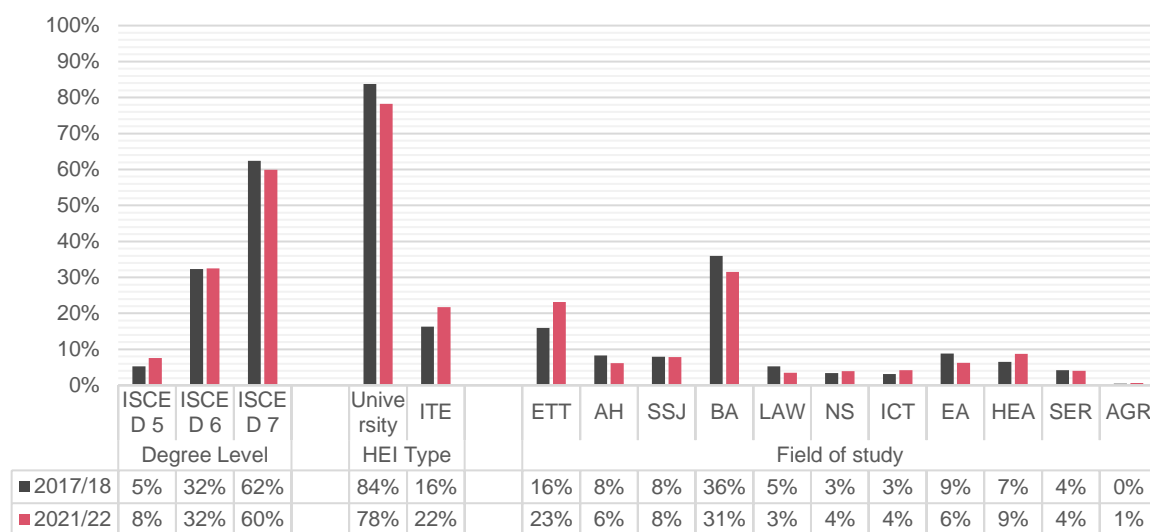


Figure 17 presents survey participants from both cohorts according to variables related to their studies. Across both the 2017/18 and 2021/22 cohorts, a similar trend can be observed when examining the participants' educational levels. In both cohorts, the largest proportion of participants held a master's degree or equivalent (ISCED 7). In the 2017/18 cohort, 62% of participants had a master's degree, while in the 2021/22 cohort, this group recorded a 60%, suggesting a continued strong presence of highly educated individuals.

The smallest percentage of participants in both cohorts held a diploma or equivalent (ISCED 5), with 5% in 2017/18 and 8% in 2021/22. Meanwhile, participants with a bachelor's degree or equivalent (ISCED 6) constituted 32% for both cohorts. Regarding the type of institution attended, in the 2017/18 cohort, 84% of participants attended Universities, while 16% attended Institutions of Tertiary Education (ITE). In the 2021/22 cohort, graduates recorded a 78% attending Universities and 22% attending ITE.

In terms of fields of study, most graduates in both cohorts came from the field of Business Administration, with 36% of participants in the 2017/18 cohort and 31% in the 2021/22 cohort. Graduates from the field Education and Teacher Training had also a high representation, recording a 16% in 2017/18 and 23% in 2021/22. Some fields remained consistent in terms of participation, such as Social Sciences and Journalism and Arts and Humanities, both of which had 8% participation in both cohorts. However, Law graduates were at 5% in the 2017/18 cohort and 3% in the 2021/22 cohort. Health graduates recorded a 7% and 9% in 2017/18 and 2021/22 respectively, while Engineering and Architecture recorded a 9% in 2017/18 and a 6% in 2021/22. Services graduates recorded a 4% in both cohorts. Information and Communication Technologies graduates recorded a 3% in both cohorts. Finally, Agriculture remained the least represented field, with 0% in the 2017/18 cohort and 1% in the 2021/22 cohort.

Figure 17: Sample distribution by variables related to graduates' Higher Education studies



Note: Fields of study ETT-Education and Teacher Training, AH-Arts and Humanities, SSJ-Social Sciences and Journalism, BA-Business Administration, LAW-Law, NS-Natural Sciences (including Mathematics), ICT-Information and Communication technologies, EA-Engineering and Architecture, HEA-Health, SER-Services. "Agriculture, Forestry, Fisheries, Veterinary and Services" is excluded from the analysis due to its small population size.

# 5. Main findings

This section presents the survey's main findings divided in seven thematic areas as follows:

1. Education Experience
2. Transition to work
3. Labour Market Participation and Labour Market Outcomes
4. International mobility of graduates after graduation
5. Skills Mismatch
6. Upskilling and reskilling during employment
7. Future Plans

In each section, a range of statistics are presented, both descriptive and inferential. The approach undertaken involves the presentation of percentages and indicators of central tendency and spread for main variables, as well as exploration for possible associations with demographic variables (i.e., age at graduation or at the time of the survey and gender), variables related to graduates' Higher Education studies (i.e., type of Higher Education Institution, level of study, field of study) and variables related to graduates' employment (i.e., sector of employment, NACE codes and occupation). Statistically significant findings are marked with an asterisk in figures and tables.

## 5.1. Education Experience

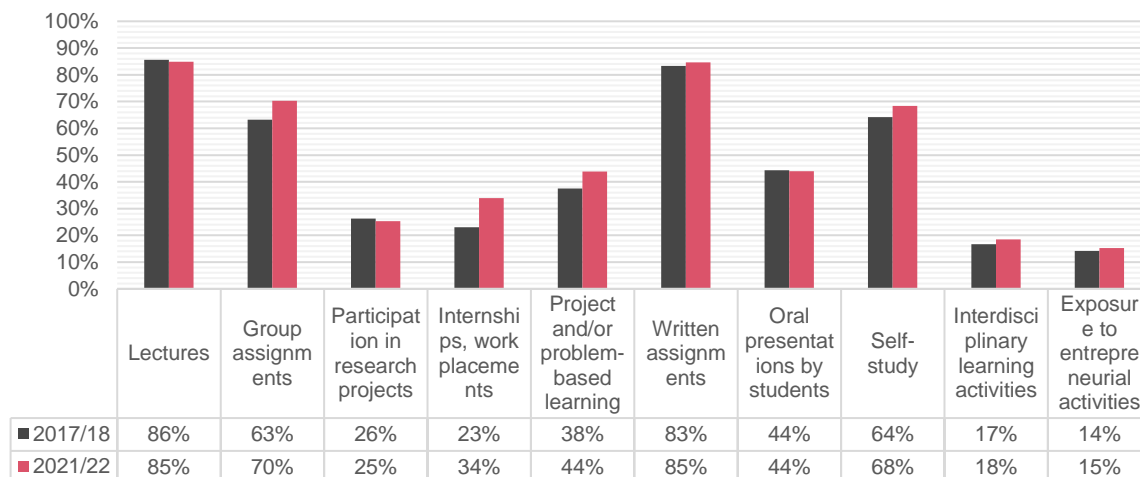
### 5.1.1. Modes of teaching and learning

Employing new modes of learning and teaching as well as providing high quality, relevant and widely accessible higher education is a fundamental goal of the European Higher Education Area (European Association for Quality Assurance in Higher Education, 2015). As an initial step towards achieving this goal, it is imperative to develop a vision and framework for the integration of innovative teaching and learning methods that align with broader policy objectives for the Higher Education system across Europe.

In this context, respective questions were posed to graduates of Cyprus HEIs aimed at assessing the diverse landscape of teaching and learning modalities. The main impetus was to capture the spectrum of conventional teaching approaches, such as lectures, alongside emerging methods, like project-based and problem-based learning. Specifically, graduates were asked to indicate the modes of teaching and learning that were used to a high extent during their programme of study. It should be noted that respondents could report multiple modes of teaching and learning used during their studies.

Figure 18 presents the percentages of different modes of teaching and learning graduates were using to a high extent during their studies by cohort. In both cohorts, similar patterns have been identified with lectures and written and group assignments to be among the most widely used modes of teaching and learning. On the contrary, exposure to entrepreneurial activities and interdisciplinary activities ranks among the least utilised modes. Lecture and written assignments recorded high percentage of usage at 86% and 83% for 2017/18 and 85% for 2021/22 respectively. Entrepreneurial activities recorded the lower percentage with 14% in 2017/18 and 15% in 2021/22. A finding that worths to be reported is the low engagement of both cohorts in internships and work placements only at 23% and 34% for 2017/18 and 2021/22 respectively.

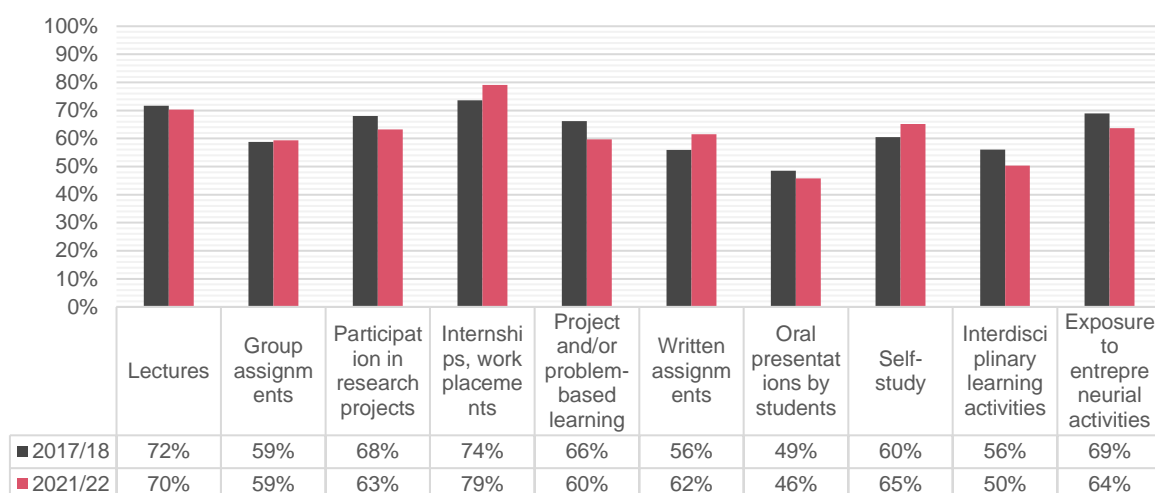
Figure 18: Percentages of the modes of teaching and learning used at a high extent by graduation cohort



*Note: Graduates could report multiple types of modes.*

Figure 19 illustrates the modes of teaching and learning that graduates consider as the most useful in acquiring knowledge and developing skills during their studies. The current analysis included the sample of graduates that have reported using the relevant mode of study at a high extent during their studies. In both cohorts, graduates reported that internships, and work placements are the most useful modes for acquiring knowledge and develop skills during their studies, at 74% and 79% for 2017/18 and 2021/22 respectively. This should be taken into consideration by HEI and ITE since based on Figure 18 this mode of study was only used at a low frequency. Surprisingly, the mode considered by graduates as the second most useful in their studies are lectures with 72% and 70% for 2017/18 and 2021/22 respectively. Exposure to entrepreneurial activities seems to be the third most useful mode of learning among graduates that allows them to acquire knowledge and skills for 2017/18 recording 69%. Self-study scored 65% among graduates in the 2021/22. The least useful mode of study as per both cohorts was oral presentations by students recording 49% and 46% for 2017/18 and 2021/22 respectively.

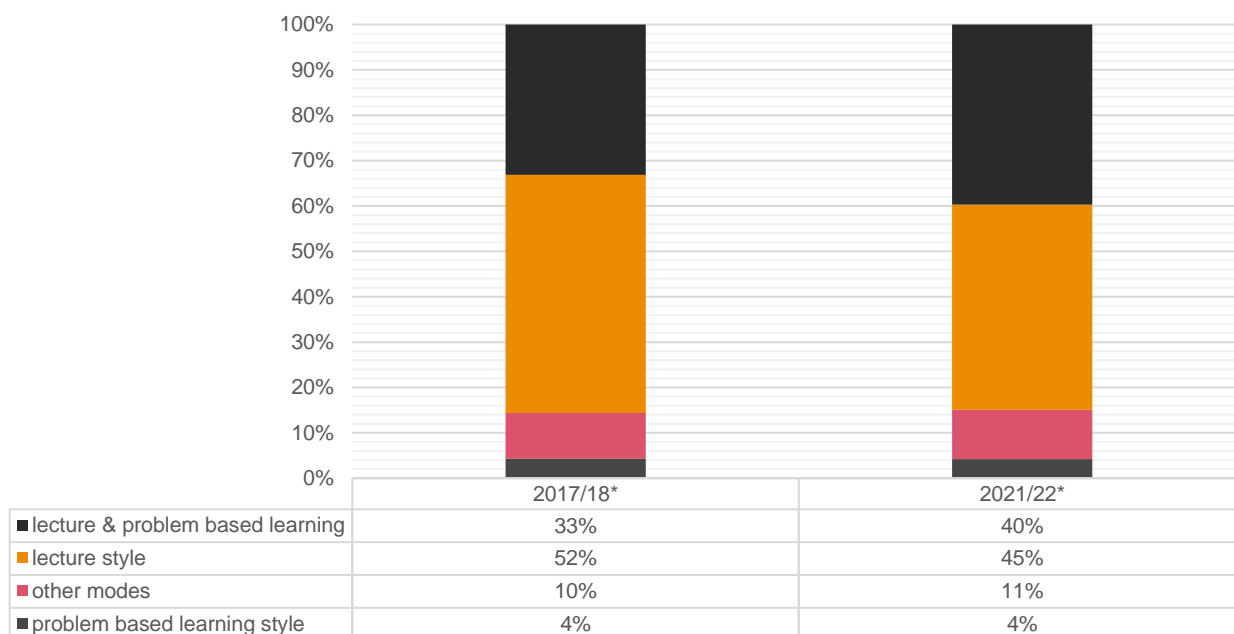
Figure 19: Percentages of the most useful modes of teaching and learning by graduation cohort



*Note: Graduates could report multiple types of modes.*

Graduates' responses to the question regarding the modes of teaching and learning were also grouped in accordance with the Meng's (2006) typology of learning environments (Meng, et al., 2020). Figure 20 presents the percentages of the four types of learning environments per cohort. It becomes clear that most graduates reported a "lecture style" environment of learning, recording more than 45% within both cohorts. The "joined learning environment of lectures and problem-based learning was a clear second option by participants from both cohorts (33% in cohort 2017/18 and 40% in cohort 2021/22), whereas the options for "other modes" and problem-based only learning, both recorded percentages of around 10% and 4% respectively in both cohorts.

Figure 20: Four types of learning environment based on Meng's typology (2006), (Meng, et al., 2020) by graduation cohort



*\*Statistically significant findings*

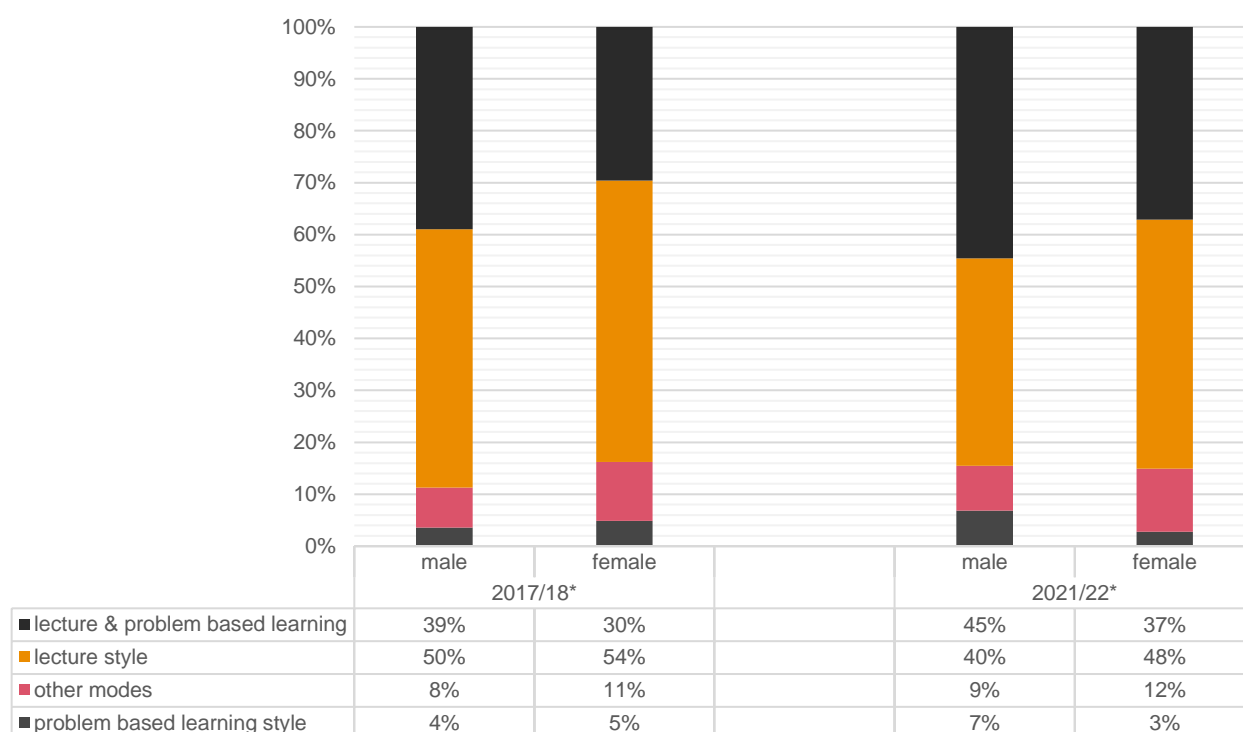
### 5.1.1.1. Types of learning environment by demographic variables

In cohort 2017/18, both males and females provided similar responses for the types of learning environments they've experienced during their studies, except for the lecture and problem-based learning style (Figure 21). Specifically, a higher percentage of males reported the use of the lecture problem-based learning style than females (39% and 30% respectively).

In the 2021/22 cohort, male graduates reported the use of a hybrid learning environment to a higher extent than female graduates (45% and 37% respectively). The opposite was true for lecture style learning environment, as female graduates reported the use of a lecture style learning environment to a higher extent than male graduates (48% and 40% respectively). These findings were found to be statistically significant for both cohorts.

One possible explanation for these differences is the variation in fields of study between genders and the differing preferences each gender tends to have for specific fields. This is aligned with the Gender Equality Index, considering that, in Cyprus, more women than men are studying in the fields of Education, Health and Welfare, or Arts and Humanities (EIGE, 2020).

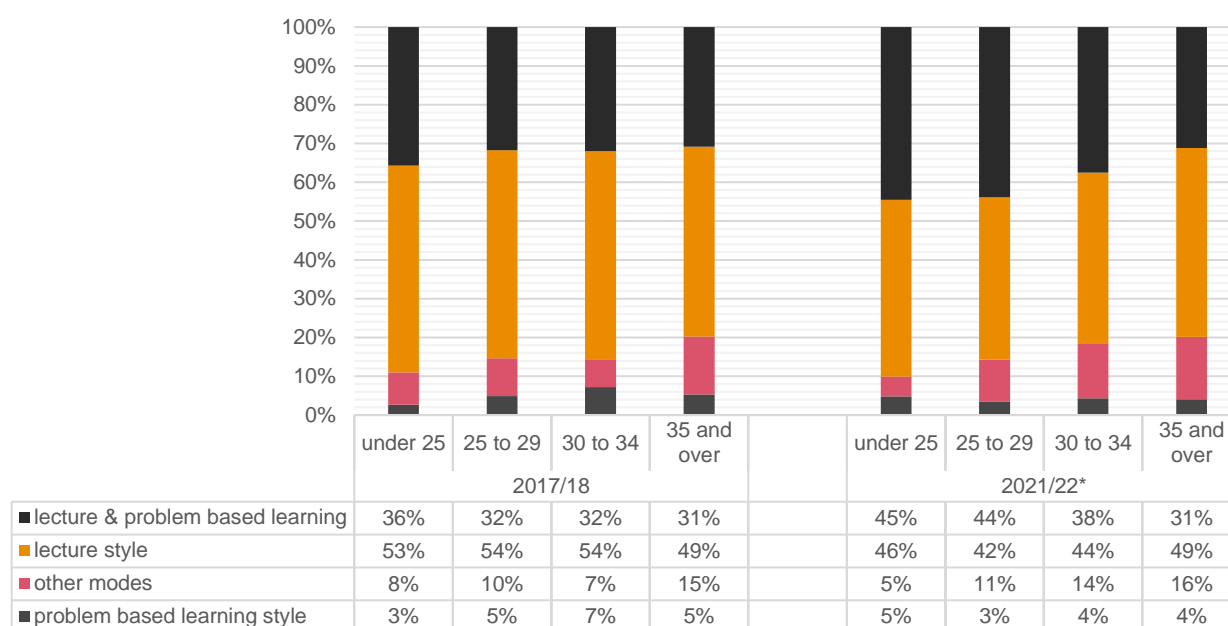
Figure 21: Four types of learning environments by gender and graduation cohort



\*Statistically significant findings

Across both cohorts, the age at graduation appears to be associated to the types of learning environments only in the 2021/22 cohort, as illustrated by Figure 22. Similar percentages were recorded for all types of learning environments across all age groups in the 2017/18 cohort. In cohort 2021/22, all age groups provided similar responses for the types of learning environments they've experienced during their studies, except for the other modes learning style where the under 25 age group provided a lower percentage of 5%, and the lecture and problem-based learning environment where the 35 and over age group provided a lower percentage of 31%. The findings for this cohort were found to be statistically significant.

Figure 22: Percentages for the four types of learning environments by age (at graduation) and graduation cohort



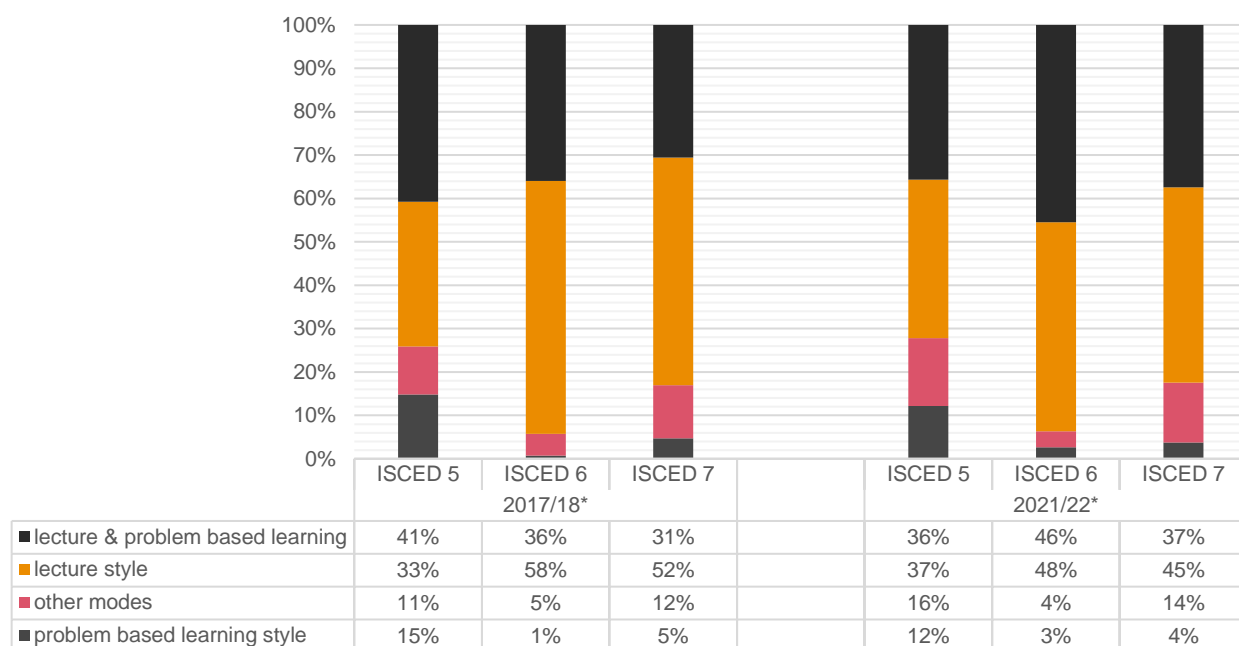
\*Statistically significant findings

#### 5.1.1.2. Types of learning environment by variables related to Higher Education studies

Figure 23 presents the distribution of the four types of learning environments according to the level of study within both cohorts. The majority of graduates in both cohorts, for all degree levels, reported that their programmes of study had both lecture and problem-based learning.

Specifically, in the cohort 2017/18, more than 50% of ISCED 6 and ISCED 7 graduates reported a learning environment of lectures only, approximately one third a lecture and problem-based learning environment, and less than 10% a problem-based learning style. For ISCED 5 graduates, the distribution appears different as 33% of the participants reported a lecture only style environment, another 41% a hybrid learning environment comprised of lectures and problem-based learning, while 15% of the graduates reported a problem-based learning style. In cohort 2021/22, at all ISCED levels, the majority of graduates (>36%) reported a lecture only learning environment, with ISCED 6 graduates reaching the highest percentage (48%). The second most popular choice at all ISCED levels is the lecture and problem-based learning environment, with ISCED 6 graduates having the highest percentage among all ISCED level groups (46%). The association between types of learning environments and level of degree was statistically significant in both cohorts.

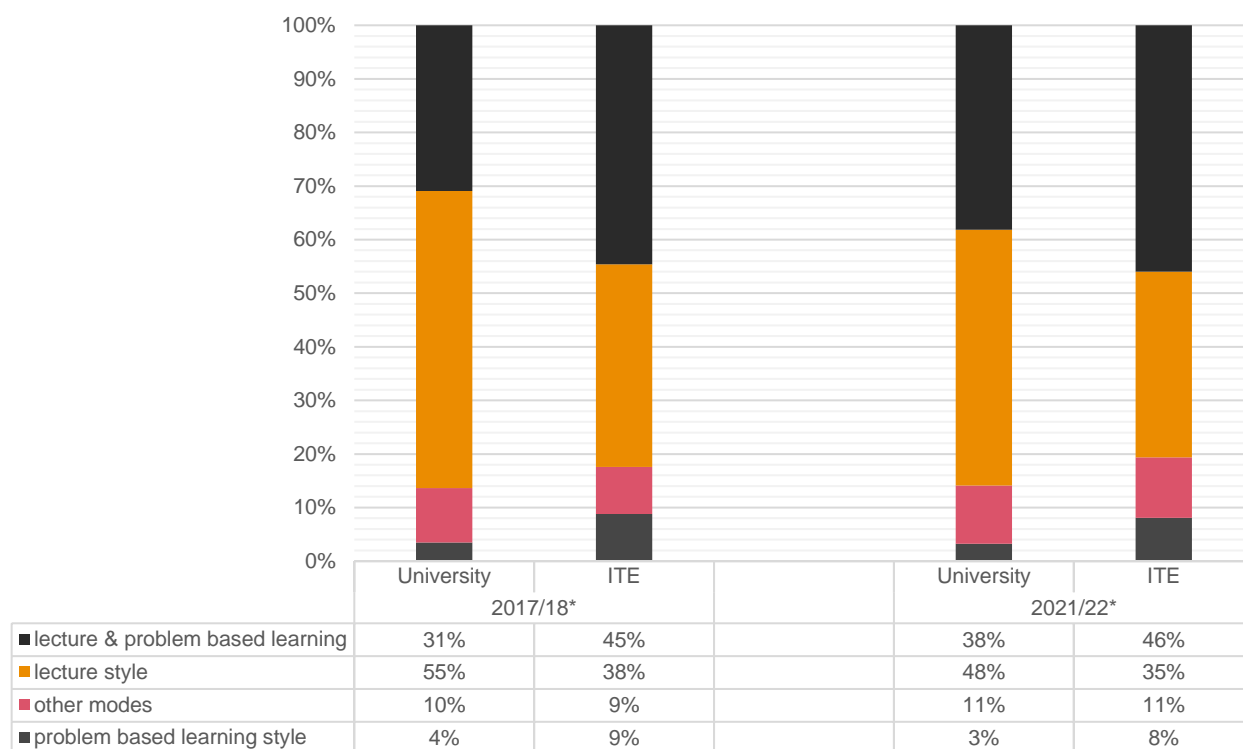
Figure 23: Four types of learning environment by ISCED-level and graduation cohort



\*Statistically significant findings

The distribution of the different types of learning environments with respect to the type of HEI, is shown in Figure 24. Graduates of 2017/18 in ITE reported a problem-based learning style to a higher extent (9%) as opposed to graduates in Universities (4%), however graduates in Universities reported the use of lecture only learning to a higher extent (55%) than graduates from ITE (38%). The majority of recent graduates (2021/22 cohort) in ITE reported experiencing a hybrid learning environment (46%), while for University graduates, a lecture-only format was most common (48%). The second more popular choice in ITE was the lecture style only (35%), and for Universities the hybrid learning environment (38%). Similar percentages were noted between the two types of HEIs for problem-based learning style. Associations between types of learning environments and types of HEIs were statistically significant. Comparisons between cohorts show that, in ITE, there was a decrease in percentages for lecture only and an increase in percentages for the hybrid type (lecture and problem-based learning environment). In Universities, a similar pattern is noted in terms of the types of learning environments between the two cohorts.

Figure 24: Percentages for the four types of learning environment by type of HEI and graduation cohort



\*Statistically significant findings

Figure 25 illustrates the different types of learning environments by fields of study for the two cohorts. In the 2017/18 cohort, the majority of graduates in all fields of study reported a learning environment of lectures only except in the field of Information and Communication Technologies, where the majority of graduates reported a hybrid style of learning. The lecture-only learning style was most prevalent in the field of Health, with 70% of graduates reporting this approach.

In the 2021/22 cohort, most graduates in all fields of study (except for Natural Sciences and Information and Communication Technologies) reported that their programme of study created a lecture only learning environment, with the highest percentages noted in the fields of Arts and Humanities (61%) and Social Sciences and Journalism (58%). The highest percentage for hybrid-based style environment was noted in the field of Information and Communication Technologies (74%). These differences in the percentages of the four types of learning environments within each field of study were statistically significant in both cohorts.

Figure 25: Four types of learning environment by field of study and graduation cohort



\*Statistically significant findings

Note: Fields of study ETT-Education and Teacher Training, AH-Arts and Humanities, SSJ-Social Sciences and Journalism, BA-Business Administration, LAW-Law, NS-Natural Sciences (including Mathematics), ICT-Information and Communication Technologies, EA-Engineering and Architecture, HEA-Health, SER-Services. "Agriculture, Forestry, Fisheries, Veterinary and Services" is excluded from the analysis due to its small population size.

### 5.1.2. Experience abroad as part of the programme of study

International mobility is frequently perceived as improving the allocation of skilled labour across the European labour market, increasing individual labour market opportunities, enhancing intercultural tolerance, and promoting the development and spread of innovations and creativity. Simultaneously, it fosters academic cooperation, enhances the international dimension of Higher Education, increases the synergies between Higher Education, Innovation and Research, removes barriers to learning, and contributes to the development of innovative education policies (Symeonaki, et al., 2020). Thus, in the questionnaire respondents were asked questions regarding their international experiences. Participants were asked to report whether they had any experience abroad and then to select among five types of experiences i.e. study abroad, language course, and/or research internship, work placement or specify any other international experience.

Figure 26 presents the percentage of graduates who had at least one experience abroad as part of their programme of study. A similar pattern was observed for graduates in 2017/18 and 2021/22 cohorts as 19% and 18% of graduates respectively reported having at least one experience abroad during their studies as part of their programme of study.

Figure 26: Percentage of graduates with an experience abroad as part of the programme of study by graduation cohort

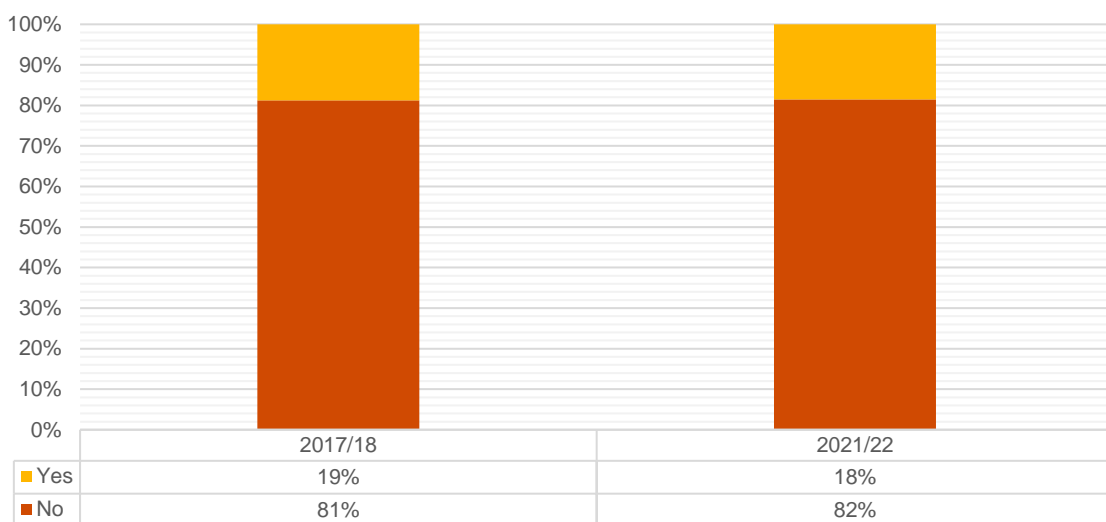
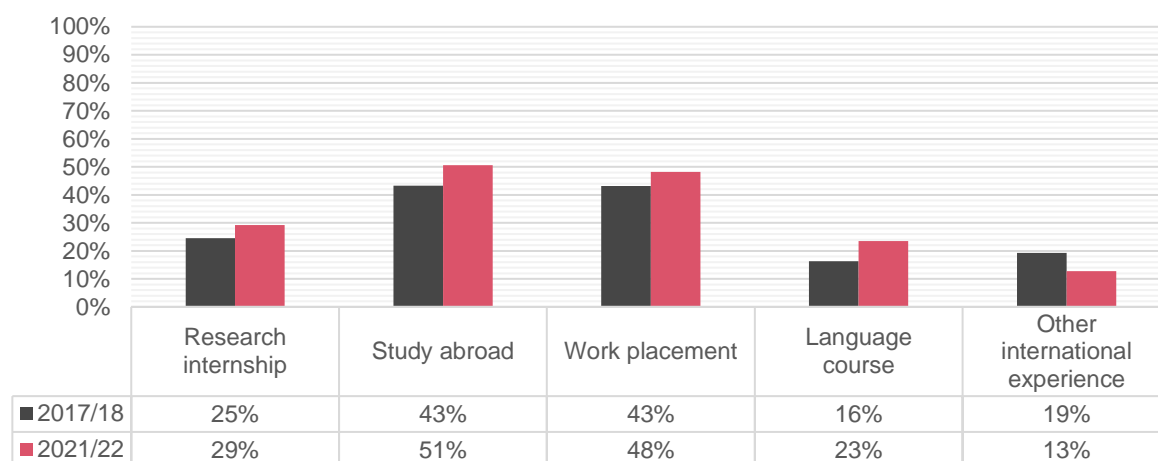


Figure 27 presents the types of experiences abroad. In both cohorts the majority of graduates reported that studying abroad was the main reason for the time spent abroad during their studies (43% for 2017/18 and 51% for 2021/22 cohorts) and a significant percentage in both cohorts reported internships or work placements as a second reason (43% for 2017/18 and 48% for 2021/22 cohorts). The only experience showing a decline in the percentage of graduates between the two cohorts is “other international experience”. It should be noted that graduates were allowed to report multiple types of experiences in this question.

Figure 27: Participation in different types of experiences abroad by graduation cohort

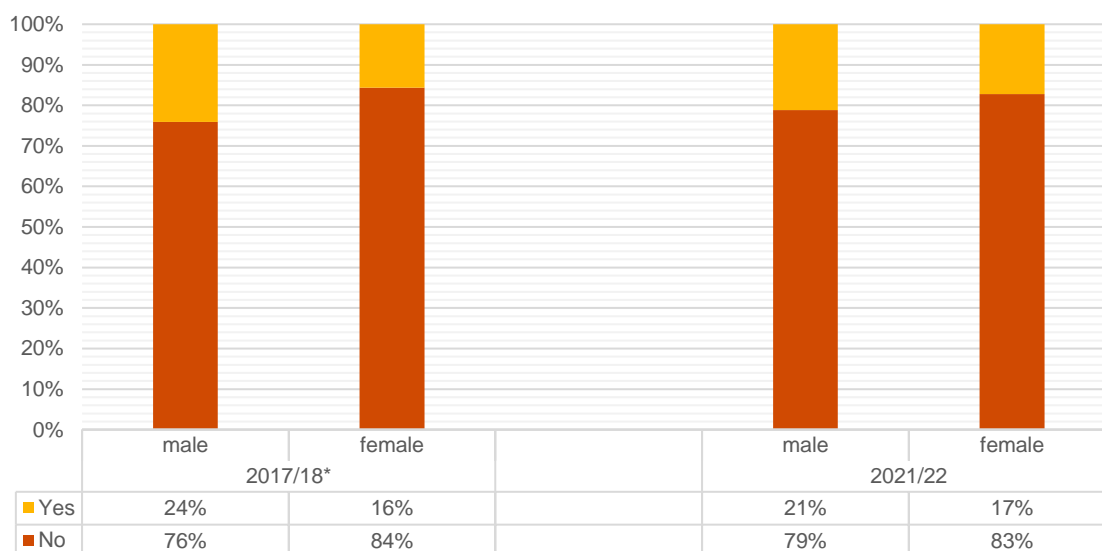


Note: Based on up to five international experiences abroad. Graduates could report multiple types of experiences.

#### 5.1.2.1. Experience abroad as part of the programme of study by demographic variables

Figure 28 presents the distribution of the participants with at least one experience abroad, by gender. Males and females show a similar pattern in both cohorts. Similar percentages of males and females had at least one experience abroad during their studies in both cohorts. The percentage of male graduates with a study abroad experience was at 24% in 2017/18 and 21% in 2021/22. While the percentage of female graduates with a study abroad experience reached 16% in 2017/18 and 17% 2021/22. The gender associations within both cohorts were statistically significant.

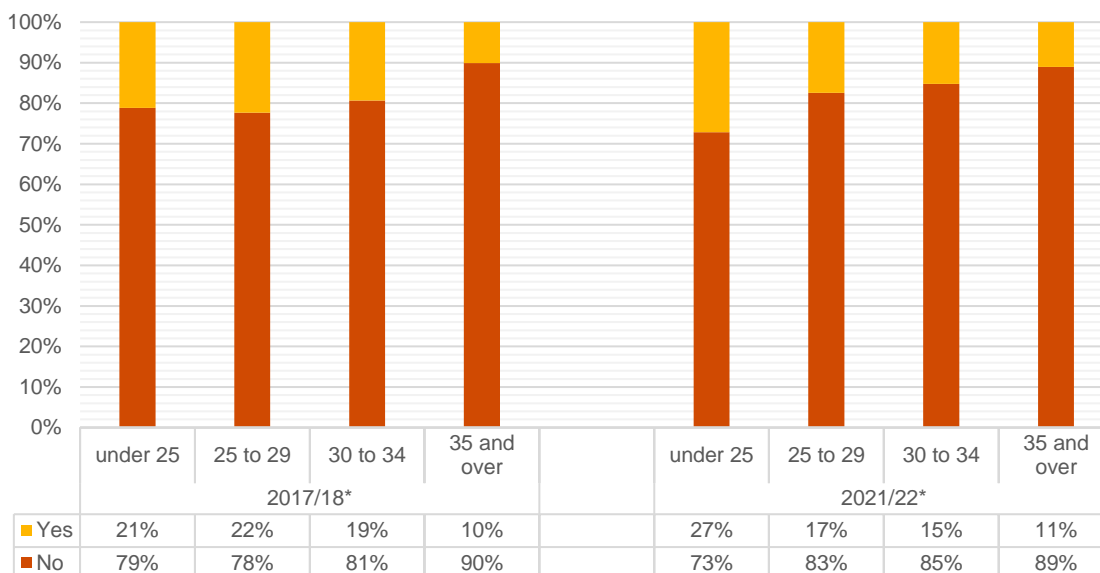
Figure 28: Percentage of graduates with an experience abroad by gender and graduation cohort



\*Statistically significant findings

The relationship between participation in experience abroad and age at graduation was statistically significant in both cohorts. As illustrated in Figure 29 it appears that the younger the age group, the higher the percentage of graduates having abroad experience. In the 2017/18 cohort the highest participation rate was from the “under 25” age group (21%) and the lowest from the “35 and over” age group (11%). In the 2021/22 cohort the highest participation rate was from the under 25 age group (27%) and the lowest from the 35 and over age group (11%).

Figure 29: Percentage of graduates with an experience abroad by age at graduation and graduation cohort

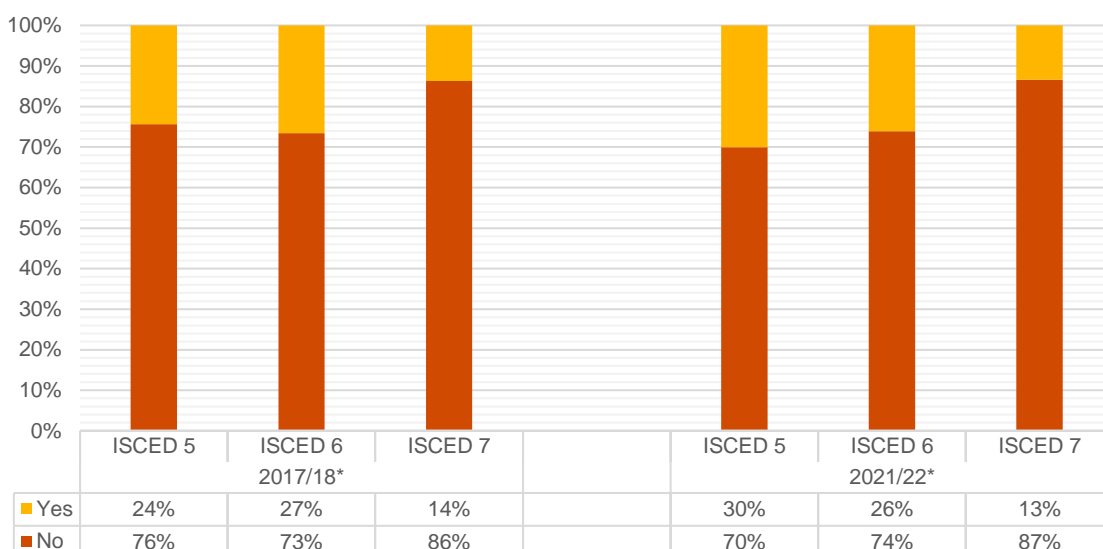


\*Statistically significant findings

#### 5.1.2.2. Experience abroad as part of the programme of study by variables related to Higher Education studies

The distribution of graduates with an experience abroad in relation to the three levels of study (ISCED 5, 6 and 7) is shown in Figure 30. ISCED 7 graduates had the lowest participation in experiences abroad in both the 2017/18 (14%) and 2021/22 (13%) cohorts. In contrast, ISCED 6 graduates had the highest participation in 2017/18 (27%), while ISCED 5 graduates recorded the highest participation (30%) in 2021/22. The relationship between participation in an experience abroad and level of study was statistically significant in both cohorts.

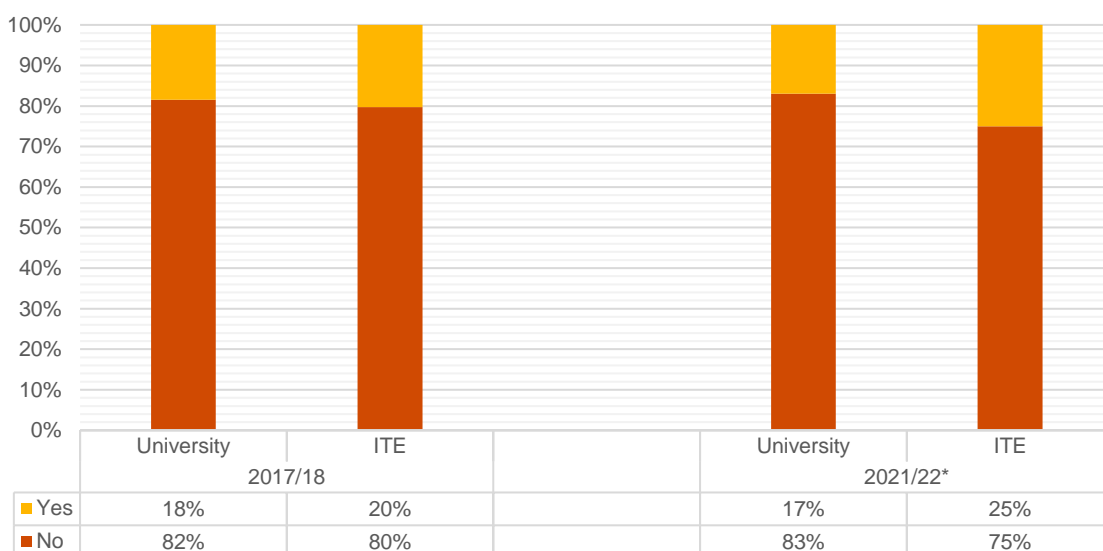
Figure 30: Percentage of participants with a study abroad experience by ISCED-level and graduation cohort



\*Statistically significant findings

Figure 31 illustrates the percentage of graduates with an experience abroad in relation to the type of HEI. Graduates from ITE reported a slightly higher participation in experiences abroad (20% and 25% for cohorts 2017/18 and 2021/22 respectively) than graduates from Universities (18% and 17% for cohorts 2017/18 and 2021/22 respectively). The findings for both cohorts were statistically significant.

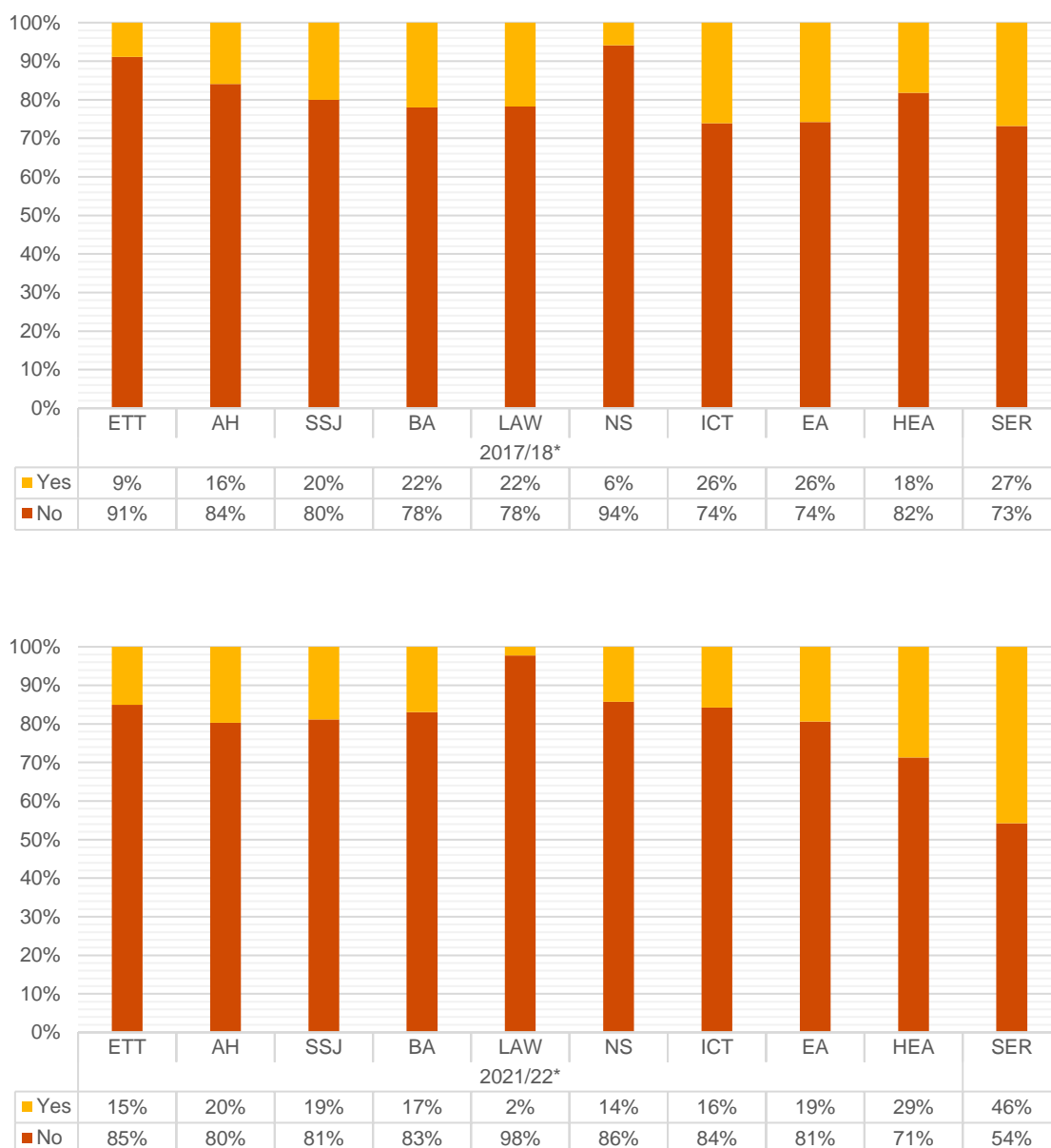
Figure 31: Percentage of graduates with an experience abroad by type of HEI and graduation cohort



\*Statistically significant findings

According to Figure 32, in both cohorts, graduates in the field of Services had the highest participation in an experience abroad (27% for 2017/18 and 46% for 2021/22 cohort), while graduates in the field of Natural Sciences had the lowest (6%) in 2017/18, and in the field of Law the lowest (2%) in 2021/22. The relationship between participation in experiences abroad and fields of study is statistically significant in both cohorts.

Figure 32: Percentage of graduates with an experience abroad by field of study and graduation cohort



\*Statistically significant findings

Note: Fields of study ETT-Education and Teacher Training, AH-Arts and Humanities, SSJ-Social Sciences and Journalism, BA-Business Administration, LAW-Law, NS-Natural Sciences (including Mathematics), ICT-Information and Communication technologies, EA-Engineering and Architecture, HEA-Health, SER-Services. "Agriculture, Forestry, Fisheries, Veterinary and Services" is excluded from the analysis due to its small population size.

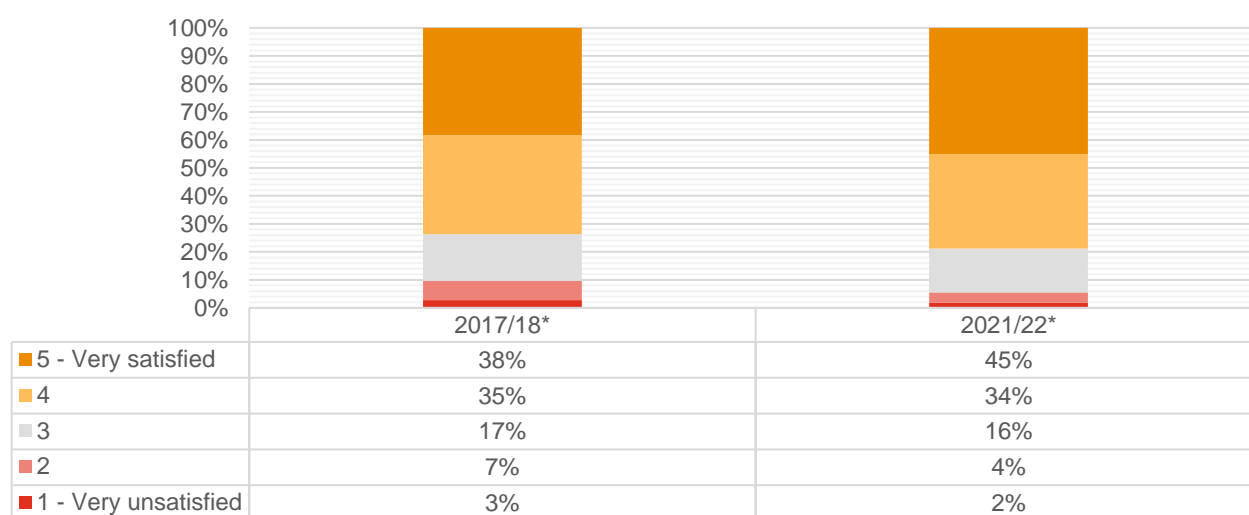
### 5.1.3. Satisfaction with Higher Education studies

#### 5.1.3.1. Overall Satisfaction with Higher Education studies

A key aspect for quality improvement in a Higher Education Institution is the assessment of the overall students' satisfaction with their studies. Students, as the backbone of the Higher Education system and its most crucial stakeholders, are the ones best positioned to provide this information. Thus, in the context of this study graduates were asked to assess their overall satisfaction from their studies providing feedback to the HEIs and insights into their perceptions. Particularly, graduates were asked to indicate the level of overall satisfaction with their studies using a five-point rating scale (with 1 representing a state of lower satisfaction, while a rating of 5 signifying a high level of satisfaction).

For the following analyses reporting on overall satisfaction, graduates' percentages to overall satisfaction were classified into two separate categories. Response option 4 and 5 (satisfied and very satisfied) were grouped together indicating a high satisfaction level. Response options 1 and 2 (unsatisfied and very unsatisfied) were recoded together indicating low satisfaction level. According to Figure 33, a high percentage of both 2017/18 (73%) and 2021/22 (79%) graduates reported that they are overall satisfied with their Higher Education studies. These findings were statistically significant for both cohorts.

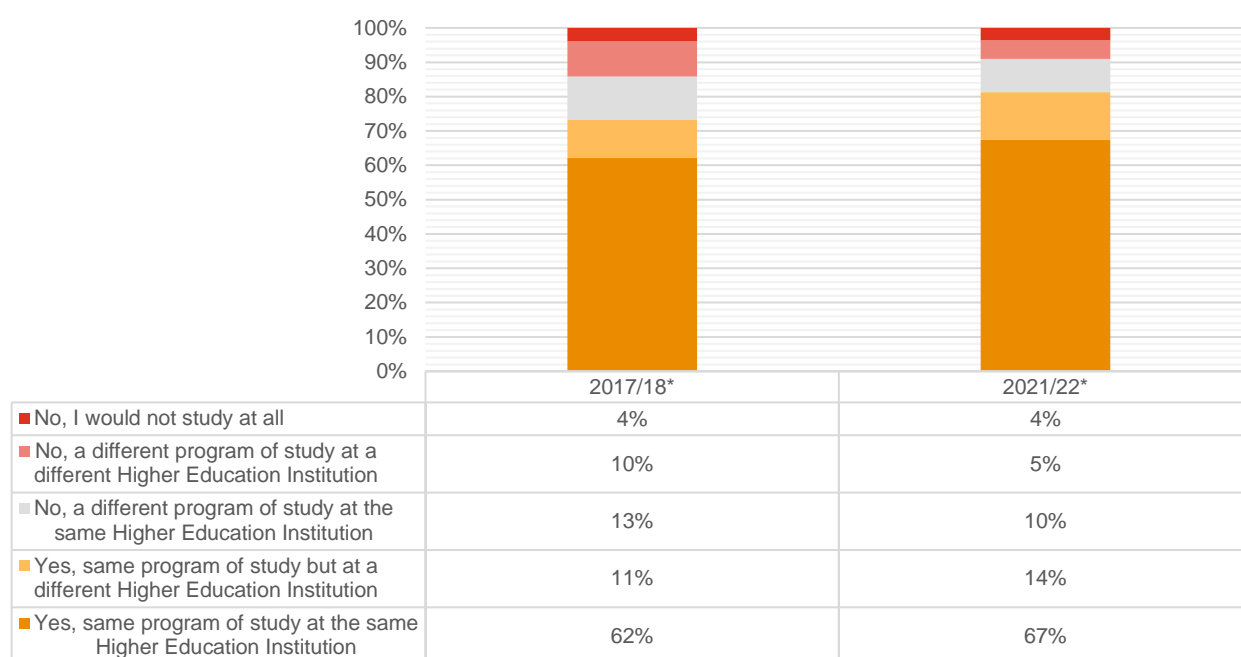
Figure 33: Level of satisfaction with Higher Education studies by graduation cohort



\*Statistically significant findings

**Error! Not a valid bookmark self-reference.** indicates graduates' re-enrolment intentions, reflecting whether they would choose the same program and HEI if given the opportunity to decide again. A similar trend is observed across both cohorts. In the 2017/18 cohort, 62% of graduates indicated that they would choose the same program of study and same HEI, increasing to 67% in the 2021/22. In the 2017/18 cohort, the second most common response among graduates was "different programme of study but the same Higher Education Institution at 13% whereas in the 2021/22 cohort the second most popular response was "same program of study but at different HEI" at 14%. Total dissatisfaction with both the program of study and HEI reached 10% in the 2017/18 cohort and to 5% for 2021/22. For both cohorts, the least chosen option in both cohorts was "I wouldn't study at all," which accounted for 4%. These differences between the two cohorts were found to be statistically significant. These findings show a notable improvement in graduates' satisfaction with their educational choices over time.

Figure 34: Graduates' re-enrolment intentions by graduation cohort

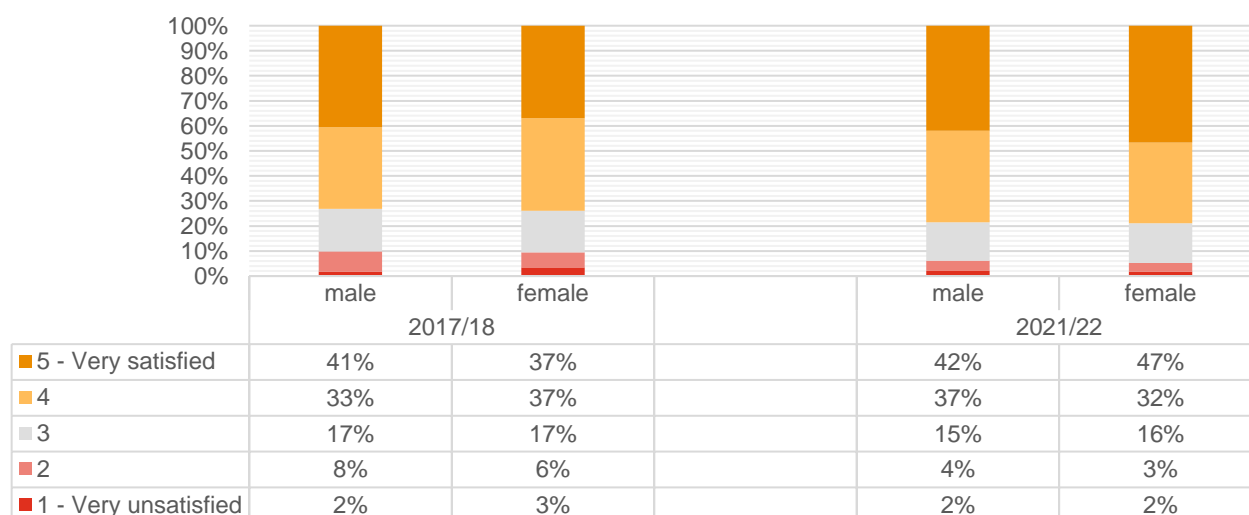


\*Statistically significant findings

#### 5.1.3.1.1. Overall satisfaction with Higher Education studies by demographic variables

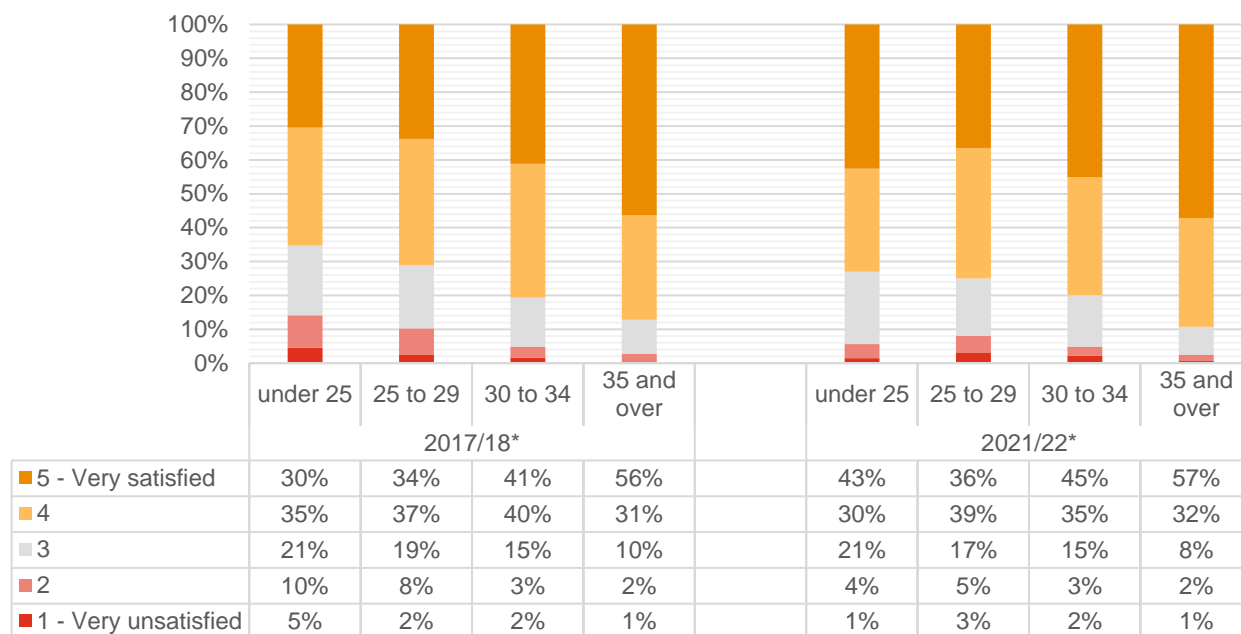
Figure 35 illustrates the level of overall satisfaction with Higher Education studies by gender. It appears, that both genders seem to be equally satisfied with their higher education studies with 74% satisfaction in the 2017/18 cohort and 79% in the 2021/22 cohort. Similar patterns of dissatisfaction are observed in both cohorts with male recording 10% and 6% and female 9% and 5% respectively.

Figure 35: Level of satisfaction with Higher Education studies by gender and graduation cohort



Statistically significant differences in the levels of satisfaction were found among the four age groups (age at graduation) within both cohorts (Figure 36). For both cohorts, it appears that the “least satisfied” among the four age groups is the “under 25” group (65% and 73% of graduates were satisfied in cohorts 2017/18 and 2021/22 respectively). The highest satisfaction for both cohorts was noted by the “35 and over” age group (87% and 89% for 2017/18 and 2021/22 respectively).

Figure 36: Level of satisfaction with Higher Education studies by age at graduation and graduation cohort

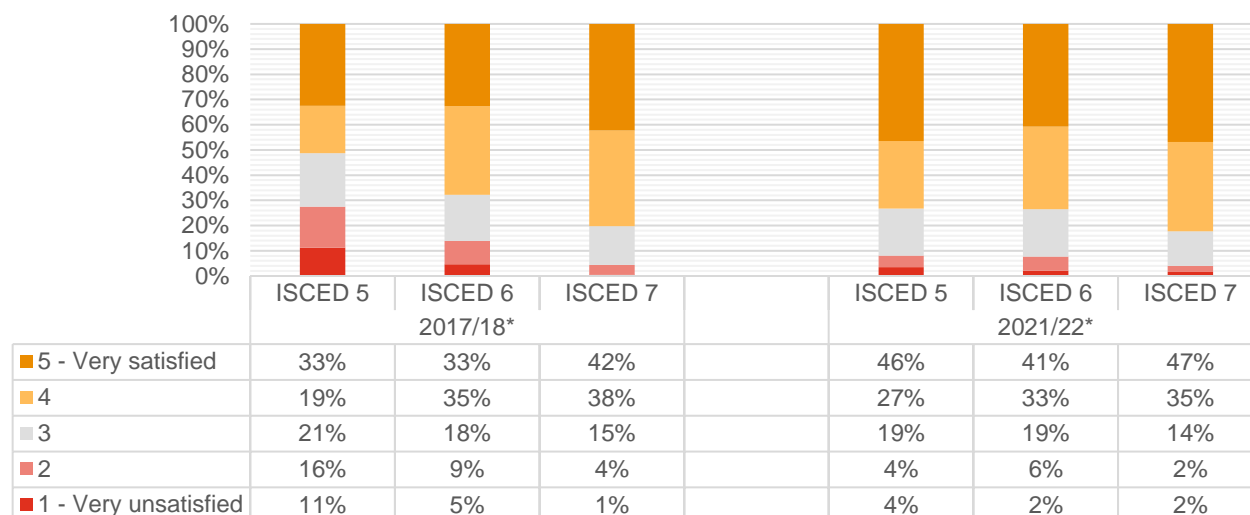


\*Statistically significant findings

#### 5.1.3.1.2. Overall satisfaction with Higher Education studies by variables related to studies

Figure 37 illustrates the level of satisfaction with Higher Education studies by ISCED-level. In both cohorts as the educational level rises, so does the level of satisfaction. ISCED 7 graduates were the most satisfied in both cohorts (80% and 82% of graduates were satisfied in cohorts 2017/18 and 2021/22 respectively), while ISCED 5 graduates were the least satisfied in both cohorts (52% and 73% of graduates were satisfied in cohorts 2017/18 and 2021/22 respectively).

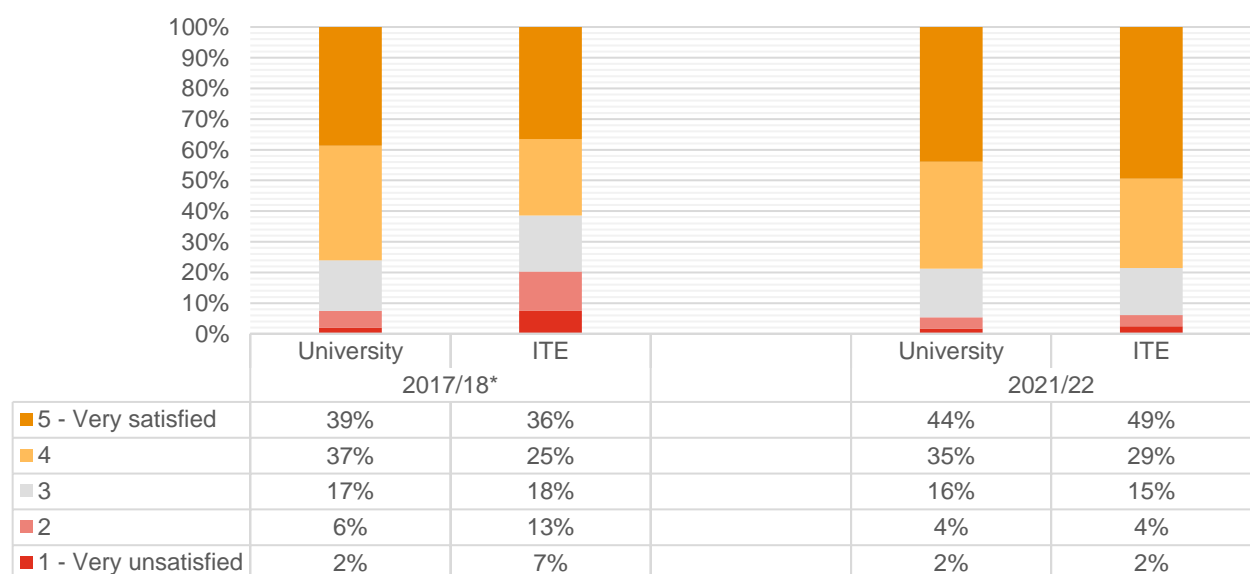
Figure 37: Level of satisfaction with Higher Education studies by ISCED-level and graduation cohort



\*Statistically significant findings

Figure 38 shows that there were statistically significant differences in level of satisfaction scores among graduates from University and ITE only within cohort 2017/18. A higher percentage of graduates from University (76%) appear to be more satisfied than graduates from ITE (71%) in 2017/18. While in 2021/22, satisfaction levels are very similar (approximately 79% of both University and ITE graduates are satisfied with their Higher Education studies).

Figure 38: Level of satisfaction with Higher Education studies by type of HEI and graduation cohort



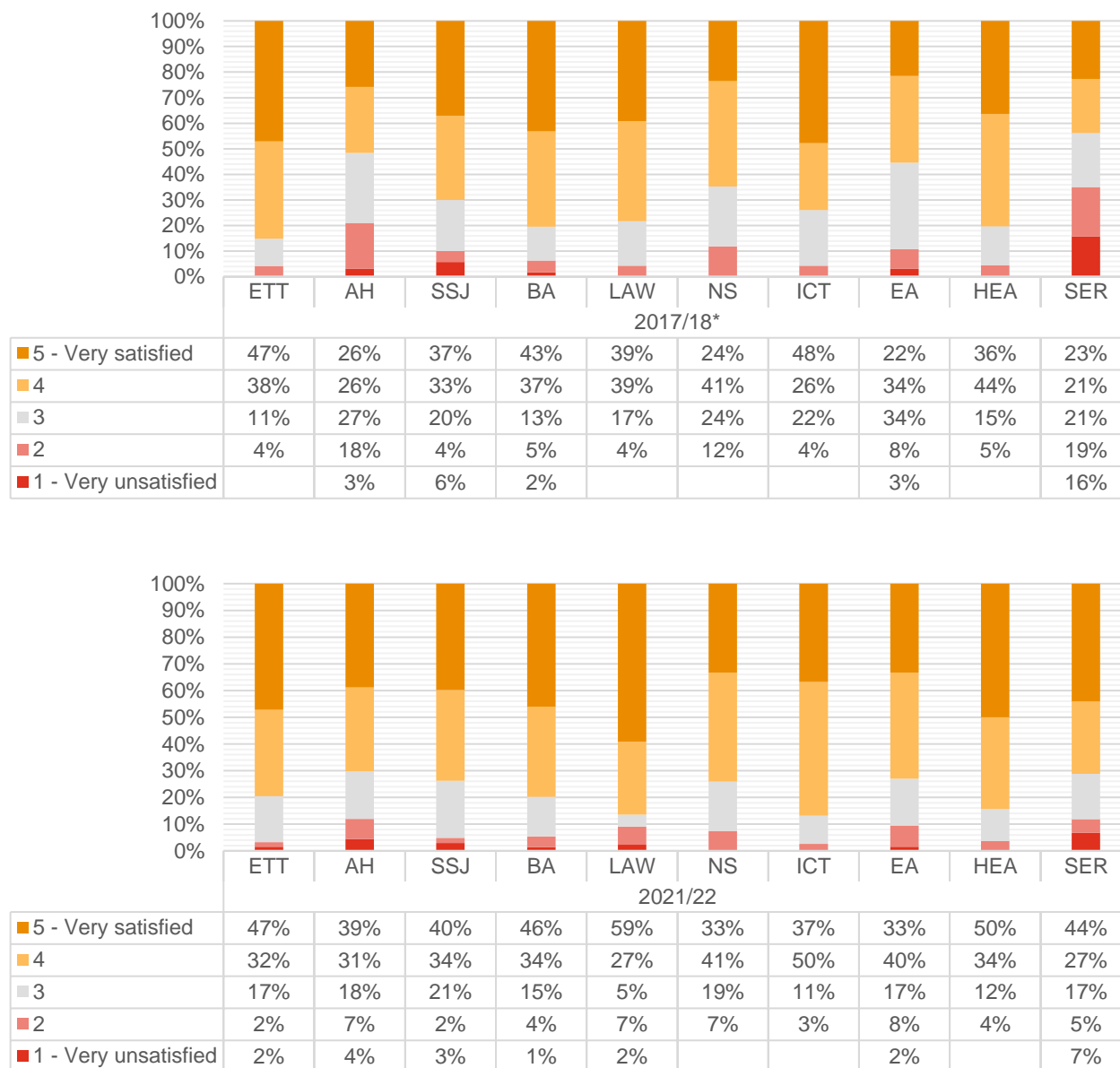
\*Statistically significant findings

Level of satisfaction scores for graduates in the ten fields of study within each cohort, are presented in Figure 39. In cohort 2017/18, statistically significant differences were found in the level of satisfaction scores among the various study fields. The fields with the highest percentage of graduates reporting satisfaction with their studies ( $\geq 80\%$ ) were Education and Teacher Training (85%) and Business Administration (80%). In contrast,

the field with the lowest percentage of satisfied graduates was Services, with only 44% expressing satisfaction with their higher education.

Within 2021/22 cohort, no statistically significant differences were noted in the level of satisfaction scores among graduates from different fields of study. In particular, the fields with the highest graduate satisfaction rates were Law and Information and Communication Technologies (87%). On the other hand, Arts and Humanities had the lowest satisfaction rate, with 70% of graduates expressing contentment with their studies.

Figure 39: Level of satisfaction with Higher Education studies by field of study and graduation cohort



\*Statistically significant findings

Note: Fields of study ETT-Education and Teacher Training, AH-Arts and Humanities, SSJ-Social Sciences and Journalism, BA-Business Administration, LAW-Law, NS-Natural Sciences (including Mathematics), ICT-Information and Communication Technologies, EA-Engineering and Architecture, HEA-Health, SER-Services. "Agriculture, Forestry, Fisheries, Veterinary and Services" is excluded from the analysis due to its small population size.

### 5.1.3.2. Aspects of satisfaction with Higher Education studies

Aspects of satisfaction, including the quality of teaching, programme content, and work experience opportunities, provide vital insights into the overall student experience within HEIs. These elements directly influence the perceived value and impact of academic programmes, shaping the graduates' readiness for professional life. To gather relevant feedback, graduates were asked to rate their satisfaction with each of these aspects using a five-point scale, where 1 indicated strong dissatisfaction and 5 indicated strong satisfaction.

In addition to assessing satisfaction levels regarding these different aspects, associations were also examined across various demographic and variables related to studies to identify trends and differences between cohorts, age groups, and fields of study. These comparisons provide a granular view of how satisfaction varies across distinct groups, offering institutions targeted insights for improving student experience. For the following analyses reporting on aspects of satisfaction, graduates' percentages to satisfaction were classified into two separate categories. Response option 4 and 5 (satisfied and very satisfied) were recoded together indicating a high satisfaction level. Response options 1 and 2 (unsatisfied and very unsatisfied) were grouped together indicating low satisfaction level.

Figure 40 illustrates the distribution of graduates' satisfaction with the quality of teaching in the 2017/18 and 2021/22 cohorts. In the 2017/18 cohort, 72% of graduates reported satisfaction with the quality of teaching, while 6% expressed dissatisfaction. In comparison, the 2021/22 cohort saw a slight improvement in satisfaction levels. 76% of graduates reported satisfaction with the quality of teaching, while 5% expressed dissatisfaction. This suggests that graduates from the 2021/22 cohort were slightly more content with the quality of teaching than those from the 2017/18 cohort.

Figure 40: Level of satisfaction with quality of teaching by graduation cohort

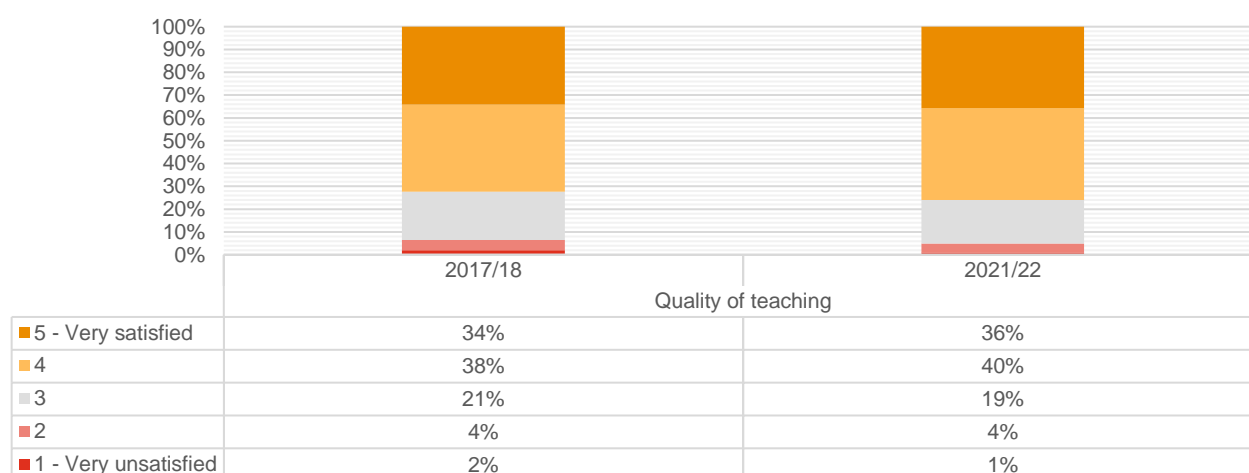


Figure 41 illustrates the distribution of graduates' satisfaction with the content of the programme of study (curriculum) in the 2017/18 and 2021/22 cohorts. In the 2017/18 cohort, 74% of graduates reported satisfaction with the content of their programme of study, opposed to an 8% of them who declared that they are unsatisfied. By comparison, the 2021/22 cohort demonstrated a slight improvement in satisfaction levels. The proportion of satisfied graduates was at 76%, while the proportion of those unsatisfied was 5%, indicating that graduates from 2021/22 cohort were slightly more content with the curriculum than their 2017/18 counterparts.

Figure 41: Level of satisfaction with content of the programme of study (curriculum) by graduation cohort

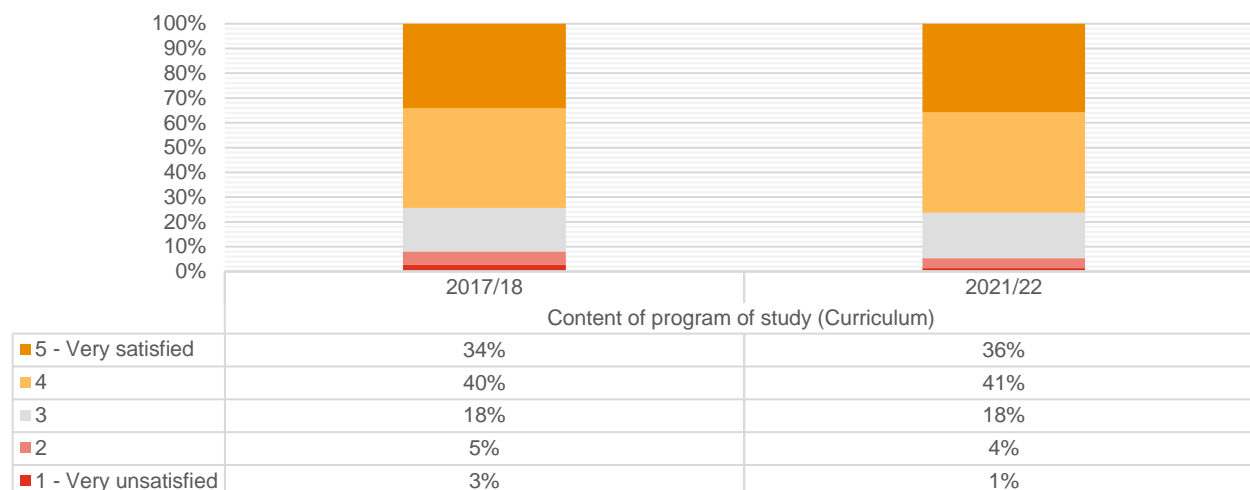
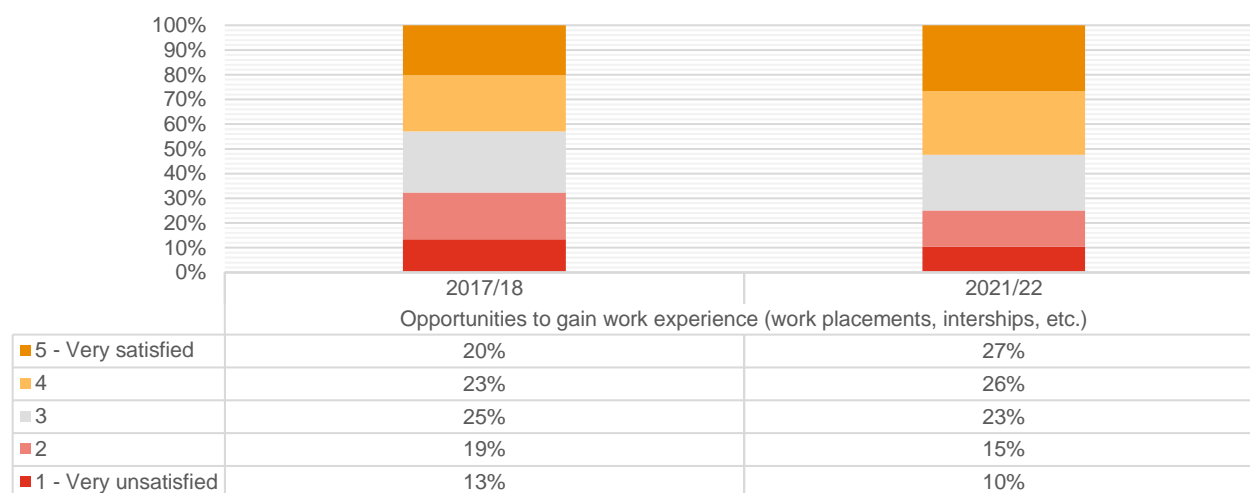


Figure 42 illustrates the distribution of graduates' satisfaction with the opportunities to gain work experience—such as work placements and internships—in the 2017/18 and 2021/22 cohorts. In general, the levels of satisfaction with the opportunities to gain work experience were lower compared to other aspects. i.e., content of programme of study and quality of teaching. In the 2017/18 cohort, 43% of graduates reported satisfaction with the opportunities to gain work experience (combined response categories 4 and 5), while 32% expressed dissatisfaction (combined response categories 1 and 2). By comparison, the 2021/22 cohort exhibited an improvement in satisfaction levels, with 53% of graduates reporting satisfaction, while 25% expressed dissatisfaction. This suggests that graduates from the 2021/22 cohort were more satisfied with the opportunities for gaining work experience compared to those from the 2017/18 cohort.

Figure 42: Level of satisfaction with the opportunities to gain work experience by graduation cohort



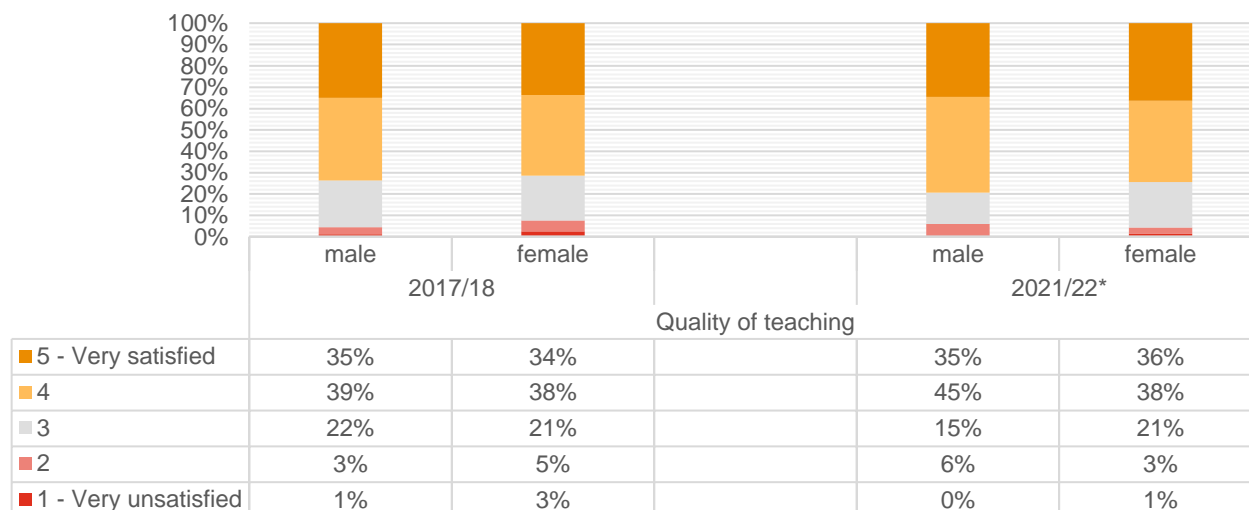
#### 5.1.3.2.1. Aspects of satisfaction with Higher Education studies by demographic variables

Understanding how different demographic groups perceive their educational experiences is crucial for identifying areas of improvement and ensuring that HEIs cater to the diverse needs of their students. In this subsection, the analysis of satisfaction levels is focused across key demographic variables, such as gender, to explore variations in graduates' perceptions of the quality of teaching. By comparing male and female

graduates' satisfaction levels in both the 2017/18 and 2021/22 cohorts, valuable insights are gained regarding potential disparities or consistencies in the academic experience of these groups.

Figure 43 illustrates graduates' satisfaction with the quality of teaching across two genders (males and females) in the 2017/18 and 2021/22 cohorts. For the 2017/18 cohort, male graduates reported 74% satisfaction (ratings 4 and 5), while 4% were unsatisfied (ratings 1 and 2). Female graduates expressed similar levels of satisfaction, with 72% satisfied and 8% indicating dissatisfaction. For the 2021/22 cohort, male satisfaction rose to 80%, with a 6% dissatisfaction rate. Female satisfaction remained steady at 74%, with 4% expressing dissatisfaction. The data highlights an increase in satisfaction among male graduates in the 2021/22 cohort, while female graduates maintained consistently high satisfaction across both cohorts. The differences between the two genders were statistically significant only for 2021/22 cohort.

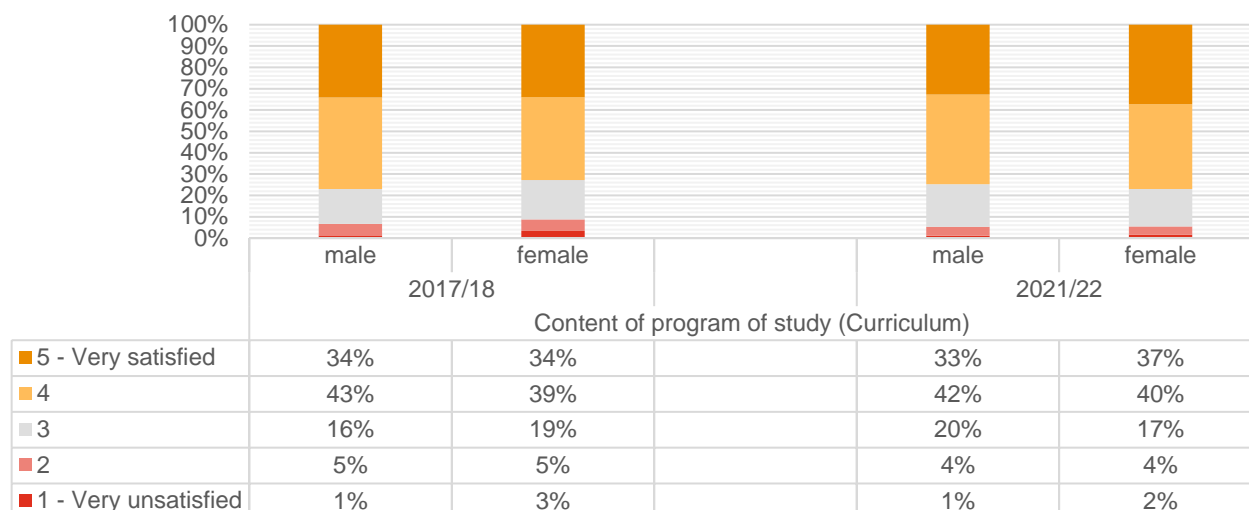
Figure 43: Level of satisfaction with the quality of teaching by gender and graduation cohort



\*Statistically significant findings

Figure 44 presents the distribution of graduates' satisfaction with the content of the programme of study (curriculum) by gender in both cohorts. In the 2017/18 cohort, 77% of male graduates reported satisfaction with the content of their programme of study, compared to 73% of female graduates. Meanwhile, 6% of male graduates and 8% of female graduates declared dissatisfaction. The 2021/22 cohort exhibited a slightly different distribution of satisfaction. A rate at 75% of male graduates and 77% of female graduates expressed satisfaction, demonstrating a similar trend between genders. Dissatisfaction with the teaching quality recorded a 5% and 6% among male and female graduates respectively. This comparison suggests similar satisfaction levels across both genders in terms of the quality of teaching.

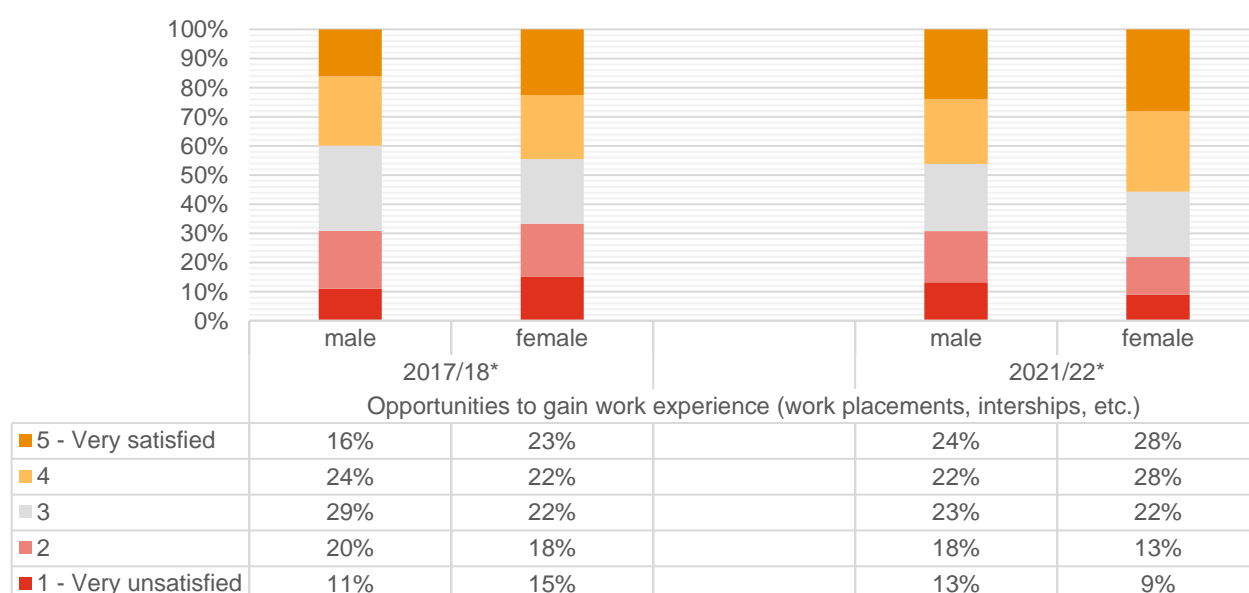
Figure 44: Level of satisfaction with the content of programme of study (curriculum) by gender and graduation cohort



\*Statistically significant findings

Figure 45 illustrates the distribution of graduates' satisfaction with opportunities to gain work experience, such as work placements and internships, across male and female graduates in both cohorts. In the 2017/18 cohort, satisfaction levels varied between genders. Among males, 40% of graduates expressed satisfaction, compared to 45% of female graduates. On the other hand, 31% of males expressed dissatisfaction, while this sentiment was slightly more prevalent among females, with 33% reporting dissatisfaction. In the 2021/22 cohort, 48% of males expressed being satisfied with opportunities to gain work experience compared to 56% for females. When it comes to dissatisfaction levels 31% of males reported being unsatisfied with opportunities to gain work experiences during their studies, while females reported a lower rate at 22%. The data shows that female graduates reported higher levels of satisfaction with work experience opportunities, especially in the 2021/22 cohort. These findings were statistically significant for both cohorts.

Figure 45: Level of satisfaction with opportunities to gain work experience by gender and graduation cohort

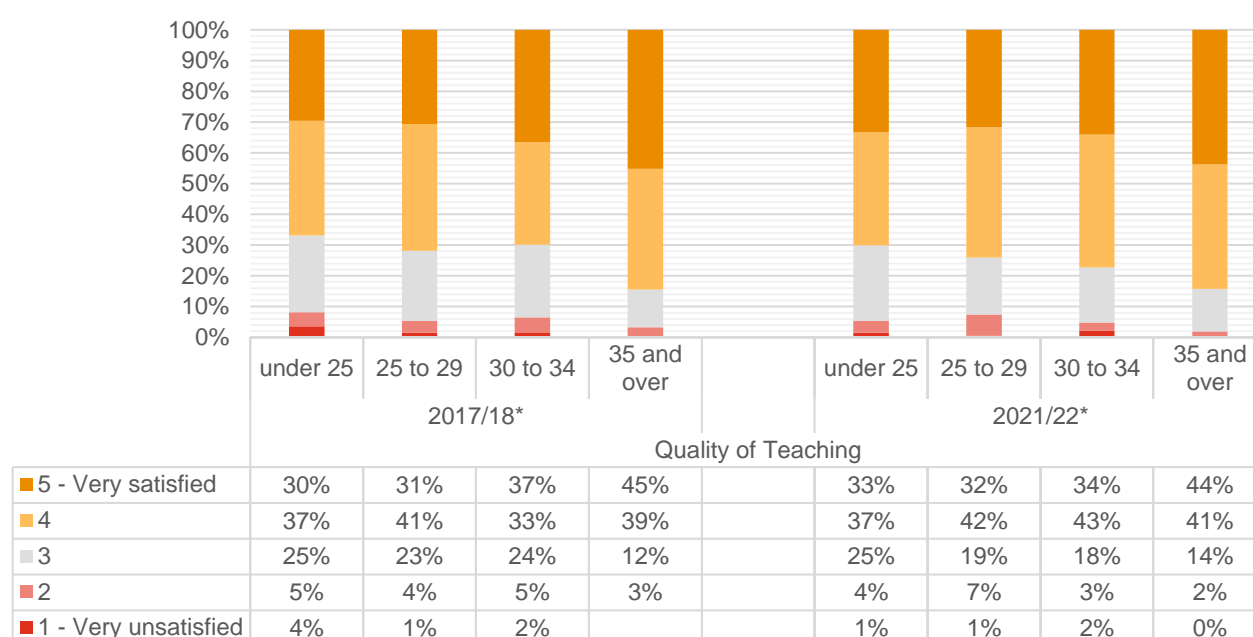


*\*Statistically significant findings*

Figure 46 illustrates the distribution of graduates' satisfaction with the quality of teaching across different age groups for both cohorts (age at graduation). In both cohorts, the older age groups consistently reported higher levels of satisfaction with the quality of teaching, with the “35 and over” group showing the strongest satisfaction ratings. The findings were statistically significant for both cohorts.

In the 2017/18 cohort, satisfaction levels varied across age groups. Among graduates “under 25”, 67% reported being satisfied, while 9% were dissatisfied. In the “25 to 29” age group, satisfaction increased to 72%, with 5% reporting dissatisfaction. From graduates aged “30 to 34” 70% expressed satisfaction and 7% dissatisfaction. Those aged “35 and over” showed the highest satisfaction, with 84% satisfied and only 3% dissatisfied. In the 2021/22 cohort, satisfaction remained strong across all age groups. Among graduates “under 25”, 70% expressed satisfaction, with 5% dissatisfied. In the “25 to 29” age group, 74% reported satisfaction, while 8% were dissatisfied. Graduates aged “30 to 34” showed 77% satisfaction and 5% dissatisfaction. The current findings indicate a trend that satisfaction levels increase by age groups. Finally, graduates aged “35 and over” again had the highest satisfaction, with 85% satisfied and only 2% dissatisfied.

Figure 46: Level of satisfaction with the quality of teaching by age (at graduation) and graduation cohort



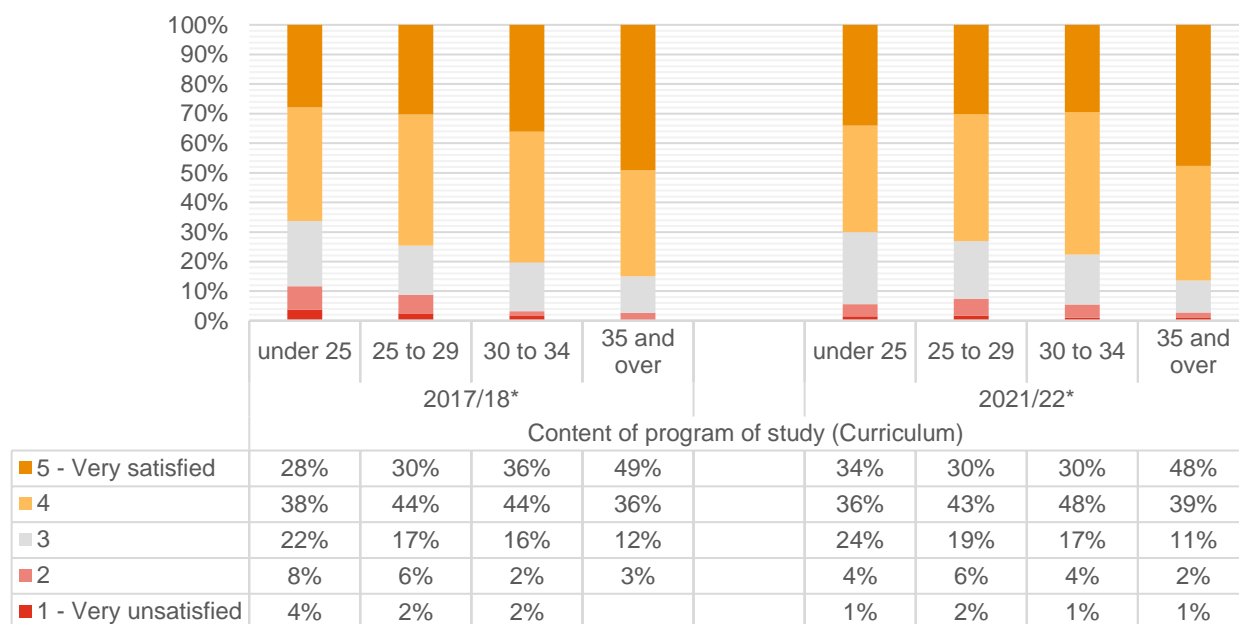
*\*Statistically significant findings*

Figure 47 illustrates graduates' satisfaction with the content of the programme of study (Curriculum) across four age groups (age at graduation) in both cohorts. The data shows that graduates aged “35 and over” consistently reported the highest satisfaction levels with the content of the curriculum in both cohorts. The findings were statistically significant within both cohorts. In the 2017/18 cohort, satisfaction levels with the curriculum were highest among the older age groups. Among graduates “under 25”, 66% reported satisfaction, while 12% were dissatisfied. Graduates aged “25 to 29” reported higher levels of satisfaction, with 74% being satisfied and 8% dissatisfied. Satisfaction increased further in the “30 to 34” age group, with 80% reporting satisfaction and only 4% dissatisfaction. Graduates aged “35 and over” reported the highest satisfaction levels, with 85% expressing satisfaction, and 3% expressing dissatisfaction.

In the 2021/22 cohort, satisfaction levels remained high across all age groups. Among graduates “under 25”, 70% expressed satisfaction, while dissatisfaction recorded a 5%. In the “25 to 29” age group, 73% of graduates were satisfied and 8% dissatisfied. Satisfaction levels were particularly high in the “30 to 34” age group, where

78% of graduates expressed satisfaction, and only 5% were dissatisfied. Among the “35 and over” group, 87% of graduates reported satisfaction while dissatisfaction was minimal at 3%.

Figure 47: Level of satisfaction with the content of programme of study (curriculum) by age (at graduation) and graduation cohort

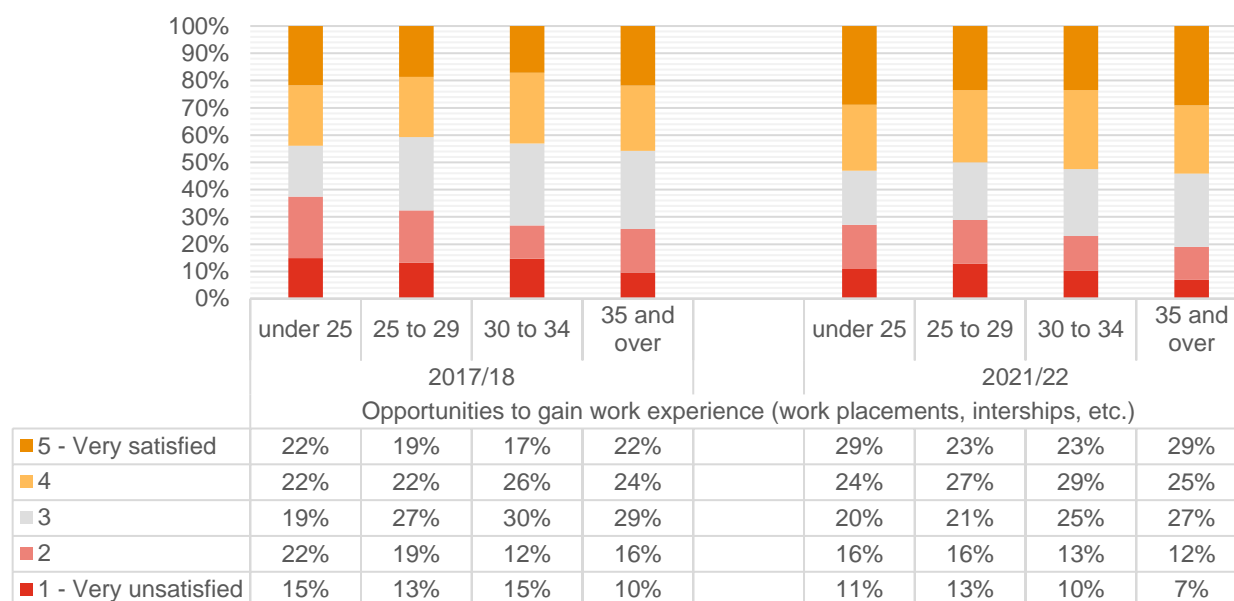


\*Statistically significant findings

Figure 48 illustrates graduates' satisfaction with opportunities to gain work experience, such as work placements and internships, across four age groups (age at graduation) for both cohorts. In the 2017/18 cohort, satisfaction levels with opportunities to gain work experience varied among the age groups. Among graduates “under 25”, 44% expressed satisfaction, while 37% reported dissatisfaction. In the “25 to 29” age group, satisfaction was slightly lower, with 41% expressing satisfaction and 32% reporting dissatisfaction. Graduates aged “30 to 34” expressed higher levels of satisfaction at 43% with 27% expressing dissatisfaction. Graduates aged “35 and over” reported the highest levels of satisfaction, with 46% being satisfied and 26% dissatisfied.

In the 2021/22 cohort, higher levels in satisfaction were observed across all age groups. Among graduates “under 25”, 53% expressed satisfaction with opportunities to gain work experience, while 27% reported dissatisfaction. In the “25 to 29” age group, 50% of graduates were satisfied and 29% expressed dissatisfaction. Satisfaction levels remained high among those aged “30 to 34”, with 52% expressing satisfaction and 23% expressing dissatisfaction. Graduates aged “35 and over” reported the highest levels of satisfaction, with 54% being satisfied and only 19% dissatisfied. The data reveals that satisfaction with work experience opportunities improved across all age groups in the 2021/22 cohort, with graduates aged “35 and over” consistently reported the highest levels of satisfaction.

Figure 48: Level of satisfaction with opportunities to gain work experience by age group and graduation cohort



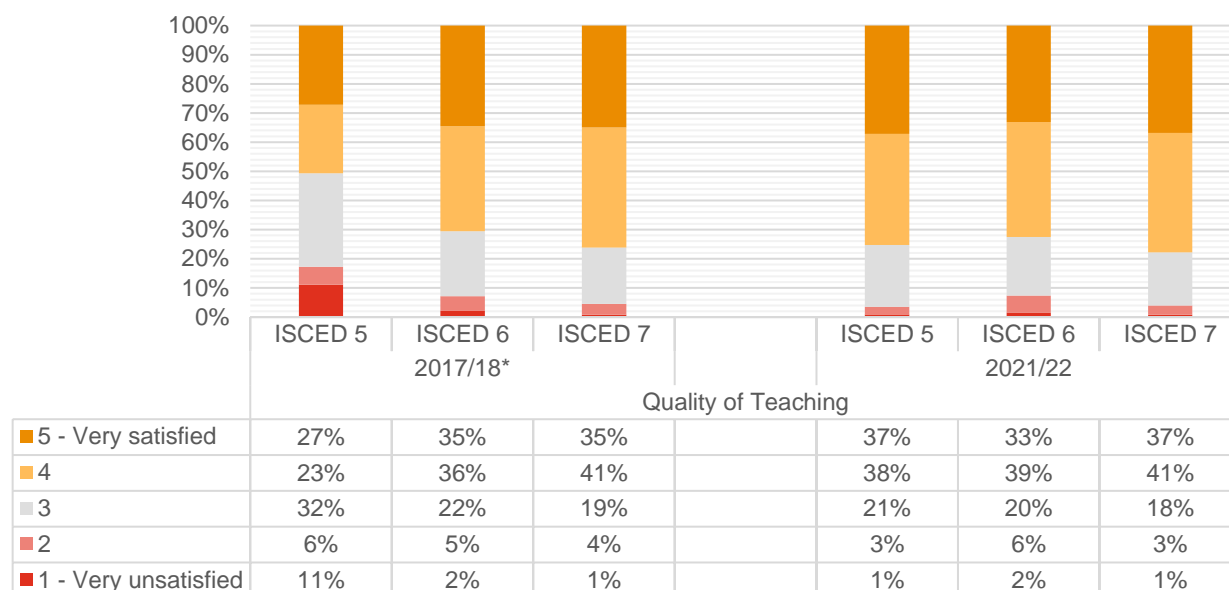
#### 5.1.3.2.2. Aspects of satisfaction with Higher Education studies by variables related to studies

Examining satisfaction levels across different ISCED classifications and HEI Type provides valuable insights into how various variables related to studies impact graduates' perceptions of their academic experiences. In this subsection, the analysis of satisfaction is focused on three key aspects: the quality of teaching, the content of the programme of study, and opportunities to gain work experience. For the following analyses graduates' percentages to overall satisfaction were classified into two separate categories. Response categories 4 and 5 (satisfied and very satisfied) were grouped together indicating a medium-high satisfaction level. Response categories 1 and 2 (unsatisfied and very unsatisfied) were grouped together indicating low satisfaction level.

Figure 49 illustrates graduates' satisfaction with the quality of teaching across different ISCED classifications for both cohorts. In the 2017/18 cohort, satisfaction with the quality of teaching varied across educational levels. Among ISCED 5 graduates, 50% expressed satisfaction while 17% expressed dissatisfaction. A significant proportion of graduates (32%) gave a neutral response. For ISCED 6 graduates, 71% expressed satisfaction, while dissatisfaction levels were low, with 7% expressing dissatisfaction. Similarly, ISCED 7 graduates reported high levels of satisfaction, with 76% giving positive ratings and only 5% expressing dissatisfaction. The findings for this cohort were statistically significant.

In the 2021/22 cohort, satisfaction levels for ISCED 5 graduates recorded a 75% and 4% of dissatisfaction. For ISCED 6 graduates, satisfaction levels recorded a 72% and 8% of satisfaction and dissatisfaction respectively. ISCED 7 graduates reported the highest level of satisfaction at 78% and only 4% expressing dissatisfaction. The data shows that graduates across all ISCED classifications continued to report high satisfaction with the quality of teaching, with ISCED 7 graduates consistently showing the highest satisfaction levels.

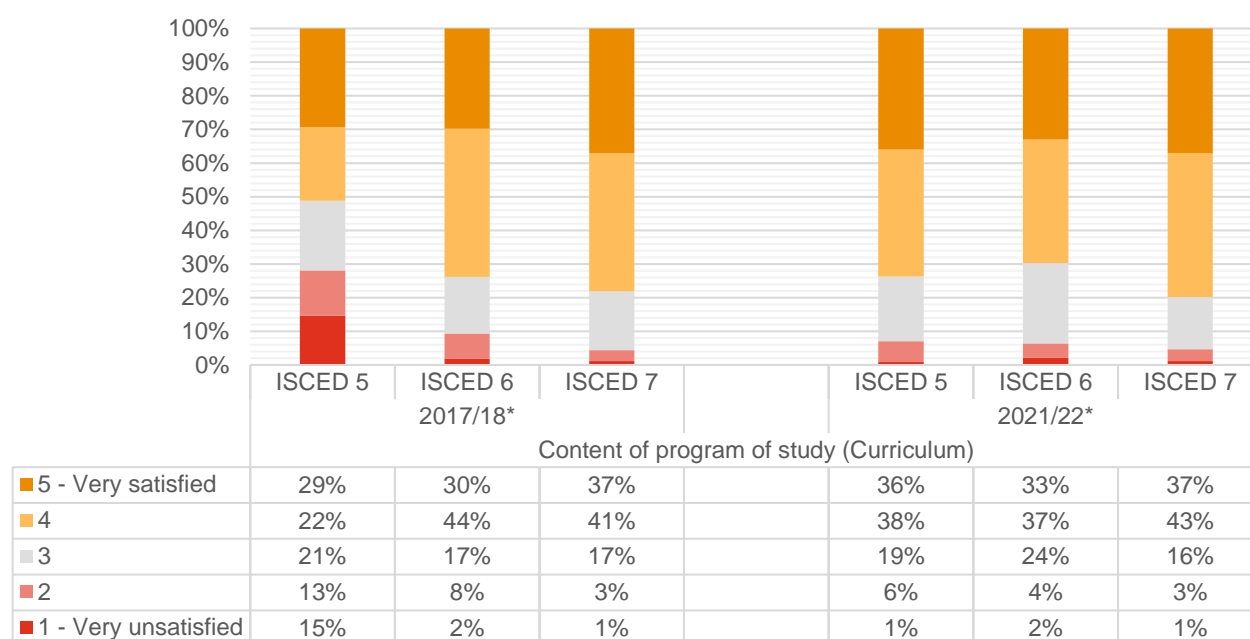
Figure 49: Levels of satisfaction with the quality of teaching by ISCED classifications and graduation cohort.



\*Statistically significant findings

Figure 50 illustrates graduates' satisfaction with the content of the programme of study (Curriculum) across three ISCED classifications for both cohorts. The findings for both cohorts are statistically significant. In the 2017/18 cohort, satisfaction levels with the curriculum varied across educational levels. Among ISCED 5 graduates, 51% expressed satisfaction while 28% expressed dissatisfaction. ISCED 6 graduates showed higher satisfaction, with 74% expressing satisfaction and only 10% reporting dissatisfaction. ISCED 7 graduates reported the highest satisfaction levels, with 78% providing positive ratings and only 4% expressing dissatisfaction. The findings for this cohort were statistically significant. In the 2021/22 cohort, 74% of ISCED 5 graduates expressed satisfaction and 7% dissatisfaction. For ISCED 6 graduates, satisfaction was recorded at 70%, with only a 6% dissatisfaction rate. ISCED 7 graduates reported the highest levels of satisfaction, with 80% indicating positive ratings and a minimal dissatisfaction rate of 4%.

Figure 50: Level of satisfaction with content of programme of study (curriculum) by ISCED classification and graduation cohort

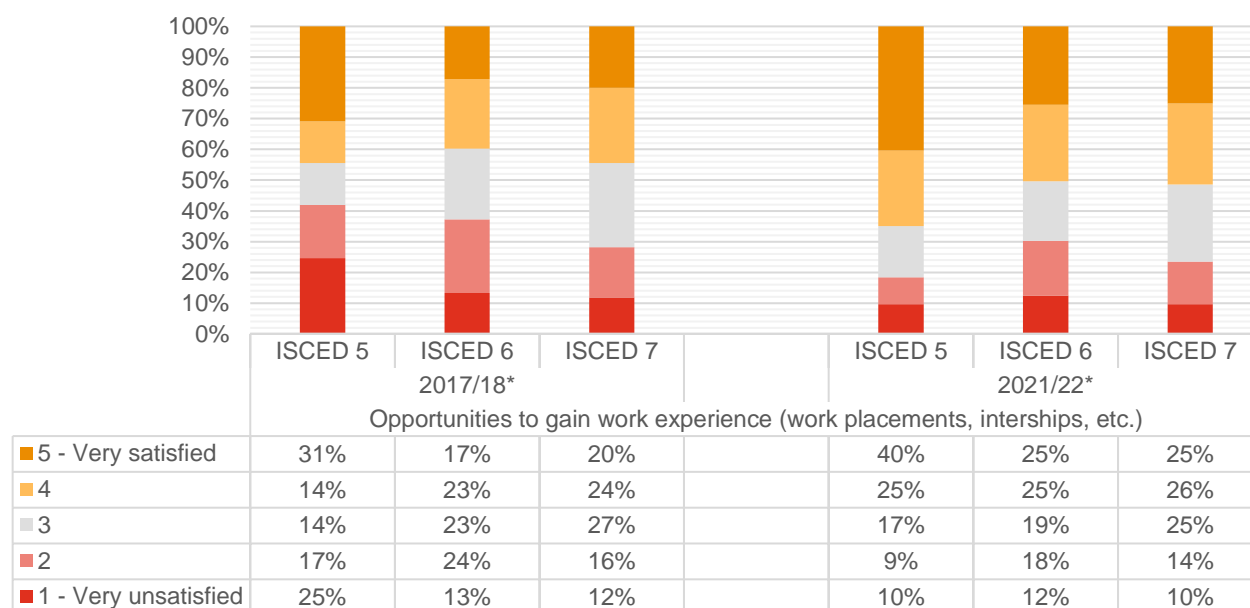


\*Statistically significant findings

Figure 51 presents graduates' satisfaction with opportunities to gain work experience, such as work placements and internships, across three ISCED categories—ISCED 5, ISCED 6, and ISCED 7—for the 2017/18 and 2021/22 cohorts. The findings for both cohorts were statistically significant. In the 2017/18 cohort, satisfaction levels with opportunities to gain work experience varied significantly across ISCED levels. Among ISCED 5 graduates, 45% reported satisfaction, while 42% indicated dissatisfaction. ISCED 6 graduates displayed even lower satisfaction levels, with 40% expressing satisfaction and 37% expressing dissatisfaction. Similarly, ISCED 7 graduates also reported low satisfaction, with only 44% satisfied and dissatisfaction remaining high at 28%.

In the 2021/22 cohort, satisfaction levels with opportunities to gain work experience were higher across ISCED levels. Among ISCED 5 graduates, 65% expressed satisfaction, while dissatisfaction level was at 19%. ISCED 6 graduates expressed satisfaction and dissatisfaction at 50% and 30% levels respectively. For ISCED 7 graduates, satisfaction was recorded at 51%, while dissatisfaction at 24%. The comparison between the two cohorts reveals an overall improvement in satisfaction with work experience opportunities, particularly among ISCED 5 graduates, who saw a noticeable increase in those reporting satisfaction. ISCED 6 and ISCED 7 graduates also experienced improvements, though dissatisfaction remained relatively higher in these groups compared to ISCED 5 graduates.

Figure 51: Level of satisfaction with opportunities to gain work experience by ISCED classification and graduation cohort

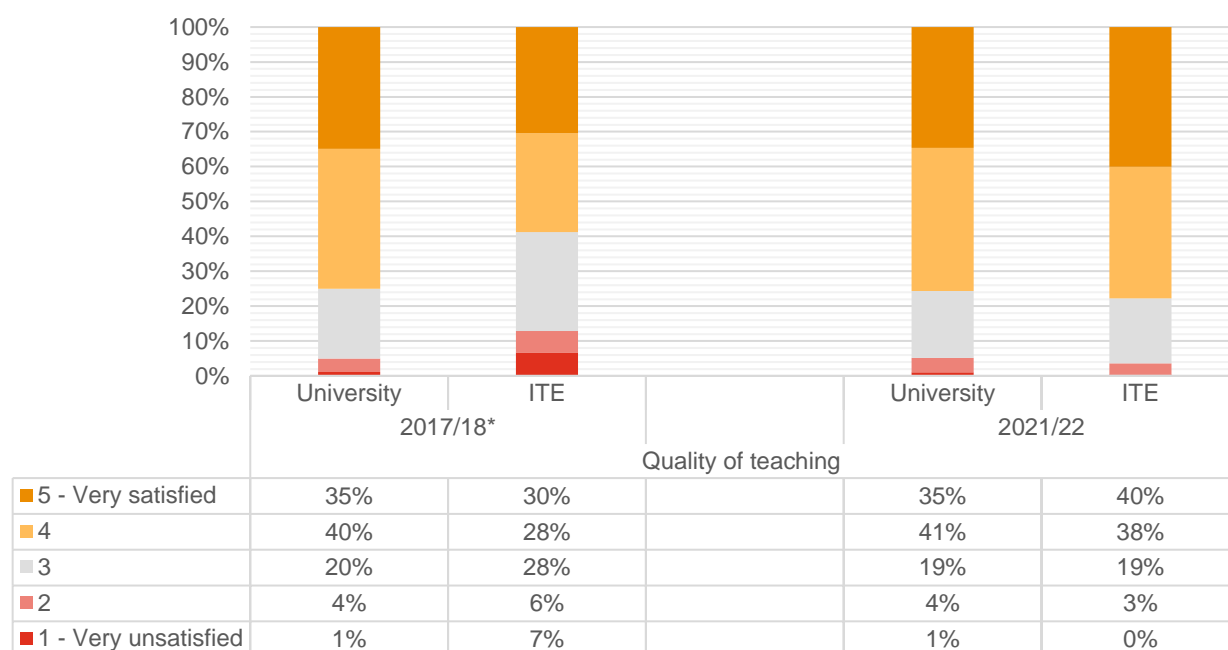


\*Statistically significant findings

Figure 52 illustrates graduates' satisfaction with the quality of teaching based on the type of HEI—University and ITE—for the 2017/18 and 2021/22 cohorts. These findings were statistically significant for both cohorts. In the 2017/18 cohort, University graduates generally reported higher levels of satisfaction compared to those from ITE. Among University graduates, 75% expressed satisfaction, while only 5% expressed dissatisfaction. In contrast, ITE graduates were less satisfied, with 58% expressing satisfaction, and 13% expressing dissatisfaction, indicating lower overall satisfaction with the quality of teaching compared to University graduates. The findings were statistically significant only for this cohort.

In the 2021/22 cohort, satisfaction levels for both HEI types improved slightly, particularly for ITE graduates. Among University graduates, satisfaction remained stable at 76%, while dissatisfaction was reported by only 5% of respondents. For ITE graduates, satisfaction saw a notable improvement, with 78% expressing satisfaction and only 3% expressing dissatisfaction, indicating a significant reduction in dissatisfaction levels compared to the previous cohort. This comparison shows that satisfaction with the quality of teaching among University graduates remained consistently high, while ITE graduates experienced a marked improvement, reflected by an increase in satisfaction and a decline in dissatisfaction.

Figure 52: Levels of satisfaction with the quality of teaching by type of HEI and graduation cohort

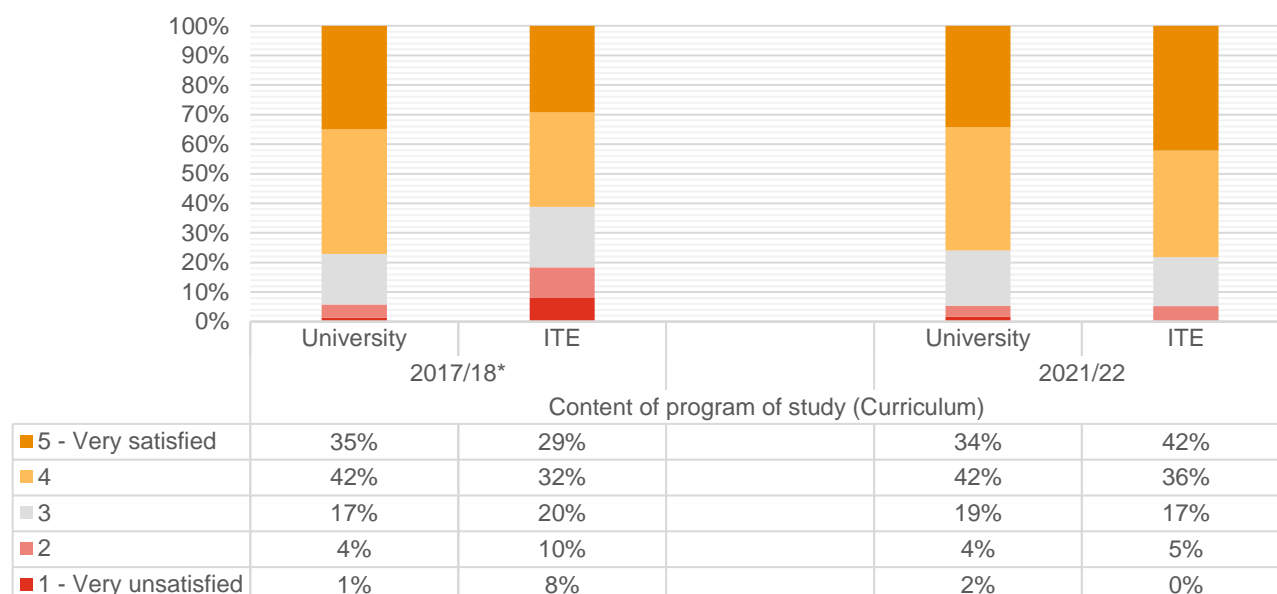


\*Statistically significant findings

Figure 53 illustrates graduates' satisfaction with the content of the programme of study (Curriculum) across two types of Higher Education Institutions—University and ITE—for the 2017/18 and 2021/22 cohorts. In the 2017/18 cohort, University graduates generally reported higher satisfaction compared to ITE graduates. Among University graduates, 77% expressed satisfaction, while dissatisfaction was minimal, with only 5% expressing dissatisfaction. Conversely, ITE graduates reported lower satisfaction, with 61% expressing satisfaction and 18% expressing dissatisfaction, indicating relatively lower satisfaction levels compared to University graduates. The findings were statistically significant only for this cohort

In the 2021/22 cohort, satisfaction levels improved, particularly for ITE graduates. Among University graduates, satisfaction remained stable, with 76% expressing satisfaction and dissatisfaction remaining low at 6%. However, ITE graduates showed notable improvement, with 78% expressing satisfaction and only 5% expressing dissatisfaction, marking a significant decline in dissatisfaction compared to the previous cohort. This comparison shows that satisfaction with the curriculum remained consistently high among University graduates, while ITE graduates experienced a considerable improvement in satisfaction, reflected by the increase in those expressing satisfaction and the decrease in dissatisfaction.

Figure 53: Levels of satisfaction with the content of programme of study (curriculum) by type of HEI and graduation cohort

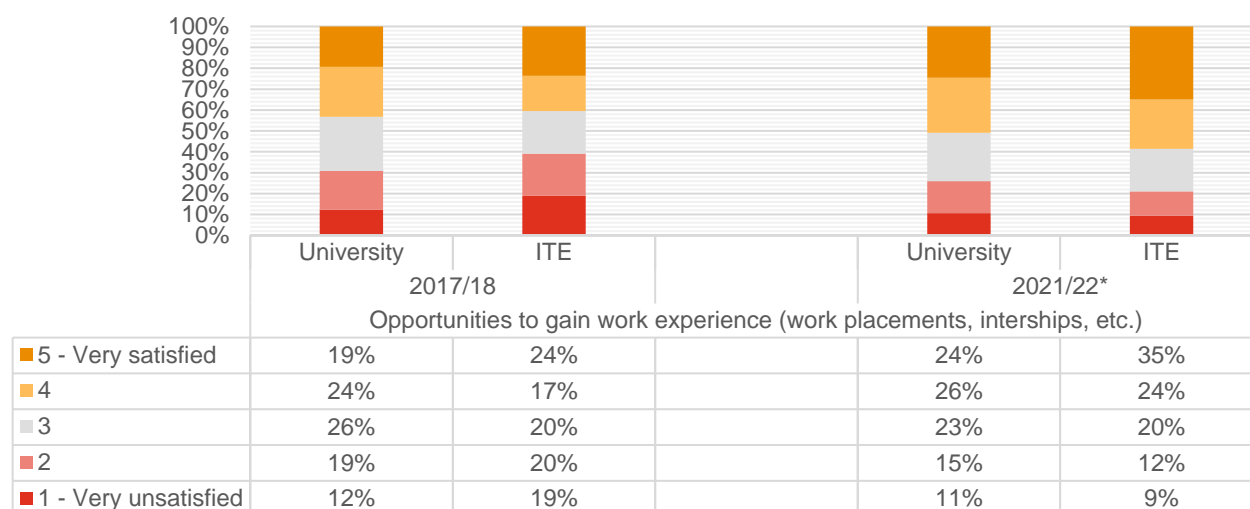


\*Statistically significant findings

Figure 54 illustrates graduates' satisfaction with opportunities to gain work experience—such as work placements and internships—across two types of Higher Education Institutions for the 2017/18 and 2021/22 cohorts. The findings were statistically significant for both cohorts. In the 2017/18 cohort, ITE graduates generally reported higher satisfaction with work experience opportunities compared to University graduates. Among University graduates, 43% expressed satisfaction (response categories 4 and 5), while 31% expressed dissatisfaction (response categories 1 and 2). Conversely, among ITE graduates, 41% expressed satisfaction, but dissatisfaction was notably higher, with 39% expressing dissatisfaction.

In the 2021/22 cohort, satisfaction levels improved for both University and ITE graduates. Among University graduates, 50% expressed satisfaction, a moderate increase from the previous cohort, while dissatisfaction levels decreased to 26%. Among ITE graduates, 59% expressed satisfaction, a significant improvement from the previous cohort, while dissatisfaction levels dropped to 21%. The findings were statistically significant only in this cohort. The comparison reveals that while both HEI types saw improved satisfaction with work experience opportunities in the 2021/22 cohort, the increase was more pronounced among ITE graduates, reflected in both higher satisfaction and reduced dissatisfaction.

Figure 54: Levels of satisfaction with the opportunities to gain work experience by type of HEI and graduation cohort

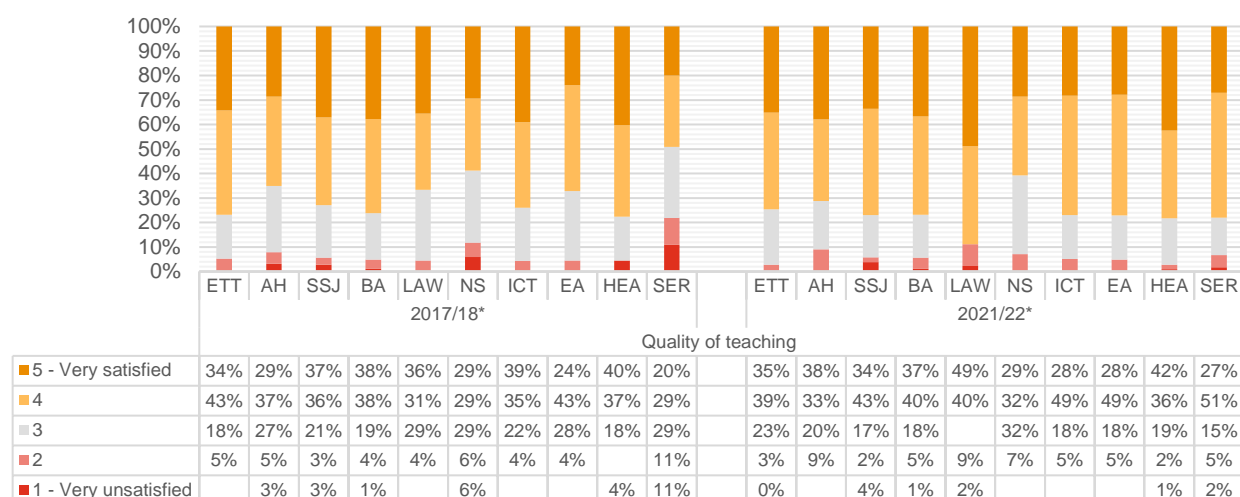


\*Statistically significant findings

Figure 55 illustrates graduates' satisfaction with the quality of teaching across different fields of study for the 2017/18 and 2021/22 cohorts, focusing on the top three fields in both satisfaction and dissatisfaction. The findings were statistically significant for both cohorts. In the 2017/18 cohort, Health and Education and Teacher Training led in terms of satisfaction, with both fields achieving 77% satisfaction (combined ratings of 4 and 5). BA closely followed with 76% of graduates expressing satisfaction, while Social Sciences and Journalism also performed well, with 73% satisfaction. On the dissatisfaction side, Services was the field with the highest dissatisfaction, recording 22% (combined response categories 1 and 2). Natural Sciences followed with 12% dissatisfaction, while Arts and Humanities reported 8%, making it the third highest in dissatisfaction.

In the 2021/22 cohort, Law ranked as the top performer, with 89% of graduates expressing satisfaction. Both Health and Services reported high satisfaction levels of 78%. Following closely behind, Social Sciences and Journalism, Business Administration, Information and Communication Technologies, and Engineering and Architecture all had satisfaction rates of 77%. In terms of dissatisfaction, Law reported the highest dissatisfaction levels at 11%, followed by Arts and Humanities with 9%. Natural Sciences and Services both registered 7% dissatisfaction. This analysis reveals that Health and Business Administration were consistently among the top-performing fields in terms of satisfaction, while Law indicates a higher rate in the 2021/22 cohort. On the other hand, Services and Natural Sciences continued to exhibit higher dissatisfaction levels across both cohorts, although higher rates were recorded in some fields.

Figure 55: Levels of satisfaction with the quality of teaching by field of study and graduation cohort



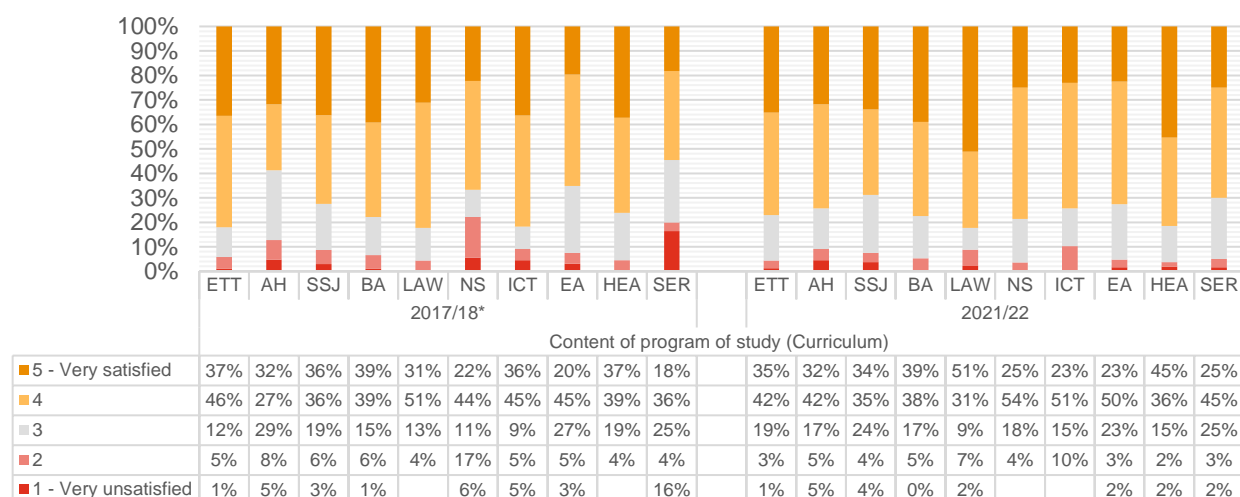
\*Statistically significant findings

Note: Fields of study ETT-Education and Teacher Training, AH-Arts and Humanities, SSJ-Social Sciences and Journalism, BA-Business Administration, LAW-Law, NS-Natural Sciences (including Mathematics), ICT-Information and Communication Technologies, EA-Engineering and Architecture, HEA-Health, SER-Services. "Agriculture, Forestry, Fisheries, Veterinary and Services" is excluded from the analysis due to its small population size.

Figure 56 illustrates graduates' satisfaction with the content of the programme of study (Curriculum) across different fields of study for the 2017/18 and 2021/22 cohorts, focusing on the top three fields in terms of both satisfaction and dissatisfaction. In the 2017/18 cohort, Education and Teacher Training reported the highest satisfaction, with 83% of graduates rating their experience positively (combined ratings of 4 and 5). Law closely followed, with 82% satisfaction, while Information and Communication Technologies also performed well, with 81% of graduates expressing satisfaction. On the dissatisfaction side, NS (including Mathematics) recorded the highest dissatisfaction level, with 23% of graduates rating their experience negatively (ratings 1 and 2). Services followed with 20% dissatisfaction, Arts and Humanities reported 13%, making it the third-highest field in dissatisfaction. The findings of this cohort were statistically significant.

In the 2021/22 cohort, Law remained the top performer, with 82% satisfaction. Health followed closely with 81% satisfaction, and Natural Sciences saw a significant improvement, reaching 79% satisfaction. In terms of dissatisfaction, Arts and Humanities and Information and Communication Technologies were the worst-performing fields, with both reporting 10% dissatisfaction. Law followed with 9% dissatisfaction, and Social Sciences and Journalism reported 8%, rounding out the bottom three in terms of dissatisfaction. This analysis highlights that Law consistently performed well in both cohorts, while fields like Health and Natural Sciences showed higher rates in the later cohort. On the other hand, for Arts and Humanities and Information and Communication Technologies higher dissatisfaction levels were recorded.

Figure 56: Levels of satisfaction with the content of programme of study by field of study and graduation cohort



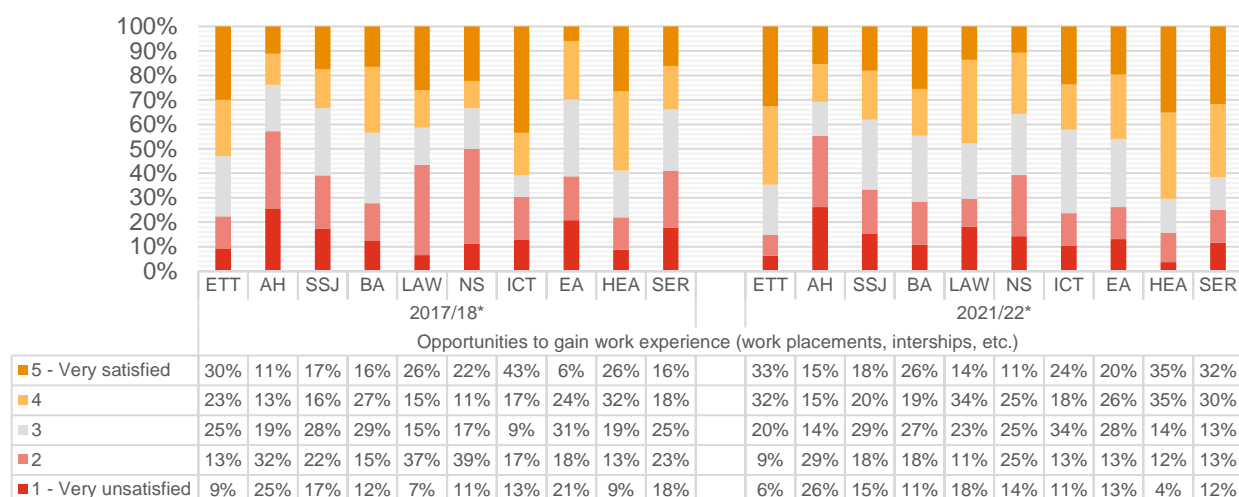
\*Statistically significant findings

Note: Fields of study ETT-Education and Teacher Training, AH-Arts and Humanities, SSJ-Social Sciences and Journalism, BA-Business Administration, LAW-Law, NS-Natural Sciences (including Mathematics), ICT-Information and Communication Technologies, EA-Engineering and Architecture, HEA-Health, SER-Services. "Agriculture, Forestry, Fisheries, Veterinary and Services" is excluded from the analysis due to its small population size.

Figure 57 shows graduates' satisfaction with opportunities for gaining work experience, including work placements and internships, across various fields of study for both cohorts, highlighting the top three fields in terms of both satisfaction and dissatisfaction. The results from both cohorts were statistically significant. In the 2017/18 cohort, Information and Communication Technologies led in satisfaction, with 60% of graduates expressing positive feedback (combined ratings of 4 and 5). Health followed closely, with 58% satisfaction, while Education and Teacher Training also performed well, with 53% satisfaction. On the dissatisfaction side, Arts and Humanities recorded the highest dissatisfaction level, with 57% of graduates rating their experience negatively (ratings 1 and 2). Natural Sciences followed with 50% dissatisfaction, Law was not far behind, with 44% dissatisfaction.

In the 2021/22 cohort, Health emerged as the highest-ranking field, with 70% of graduates reporting satisfaction. Education and Teacher Training followed closely at 65%, while Services demonstrated significant improvement with a satisfaction rate of 62%. In terms of dissatisfaction, Arts and Humanities once again had the highest rate, with 55% of graduates expressing negative opinions. Natural Sciences followed with 39% dissatisfaction, and Social Sciences and Journalism reported 33%, completing the bottom three fields in terms of dissatisfaction. This analysis highlights consistent strong satisfaction in the Health and Education fields across both cohorts, while Arts and Humanities and Natural Sciences faced higher levels of dissatisfaction throughout both time periods. Services, however, demonstrated higher rates in the 2021/22 cohort, moving from a lower position to one of the top performers.

Figure 57: Levels of satisfaction with the opportunities to gain work experience by field of study and graduation cohort



\*Statistically significant findings

Note: Fields of study ETT-Education and Teacher Training, AH-Arts and Humanities, SSJ-Social Sciences and Journalism, BA-Business Administration, LAW-Law, NS-Natural Sciences (including Mathematics), ICT-Information and Communication Technologies, EA-Engineering and Architecture, HEA-Health, SER-Services. "Agriculture, Forestry, Fisheries, Veterinary and Services" is excluded from the analysis due to its small population size.

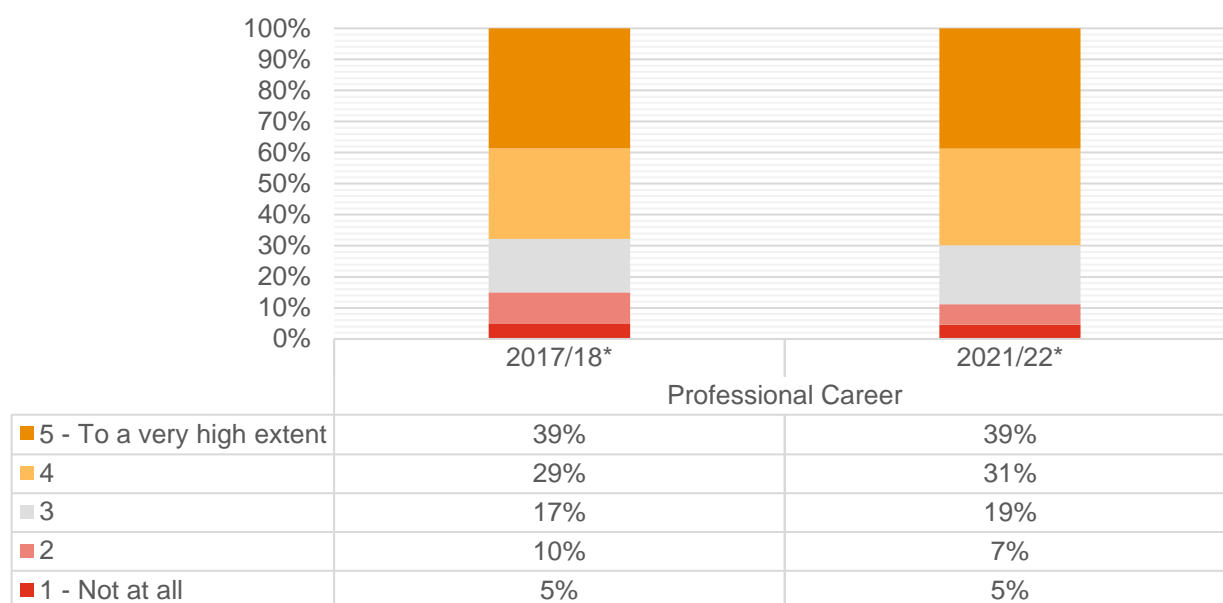
#### 5.1.4. Contribution of the programme of study to Professional Career and Personal Development

Higher Education aims to fulfil multiple purposes, including preparing students for active citizenship, for their future careers (e.g., contributing to their employability), supporting their personal development, creating a broad advanced knowledge base, and stimulating research and innovation. Given this multifaceted mission, it becomes evident that Higher Education Institutions (HEIs) must find effective mechanisms to collect feedback on the students' perspectives regarding their programmes of study and how these align with or contribute to their professional ambitions and self-growth.

In this context, graduates were asked whether they believed that their studies served as a good basis for their professional career and development. Graduates provided their responses on a five-point scale (where 1 indicated "not at all" and 5 "to a very high extent").

Figure 58 illustrates graduates' perceptions of whether their studies served as a good basis for their professional career development by graduation cohort. In the 2017/18 cohort, 68% of graduates expressed high contribution of their studies to their careers (combining response categories 4 and 5), while 15% reported lower contribution (combining ratings of 1 and 2). In the 2021/22 cohort, graduates recorded high contribution at 70% and lower contribution at 12%. Overall, the data shows a consistently strong perception among graduates that their higher education studies positively contributed to their career readiness. Differences between cohorts have been statistically significant.

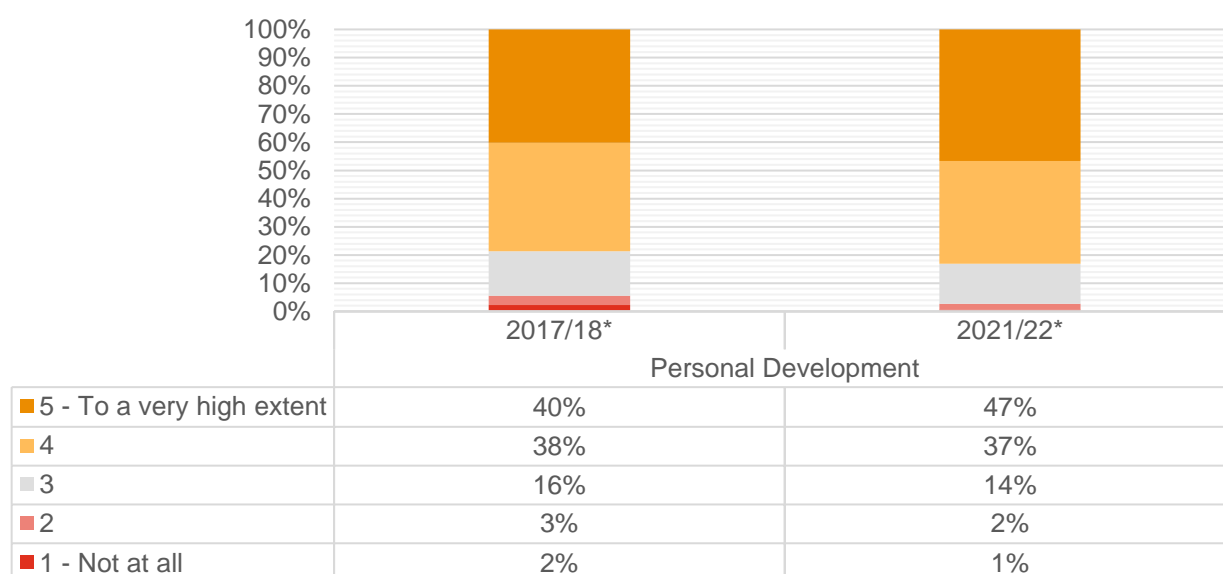
Figure 58: Average scores for contribution of the programme of study to Professional Career development by graduation cohort



\*Statistically significant findings

Figure 59 illustrates graduates' perceptions of whether their studies contributed to their personal development, for 2017/18 and 2021/22 cohorts. Differences between cohorts were statistically significant. In the 2017/18 cohort, 78% of graduates reported high contribution of their studies on their personal development (combining ratings of 4 and 5), while 5% reported lower contribution (combining ratings of 1 and 2). In the 2021/22 cohort, the contribution levels reach the 84%, against 3% of lower contribution. Overall, the data suggests a positive trend, with an increasing number of graduates recognizing the significant impact of their higher education on their personal development.

Figure 59: Contribution of the programme of study to Personal development by graduation cohort



#### 5.1.4.1. Contribution of the programme of study to Professional Career and Personal Development by demographic variables

Looking at the relationship between gender and contribution of the programme of study to professional career and personal development in Figure 60, it becomes evident that, in both cohorts, female graduates reported that they benefitted professionally and personally to a greater extent than males. These differences between females and males though were not found to be statistically significant.

Figure 60 illustrates the graduates' perceptions of how their programme of study contributed to their professional career, comparing male and female graduates in the 2017/18 and 2021/22 cohorts. In the 2017/18 cohort, contribution levels were relatively similar between male and female graduates. Among male graduates, 66% expressed satisfaction with the contribution of their studies to their professional career, while 69% of female graduates reported the same. Lower contribution levels were following similar trend, with 15% of males reporting lower contribution, compared to 17% of females (combining ratings of 1 and 2).

In the 2021/22 cohort, contribution levels remained consistent for both genders at 67% and 72% for male and female graduates respectively. Lower contribution has been recorded for both genders at 12% for males and 10% for females respectively. The overall data indicates that the extent of contribution of studies to professional career development remained steady across both cohorts and genders, with a slight difference.

Figure 60: Contribution of the programme of study to Professional Career development by gender and graduation cohort

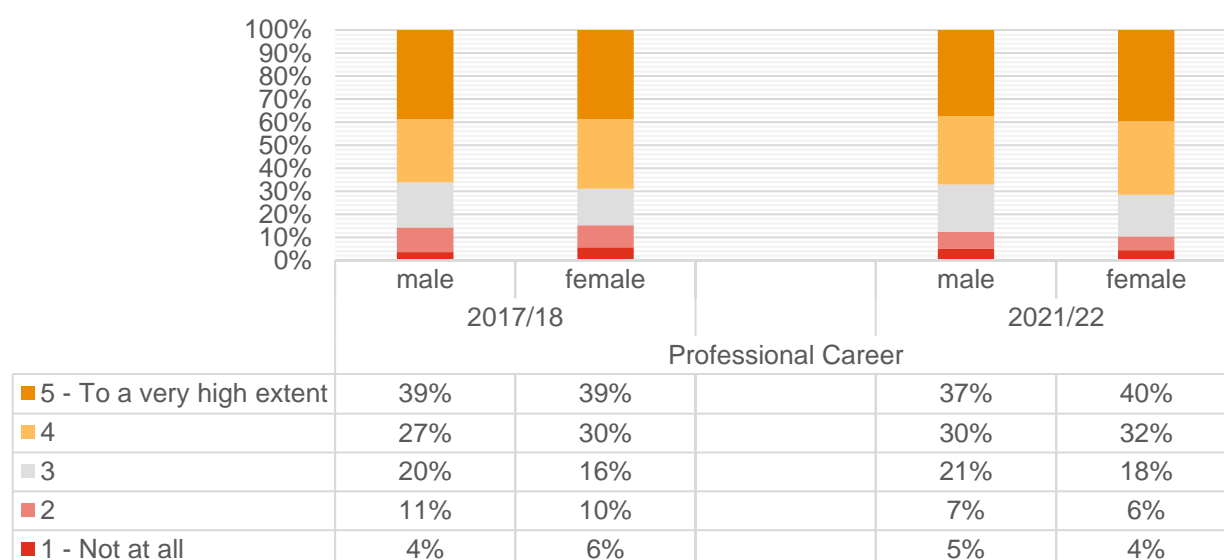


Figure 61 below, illustrates graduates' perceptions of how their programme of study contributed to their personal development, comparing male and female graduates in the 2017/18 and 2021/22 cohorts. In the 2017/18 cohort, contribution levels were slightly higher for female graduates than their male counterparts. Among male graduates, 78% high extend of contribution with their studies to personal development compared to the 79% of female graduates. Low level of contribution (combining ratings of 1 and 2), was recorded among male and female graduates at 5% and 6% respectively.

In the 2021/22 cohort, contribution levels were slightly lower for both genders. The 82% of male graduates' higher contribution compared to the 85% of females. Lack of contribution was very low for both genders, with only 4% of male graduates and 0% of female graduates. Overall, the data shows a consistently high level of contribution of the programme to personal development, with female graduates reporting slightly higher percentages in the 2021/22 cohort.

Figure 61: Contribution of the programme of study to Personal Development by gender and graduation cohort

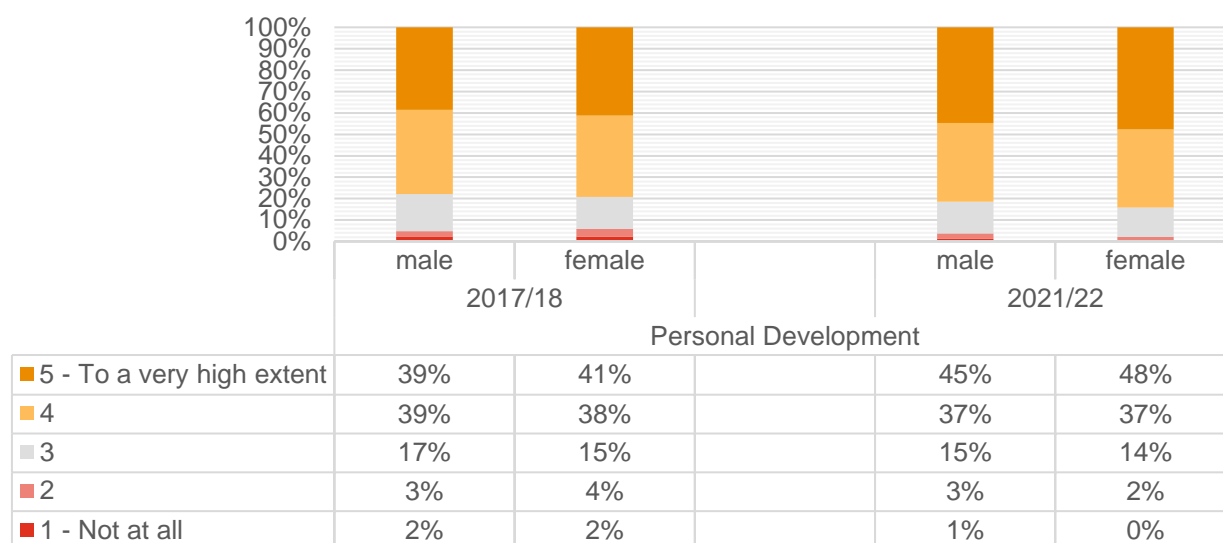
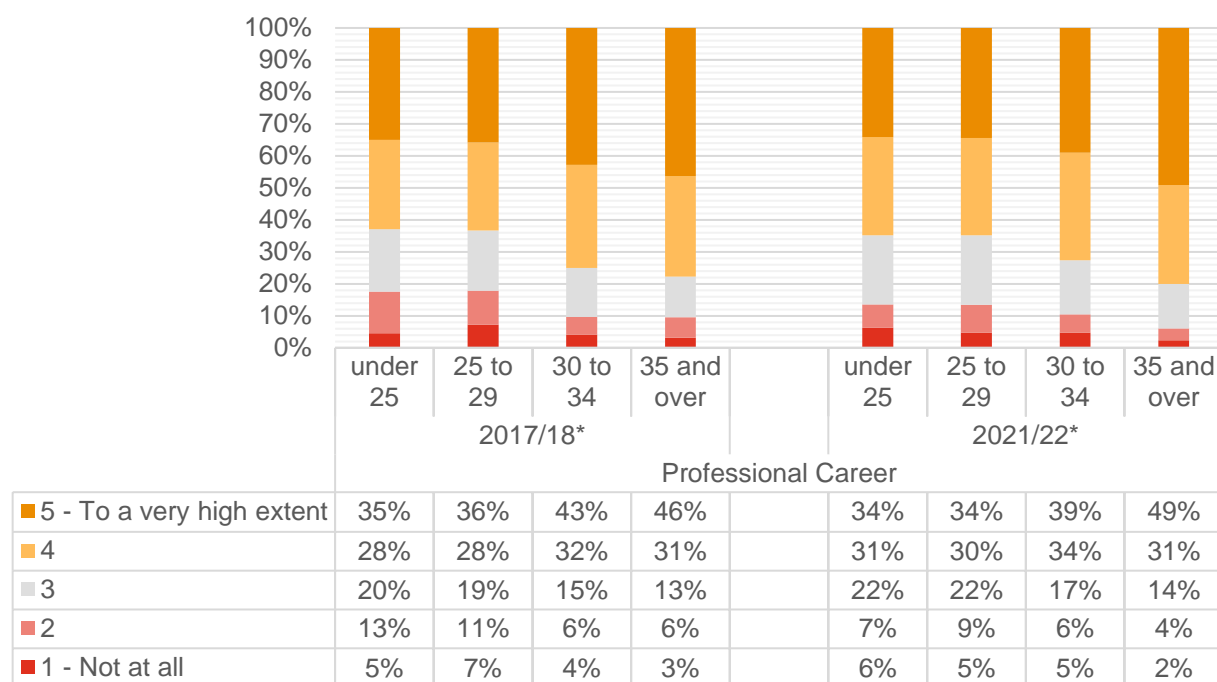


Figure 62 illustrates graduates' perceptions of how well their studies contributed to their professional careers, categorised by age groups (age graduation), for the 2017/18 and 2021/22 cohorts. Statistically significant differences in percentages are noted between the two cohorts. In the 2017/18 cohort, contribution levels (combining ratings 4 and 5) generally increased with age. Among those "under 25", 63% of graduates expressed high contribution. This increased to 64% for those aged "25 to 29", 75% for those aged "30 to 34", and reached a peak at 77% among graduates aged "35 and over". Lower contribution (combining ratings 1 and 2) was most prominent among the younger groups, with 18% of both of those aged "under 25" and "25 to 29".

In the 2021/22 cohort, studies contribution followed a similar trend, with higher contribution levels as age increased. Among graduates "under 25", 65% expressed contribution at high extend, followed by 64% for those aged "25 to 29". The extent of contribution increased to 73% for the "30 to 34" age group, reaching a peak of 80% for individuals aged "35 and over". The level of studies' contribution to professional career was lower across all groups, with younger graduates reporting the lowest. Particularly the age group "under 25" reported that their studies contributed to their professional career at 13%. Overall, the data suggests a clear trend where older graduates expressed higher contribution of their studies to their careers.

Figure 62: Contribution of the programme of study to Professional Career by age (at graduation) and graduation cohort

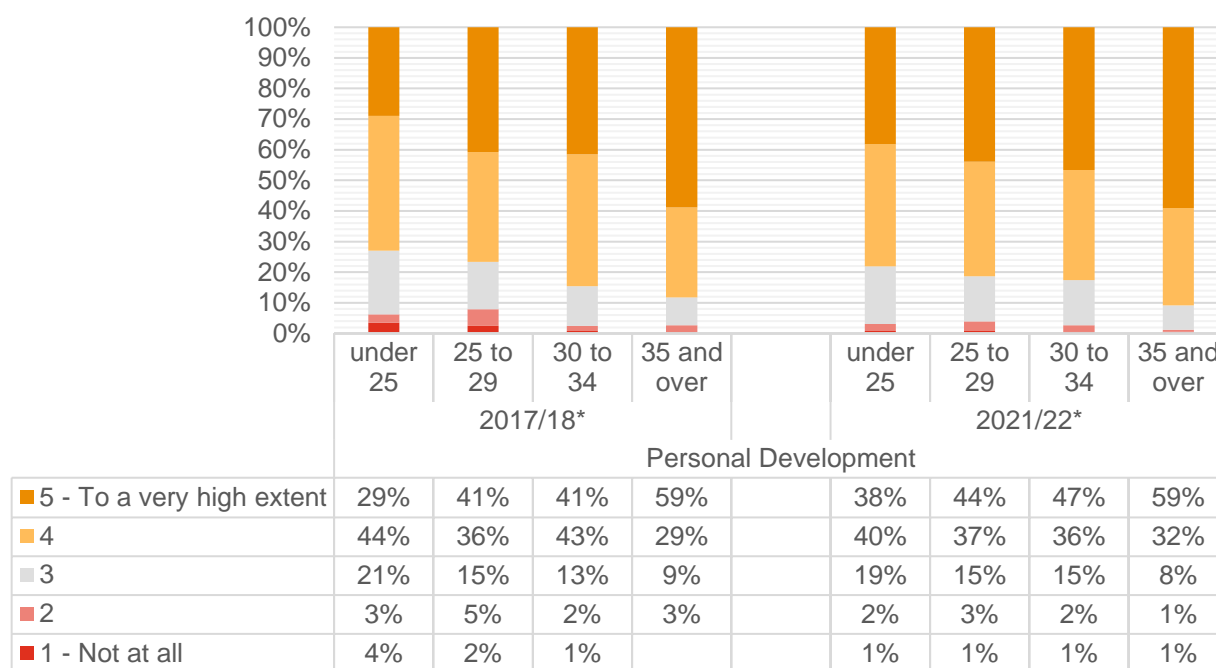


\*Statistically significant findings

Figure 63 illustrates graduates' perceptions of how well their studies contributed to their personal development, broken down by age (at graduation), for the 2017/18 and 2021/22 cohorts. Statistically significant differences are noted between the two cohorts. In the 2017/18 cohort, contribution levels (combining ratings 4 and 5) increased with age. Among those "under 25", 73% of graduates reported high contribution, followed by 77% of those aged "25 to 29". The highest levels of contribution were observed among older graduates, with 84% of those aged "30 to 34" and 88% of those aged "35 and over". Lower levels of contribution (combining ratings 1 and 2) were more prominent among younger graduates, at 7% of those "under 25" and 7% of those aged "25 to 29", while older graduates exhibited contribution at a very low extent.

In the 2021/22 cohort, contribution levels remained high, with a similar increasing trend across age groups. Among those "under 25", 78% expressed high contribution, followed by 81% of those aged "25 to 29". Contribution levels continued to rise among older graduates, reaching 83% for those aged "30 to 34", and peaking at 91% for those aged "35 and over". The extent to which studies contributed to personal development was smaller among younger graduates. Only 3% of graduates aged "under 25" and 4% of those aged "25 to 29" reported that their studies contributed to their personal development. Overall, the data highlights a consistent pattern between age and contribution of studies to personal development, with older graduates consistently expressing higher levels of contribution across both cohorts.

Figure 63: Contribution of the programme of study to Personal Development by age (at graduation) and graduation cohort

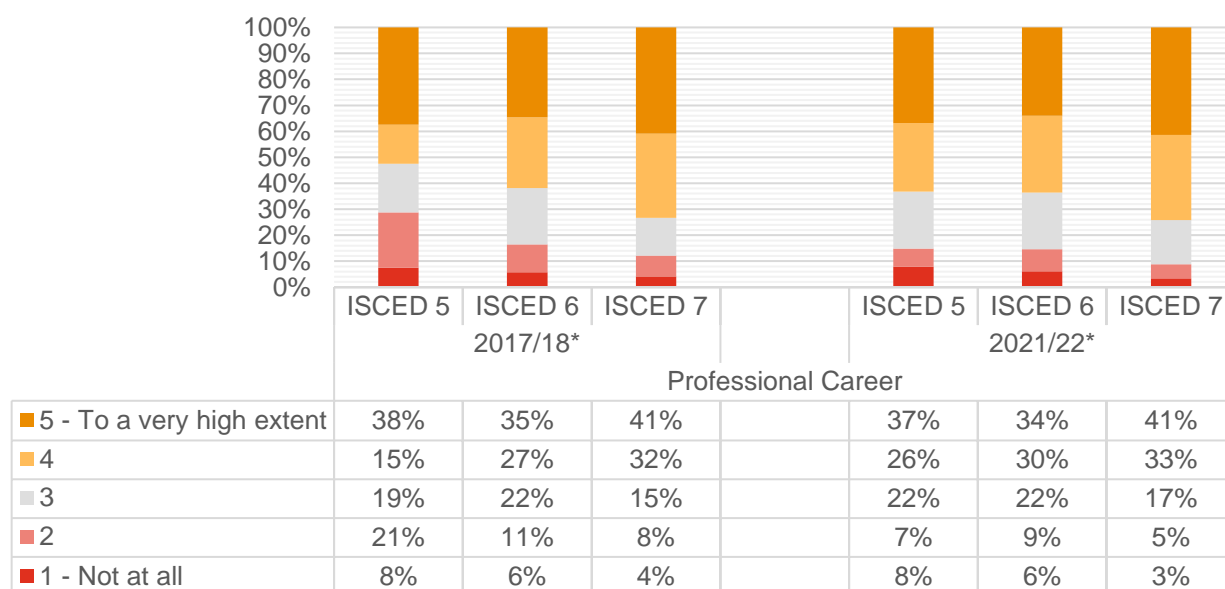


\*Statistically significant findings.

Contribution of the programme of study to Professional Career and Personal Development by variables related to Higher Education studies. Figure 64 compares the contribution of the programme of study to the professional career across different ISCED levels—ISCED 5, ISCED 6, and ISCED 7—for the 2017/18 and 2021/22 cohorts. In the 2017/18 cohort, studies' contribution (combining ratings 4 and 5) generally increased with the level of education. Among ISCED 5 graduates, 53% expressed high levels of contribution of their studies to their career, while this percentage rose to 62% for ISCED 6 graduates and 73% for ISCED 7 graduates. Lower contribution (combining ratings 1 and 2) was noted for ISCED 5 graduates at 29%, followed by 17% for ISCED 6 and 10% for ISCED 7 graduates.

In the 2021/22 cohort, the trend remained similar, with ISCED 7 graduates continuing to report the highest contribution, at 74%. ISCED 5 graduates reported a contribution rate of 63%, while ISCED 6 graduates reported 64%. Contribution of studies to the professional career decreased slightly across all ISCED levels, with ISCED 5 and 6 graduates at 15% and ISCED 7 at 8%. The differences in contribution levels within the two cohorts are statistically significant. This indicates that higher education levels are consistently associated with greater contribution of studies on career development.

Figure 64: Contribution of the programme of study to Professional Career by ISCED-level and graduation cohort

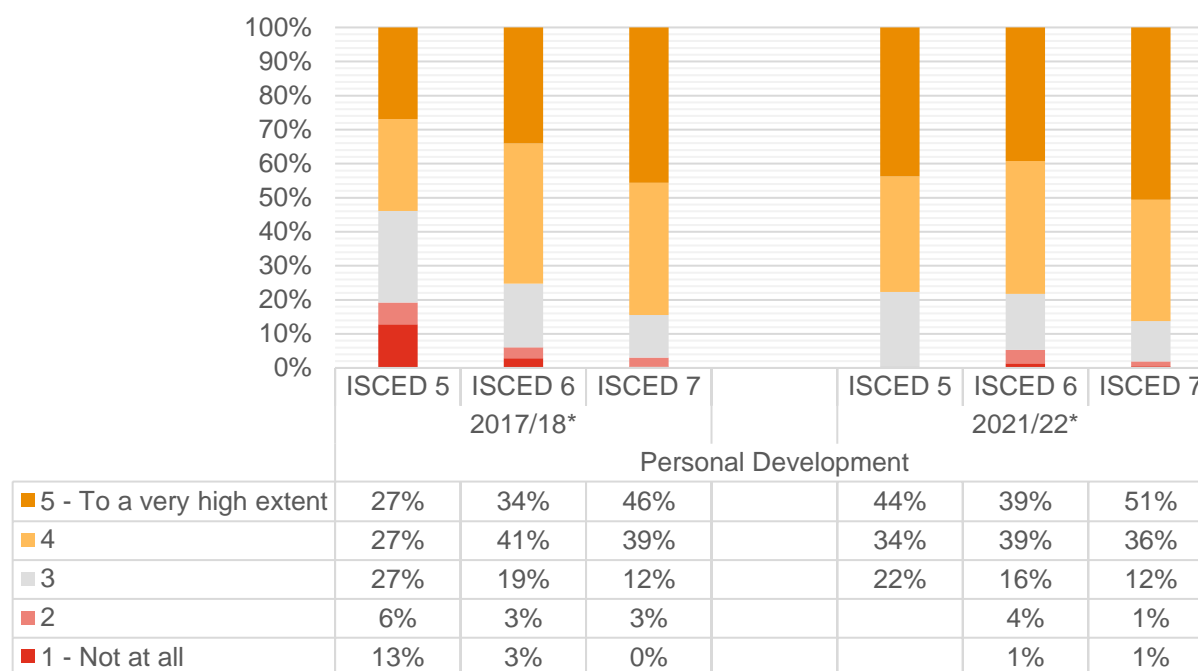


\*Statistically significant findings

Figure 65 compares the contribution of the programme of study to personal development across ISCED levels—ISCED 5, ISCED 6, and ISCED 7—for the 2017/18 and 2021/22 cohorts. In the 2017/18 cohort, contribution (combining ratings 4 and 5) increased with the level of education. Among ISCED 5 graduates, 54% expressed higher levels of contribution of their studies to personal development, compared to 75% of ISCED 6 and 85% of ISCED 7 graduates. Low contribution of the programme of study to personal development (combining ratings 1 and 2) was reported by 19% of ISCED 5 graduates, whereas for ISCED 6 and ISCED 7 graduates the corresponding percentages reached the 6% and 3% respectively.

In the 2021/22 cohort, the pattern remained similar, with ISCED 7 graduates reporting the highest contribution of studies to personal development, at 87%, followed by ISCED 5 and ISCED 6 graduates at 78%. Low levels of contribution were reported by only 5% of ISCED 6 and 2% of ISCED 7 graduates. These results were statistically significant within both cohorts, highlighting a clear trend of higher satisfaction of studies to personal development as the level of education increases, particularly for ISCED 7 graduates, who consistently show the highest levels of contribution across both cohorts.

Figure 65: Contribution of the programme of study to Personal Development by ISCED-level and graduation cohort

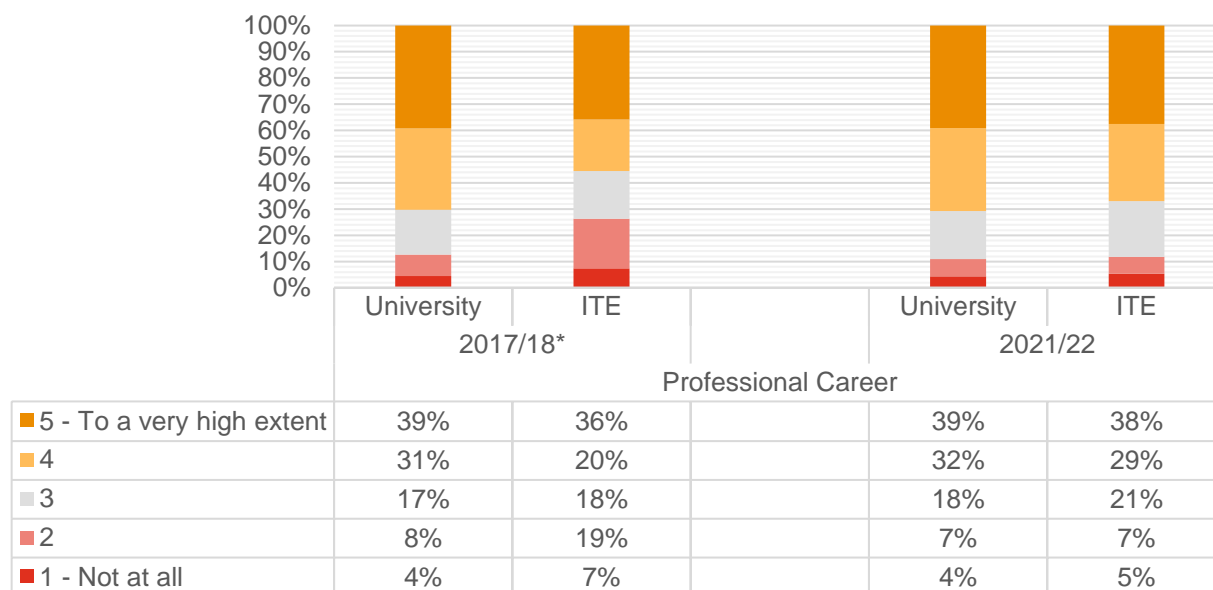


\*Statistically significant findings.

Figure 66 presents graduates' perceptions of how well their programme of study contributed to their professional career, across the two types of HEIs—Universities and Institutions of Tertiary Education (ITE)—for the 2017/18 and 2021/22 cohorts. In the 2017/18 cohort, contribution (combining ratings 4 and 5) was higher among University graduates, with 70% expressing high extent of contribution of their studies to their professional career. ITE graduates showed slightly lower contribution, with 56% reporting positive perceptions. Low contribution levels (combining ratings 1 and 2) were reported by 26% of ITE graduates and by 12% of University graduates. The results for the 2017/18 cohort were statistically significant.

In the 2021/22 cohort, contribution levels remained stable for University graduates at 71%, while ITE graduates saw a notable improvement, with 67%. The level of studies' contribution on professional career decreased across both HEI types, with 11% for University graduates and 12% for ITE graduates. The results indicate that both University and ITE graduates perceive their studies as contributing positively to their professional careers, with notable improvements seen among ITE graduates over time.

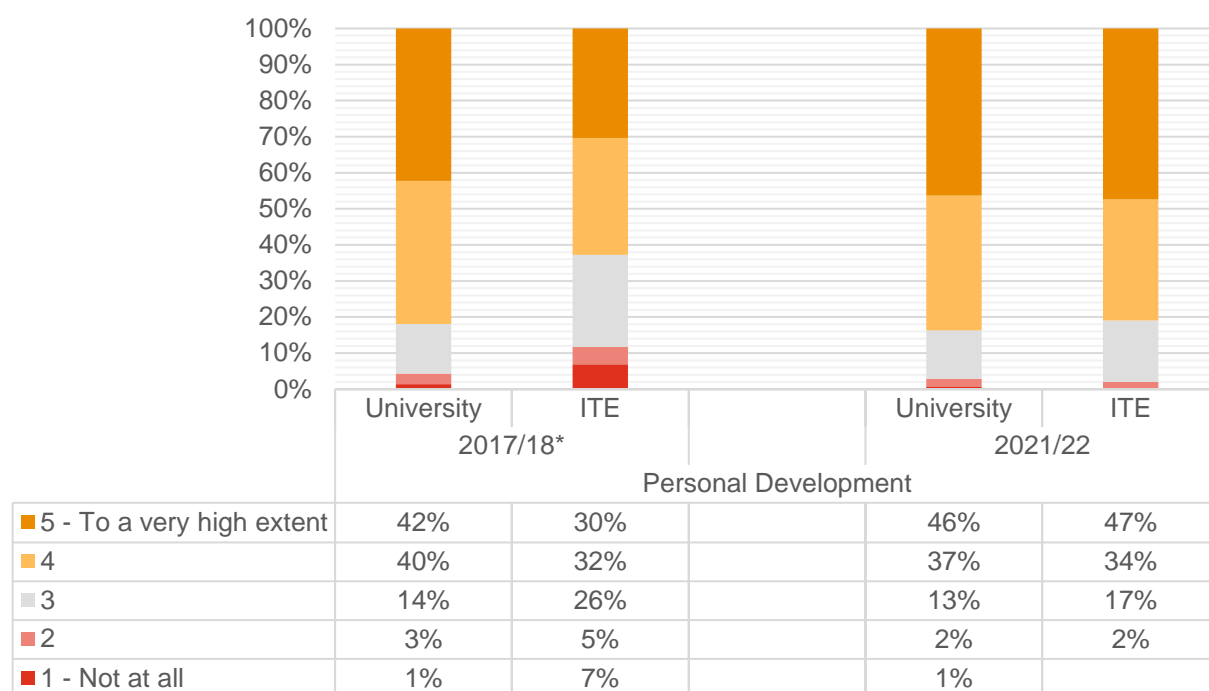
Figure 66: Contribution of the programme of study to Professional Career by type of HEI and graduation cohort



\*Statistically significant findings.

Figure 67 illustrates graduates' perceptions of how well their programme of study contributed to their personal development, comparing results from Universities and Institutions of ITE for the 2017/18 and 2021/22 cohorts. In the 2017/18 cohort, 82% of University graduates expressed high levels of how their studies contributed to their personal development (combining ratings 4 and 5), while ITE graduates reported significantly lower contribution levels at 62%. The results of the 2017/18 cohort were statistically significant. In the 2021/22 cohort, contribution levels remained high for both groups, with 83% of University graduates and 81% of ITE graduates indicating that their studies had contributed to a high extent to their personal development. The data shows that graduates acknowledge that their studies make a significant contribution to their personal development across both cohorts.

Figure 67: Contribution of the programme of study to Personal Development by type of HEI and graduation cohort



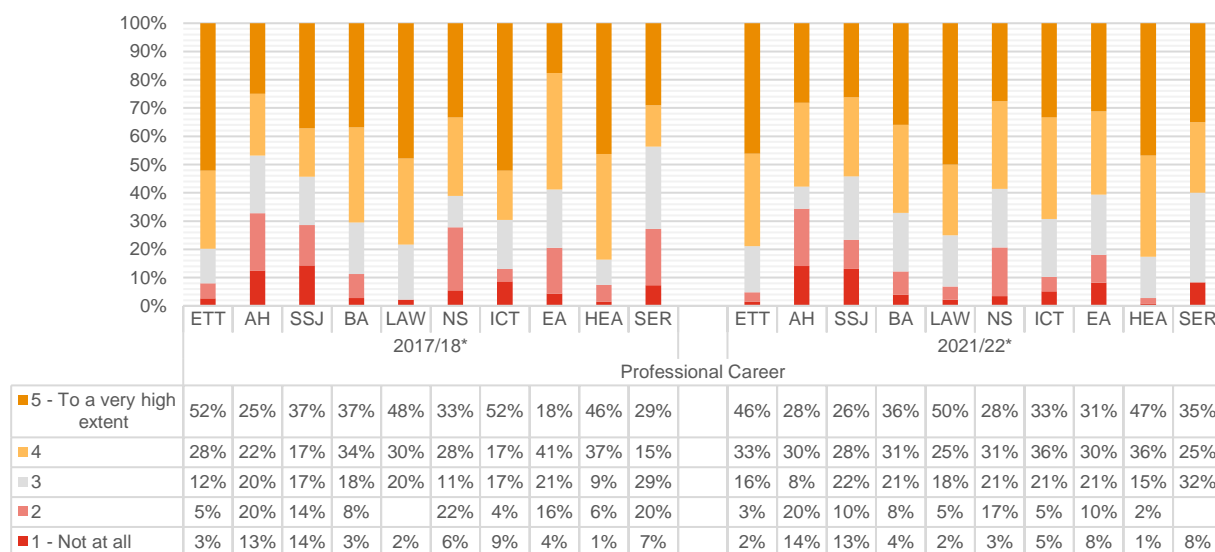
\*Statistically significant findings.

Figure 68 illustrates graduates' perceptions of how well their programme of study contributed to their professional careers across various fields of study for the 2017/18 and 2021/22 cohorts. It focuses on the top and bottom three fields in terms of contribution, measured by the extent to which graduates felt their studies supported their professional development.

In the 2017/18 cohort, Health emerged as the top performer, with 83% of graduates expressing a higher contribution (ratings 4 and 5) of their studies to their professional career development. Education and Teacher Training followed closely with 80%, while Law ranked third, with 78% of graduates reporting high contribution. In contrast, the bottom three fields included Arts and Humanities, where only 33% of graduates felt their studies supported their career, followed by Social Sciences and Journalism and Natural Sciences, both at 28%, and Services with 27%. These results from the 2017/18 cohort indicate statistically significant differences, among across fields In the 2021/22 cohort, Health maintained its top position, with 83% of graduates happy with the contribution of their studies to their professional career, followed by Education and Teacher Training with 79%, and Law at 75%. On the lower end, Arts and Humanities again showed the lowest contribution at 34%, followed by Social Sciences and Journalism at 23%, and Natural Sciences with 20%.

Overall, the data reveals a pattern where fields like Health, Education and Teacher Training, and Law consistently rank high in terms of their perceived contribution to graduates' professional careers. In contrast, fields such as Arts and Humanities, Social Sciences and Journalism, and Natural Sciences continue to see lower contribution, suggesting a potential gap between academic training and career preparedness in these disciplines.

Figure 68: Contribution of the programme of study to Professional Career by field of study and graduation cohort



\*Statistically significant findings.

Note: Fields of study ETT-Education and Teacher Training, AH-Arts and Humanities, SSJ-Social Sciences and Journalism, BA-Business Administration, LAW-Law, NS-Natural Sciences (including Mathematics), ICT-Information and Communication technologies, EA-Engineering and Architecture, HEA-Health, SER-Services. "Agriculture, Forestry, Fisheries, Veterinary and Services" is excluded from the analysis due to its small population size.

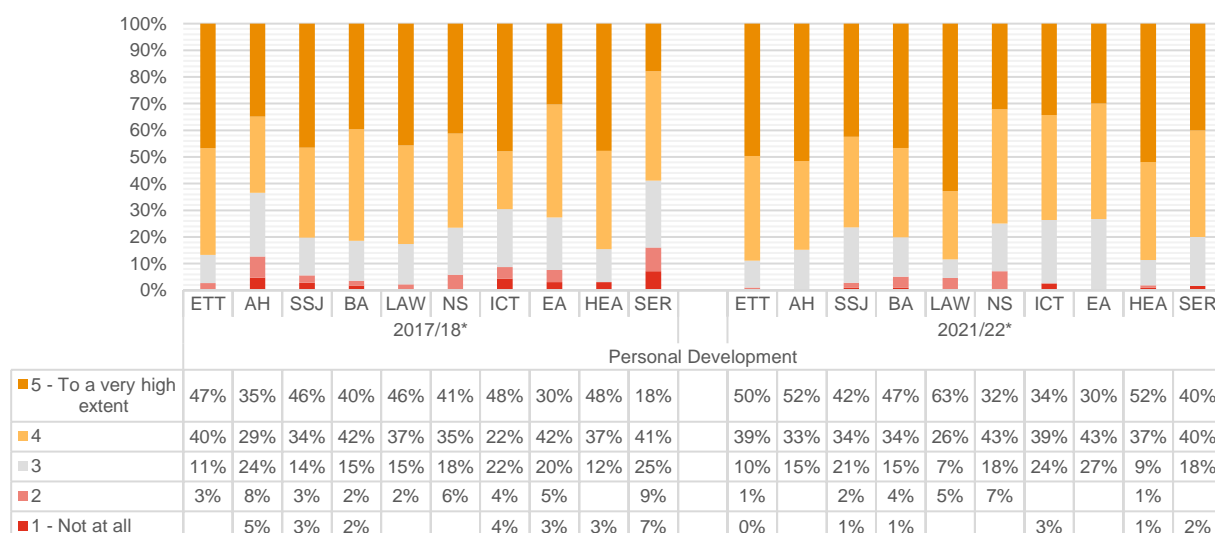
Figure 69 presents graduates' perceptions of how well their programme of study contributed to their personal development across various fields of study for the 2017/18 and 2021/22 cohorts. The focus is on identifying the top and bottom three performers in terms of satisfaction within each cohort, as measured by how much graduates felt their studies supported their personal growth.

In the 2017/18 cohort, Education and Teacher Training stood out with the highest contribution levels, with 87% of graduates (combining ratings 4 and 5) expressing positive views on how their studies contributed to their personal development. Health followed closely with 85%, and Law also ranked highly at 83%. Regarding the contribution at a lower extent, in the Serviced field, 16% of graduates reported low to no contribution of their studies to their personal development. This trend is similar for Arts and Humanities at 13%. The results for this cohort were statistically significant, indicating meaningful differences across fields.

In the 2021/22 cohort, Education and Teacher Training, Law, and Health indicating contribution of studies on personal development at a high extent (89%). On the other hand, the Natural Sciences field recorded the lower contribution with 7% of graduates reporting that their studies contributed to their personal development at low or no extent at all. Business Administration and Law followed closely with 5% contribution, and Social Sciences and Journalism and Information and Communication Technologies had 3% contribution each.

The overall pattern highlights that fields such as Education and Teacher Training, Health, and Law consistently provide strong contributions to graduates' personal development, while fields like Natural Sciences, Social Sciences and Journalism, and Information and Communication Technologies show continued lower contribution, pointing to a potential gap in perceived personal development support within these areas.

Figure 69: Contribution of the programme of study to Personal Development by field of study and graduation cohort



\*Statistically significant findings.

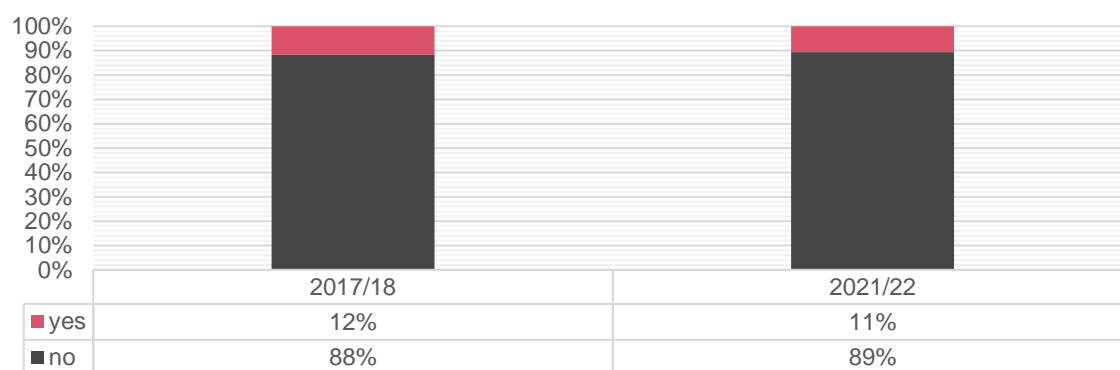
Note: Fields of study ETT-Education and Teacher Training, AH-Arts and Humanities, SSJ-Social Sciences and Journalism, BA-Business Administration, LAW-Law, NS-Natural Sciences (including Mathematics), ICT-Information and Communication technologies, EA-Engineering and Architecture, HEA-Health, SER-Services. "Agriculture, Forestry, Fisheries, Veterinary and Services" is excluded from the analysis due to its small population size.

### 5.1.5. Continuing studies in Higher Education after graduation

Obtaining a certificate, a diploma, a bachelor's, or master's degree from a Higher Education Institution marks a significant milestone in one's educational journey, yet it is not the ultimate goal. Instead, it represents a pivotal point within the broader context of lifelong learning. Continuous education and ongoing learning are imperative for graduates to ensure their competencies remain current and to adapt to the ever-accelerating pace of technological transformations that reshape our society and, specifically, the labour market. Given this perspective, this study explored whether graduates pursued further studies following the completion of their degrees. It worths to mention that the sub-sample used in these analyses comprised only graduates who pursued further studies in higher education without seeking paid employment, excluding those who were both working and studying simultaneously.

Figure 70 shows that upon graduation, most of the graduates in both cohorts did not continue their studies in Higher Education. Specifically, only 12% of those who have graduated in 2017/18 continued their studies in Higher Education and a smaller percentage of 2021/22 graduates (11%). These differences among the two cohorts were not found to be statistically significant.

Figure 70: Continuing studies in Higher Education after graduation, by graduation cohort

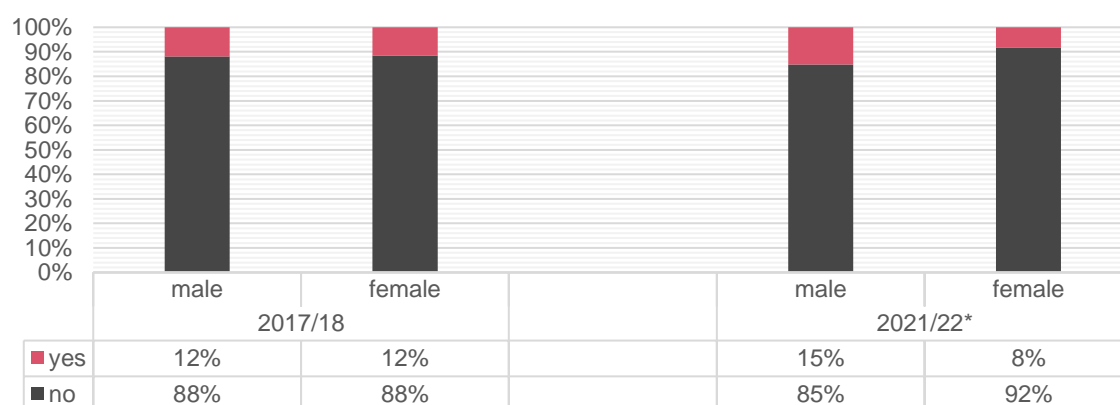


*\*Statistically significant findings*

#### 5.1.5.1. Continuing studies in Higher Education after graduation by demographic variables

Figure 71 shows the percentage of graduates continuing their studies after graduation by gender in the two cohorts. Overall, a low percentage (12%) of both male and females continued their studies in Higher Education after graduation in the 2017/18 cohort. A higher percentage of male (15%) than female (8%) graduates proceeded with further studies after graduation in 2021/22 cohort. These differences among the two genders for 2021/22 cohort were found to be statistically significant.

Figure 71: Continuing studies in Higher Education after graduation by gender and graduation cohort

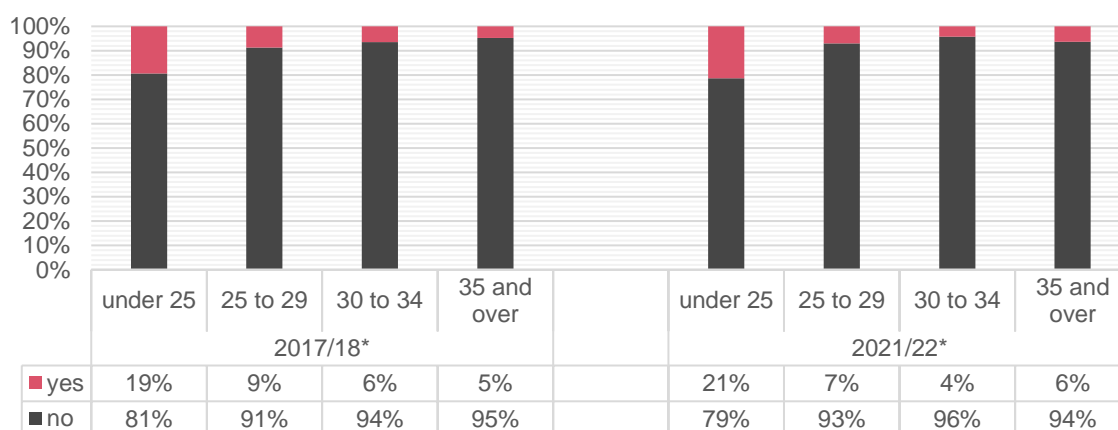


*\*Statistically significant findings*

The relationship between pursuing further studies in Higher Education and age at graduation in the two cohorts is displayed in Figure 72, where statistically significant differences were noted in both cohorts. In both cohorts 2017/18 and 2021/22, the age category “under 25” had the largest portion of graduates pursuing Higher Education studies (19% and 21% respectively), while the age category “35 and over” had the lowest (5% and

6% respectively). In the 2021/22 cohort, the lower percentage of respondents who continued studies in HE after graduation were the age group “30 to 34” (4%).

Figure 72: Continuing studies in Higher Education after graduation by age (at graduation) and graduation cohort

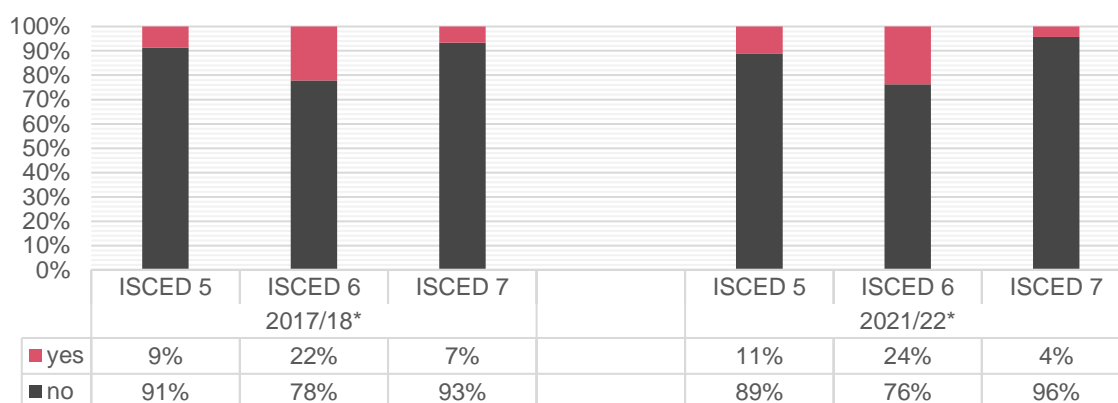


\*Statistically significant findings

#### 5.1.5.2. Continuing studies after graduation by variables related to Higher Education studies

ISCED levels appeared to be associated to a statistically significant extent with pursuing further studies after graduation in both cohorts (Figure 73). In the 2017/18 cohort, ISCED 6 level had the highest percentage of graduates (22%) that reported pursuing further studies after graduation. This was followed by ISCED 5 and then ISCED 7 (9% and 7% respectively). A similar pattern was noted in the cohort 2021/22 with ISCED 6 at 24%, ISCED 5 at 11% and ISCED 7 at 4%. Comparisons between the two cohorts indicated that the percentages of graduates who reported pursuing further studies in Higher Education after graduation for each ISCED level decreased from 2017/18 to 2021/22.

Figure 73: Continuing studies in Higher Education after graduation by ISCED-level and graduation cohort



\*Statistically significant findings

Type of HEIs and pursuing further studies after graduation do not appear to be related to a statistically significant level. According to Figure 74, in 2017/18 cohort, more University graduates continued their Higher Education studies after graduation than graduates from ITE (12% and 11% respectively). In 2021/22, the percentage of graduates who continued their studies after graduation was the opposite with University graduates recording a lower percentage (10%) than ITE graduates (13%).

Figure 74: Continuing studies in Higher Education after graduation by type of HEI and graduation cohort

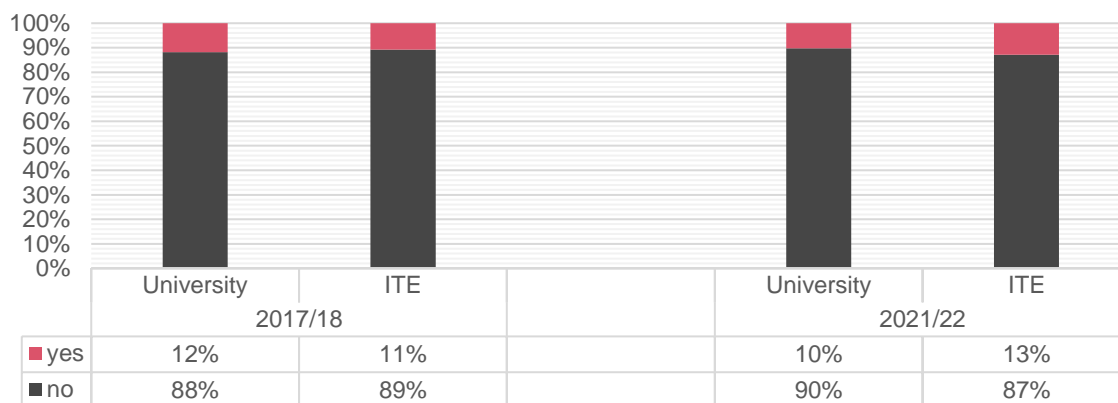
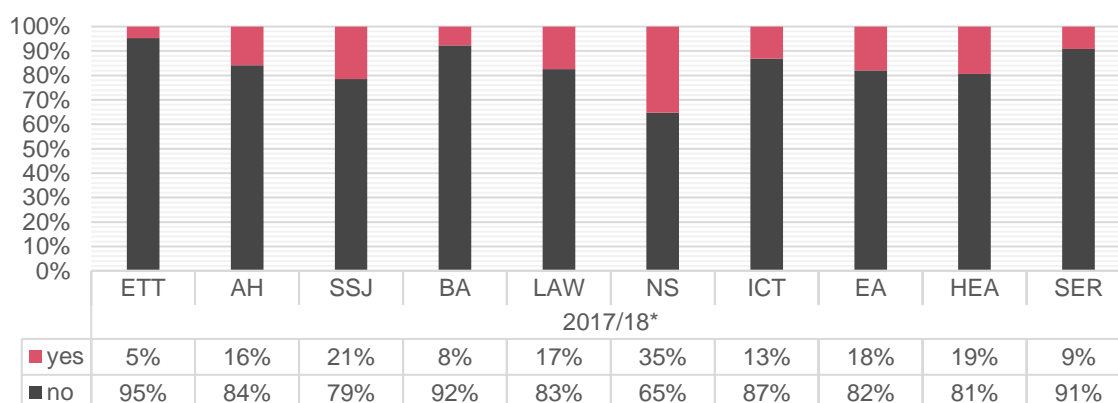
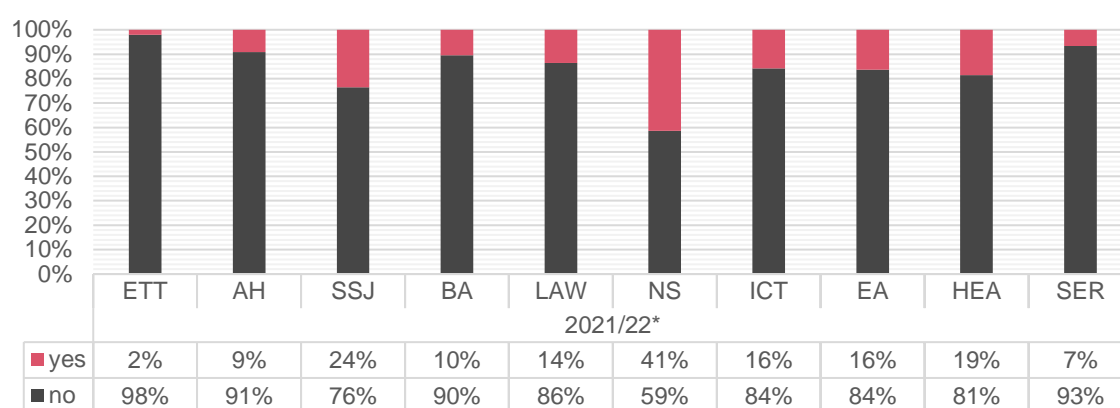


Figure 75 illustrates that depending on the field of study, the percentage of graduates who continue their studies after graduation differs. For both cohorts these differences were statistically significant. In cohort 2017/18, the field of Natural Sciences had the highest percentage (35%) of graduates continuing their studies after graduation, while the field of Education and Teacher Training recorded the lowest percentage (5%). Among the lower percentages of graduates that continued their studies are the fields of Services and Business Administration with 9% and 8% respectively. In 2021/22, a similar pattern was observed with graduates in the field of Natural Sciences to record the highest percentage (41%) and Education and Teacher Training the lowest (2%). Low percentages have been recorded for Arts and Humanities and Services as well with 9% and 7% respectively.

Figure 75: Continuing studies in Higher Education after graduation by field of study and graduation cohort





\*Statistically significant findings

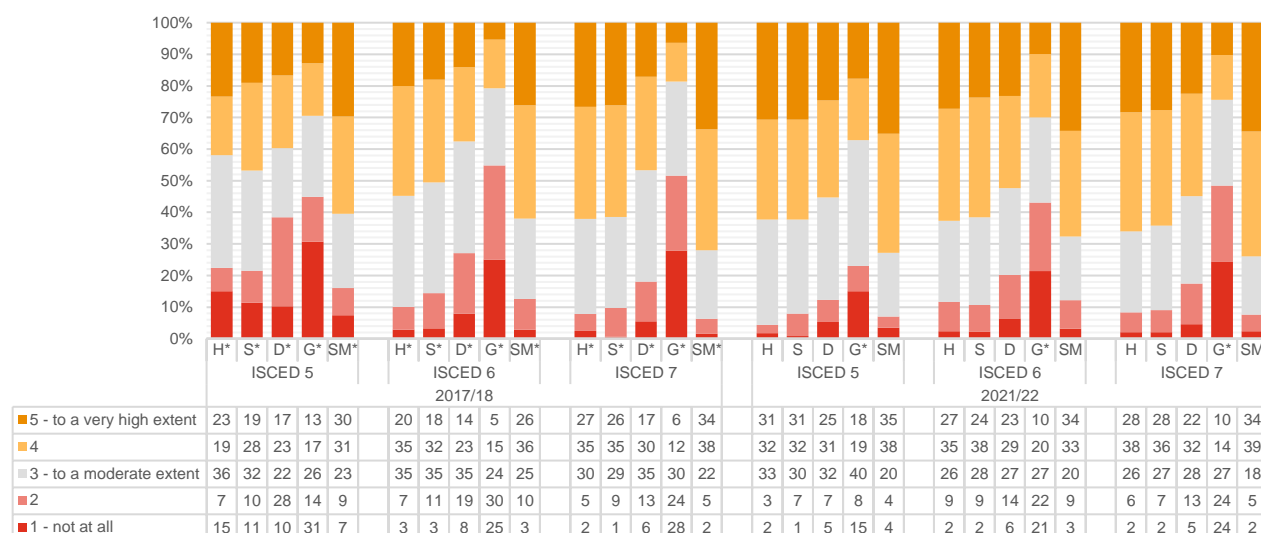
Note: Fields of study ETT-Education and Teacher Training, AH-Arts and Humanities, SSJ-Social Sciences and Journalism, BA-Business Administration, LAW-Law, NS-Natural Sciences (including Mathematics), ICT-Information and Communication technologies, EA-Engineering and Architecture, HEA-Health, SER-Services. "Agriculture, Forestry, Fisheries, Veterinary and Services" is excluded from the analysis due to its small population size.

## 5.1.6. Skills developed in Higher Education

Figure 76 illustrates the extent to which graduates believe their programme of study helped them develop five types of skills—hard skills (H), soft skills (S), digital skills (D), green skills (G), and self-management skills (SM)—across ISCED levels (5, 6, and 7) for the 2017/18 and 2021/22 cohorts. All results presented were statistically significant. In the 2017/18 cohort, ISCED 5 graduates reported the highest contribution to self-management skills, with 61% of graduates stating that their programme helped them primarily develop this skill (combining ratings 4 and 5), followed by soft skills at 47%. On the other hand, green skills were the least developed according to graduates, with 45% indicating that the programme contributed to the development of these skills to a lesser extent (combining ratings 1 and 2), followed by digital skills with 38% reporting minimal development. Among ISCED 6 graduates, self-management skills were again rated the highest, with 62% reporting that their programme contributed significantly to their development, followed by hard skills at 55%. Green skills development was the least supported, with 55% reporting minimal contribution, followed by digital skills at 27%. ISCED 7 graduates rated self-management skills the highest, with 72% reporting that their programme helped them develop this skill to a significant extent, followed by hard skills at 62%. In contrast, green skills were reported as the least developed, with 52% reporting low contribution, and digital skills at 19%.

In the 2021/22 cohort, the extent to which programmes helped develop self-management skills remained high, with 73% of ISCED 5 graduates indicating significant contribution (combining ratings 4 and 5). Hard skills and soft skills followed closely, with both receiving 63% for substantial development. The lower extent of contribution was recorded for green skills at 23% and digital skills at 12%, where graduates reported minimal support (combining ratings 1 and 2). For ISCED 6 graduates, self-management skills continued to lead, with 67% reporting a significant extent of development, followed by hard and soft skills, both at 62%. Green skills remained the least developed, with 41% of graduates reporting limited contribution, followed by digital skills at 20%. ISCED 7 graduates again rated self-management skills the highest, with 73% reporting that their programme contributed significantly to their development, while both hard and soft skills received 64%. Green skills and digital skills were once again the skills that graduates reported that their programme of study helped them the least to develop (48% and 18%, respectively). The overarching theme across both cohorts highlights that across these ISCED levels self-management, hard, and soft skills were those developed to a higher extent, while green and digital skills development showed the most room for improvement, with consistently lower ratings across all ISCED levels.

Figure 76: Contribution of the programme of study to skill development by level of study and graduation cohort



\*Statistically significant findings

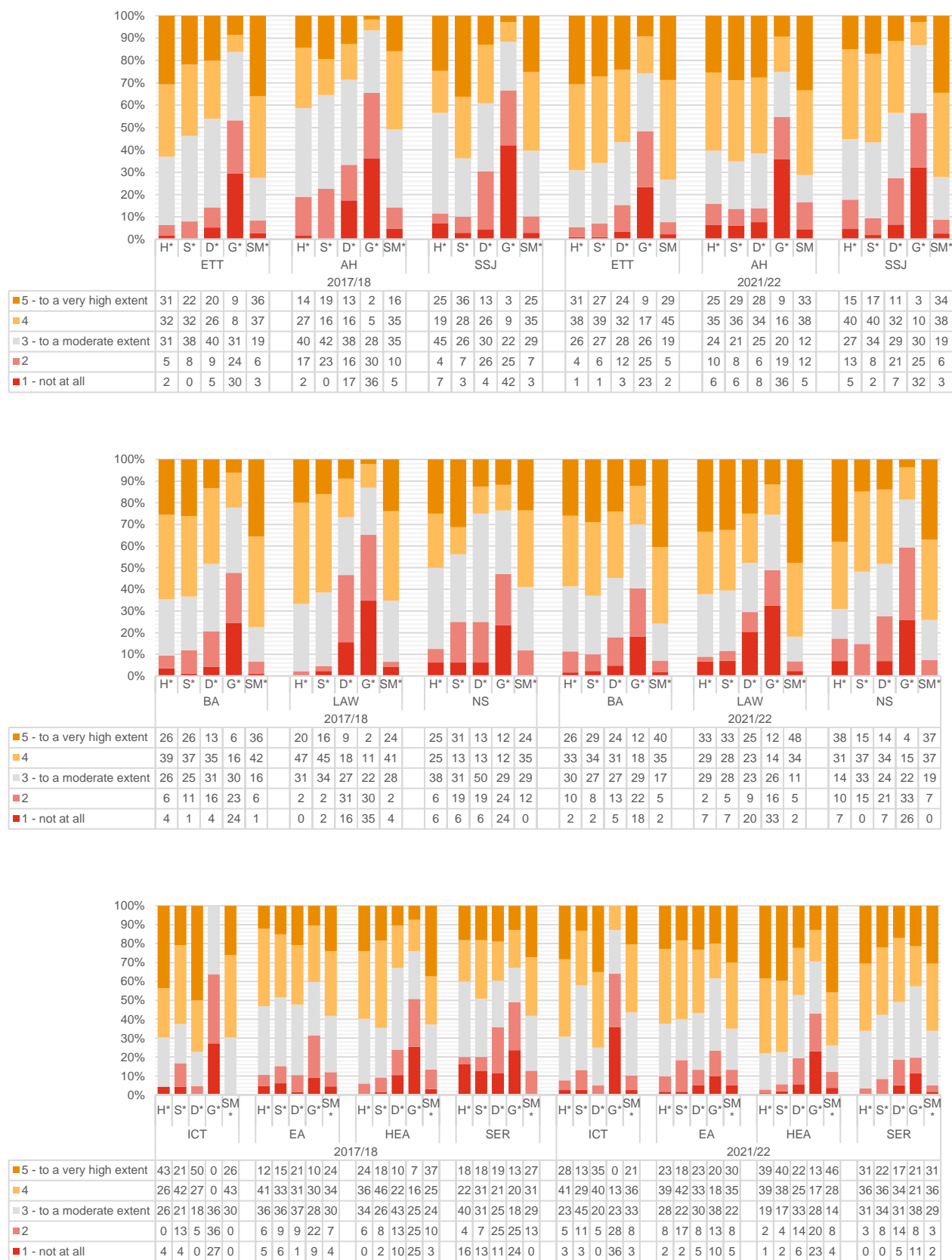
Note: Types of Skills H-Hard skills, S-Soft skills, D-Digital Skills, G-Green Skills, and SM-Self-management skills

Figure 77 illustrates graduates' perceptions of how their programme of study contributed to the development of various skills across the fields of study for both cohorts. All results presented were statistically significant. In the 2017/18 cohort, Information and Communication Technologies graduates reported the development of hard skills at the highest extent (69%) followed by Law at 67%. Arts and Humanities graduates reported that their studies contributed to the hard skills development at the lowest extent (19%). Social Sciences and Journalism and Health graduates reported the development of soft skills as the most developed through their programme of studies at 64%. Natural Sciences graduates reported that their studies contributed to the soft skills development at the lowest extent (25%). Information and Communication Technologies graduates, as expected reported the highest contribution of their programme to digital skills development at 77% followed by Education and Teacher Training graduates at 46%. Law graduates reported that their studies contributed to the digital skills development at the lowest extent (47%). Engineering and Architecture graduates reported the highest contribution of their studies on the green skills development at 40% followed by Services graduates (33%). Social Sciences and Journalism graduates reported that their studies contributed to the green skills development at the lowest extent (67%). Business Administration studies seems that they contribute the most on the development of self-management skills as per their graduates at 78%, followed Education and Teacher Training graduates at 73%. Arts and Humanities graduates reported that their studies contributed to the self-management skills development at the lowest extent (15%).

In the 2021/22 cohort, Health graduates reported the highest contribution extent of hard skills development through their studies at 78% followed by Natural Sciences, Information and Communication Technologies and Education and Teacher Training graduates (69%). Social Sciences and Journalism graduates reported that their studies contributed to the hard skills development at the lowest extent (18%). Health and Education and Teacher Training graduates reported also the highest contribution of their studies on the development of their soft skills at 78% and 66% respectively. Engineering and Architecture graduates reported that their studies contributed to the soft skills development at the lowest extent (19%). Information and Communication Technologies field follows a similar pattern as per the 2017/18 cohort with graduates reporting the highest contribution to digital skills development at 75% followed by Arts and Humanities (62%). Law graduates reported that their studies contributed to the digital skills development at the lowest extent (29%). As per the green skills, similar pattern is observed with Engineering and Architecture, and Services to report the highest development at 38% and 42% respectively. Information and Communication technologies graduates reported that their studies contributed to the green skills development at the lowest extent (64%). Law graduates and

Business Administration graduates report the highest contribution of self-management skills development through their studies at 82% and 75% respectively. Arts and Humanities graduates reported that their studies contributed to the self-management skills development at the lowest extent (17%). Overall, across both cohorts, self-management and hard skills were reported by graduates as being developed through their studies across all fields. In contrast, green and digital skills are reported by graduates as the least developed, highlighting the need for the programmes of studies to incorporate activities for these skills' development.

Figure 77: Contribution of the programme of study to skill development by field of study and graduation cohort



*\*Statistically significant findings*

*Note 1: Types of Skills H-Hard skills, S-Soft skills, D-Digital Skills, G-Green Skills, and SM-Self-management skills*

*Note 2: Fields of study ETT-Education and Teacher Training, AH-Arts and Humanities, SSJ-Social Sciences and Journalism, BA-Business Administration, LAW-Law, NS-Natural Sciences (including Mathematics), ICT-Information and Communication technologies, EA-Engineering and Architecture, HEA-Health, SER-Services. "Agriculture, Forestry, Fisheries, Veterinary and Services" is excluded from the analysis due to its small population size.*

## 5.1.7. Green and Digital Skills in the context of programme of study

### 5.1.7.1. Environmental Sustainability in the context of programme of study

In an era marked by environmental concerns and rapid digital transformation, the development of green and digital skills has become paramount. Environmental sustainability, a pressing global issue, requires individuals equipped with knowledge and practices to foster a more sustainable future. HEIs play a pivotal role in cultivating these competencies, embedding sustainability within academic curricula to empower graduates to actively contribute to environmental goals. Integrating green skills in education not only aligns with global sustainability initiatives but also enhances graduates' preparedness for an increasingly eco-conscious job market.

Similarly, the advancement of digital skills, particularly in artificial intelligence (AI), has become essential in equipping students for a technology-driven world. AI is reshaping industries, influencing decision-making processes, and generating new career pathways. Assessing the extent to which AI topics and tools are incorporated into study programmes is crucial for fostering hands-on competence and digital fluency, as well as for understanding how AI transforms traditional approaches to learning.

To understand how well HEIs are preparing graduates for today's environmental and digital demands, graduates were asked to rate the extent to which topics on sustainability and AI were part of their study programmes. They also evaluated their practical experience with AI tools, using a five-point scale from 1 ("not at all") to 5 ("to a very high extent").

Figure 78 provides an analysis of the extent to which environmental sustainability has been included as a topic within study programmes for both cohorts. In the 2017/18 cohort, a 50% of graduates felt that environmental sustainability was either "not at all" or only marginally addressed within their programmes (ratings 1 and 2 combined). Meanwhile, a smaller group of 31% rated their exposure to this topic more positively (ratings 4 and 5). The 2021/22 cohort displayed a slight shift, with 45% of graduates reporting limited exposure to environmental sustainability (ratings 1 and 2 combined), reflecting a modest decrease in perceived lack of coverage compared to the earlier cohort. Conversely, graduates who rated the topic at levels 4 and 5 increased to 36%, suggesting an incremental improvement in the perceived emphasis on environmental sustainability. Overall, the findings indicate a gradual but limited improvement in the integration of environmental sustainability into study programmes over time, with a notable share of graduates still perceiving insufficient emphasis on this topic.

Figure 78: Environmental sustainability as a topic the in programme of study by graduation cohort

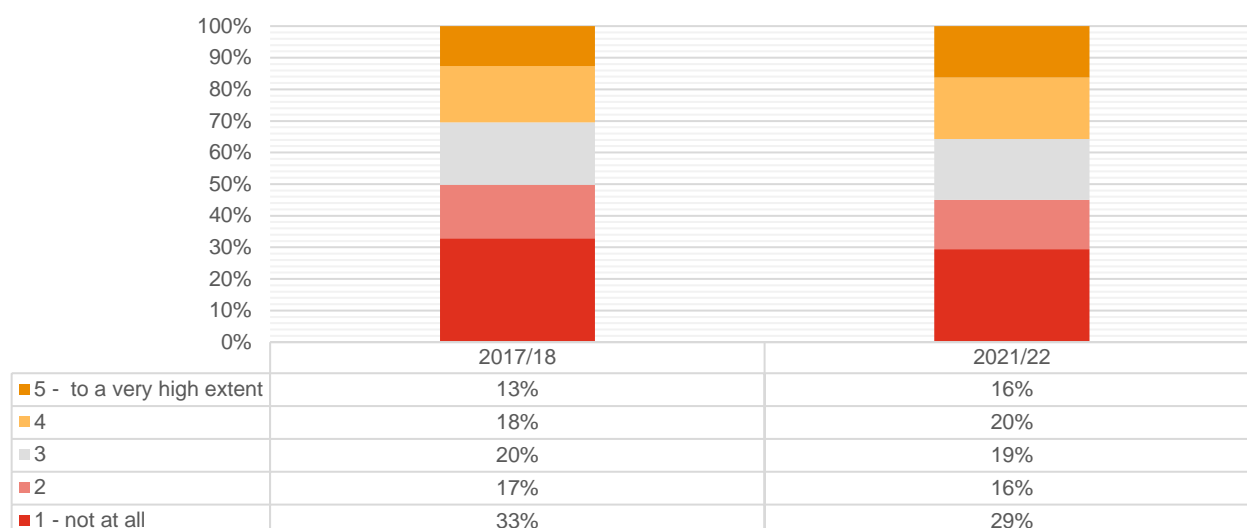
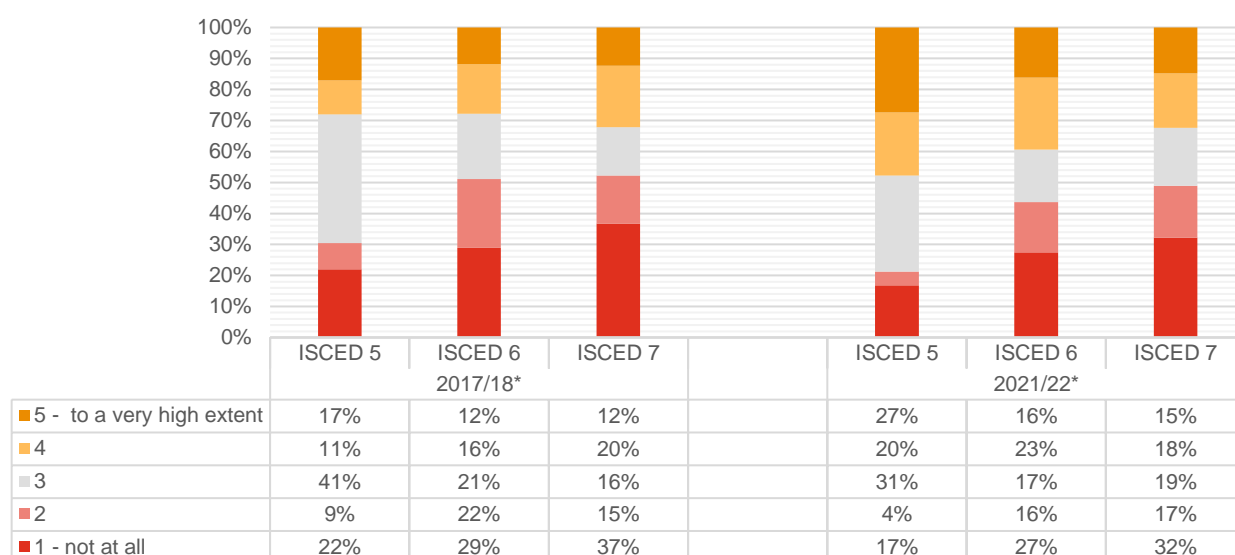


Figure 79 illustrates the extent to which environmental sustainability was incorporated into study programmes across ISCED levels. In the 2017/18 cohort, ISCED levels showed limited integration of environmental sustainability topics, with only 28% to 32% of graduates across ISCED 5, 6, and 7 rating this aspect highly (combined ratings of 4 and 5). Meanwhile, dissatisfaction was pronounced, especially at ISCED 7, where 51% rated sustainability coverage as low (combined ratings of 1 and 2). For the 2021/22 cohort, there was a modest improvement at ISCED 5, with 43% of graduates reporting a high extent of coverage. However, ISCED 6 and 7 remained lower, with only 34% and 33% respectively. In ISCED 7 49% of graduates indicating minimal coverage of environmental sustainability during their studies. Overall, while ISCED 5 graduates in the 2021/22 cohort reported an increase in the extent to which environmental sustainability was incorporated into their study programmed, ISCED 6 and 7 graduates continued to reflect gaps in the integration of environmental sustainability into study programs. These differences in percentages among the two cohorts were found to be statistically significant.

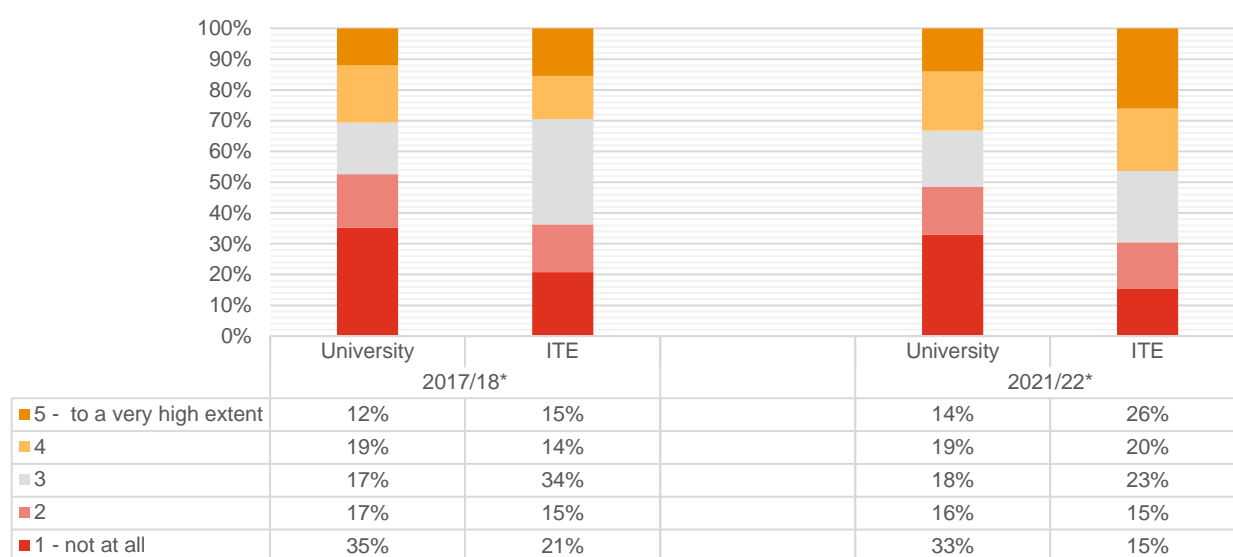
Figure 79: Environmental sustainability as a topic the in programme of study by ISCED-level and graduation cohort



\*Statistically significant findings

Figure 80 illustrates graduates' perceptions of the integration of environmental sustainability into study programs, comparing University and ITE graduates. In the 2017/18 cohort, there was a relatively balanced view among university graduates, with 31% indicating high integration of environmental sustainability (combined ratings of 4 and 5), compared to 29% of ITE graduates. However, 52% of university graduates felt that environmental sustainability was minimally addressed (combined ratings of 1 and 2), in contrast to a lower 36% among ITE graduates. For the 2021/22 cohort, the perception of high integration increased among ITE graduates, reaching 46%, while University graduates reported a more modest improvement at 33%. Notably, 49% of university graduates still perceived low integration of environmental sustainability in their programs, compared to just 30% of ITE graduates. Overall, the data indicates that ITE graduates consistently viewed their programmes as having a stronger focus on environmental sustainability, with improvements observed over time. These differences in percentages among the two cohorts were found to be statistically significant.

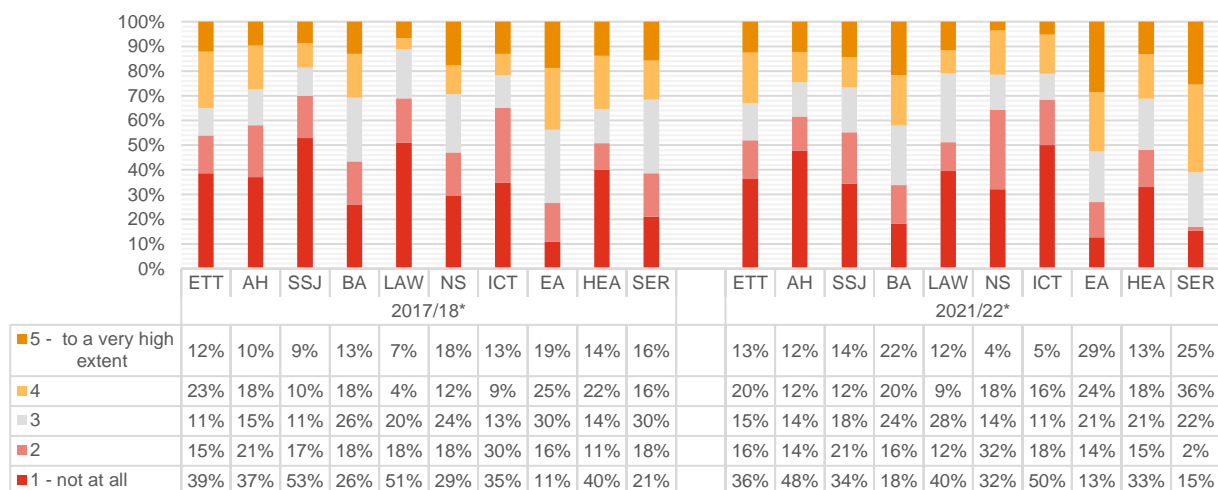
Figure 80: Environmental sustainability as a topic the in programme of study by type of HEI and graduation cohort



\*Statistically significant findings

Figure 81 provides insights into graduates' perceptions of the extent to which environmental sustainability was covered in their study programmes, comparing fields of study. In the 2017/18 cohort, Law and Social Sciences and Journalism reported the lowest integration of environmental sustainability, with 69% and 70% of graduates, respectively, indicating minimal or no coverage of sustainability topics (combined ratings of 1 and 2). On the other hand, Engineering and Architecture showed a relatively higher level of integration, with 44% of graduates acknowledging that sustainability was covered to a moderate or high extent (combined ratings of 4 and 5). In the 2021/22 cohort, Information and Communication Technologies and Natural Sciences reported the lowest levels of sustainability integration, with 68% of Information and Communication Technologies and 64% of Natural Sciences graduates indicating minimal exposure to sustainability (combined ratings of 4 and 5). Conversely, graduates from Engineering and Architecture and Services reported the highest perceived integration with 53% and 61% respectively, showing an increased focus on sustainability within these fields. Overall, the data highlights a varied approach to environmental sustainability across different disciplines, with some fields like Law and Information and Communication Technologies continuing to report lower levels of integration, while disciplines such as Engineering and Architecture and Services appear to have strengthened their emphasis on sustainability in recent years. The differences between fields of study were found to be statistically significant.

Figure 81: Environmental sustainability as a topic the in programme of study by field of study and graduation cohort



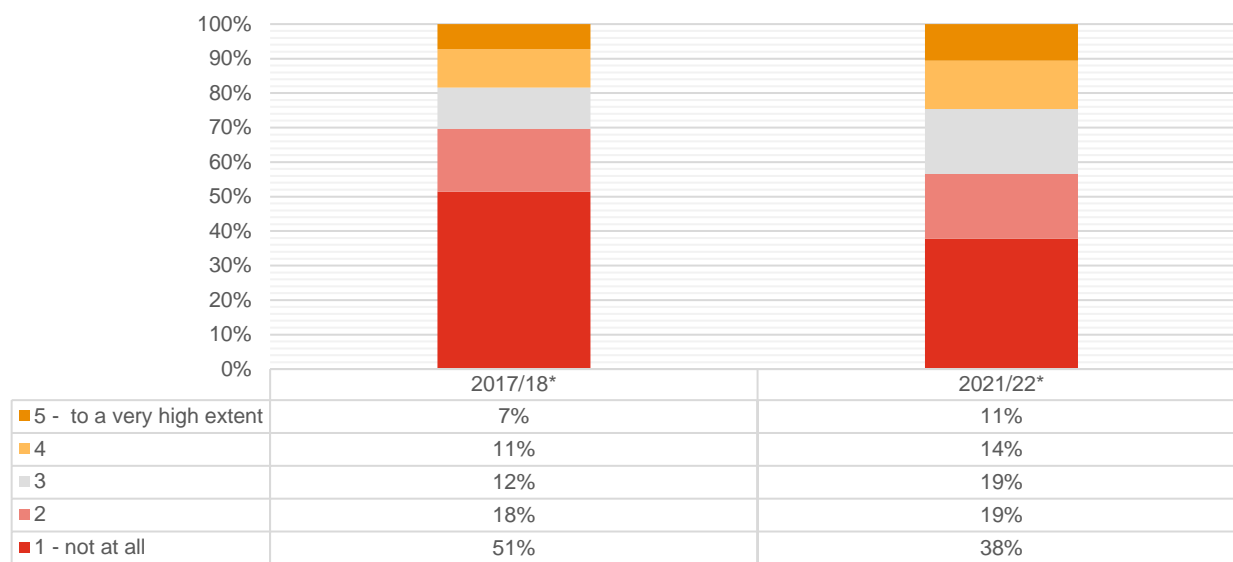
\*Statistically significant findings

Note: Fields of study ETT-Education and Teacher Training, AH-Arts and Humanities, SSJ-Social Sciences and Journalism, BA-Business Administration, LAW-Law, NS-Natural Sciences (including Mathematics), ICT-Information and Communication Technologies, EA-Engineering and Architecture, HEA-Health, SER-Services. "Agriculture, Forestry, Fisheries, Veterinary and Services" is excluded from the analysis due to its small population size.

### 5.1.7.2. Artificial Intelligence (AI) in the context of programme of study

Figure 82 examines the extent to which AI topics or tools were part of study programmes as per graduates in both cohorts. In the 2017/18 cohort, 69% of graduates reported minimal to no exposure to AI in their studies (ratings 1 and 2 combined). Only 18% indicated a high level of integration (ratings 4 and 5 combined), suggesting limited engagement with AI topics/ tools in their programs. The 2021/22 cohort reported a low extent of AI in their programmes at 57%. Overall, while there is a slight upward shift in AI integration between cohorts, a considerable proportion of graduates still perceive limited emphasis on AI in their study programmes. These differences in percentages among the two cohorts were found to be statistically significant.

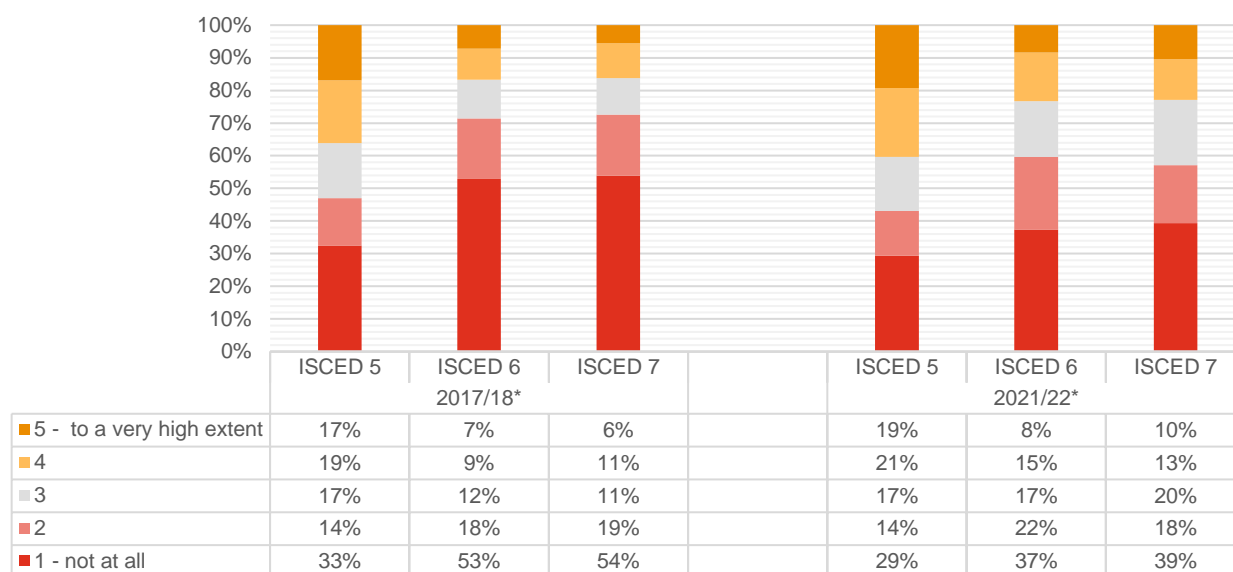
Figure 82: Artificial Intelligent as a topic the in programme of study by graduation cohort



\*Statistically significant findings

Figure 83 presents statistically significant differences in the extent to which AI topics/ tools are used in graduates' studies in different levels of study for both cohorts. In the 2017/18 cohort, AI was minimally included, with 71% of ISCED 6 and 73% of ISCED 7 graduates indicating that AI was not or only addressed limited in their programmes (combined ratings of 1 and 2). For ISCED 5, 47% reported limited integration, while 36% indicated that AI was covered to a high extent (combined ratings of 4 and 5). In the 2021/22 cohort, similar trends were observed. Minimal AI coverage was reported by 59% of ISCED 6 and 57% of ISCED 7 graduates. ISCED 5 showed some improvement, with 43% indicating limited inclusion of AI and an equal 40% noting a high level of integration. Overall, AI as a study topic remained limited across ISCED levels, with slight improvements primarily seen in ISCED 5 over time.

Figure 83: Artificial Intelligent as a topic the in programme of study by ISCED-level and graduation cohort

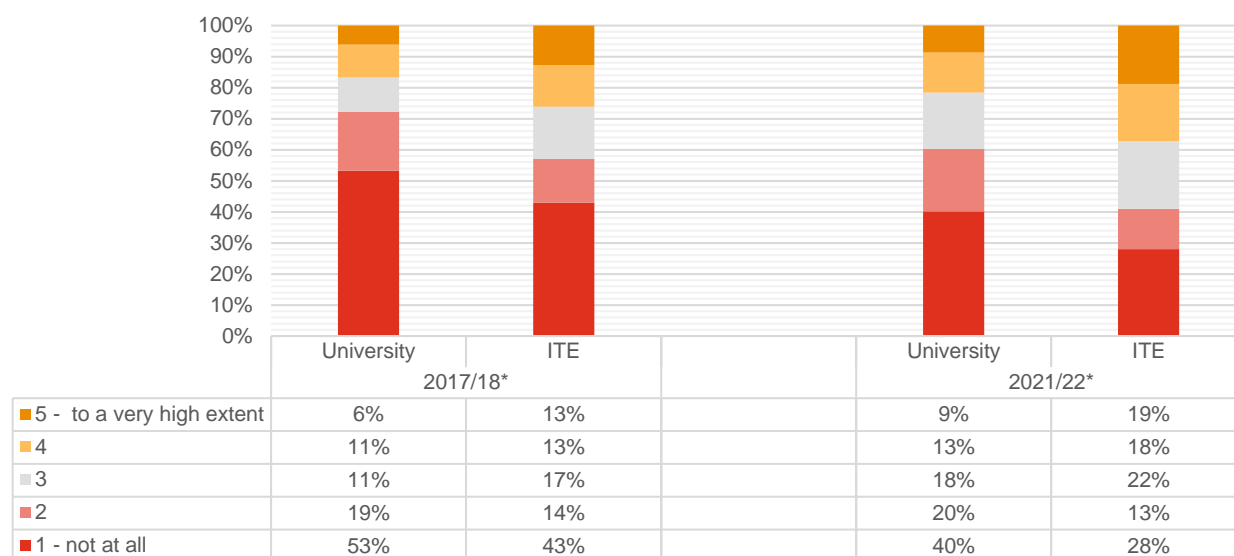


\*Statistically significant findings

Figure 84 presents statistically significant differences in the extent to which Artificial Intelligence (AI) was included as a topic within study programmes by type of Higher Education Institution (HEI) and graduation cohort. In the 2017/18 cohort, AI was minimally integrated, with 72% of University graduates (combined ratings of 1 and 2) reporting little to no coverage of AI in their studies. For graduates from Institutes of Technical Education (ITE), the proportion was slightly lower, at 57% reporting minimal inclusion. Only a small fraction from both HEI types, 17% for University and 26% for ITE, indicated that AI was covered to a high extent (combined ratings of 4 and 5).

For the 2021/22 cohort, there was a slight improvement in AI inclusion, particularly among ITE graduates, where 37% reported a high level of integration, up from 26% in the previous cohort. Meanwhile, university graduates reporting minimal AI integration decreased to 60%, with 22% noting high inclusion. Overall, these results highlight that, while AI integration saw some improvement, especially in ITE programmes, it remained limited across HEI types.

Figure 84: Artificial Intelligent as a topic the in programme of study by type of HEI and graduation cohort

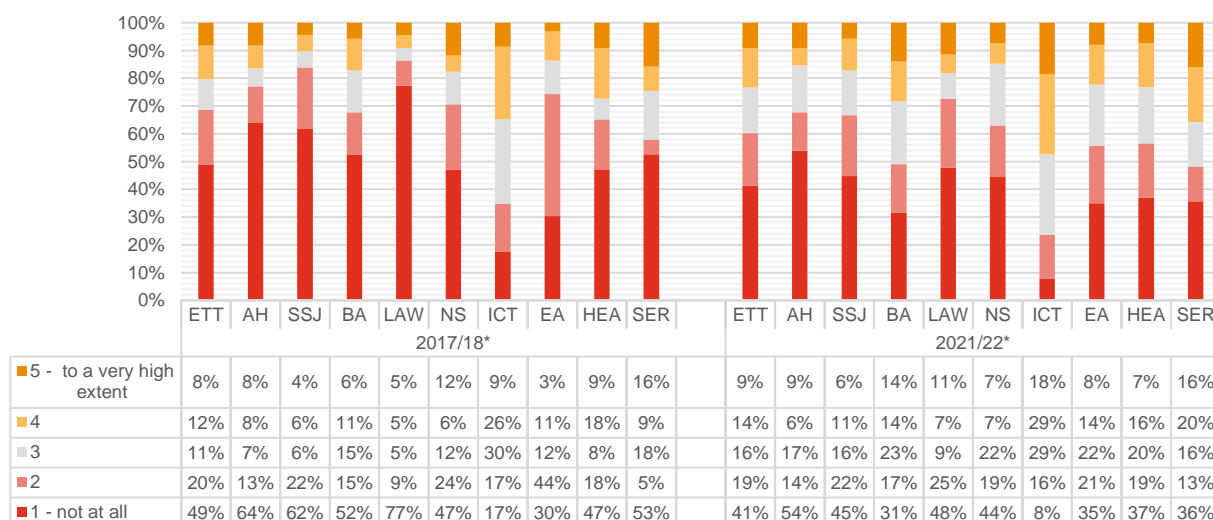


\*Statistically significant findings

Figure 85 provides insights into the extent to which AI topics were covered in study programmes across different fields, comparing the 2017/18 and 2021/22 cohorts. The findings indicate statistically significant differences between fields of study for both cohorts. In the 2017/18 cohort, Law, Social Sciences and Journalism, and Arts and Humanities reported the least AI integration, with 86%, 84%, and 77% of graduates, respectively, indicating minimal or no coverage of AI (combined ratings of 1 and 2). Only 10% of Law and Social Sciences and Journalism graduates reported that AI was covered to a moderate or high extent (combined ratings of 4 and 5). This low emphasis on AI in these fields may suggest that traditional, theory-based disciplines may not yet fully incorporate emerging digital topics like AI, possibly reflecting a slower adaptation to technological advancements within these areas. On the other hand, graduates in Information and Communication Technologies showed a distinctly different trend, with 35% indicating significant AI coverage (ratings 4 and 5) and only 34% reporting minimal exposure. This high level of integration within Information and Communication Technologies is consistent with its foundational focus on digital skills and technological knowledge, aligning with industry demands for AI proficiency in this field.

For the 2021/22 cohort, while Law (73%), Arts and Humanities (68%), and Social Sciences and Journalism (67%) continued to report low integration of AI, Information and Communication Technologies graduates again reported the highest level of inclusion, with 47% acknowledging substantial coverage of AI topics. This increase on the current field suggests a growing recognition of AI's importance, even within an already technology-focused field. Overall, the data indicates a persistent gap in AI topic integration across disciplines, with fields like Information and Communication Technologies leading in adaptation, while more traditional areas such as Law, Arts and Humanities, and Social Sciences show slower progress.

Figure 85: Artificial Intelligent as a topic the in programme of study by field of study and graduation cohort



\*Statistically significant findings

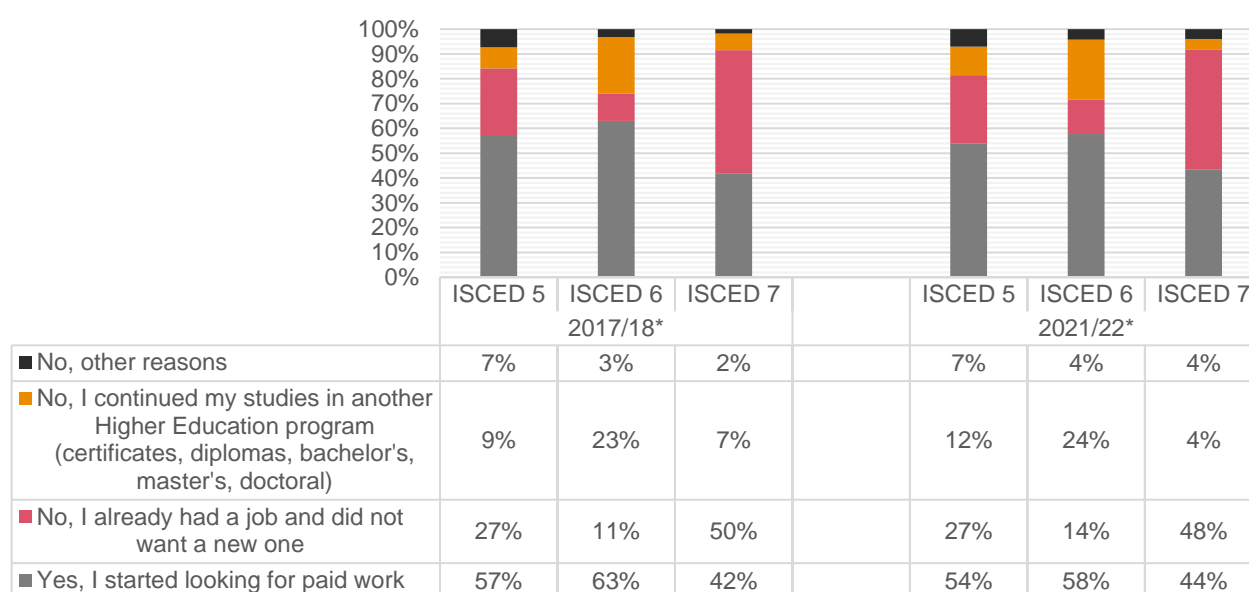
Note: Fields of study ETT-Education and Teacher Training, AH-Arts and Humanities, SSJ-Social Sciences and Journalism, BA-Business Administration, LAW-Law, NS-Natural Sciences (including Mathematics), ICT-Information and Communication Technologies, EA-Engineering and Architecture, HEA-Health, SER-Services. "Agriculture, Forestry, Fisheries, Veterinary and Services" is excluded from the analysis due to its small population size.

## 5.2. Transition to work

The following sub section presents results regarding the graduates' transition from their Higher Education studies to the labour market including findings of their situation after graduation and whether they started looking for a paid work. Then, results on individuals looking for job within or outside their field of study by field of study and graduation cohort are presented followed by the reasons why these graduates choose to look for jobs outside their field of study.

Figure 86 indicates individual's situation after graduation and whether they started looking for a paid work by ISCED-level and graduation cohort. The trend for ISCED 5 and 6 graduates in both cohorts is that they started looking for paid work after graduation with the latter recording the highest percentage (57% over 65% and 54% over 58% for 2017/18 and 2021/22 respectively). The majority of ISCED 7 graduates reported having a job already and did not want a new role at 50% and 48% for 2017/18 and 2021/22 respectively however a considerable percentage indicates (42% and 44%) that they started looking for a paid job. Regarding continuing studies in another Higher Education programme, ISCED 6 recorded the highest percentages in both cohorts at 23% and 24% respectively. The findings were found to be statistically significant for both cohorts.

Figure 86: Percentage of individual's situation after graduation and whether they started looking for a paid work by ISCED-level and graduation cohort



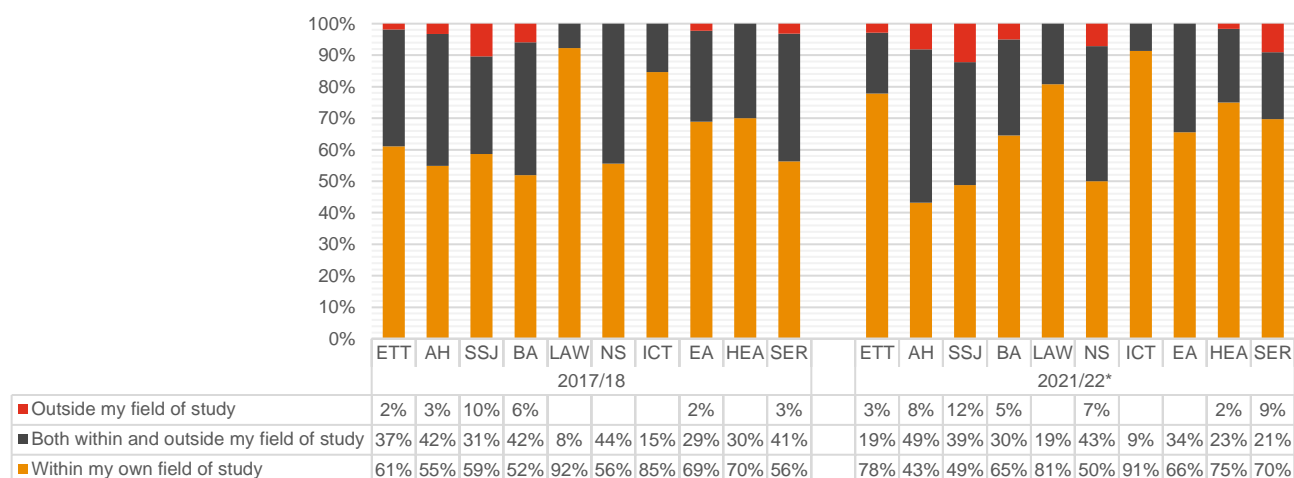
\*Statistically significant findings

The participants who responded positively in looking for a paid job were called to respond to the next question on whether they were looking within or outside their field of study. Figure 87 presents the percentage of individuals looking for job within or outside their field of study by field of study and graduation cohort. In the 2017/18 cohort, the fields of Law (92%), Information and Communication Technologies, Health (70%) and Engineering and Architecture (69%) had more than 70% of graduates looking for jobs only within their own field of study. In the remaining fields the situation is more mixed with a considerable percentage of graduates reporting looking for jobs both within and outside their field of study. Social Sciences and Journalism graduates reported the highest percentage (10%) of looking for job also outside their field.

In the 2021/22 cohort, the higher percentage of graduates reporting looking for job within their own field of study were recorded in the fields of Information and Communication Technologies (91%), Law (81%), Education and Teacher Training (78%), Health (75%) and Services (70%). Most graduates within the Arts and Humanities (49%), reported looking for job both within and outside their field of study. A considerable percentage of graduates within the fields of Natural Sciences (43%) and Social Sciences and Journalism (39%) reported looking for job both within and outside their field of study. The field of Social Sciences and Journalism

had again the highest percentage (12%) of graduates looking for job also outside their field of study. The results were found to be statistically significant only in the 2021/22 cohort.

Figure 87: Percentage of individuals looking for job within or outside their field of study by field of study and graduation cohort

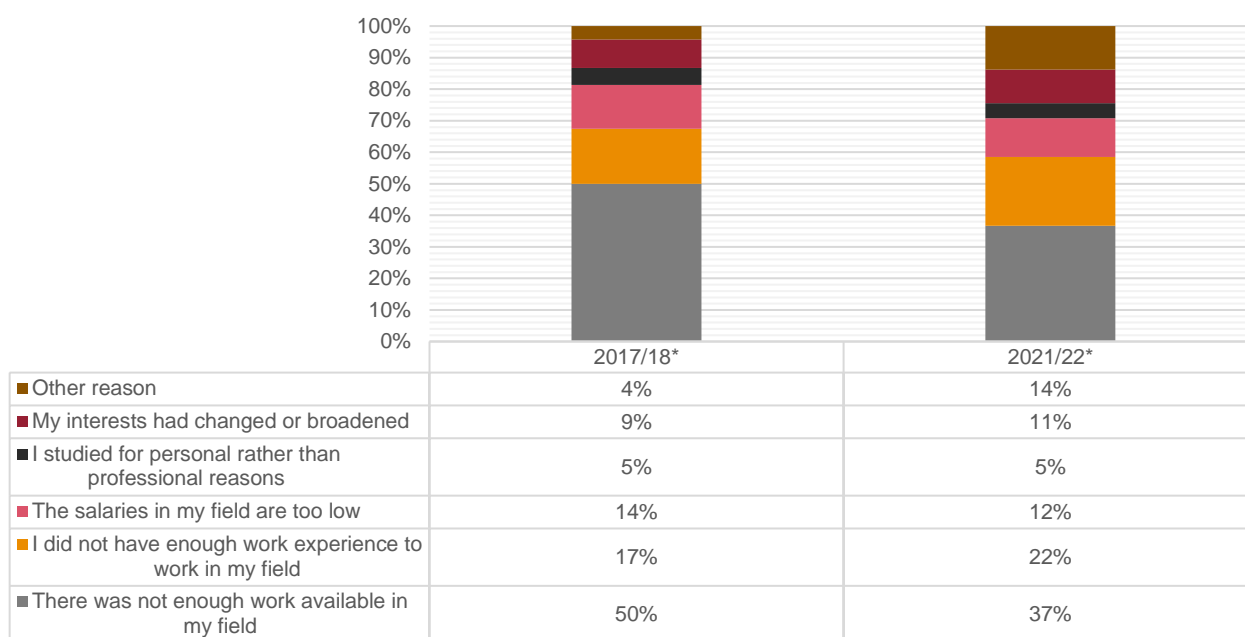


\*Statistically significant findings

Note: Fields of study ETT-Education and Teacher Training, AH-Arts and Humanities, SSJ-Social Sciences and Journalism, BA-Business Administration, LAW-Law, NS-Natural Sciences (including Mathematics), ICT-Information and Communication Technologies, EA-Engineering and Architecture, HEA-Health, SER-Services. "Agriculture, Forestry, Fisheries, Veterinary and Services" is excluded from the analysis due to its small population size

Participants who reported looking for a job outside their field of study were asked an additional question about the most important reason for doing so. **Error! Not a valid bookmark self-reference.** presents the statistically significant results of these responses by graduation cohort. Similar trends are observed for both cohorts with the main reason to be that there is not enough work available in their field at 50% and 37% for 2017/18 and 2021/22 cohorts, respectively. The next most popular reason was the lack of work experience to work in their field (17% and 22%, respectively). The third main reason was the low salaries in their field at 14% and 12%, respectively. A 5% in both cohorts reported studying for personal rather than professional reasons hence looking for a job outside their field. Finally, some of the graduates reported that their interests have changed or broadened as another important reason (9% and 11% respectively).

Figure 88: Percentage of individuals that looked for a job outside their own field of study indicating the most important reason by graduation cohort



\*Statistically significant findings

## 5.3. Labour Market Participation and Labour Market Outcomes

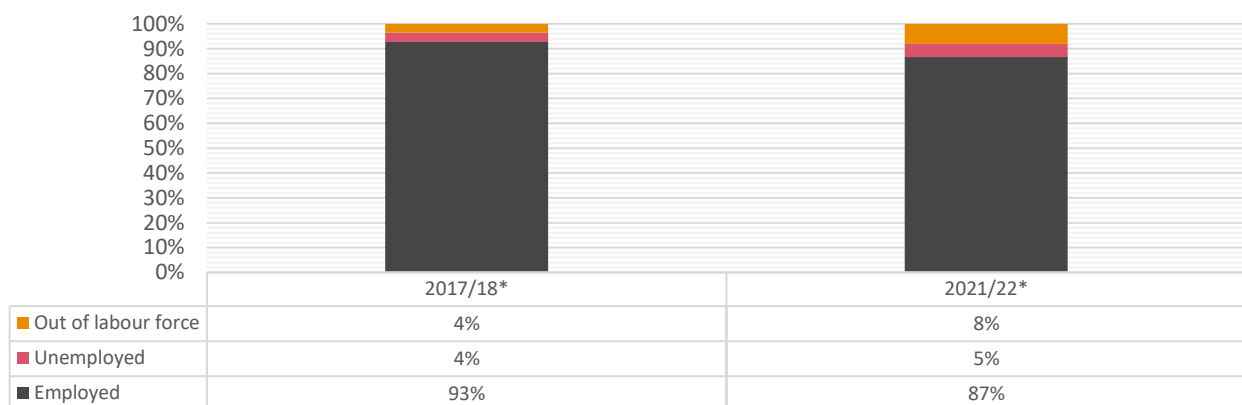
Higher Education is entrusted with the duty to prepare students for a successful transition to work, satisfactory employment, job security and career advancement. In this context, the current section presents the labour market status of graduates in respect to a number of significant variables of their labour market experience, in case they are employed, such as type, sector and place of employment, three important aspects of job quality, job security, job satisfaction, working hours and earnings, as well as waiting time to find a job after graduation.

### 5.3.1. Current employment status

One or five years after graduation, the labour market status of respondents regardless of where they currently live and work can be described as: a) those who are not actively participating in the labour force (referred to also as 'inactive'), and b) those who are part of the labour force, encompassing individuals who are either employed or seeking employment (referred to as 'unemployed'). Graduates who are out of the labour force are not available for the labour market for various reasons, such as being engaged in full-time further studies, fulfilling compulsory military service, or experiencing health-related work restrictions. This sub-section lays out the percentage distribution of graduates for the different labour market statuses.

Figure 89 illustrates the percentage distribution of the survey participants categorised as employed, unemployed and out of labour force by graduation cohort. Most graduates within both cohorts are part of the labour force (97% and 92% for the cohort 2017/18 and 2021/22 respectively). As expected, the percentage of 2017/18 graduates who are employed (93%) is slightly higher than the corresponding percentage of 2021/22 graduates (87%). Apparently, the opposite is true for the other two categories. The percentage of graduates who are inactive is quite low (4%) for 2017/18 cohort and two times higher (8%) for 2021/22 cohort. Unemployed rates for both cohorts are also low (4% and 5% respectively). These differences in percentages among the two cohorts are statistically significant.

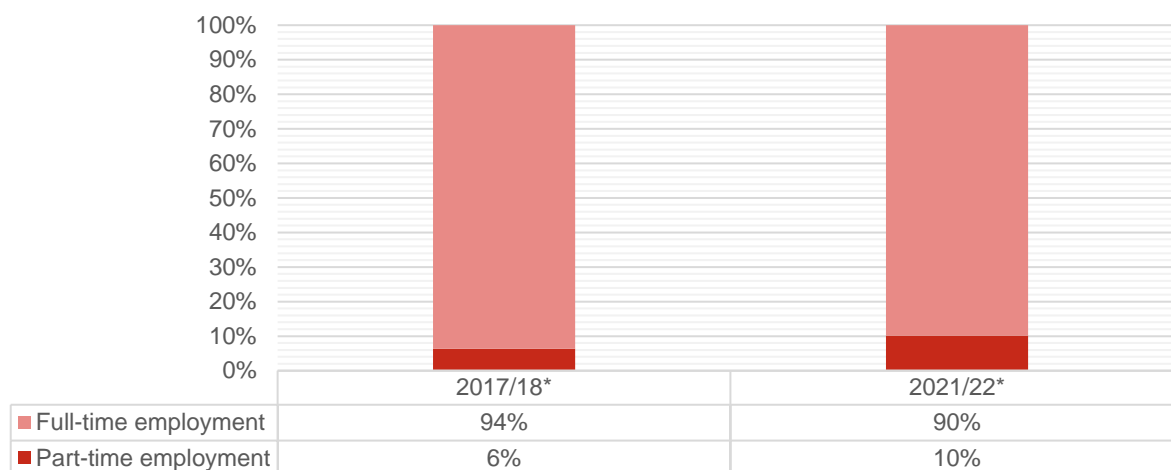
Figure 89: Employment status by graduation cohort



*\*Statistically significant findings*

All graduates who reported being employed were further queried about their employment status, specifically whether they were engaged in full-time or part-time work. The results of this inquiry are presented in Figure 90. The majority of respondents who reported being employed were engaged in full-time employment at 94% and 90% in 2017/18 and 2021/22 cohort respectively. The current findings were found to be statistically significant for both cohorts.

Figure 90: Full-time and part-time employment by graduation cohort



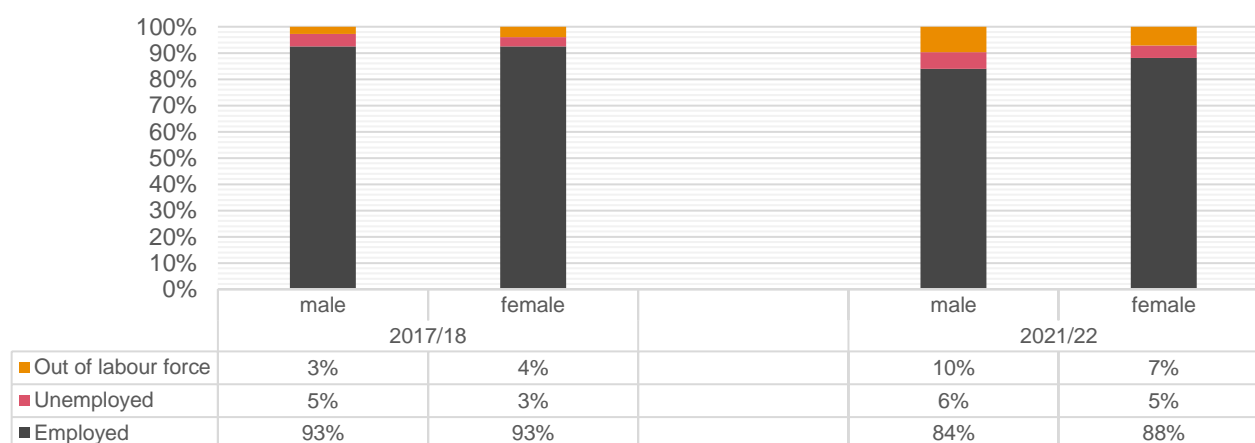
\*Statistically significant findings

### 5.3.1.1. Current employment status by demographic variables

Figure 91 presents the employment rates for each cohort by gender. In the 2017/18 cohort, the percentage of both genders who reported that they were employed was the same (93%). The percentage of male graduates is slightly higher (5%) than females (3%) while the opposite trend appears for graduates out of labour force with female graduates recoding higher percentage (4%) compared to male (3%).

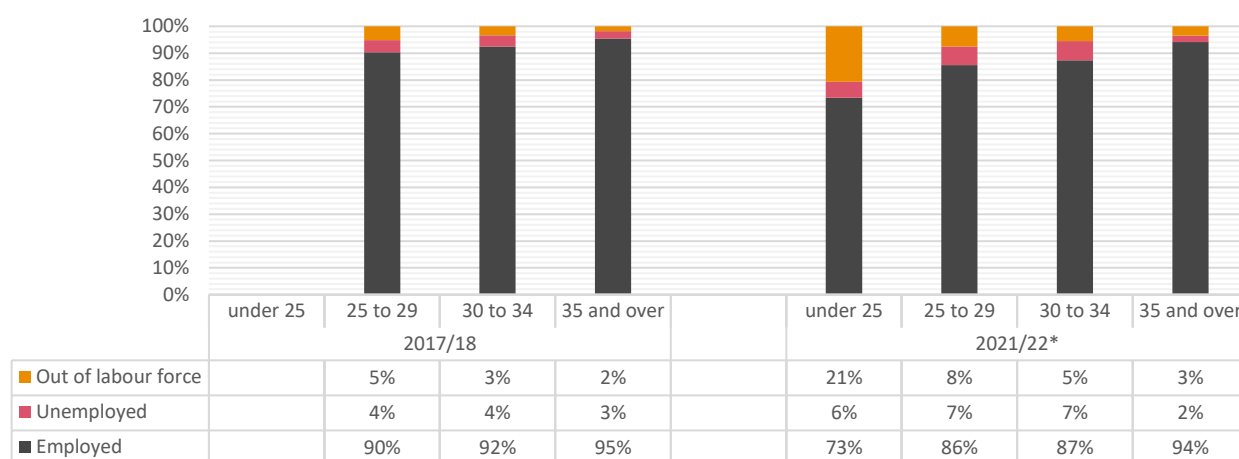
In the 2021/22 cohort female graduates in employment record a higher percentage at 88% compared to male ones (84%). For the other two categories male graduates record higher percentage than female. Unemployed male graduates accounted for 6%, and those out of the labour force made up 10%, while female graduates comprised 5% and 7%, respectively.

Figure 91: Employment status by gender and graduation cohort



The employment rates by age at the time of the survey for the two cohorts are illustrated in Figure 92. It should be mentioned that in the 2017/18 cohort, only a very small number of participants were “under 25” and therefore this group was excluded from this analysis. In the 2017/18 cohort, all the age groups had similar employment rates (more than 90%). The “25-29” and “30 to 34” age groups had the highest percentage of unemployed graduates with 4% respectively, while the “25 to 29” age group also exhibiting the highest out of labour force percentage with 5%. The recorded percentages of employed participants in 2021/22, varied between 73% to 94% with “under 25” age group recording the lowest percentage among other age group categories and “35 and over” the highest. Graduates aged 25 to 34 recorded the higher unemployment rate at 7%. The under 25 age group had the highest percentage graduates who reported being out of labour force with 21% percent. These differences in employment status according to age within the two cohorts were statistically significant.

Figure 92: Employment status by age (at time of the survey) and graduation cohort

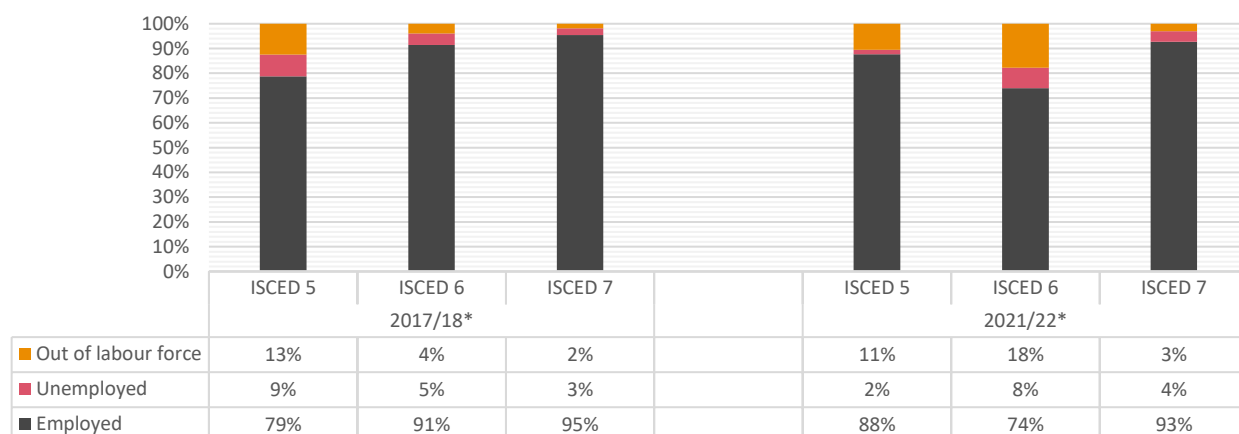


\*Statistically significant findings

### 5.3.1.2. Current employment status by variables related to Higher Education studies

The relationship between employment status and the level of degree is presented in Figure 93. In 2017/18 as the level of degree increased from ISCED 5 to ISCED 7, the employment rates increased, and the unemployment rates and graduates out of labour force decreased. ISCED 7 graduates had the highest employment rate in 2017/18 (95%) and the ISCED 5 the lowest (79%). ISCED 5 graduates also recorded the highest percentage of being out of labour force at 22%. In 2021/22 cohort with ISCED 7 graduates recorded the highest employment rate (93%) and the ISCED 6 the lowest (74%). ISCED 6 graduates also recorded the highest percentage of being out of labour force at 26%. These differences in employment status by the level of studies were statistically significant in both cohorts.

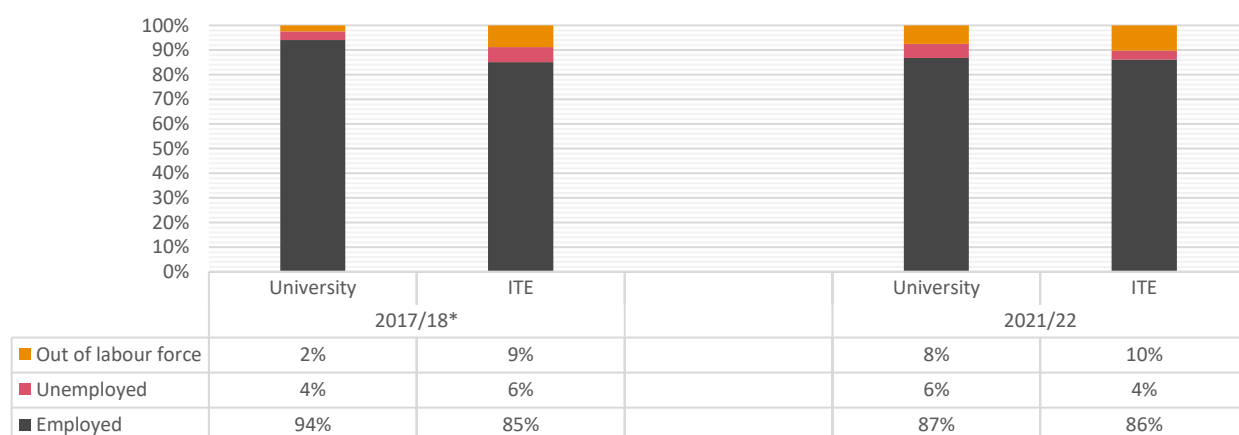
Figure 93: Employment status by ISCED-level and graduation cohort



\*Statistically significant findings

Figure 94 illustrates the graduates' employment rates in relation to the type of HEI attended. Again, a similar pattern was observed in both 2017/18 and 2021/22 cohorts. The percentage of University graduates who reported that they are employed was significantly higher than the corresponding percentage of graduates from ITE with 94% and 85% in 2017/18 and 87% and 86% in 2021/22 respectively. In both cohorts ITE graduates recorded the highest percentage of being out of labour force with 9% and 10% respectively. University graduates in 2017/18 cohort recorded the lowest percentage of unemployment at 4% while in 2021/22 the ITE graduates recorded the lowest percentage (4%).

Figure 94: Employment status by type of HEI and graduation cohort



\*Statistically significant findings

The distribution of the labour market participation by the corresponding field of study for each of the two cohorts is illustrated in Figure 95. Graduates in the field of Education and Teacher Training, Law and Business Administration had the highest employment rates in the 2017/18 cohort, at 97%, 96% and 95% respectively. In 2021/22, the fields with the highest employment rates were Information and Communication Technologies, Education and Teacher Training and Services with a rate of 95%, 93% and 90% respectively. The highest unemployment rates were noted in Arts and Humanities (10%) and Social Sciences and Journalism (9%) for

the cohort 2017/18 and in Arts and Humanities (12%) and Law (10%) for the cohort 2021/22. The higher rates of graduates out of the labour force were recorded in Services (15%) for the cohort 2017/18 and the Social Sciences and Journalism, Health and Natural Sciences (18%) for the cohort 2021/22. These findings were statistically significant within both cohorts.

Figure 95: Employment status by field of study and gradation cohort



\*Statistically significant findings

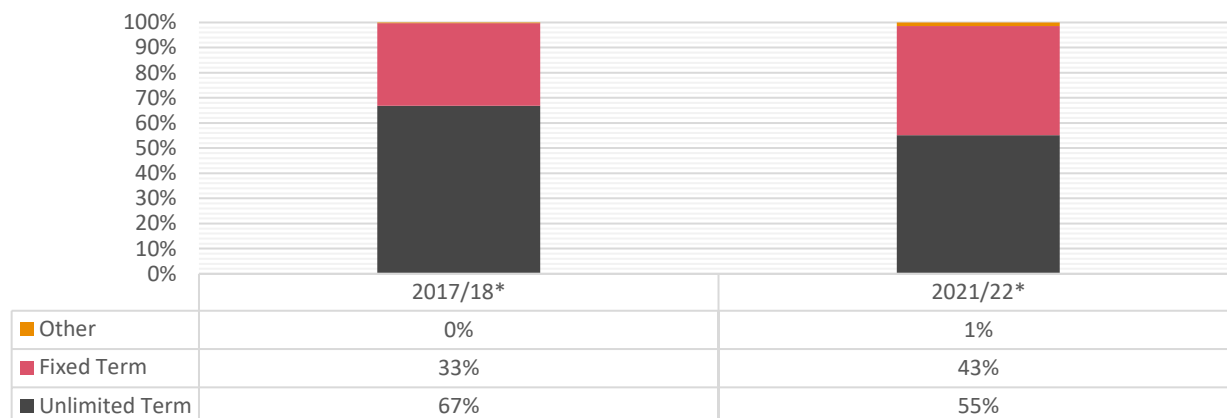
Note: Fields of study ETT-Education and Teacher Training, AH-Arts and Humanities, SSJ-Social Sciences and Journalism, BA-Business Administration, LAW-Law, NS-Natural Sciences (including Mathematics), ICT-Information and Communication Technologies, EA-Engineering and Architecture, HEA-Health, SER-Services. "Agriculture, Forestry, Fisheries, Veterinary and Services" is excluded from the analysis due to its small population size.

### 5.3.2. Job security

Job security refers to findings and keeping a particular job or employment contract for the foreseeable future. In this sub-section, secure employment is explored by evaluating the contracted nature of employment among graduates, with a specific emphasis on analysing the percentage of permanent contracts, i.e., contracts of unlimited duration. Figure 96 illustrates the percentage breakdown of job security for each of the two cohorts.

For both cohorts, a similar pattern emerges, with higher percentages of graduates reporting having unlimited term contracts (at 67% in 2017/18 and 55% in 2021/22). In cohort 2017/18 the percentage of graduates working in a fixed term contract basis is lower than in 2021/22 at 33% and 43% respectively. These differences among the two cohorts were statistically significant.

Figure 96: Job security by graduation cohort

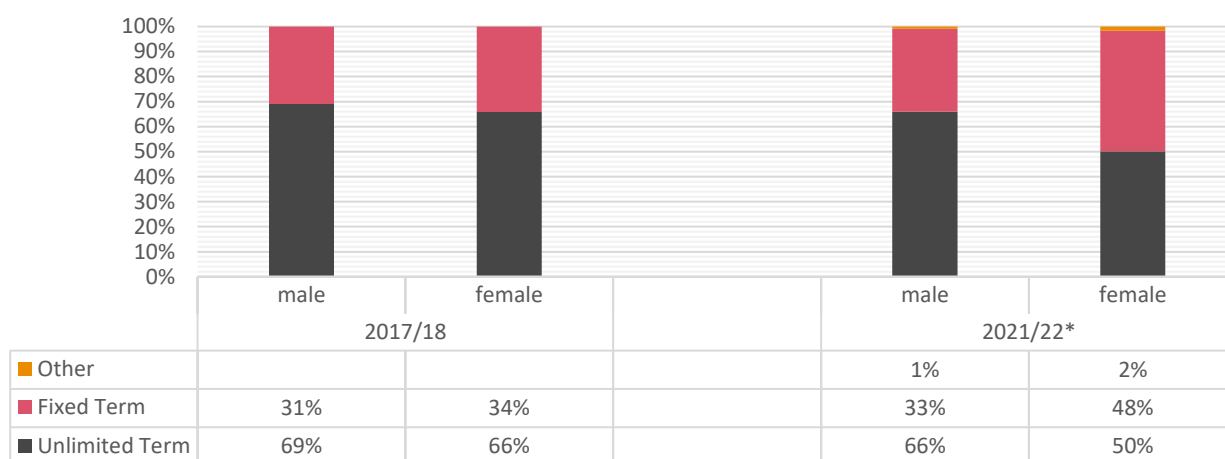


*\*Statistically significant findings*

#### 5.3.2.1. Job security by demographic variables

As shown in Figure 97, the percentage of male graduates securing unlimited-term jobs was higher than that of female graduates in both cohorts. In the 2017/18 cohort the percentage for males recorded at 69% and for females 66%. In the 2021/22 cohort the percentage of males on unlimited term jobs was 66% and 50% for females. On the other hand, the percentage of females who obtained a fixed term job exceeds that of males in both cohorts. In 2017/18 cohort the females recorded 34% over 31% for males while in 2021/22 the percentages were 48% over 33% respectively. The findings for this cohort were statistically significant.

Figure 97: Job security by gender and graduation cohort

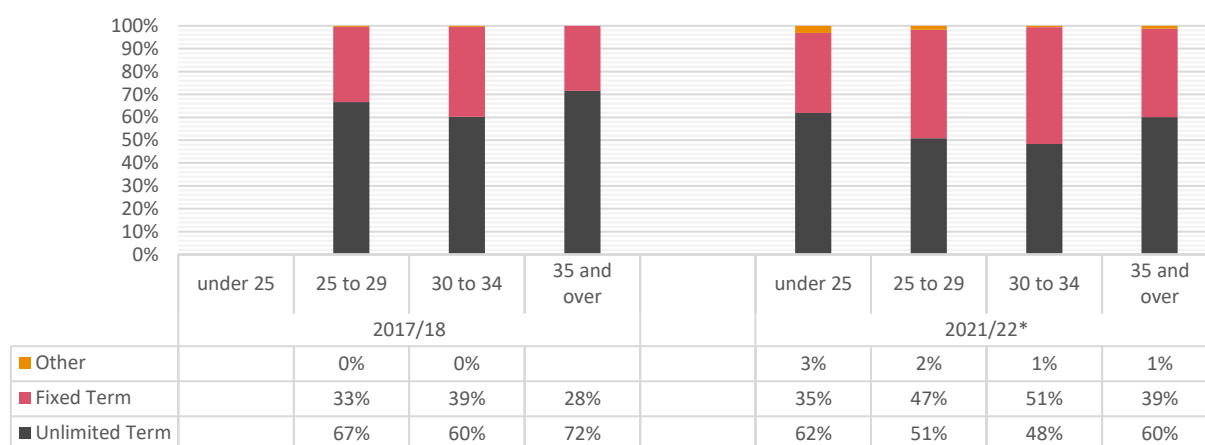


\*Statistically significant findings

Figure 98 illustrates the percentage breakdown of job security by contract type across age groups (age at the time of the survey) for the 2017/18 and 2021/22 cohorts. It is important to note that due to the limited number of participants in the “under 25” category for the 2017/18 cohort, this group was excluded from this analysis. In the 2017/18 cohort, permanent (unlimited term) contracts were notably prevalent, with 67%, 60%, and 72% of graduates aged “25 to 29,” “30 to 34,” and “35 and over,” respectively, securing such contracts. The 2021/22 cohort displayed a similar distribution, with 62% in the “under 25” group and 51%, 48%, and 60% for the “25 to 29,” “30 to 34,” and “35 and over” age groups, respectively.

There is a general trend that in the 2017/218 approximately one third of middle age group has fixed term contracts compared to the 50% of the middle age group in the 2021/22 cohort. Conversely, in the 2021/22 cohort, the highest proportion of fixed-term contracts was recorded in the “under 25” group at 62%. These findings indicate statistically significant trends in job security across age groups within each cohort, suggesting that age at graduation may play a role in the type of employment contract secured post-graduation.

Figure 98: Job security by age (at time of the survey) and graduation cohort

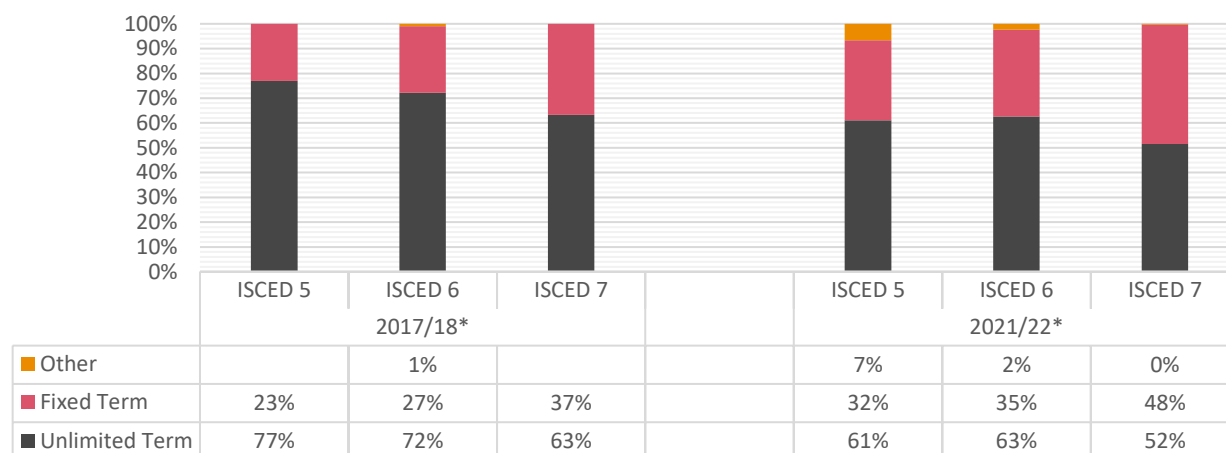


\*Statistically significant findings

### 5.3.2.2. Job security by variables related to Higher Education studies

The distribution of employment stability in relation to the level of degree for each cohort is shown in Figure 99 with statistically significant results. In both cohorts ISCED 5 and ISCED 6 graduates had at a higher percentage unlimited term contracts (77% and 72% respectively) than ISCED 7 graduates (63%). Slightly different results are noticeable in cohort 2021/22, with ISCED 6 graduates having unlimited term contracts at a higher percentage (63%) than graduates at ISCED levels 5 and 7 (61% and 52% respectively).

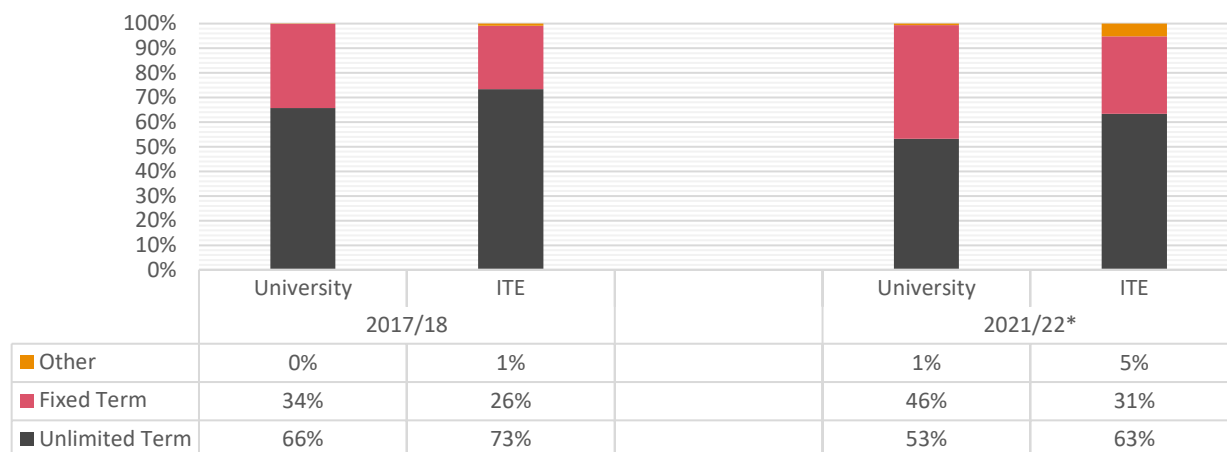
Figure 99: Job security by ISCED-level and graduation cohort



\*Statistically significant findings

As per Figure 100 the association between job security in relation to the type of HEI attended, showed that slightly lower percentages of graduates from Universities compared to ITE secured a job with unlimited terms in cohort 2017/18, at 66% and 73%, respectively. On the other hand, the percentage of University graduates who obtained a job with fixed terms was higher when compared to graduates from ITE at 34% and 26% respectively. In cohort 2021/22, again a higher percentage of graduates from ITE (63%) secured a job with unlimited terms, while a higher percentage of University graduates obtained a job with fixed terms (46%). Differences between type contracts according to HEI type for the 2021/22 cohort were statistically significant.

Figure 100: Job security by type of HEI and graduation cohort



\*Statistically significant findings

The distribution of job security by the corresponding fields of study is displayed in Figure 101. In the 2017/18 cohort, graduates in the fields of Law (83%), Information and Communication Technologies (80%) and Health (78%) had the higher percentages in the category unlimited terms. Graduates in the fields of Education and Teacher Training (53%), Social Sciences and Journalism (40%) and Engineering and Architecture (35%) had the higher percentages in the category fixed-term contracts.

In the 2021/22 cohort, graduates in the fields of Information and Communication Technologies (77%), Natural Sciences and Business Administration (70%) had the higher percentages in the category unlimited terms. Graduates in the fields Education and Teacher Training (65%), Social Sciences and Journalism (42%) and Health (40%) had the higher percentages in the category fixed-term contracts. This finding suggests that the fields Education and Teacher Training and Social Sciences and journalism offer the lowest job security. The findings for both cohorts were statistically significant.

Figure 101: Job security by field of study and graduation cohort



\*Statistically significant findings

Note: Fields of study ETT-Education and Teacher Training, AH-Arts and Humanities, SSJ-Social Sciences and Journalism, BA-Business Administration, LAW-Law, NS-Natural Sciences (including Mathematics), ICT-Information and Communication Technologies, EA-Engineering and Architecture, HEA-Health, SER-Services. "Agriculture, Forestry, Fisheries, Veterinary and Services" is excluded from the analysis due to its small population size.

### 5.3.3. Job Satisfaction

A vast body of literature has demonstrated the importance of measuring job satisfaction, as an employees' overall contentment about his/her job (Fisher, 2010), (Lottrup, et al., 2015), (Ali & Anwar, 2021). This notion holds particular relevance as we strive to comprehensively assess the overall sentiments of graduates toward their employment experiences. Evaluating job satisfaction becomes a vital tool in gaining insight into the quality of the positions secured by these graduates and identifying any areas of concern or dissatisfaction they may encounter.

In the context of this study, graduates were asked to indicate their job satisfaction levels on a five-point scale with 1 indicating significant dissatisfaction to 5 representing high levels of satisfaction. For the following findings reporting on job satisfaction, graduates' percentages to job satisfaction were classified into two separate categories. Response option 4 and 5 (satisfied and very satisfied) were grouped together indicating a high

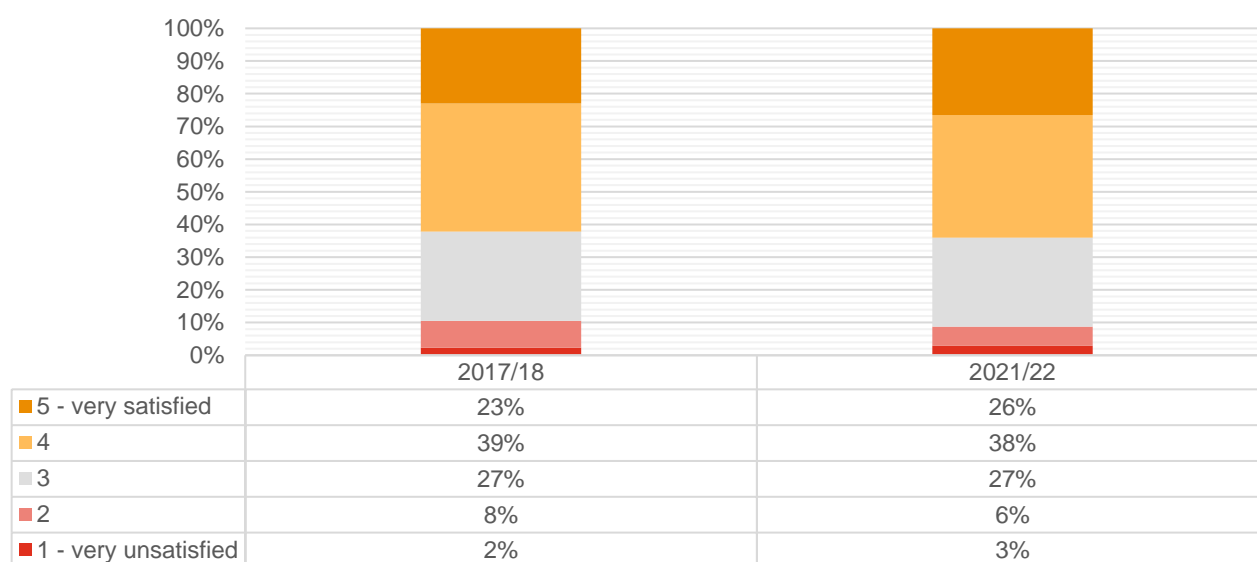
satisfaction level. Response options 1 and 2 (unsatisfied and very unsatisfied) were grouped together indicating low satisfaction level.

### 5.3.3.1. Overall Job satisfaction

Job satisfaction is a vital aspect in organizations for both companies and employees. Thus, in the context of this study graduates were asked to assess their overall satisfaction from their jobs based on different variables related to their studies and employment.

Figure 102 illustrates the distribution of graduates' job satisfaction levels for the 2017/18 and 2021/22 cohorts. In the 2017/18 cohort, 62% of graduates reported satisfaction with their jobs, while 10% expressed dissatisfaction. In comparison, the 2021/22 cohort saw a slight improvement in satisfaction levels, with 64% of graduates reporting job satisfaction and 9% expressing dissatisfaction. The overall trend suggests that graduates from both cohorts indicate similar findings.

Figure 102: Average job satisfaction by graduation cohort



#### 5.3.3.1.1. Overall Job satisfaction by demographic variables

Figure 103 illustrates graduates' job satisfaction levels across two demographic groups (males and females) in the 2017/18 and 2021/22 cohorts. In the 2017/18 cohort, male graduates reported 66% satisfaction (combining ratings 4 and 5), while 10% expressed dissatisfaction (combining ratings 1 and 2). Female graduates expressed slightly lower satisfaction levels, with 60% being satisfied and 11% dissatisfied. For the 2021/22 cohort, male satisfaction increased to 63%, with a lower dissatisfaction rate of 9%. Female satisfaction rose to 64%, with dissatisfaction decreasing to 8%. The data highlights a slight increase in satisfaction among both male and female graduates in the 2021/22 cohort. The overall trend suggests that graduates from both cohorts indicate similar findings.

Figure 103: Average job satisfaction by gender and graduation cohort

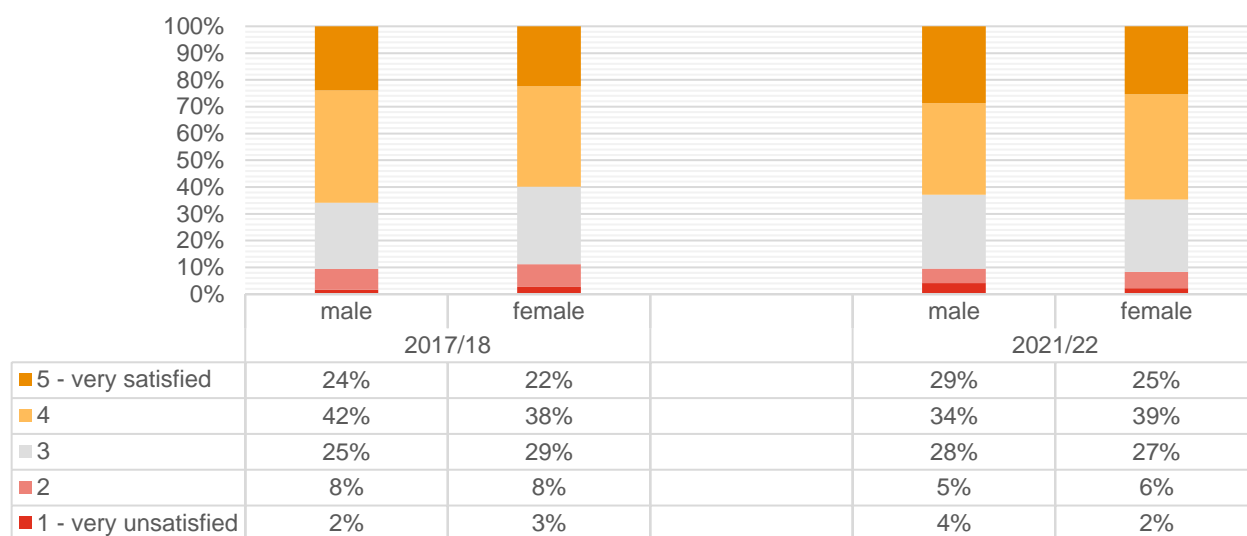
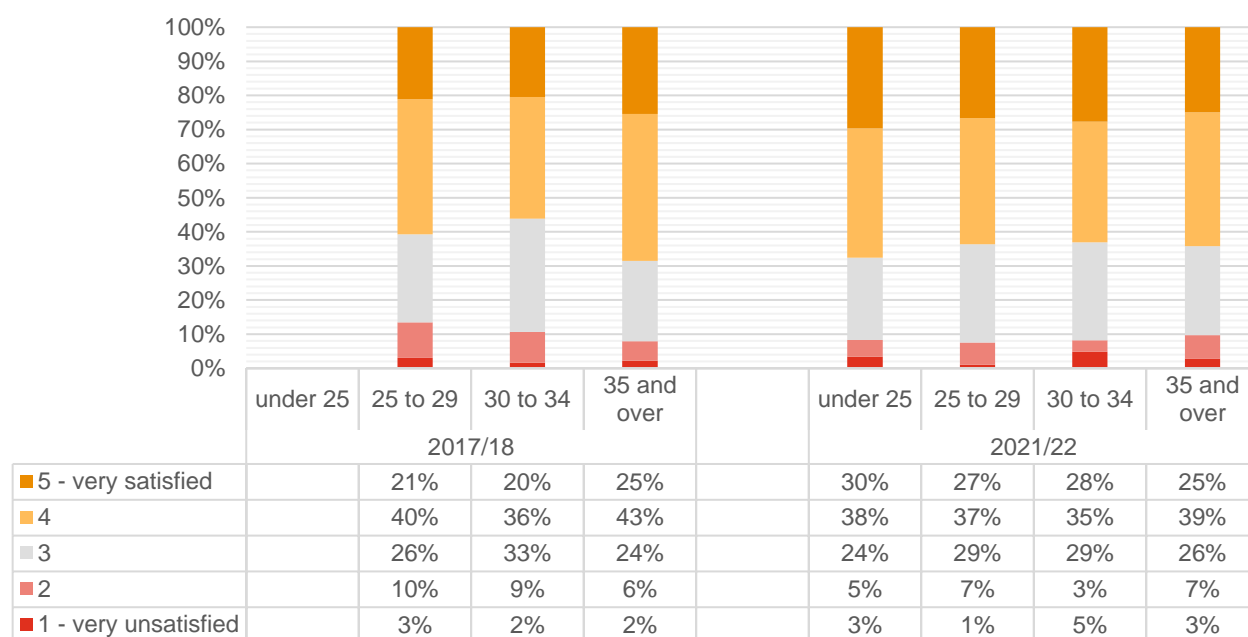


Figure 104 illustrates the distribution of graduates' job satisfaction across different age groups (age at the time of the survey) for both cohorts. It should be mentioned that in the 2017/18 cohort, only a very small number of participants were “under 25” and therefore this group was excluded from this exploration. The majority of graduates in all age groups in both cohorts reported being satisfied with their job. A considerable percentage (25-30%) reported being moderately satisfied. Only a small percentage (8-11%) in all age groups reported being dissatisfied with their job. In both cohorts, the older age groups (30 and over) consistently reported higher levels of satisfaction, reflecting a consistent trend in job satisfaction across all ages.

Figure 104: Average job satisfaction by graduates' age (at time of the survey) and graduation cohort



### 5.3.3.1.2. Overall Job satisfaction by variables related to studies

Figure 105 illustrates graduates' job satisfaction across different ISCED classifications—ISCED 5, ISCED 6, and ISCED 7—for the 2017/18 and 2021/22 cohorts. Overall, graduates across all ISCED classifications reported high levels of job satisfaction, with ISCED 5 and ISCED 7 graduates showing slight improvements in satisfaction between the two cohorts.

Figure 105: Average job satisfaction by ISCED-level and graduation cohort

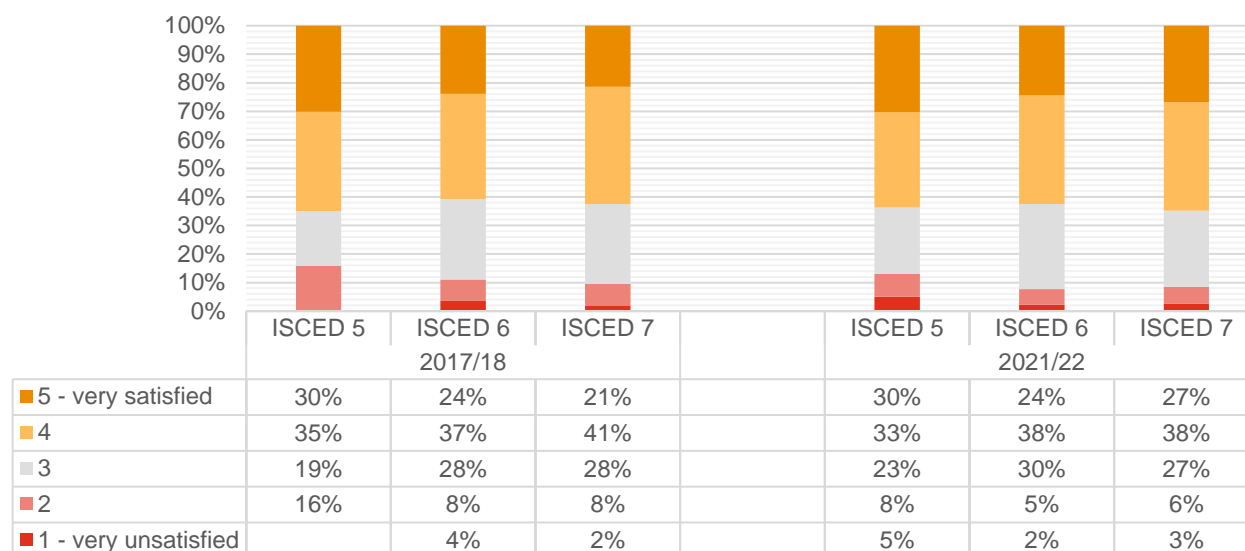


Figure 106 illustrates graduates' job satisfaction based on the type of Higher Education Institution (HEI)—University and ITE—for the 2017/18 and 2021/22 cohorts. The comparison highlights that job satisfaction remained fairly consistent across both types of HEIs, with University graduates showing a slight improvement, and ITE graduates maintaining steady satisfaction levels across cohorts.

Figure 106: Average job satisfaction by type of HEI and graduation cohort

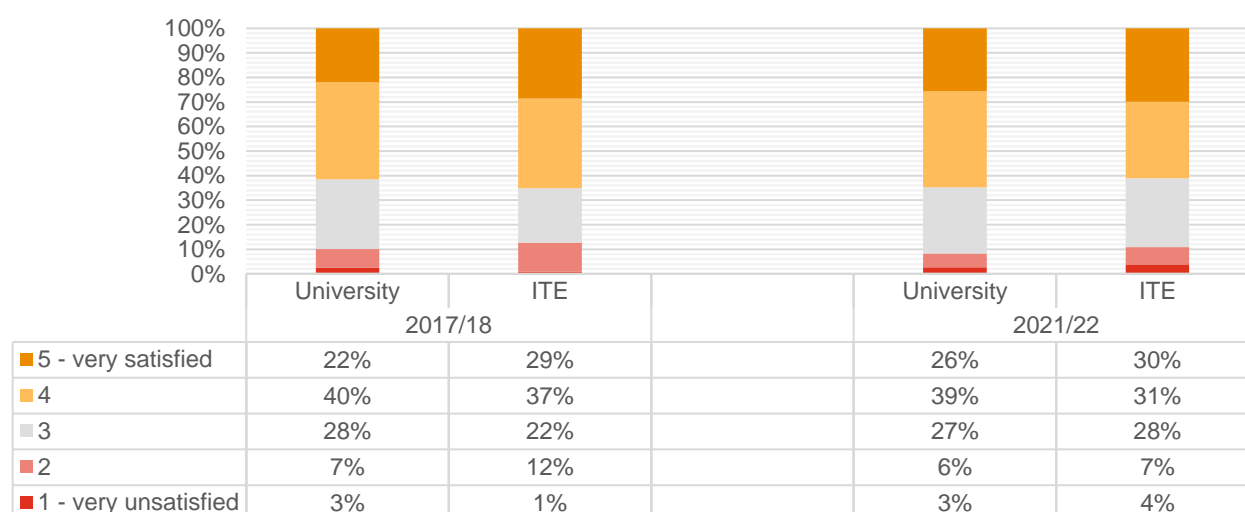
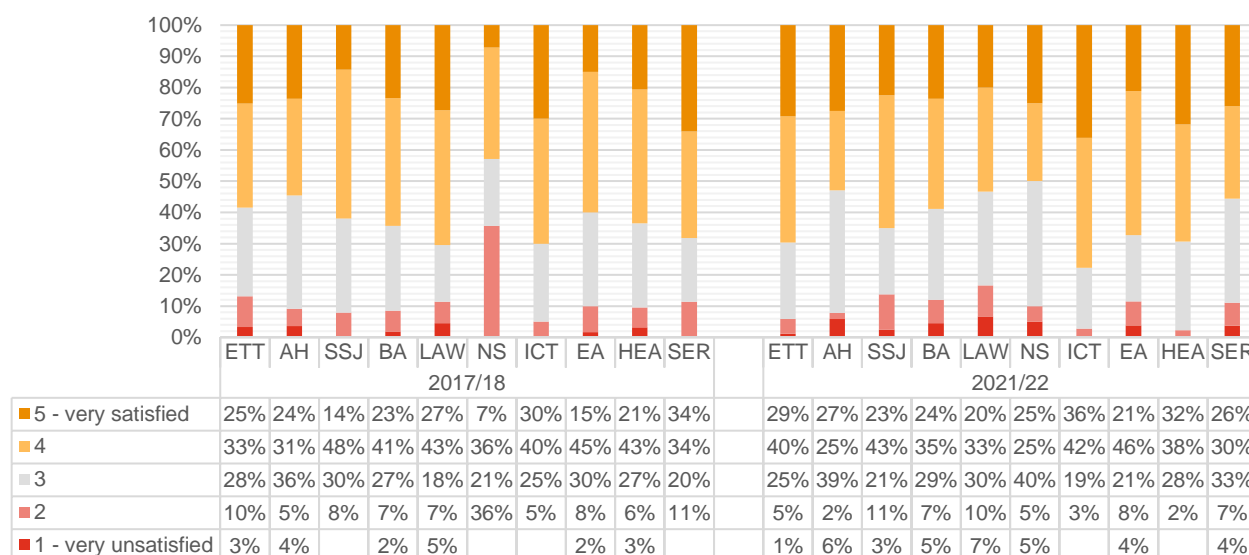


Figure 107 showcases job satisfaction across different fields of study for the 2017/18 and 2021/22 cohorts, focusing on the top and bottom three performers in terms of satisfaction and dissatisfaction. In the 2017/18 cohort, Law and Information and Communication Technologies emerged as the fields with the highest levels of job satisfaction, with 70% of graduates rating their experience positively (combining ratings 4 and 5). Services followed closely with 68% satisfaction, while Business Administration and Health both achieved 64%. On the other hand, Natural Sciences recorded the highest dissatisfaction, with 41% of graduates expressing dissatisfaction (combining ratings 1 and 2). Social Sciences and Journalism followed with 13%, while Business Administration and Engineering and Architecture each reported 12%.

In the 2021/22 cohort, Information and Communication Technologies led the way, with 78% of graduates expressing satisfaction. Health followed with 70%, and Law remained among the top fields, with 67% satisfaction. In terms of dissatisfaction, Natural Sciences had the highest rate at 17%, followed by Social Sciences and Journalism with 13%, and both Business Administration and Engineering and Architecture with 12%. The overall trend suggests that fields such as Information and Communication Technologies, Law, and Health consistently perform well in terms of job satisfaction, while Natural Science and Social Sciences and Journalism show higher levels of dissatisfaction.

Figure 107: Average job satisfaction by field of study and graduation cohort



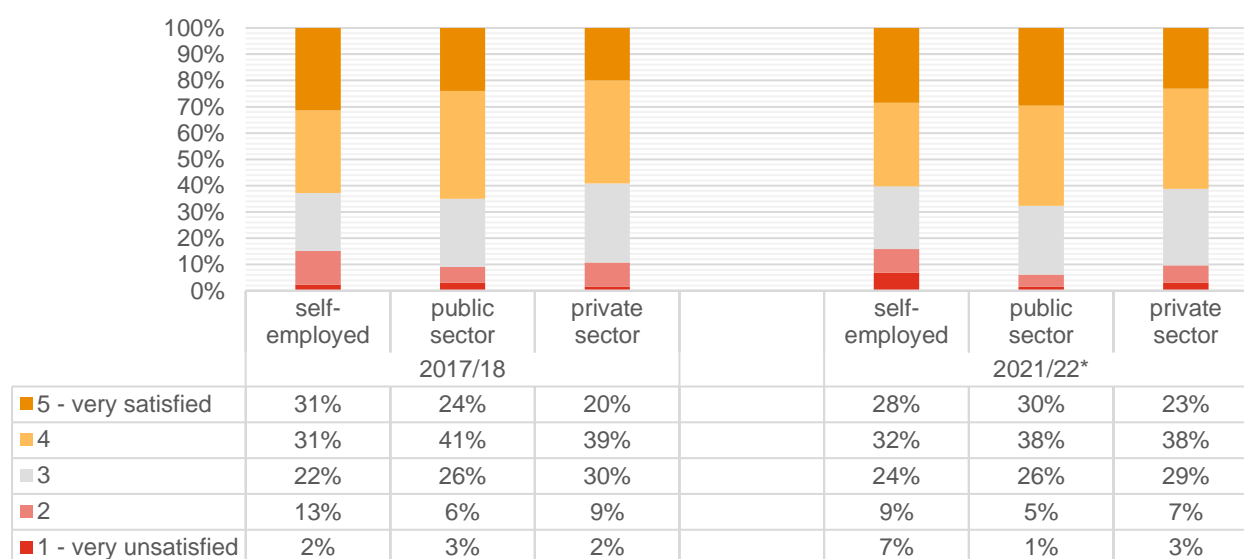
Note: Fields of study ETT-Education and Teacher Training, AH-Arts and Humanities, SSJ-Social Sciences and Journalism, BA-Business Administration, LAW-Law, NS-Natural Sciences (including Mathematics), ICT-Information and Communication Technologies, EA-Engineering and Architecture, HEA-Health, SER-Services. "Agriculture, Forestry, Fisheries, Veterinary and Services" is excluded from the analysis due to its small population size

### 5.3.3.1.3. Overall Job satisfaction by variables related to employment

The current section discusses the graduates' job satisfaction levels compared to different variables related to their employment. For the following analyses on job satisfaction and employment variables, graduates' percentages of job satisfaction were classified into two separate categories.

Job satisfaction scores varied among different employment sectors, as shown in Figure 108 which illustrates graduates' job satisfaction across three employment sectors—self-employed, public sector, and private sector for both cohorts. In both cohorts, graduates employed in public sector reported the highest satisfaction levels followed by self-employed graduates. Graduates employed in the private sector had the lowest satisfaction levels among the three groups.

Figure 108: Average job satisfaction by type of employment and graduation cohort



\*Statistically significant findings

### 5.3.3.2. Aspects of Job satisfaction

Aspects of job satisfaction, including the professional position, salary/revenues, working hours and advancement opportunities, provide vital insights into the overall job satisfaction of the graduates. These elements directly influence the perceived value and impact of academic programmes, shaping the graduates' readiness for professional life. To gather relevant feedback, graduates were asked to rate their satisfaction with each of these aspects using a five-point scale, where 1 indicated strong dissatisfaction and 5 indicated strong satisfaction. In addition to assessing job satisfaction for these different aspects, responses were examined across various demographic and academic variables to identify trends and differences between cohorts, age groups, and fields of study.

Again graduates' responses were classified into three separate categories. Response option 4 and 5 (satisfied and very satisfied) were recoded together indicating a high satisfaction level. Response options 1 and 2 (unsatisfied and very unsatisfied) were grouped together indicating low satisfaction level.

Figure 109 illustrates graduates' satisfaction on their professional position across both graduation cohorts. A similar trend was observed across both cohorts. The majority of graduates (67%-68%) reported a high level of

satisfaction with their position at work and only a small percentage 9% of graduates in both cohorts reported lower levels of satisfaction. Also 23% of graduates in both cohorts reported feeling neither satisfied nor dissatisfied.

Figure 109: Level of satisfaction on professional position by graduation cohort

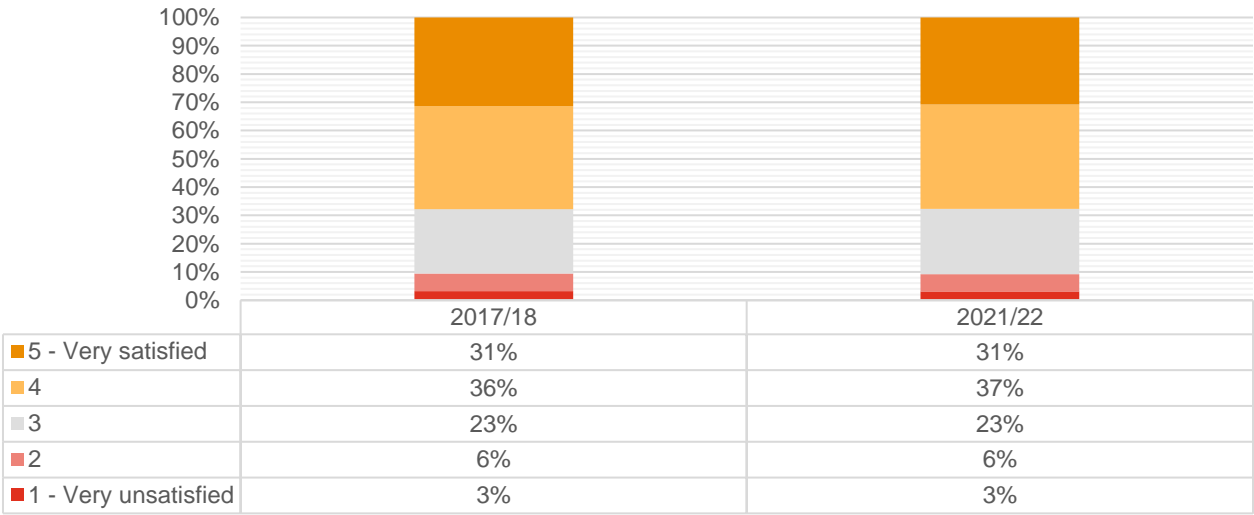


Figure 110 illustrates the level of satisfaction graduates report on salary/ revenues by graduation cohort. A similar pattern in both cohorts is observed again: the majority of graduates (43%-46%) in both cohorts reported high levels of satisfaction with their salary/ revenues, one third (31%-34%) reported being neither satisfied nor dissatisfied and 22% reported being dissatisfied.

Figure 110: Level of satisfaction on salary/revenues by graduation cohort

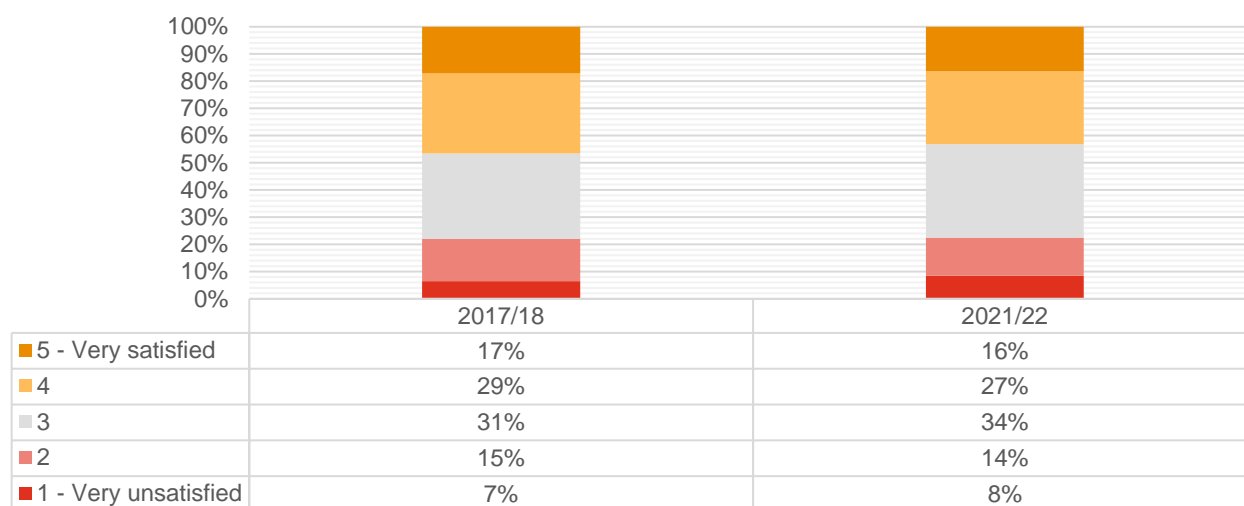
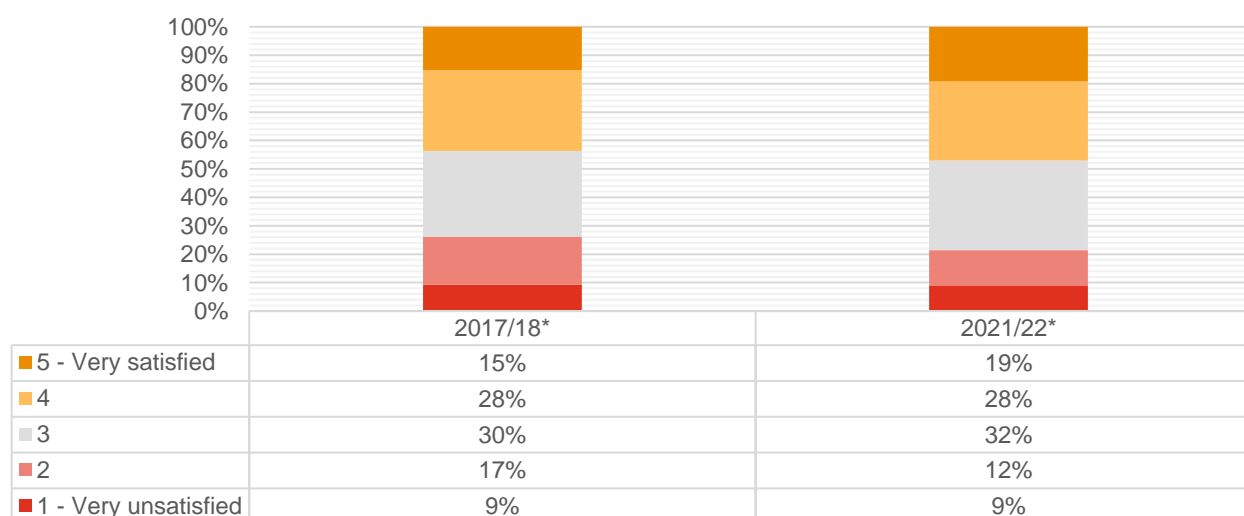


Figure 111 presents satisfaction levels regarding advancement opportunities by graduation cohort. Graduates in both cohorts reported to be quite satisfied with their advancement opportunities at 43% and 47% for 2017/18 and 2021/22 cohorts respectively. The percentages of graduates reporting being dissatisfied reached 26% and 21% for 2017/18 and 2021/22 cohorts respectively. A highest percentage though of graduates reported neither satisfied nor dissatisfied in both cohorts at 30% and 32% respectively. These differences between the two cohorts are statistically significant.

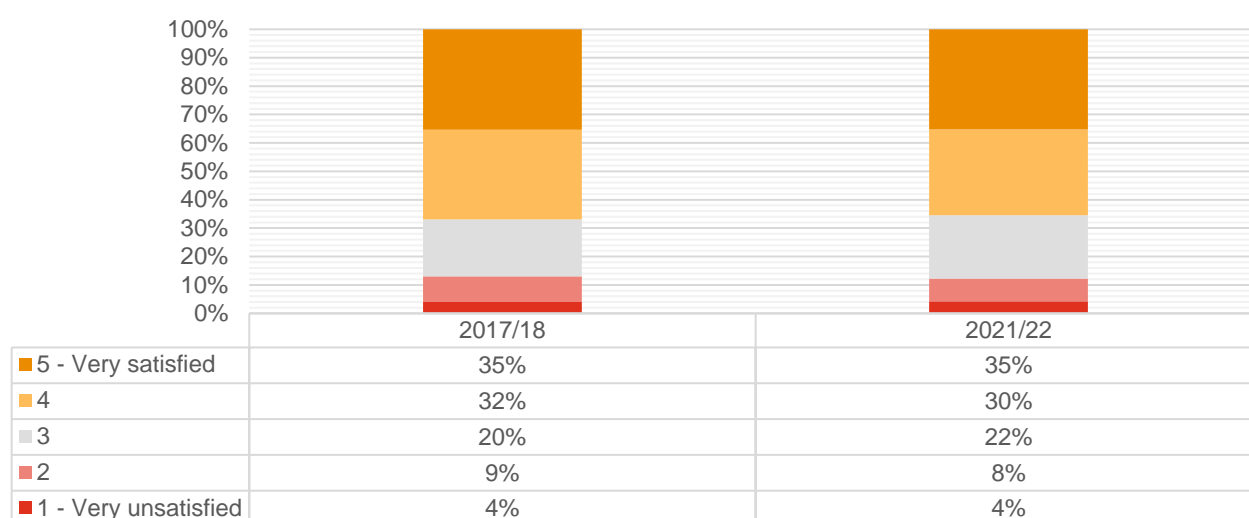
Figure 111: Level of satisfaction on advancement opportunities by graduation cohort



\*Statistically significant findings

Figure 112 presents the analysis of the level of satisfaction on working hours by graduation cohort. Graduates in both cohorts reported to be highly satisfied (ratings 4 and 5) with their working hours at 67% and 65% for 2017/18 and 2021/22 cohorts respectively. The percentages of graduates reporting being dissatisfied (ratings 1 and 2) reached 13% and 12% for 2017/18 and 2021/22 cohorts respectively. A considerable percentage though of graduates reporting neither satisfied nor dissatisfied was recorded in both cohorts at 20% and 22% respectively.

Figure 112: Level of satisfaction on working hours by graduation cohort



#### 5.3.3.2.1. Aspects of Job satisfaction by demographic variables

Figure 113 presents the analysis of the level of satisfaction on professional position by gender across both graduation cohorts. A similar pattern is observed for both genders in the two cohorts with the majority of male and female graduates reporting to be highly satisfied (ratings 4 and 5) with their professional position. Dissatisfaction was reported only by a small percentage (8-11%) of male and female graduates.

Figure 113: Level of satisfaction on professional position by gender and graduation cohort

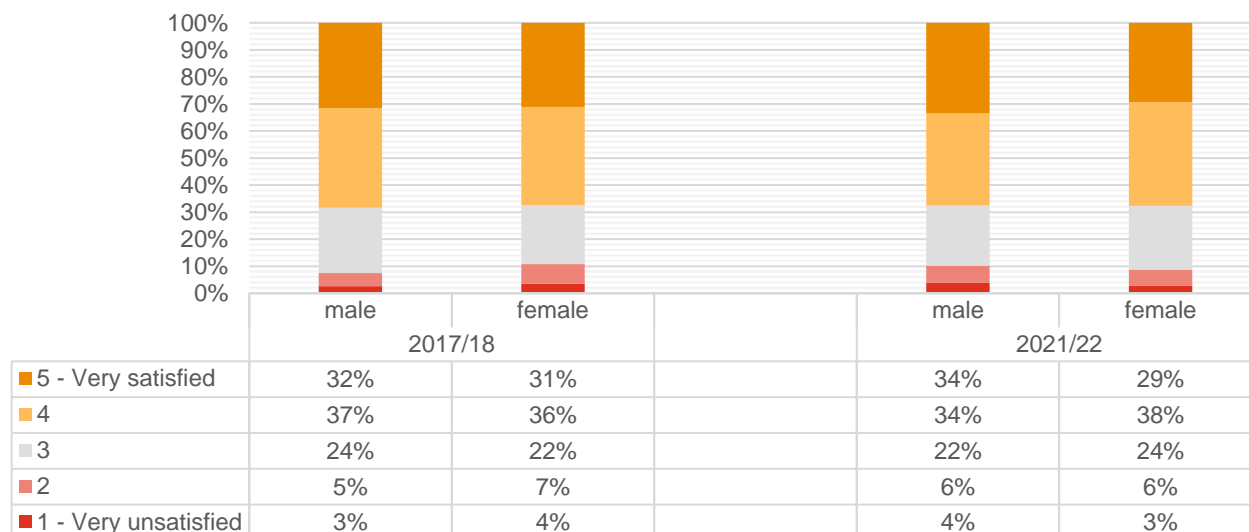
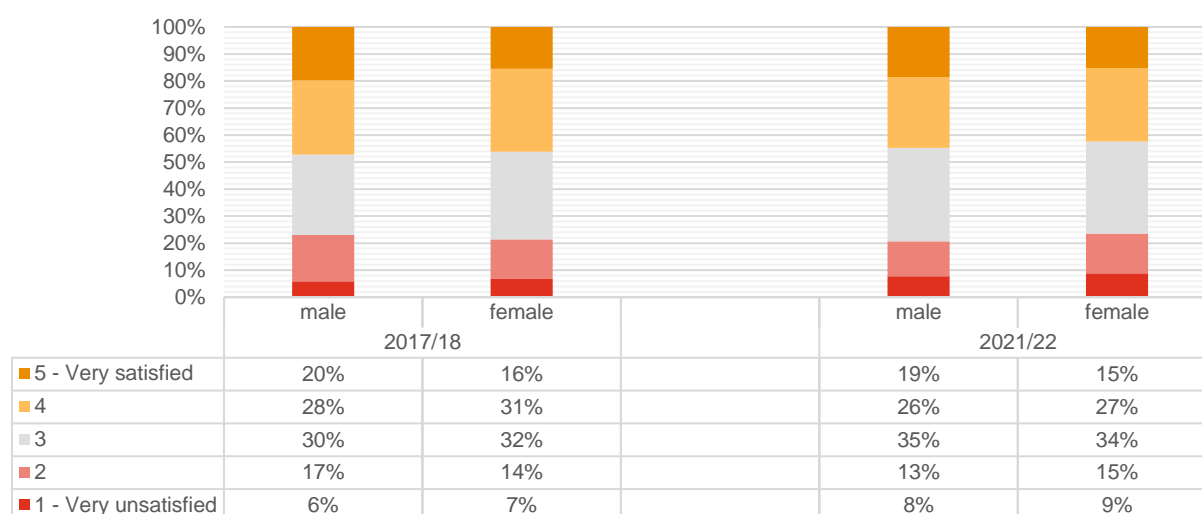


Figure 114 presents the analysis of the level of satisfaction on salary/revenues by gender across both graduation cohorts. A similar pattern is observed for both genders again here with the majority (42%-48%) of male and female graduates in both cohorts reporting to be quite satisfied (ratings 4 and 5) with their salaries. Approximately one fifth of male and female graduates reported being dissatisfied (ratings 1 and 2) (21%-24%)

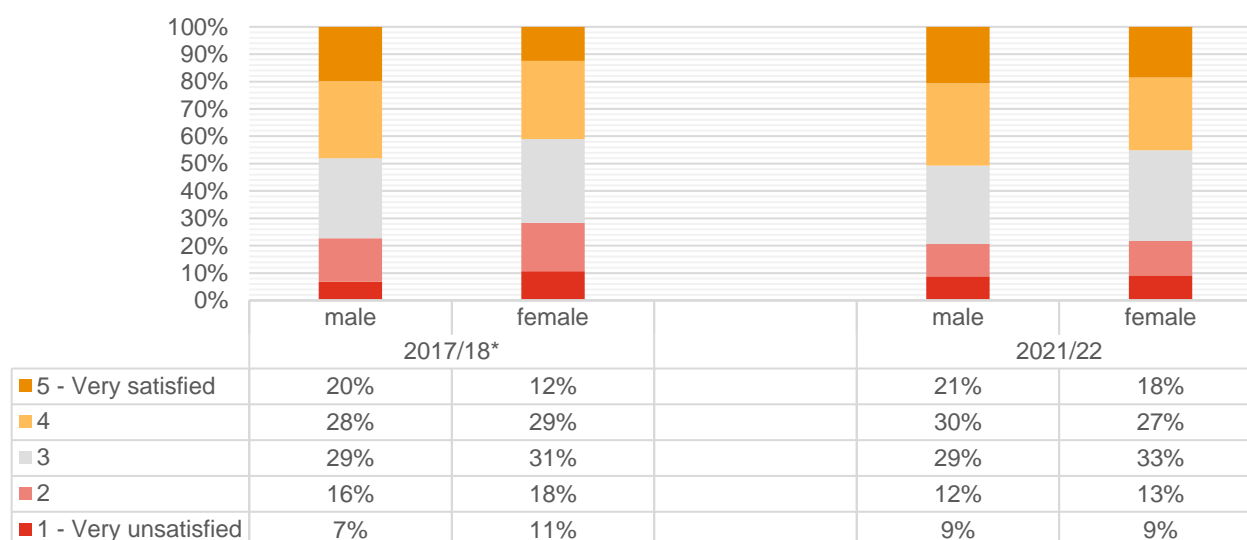
Approximately one third of male and female graduates in both cohorts reported being neither satisfied nor dissatisfied.

Figure 114: Level of satisfaction on salary/revenues by gender and graduation cohort



Regarding the analysis of the level of satisfaction on advancement opportunities by gender, statistically significant differences between the two genders were recorded only for the 2017/18 cohort. In the 2017/18 cohort male graduates appear to be more satisfied with their advancement opportunities when compared with female graduates.

Figure 115: Level of satisfaction on advancement opportunities by gender and graduation cohort

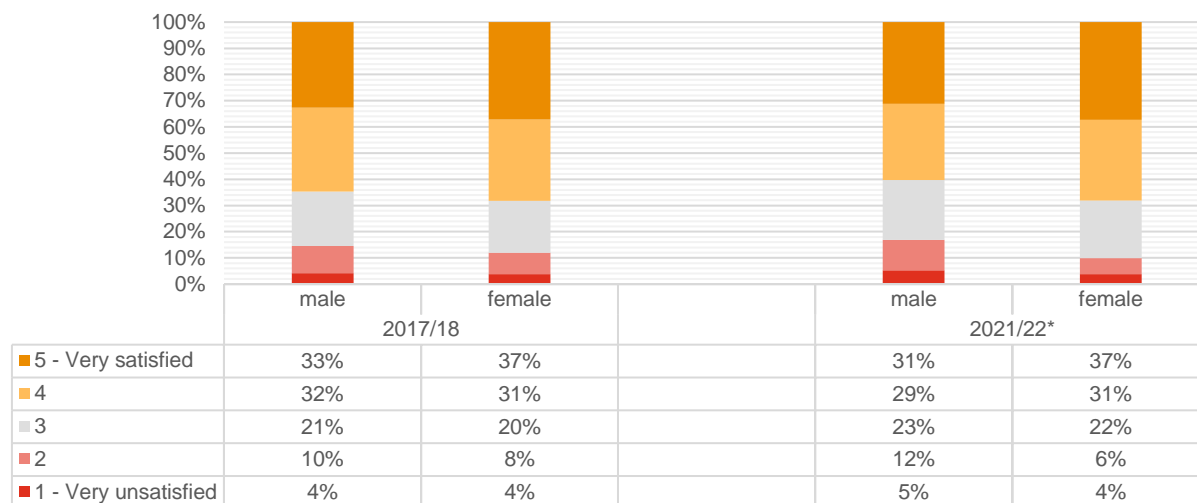


\*Statistically significant findings

Figure 116 illustrates the analysis of the level of satisfaction on the working hours by gender across graduation cohorts. Overall the majority (60%-70%) of both male and female graduates in both cohorts reported being highly satisfied (ratings 4 and 5). In the 2021/22 statistically significant differences were observed between males and females with a higher percentage of female graduates (compared to males) reporting a high level of satisfaction and a higher percentage of males reporting at 68% against 12% and 10% reporting low

satisfaction in 2017/18 and 2021/22 cohorts in that order. A similar pattern is observed for both genders on reporting neither satisfied nor dissatisfied recording high percentages, 21% and 23% for male, and 23% and 22% for female in 2017/18 and 2021/22 cohorts correspondingly. The findings for the 2021/22 cohort were statistically significant.

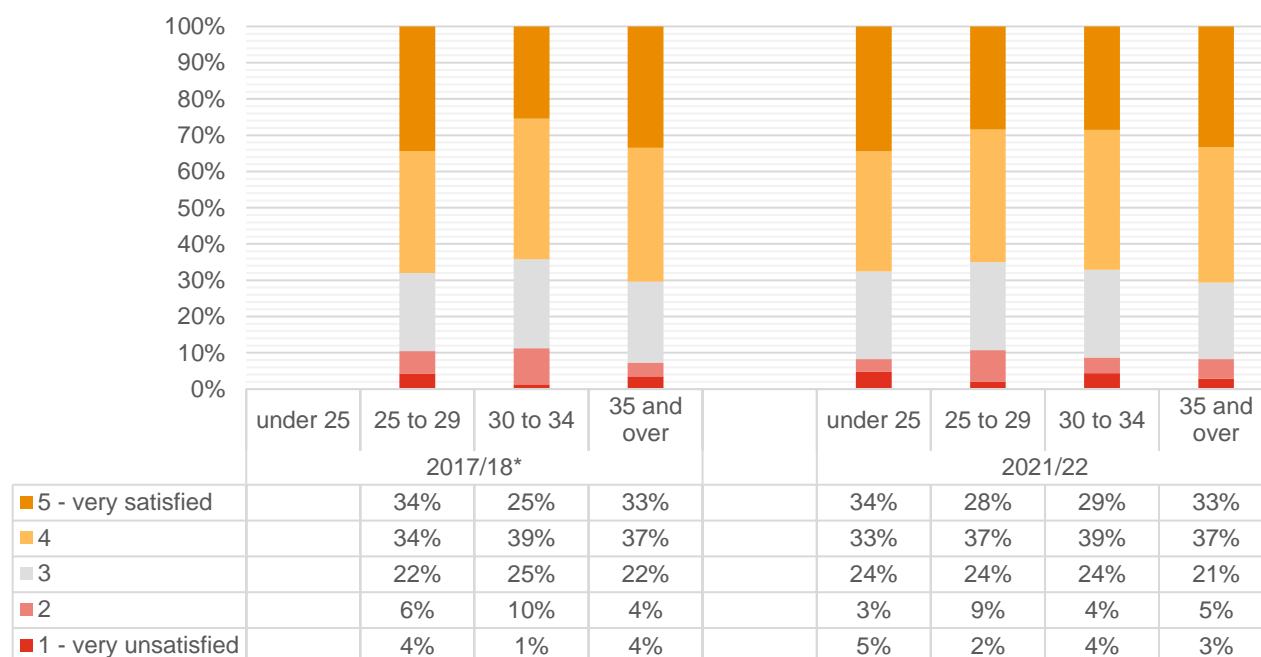
Figure 116: Level of satisfaction on working hours by gender and graduation cohort



\*Statistically significant findings

Figure 117 illustrates the analysis of the level of satisfaction on professional position by age at the time of the survey. In both cohorts age group “35 and over” reported the highest satisfaction at 70% (combined ratings 4 and 5). The second highest satisfaction rate has been recorded among “25 to 29” at 68% for 2017/18 cohort and “30 to 34” age group at 68% for 2021/22 cohort. Approximately, one fifth of graduates in all age groups in both cohorts reported feeling neither satisfied nor dissatisfied. The differences in satisfaction levels for professional position among age groups were found to be statistically significant for the 2017/18 cohort.

Figure 117: Level of satisfaction on professional position by age (at time of the survey) and graduation cohort



\*Statistically significant findings

Figure 118 illustrates the analysis of the level of satisfaction on salary/revenues by age at the time of the survey. In 2017/18 age group “35 and over” and “25 to 29” reported the highest satisfaction at 48%. The highest levels of dissatisfaction are recorded among graduates aged “30 to 34” at 25%. In the 2021/22 cohort surprisingly graduates “under 25” recorded the highest of satisfaction level (53%) with their salary with the “35 and over” group to follow at 42%. The highest levels of dissatisfaction are recorded among graduates aged “30 to 34” at 26%. A general observation is that all age groups recorded a high percentage (>30) on being neither satisfied nor unsatisfied with their salaries/revenues. The findings for the 2017/18 cohort were found to be statistically significant.

Figure 118: Level of satisfaction on salary/revenues by age (at time of the survey) and graduation cohort

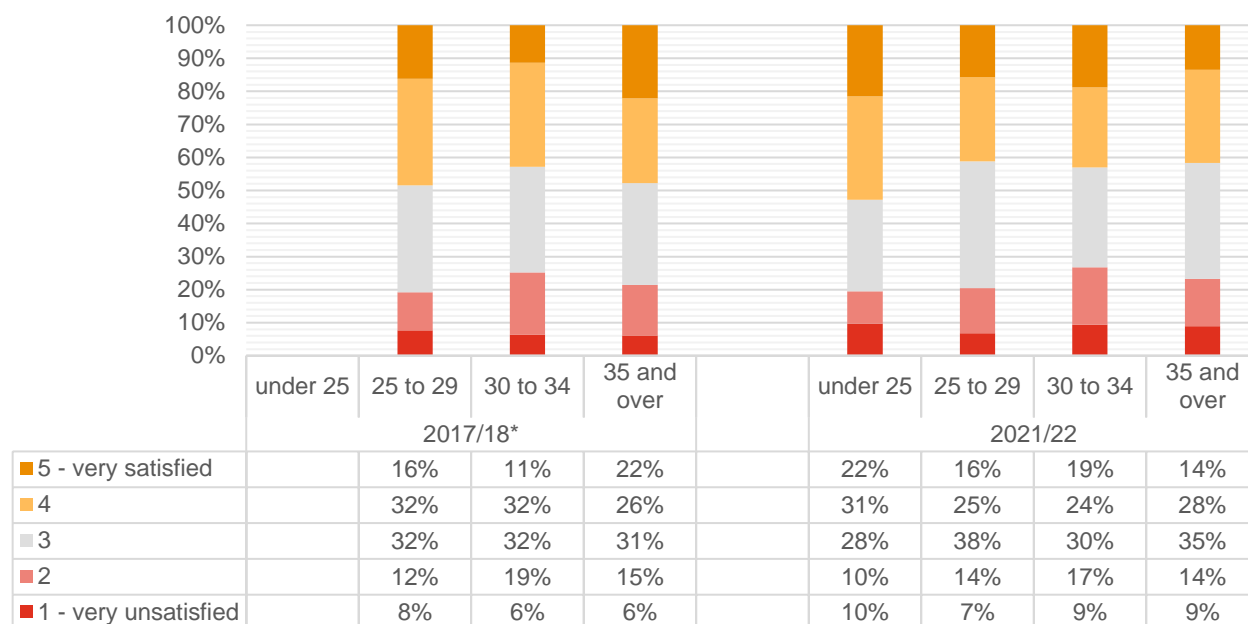


Figure 119 presents the level of satisfaction on advancement opportunities by age at the time of the survey by cohort. In both cohorts, approximately 40% of graduates in all age groups reported high satisfaction levels with advancement opportunities. In the 2017/18 cohort 25-29% of graduates in all age groups reported low satisfaction levels with advancement opportunities and 27%-32% reported being neither satisfied nor unsatisfied with their advancement opportunities. In the 2020/21 a similar pattern is observed with 54% of graduates from the age group of “under 25” reporting high satisfaction levels. This fact is not surprising given the young of their age and the employment market during that point. The percentages of graduates in all age groups reporting low satisfaction are lower in the 2020/21 cohort.

Figure 119: Level of satisfaction on advancement opportunities by age (at time of the survey) and graduation cohort

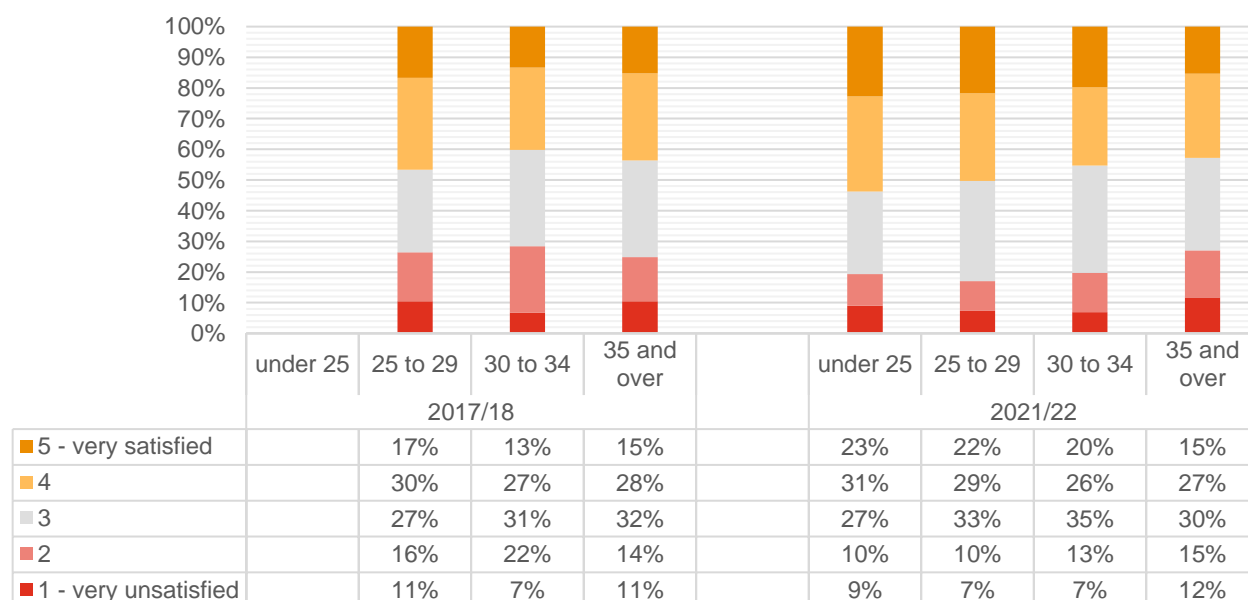
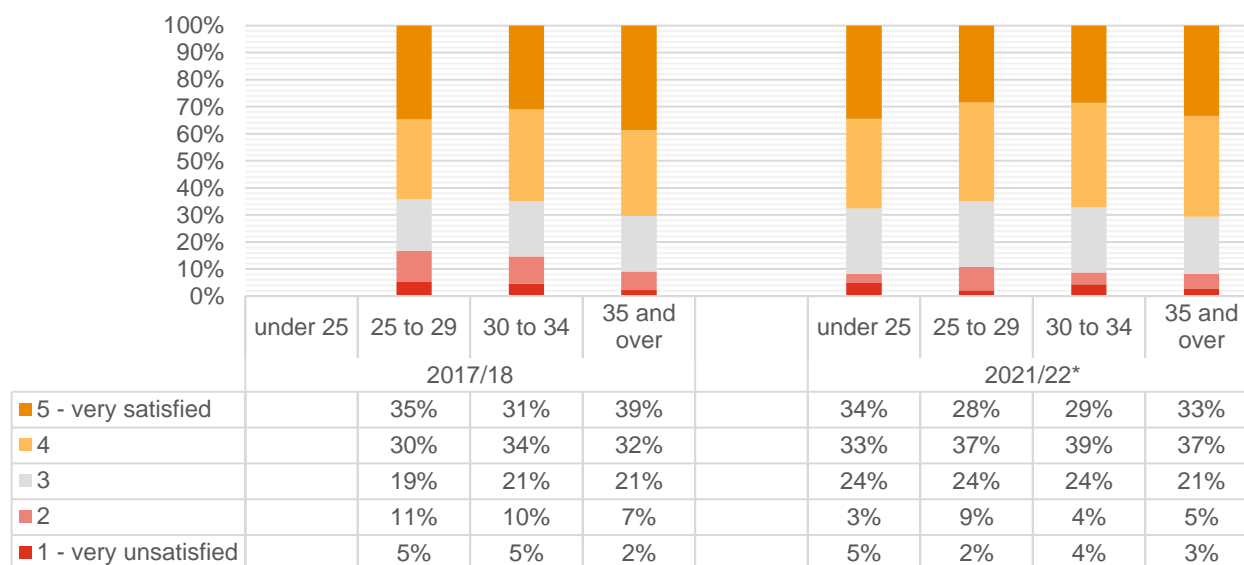


Figure 120 presents the level of satisfaction on working hours by age at the time of the survey by cohort. In 2017/18, 71% of graduates “35 and over” reported high satisfaction levels with their working hours. The majority of youngest graduates (“under 25” and “25 to 29”) reported also high satisfaction levels at 65%. The highest percentage for dissatisfaction among the age groups was reported by the “25 to 29” graduates. In the 2021/22, the pattern is that level of satisfaction increases with age with graduates “35 and over” at 70% following by “30 to 34” at 68%. A low percentage of graduates (8%-11%) in all age groups reported being not satisfied with working hours. The findings for 2021/22 cohort were found to be statistically significant.

Figure 120: Level of satisfaction on working hours by age (at the time of the survey) and graduation cohort

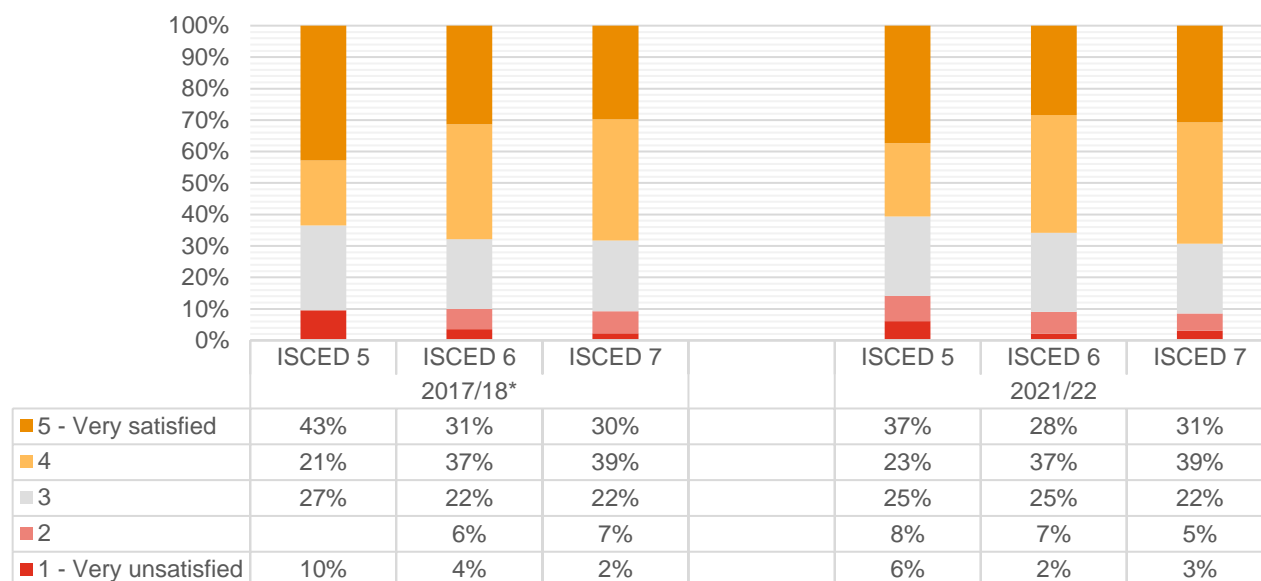


\*Statistically significant findings

#### 5.3.3.2.2. Aspects of Job satisfaction by variables related to studies

Figure 121 presents the level of satisfaction with professional position by educational level and graduation cohort. The general trend is that satisfaction with professional position increases with educational level with ISCED 7 graduates noting the highest percentage of high satisfaction levels in both cohorts. The findings for 2017/18 cohort are statistically significant. The ISCED 5 group in the 2017/18 cohort has a lower percentage of graduates reporting high satisfaction levels when compared to ISCED 6 and 7 groups and a higher percentage of graduates reporting neither satisfied nor dissatisfied.

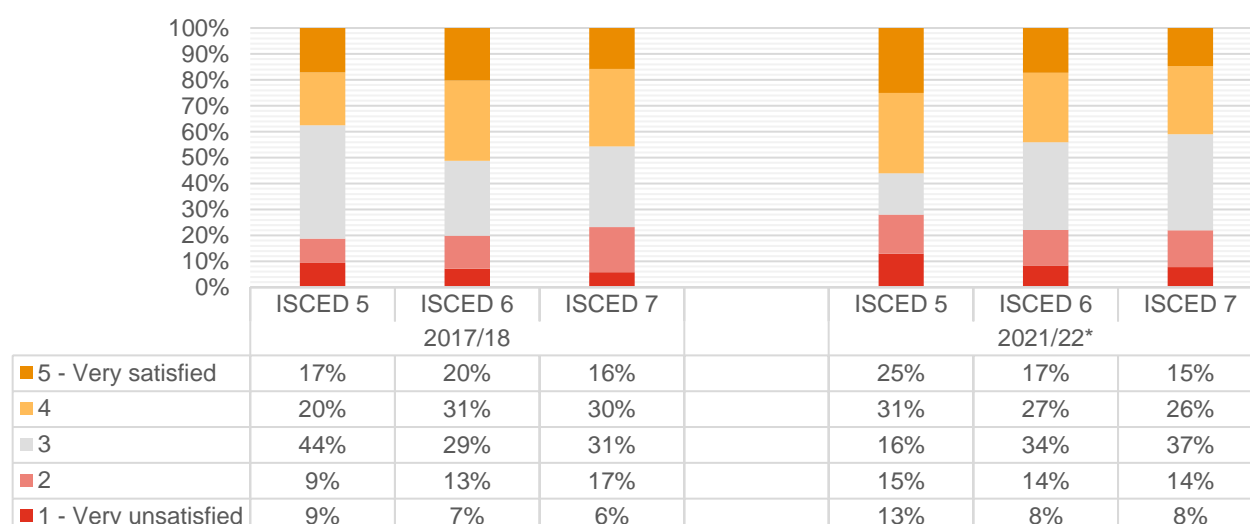
Figure 121: Level of satisfaction on professional position by ISCED level and graduation cohort



\*Statistically significant findings

Figure 122 presents the level of satisfaction with salary/revenues by educational level and graduation cohort. In both cohorts the ISCED 6 and ISCED 7 graduates show a similar pattern in terms of the level of satisfaction with salary/revenues. In the 2017/18 ISCED 6 and ISCED 7 graduates recorded a higher percentage of satisfaction at 51% and ISCED 7 at 46%. ISCED 7 graduates reported the highest dissatisfaction as well at 23%. In the 2021/22 cohort the highest satisfaction is recorded at ISCED 5 and 6 at 56% and 44% respectively, whereas the ISCED 5 graduates reported the highest dissatisfaction at 28%. Of interest are the results for all three educational level graduates in both cohorts reporting neither satisfied nor dissatisfied with the ISCED 5 to record the highest (44%) and ISCED 6 at 34% for 2017/18 and 2021/ 22, respectively. The findings for 2021/22 cohort were found to be statistically significant.

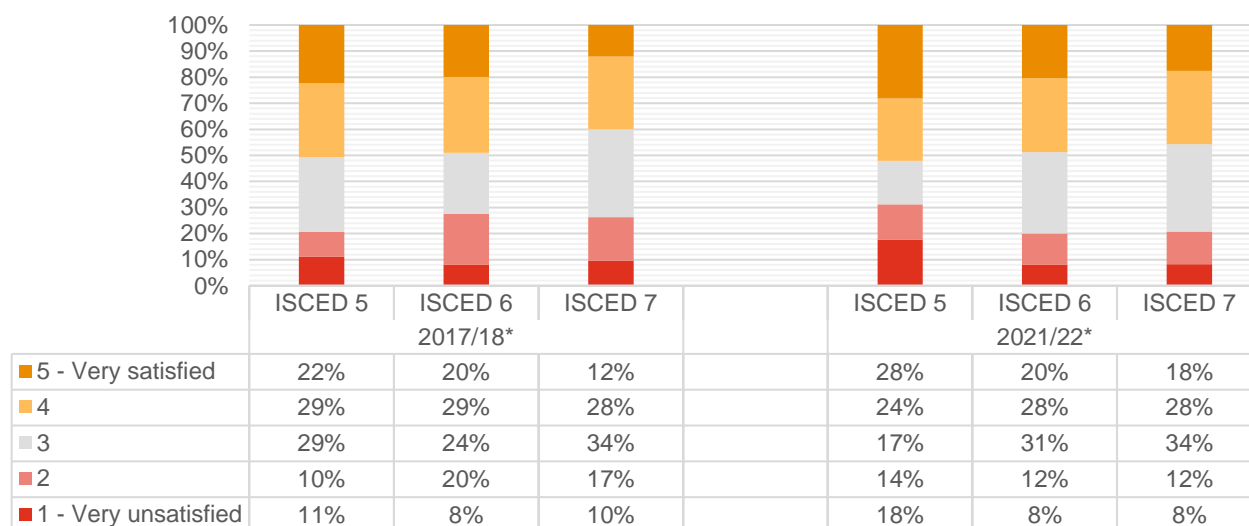
Figure 122: Level of satisfaction on salary/revenues by ISCED level and graduation cohort



\*Statistically significant findings

Figure 123 presents the level of satisfaction with advancement opportunities by educational level and graduation cohort. In both cohorts the general trend is that satisfaction on advancement opportunities decreases with educational level. In the 2017/18 cohort ISCED 5 graduates reported the highest satisfaction at 51% followed by ISCED 6 at 49%. ISCED 6 graduates reported the highest dissatisfaction on the advancement opportunities at 28%. In the 2021/22 cohort the highest satisfaction is recorded at ISCED 5 and 6 at 52% and 48% respectively. The ISCED 5 graduates reported the highest dissatisfaction at 32%. The results are notable for graduates across all three educational levels in both cohorts, who reported being neither satisfied nor dissatisfied with the ISCED 7 recording the highest at 34% for both cohorts. The findings for both cohorts are statistically significant.

Figure 123: Level of satisfaction on advancement opportunities by ISCED level and graduation cohort



\*Statistically significant findings

Figure 124 presents the level of satisfaction on working hours by educational level and graduation cohort. In both cohorts the general trend is that satisfaction increases with educational level. In the 2017/18 cohort ISCED 7 graduates reported the highest satisfaction at 69% followed by ISCED 6 at 65%. A high percentage of ISCED 5 graduates reported being satisfied at 61%. In the 2021/22 cohort the highest satisfaction is recorded at ISCED 7 and 6 at 70% and 58%, respectively. In 2017/18 cohort ISCED 5 recorded the highest percentages

in neither satisfied nor dissatisfied at 28% whilst this pattern is observed in ISCED 6 in 2021/22 recording a 27%.

Figure 124: Level of satisfaction on working hours by ISCED level and graduation cohort

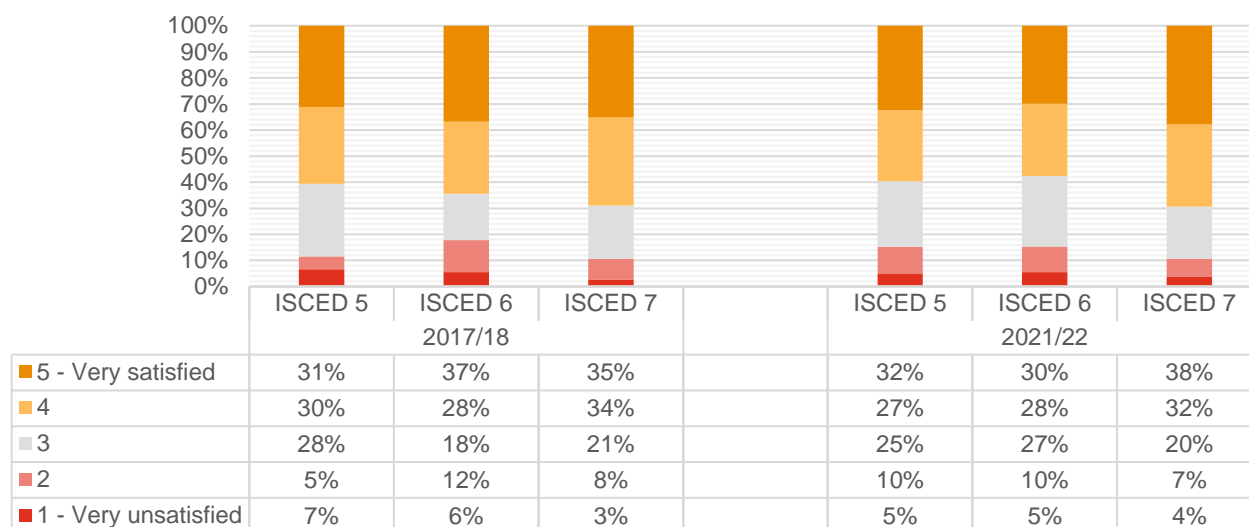
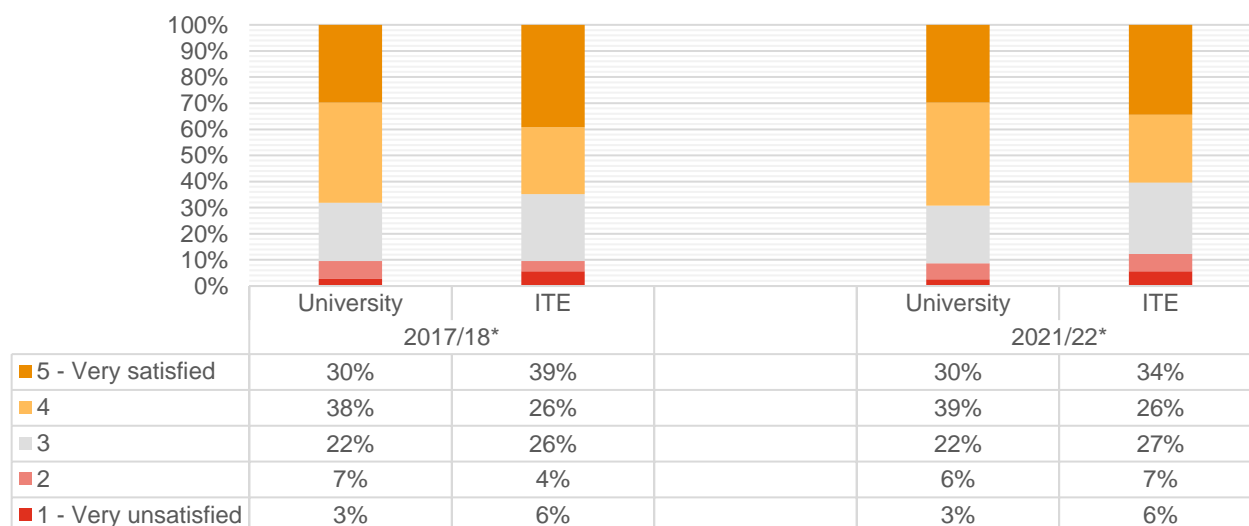


Figure 125 illustrates the level of satisfaction with professional position by type of HEI—University and ITE—for the 2017/18 and 2021/22 cohorts. The results for both cohorts are statistically significant. Overall, the figure highlights that in both cohorts, University graduates consistently reported slightly higher satisfaction levels with their professional positions compared to ITE graduates. However, ITE graduates noted higher percentages of graduates reporting as neither satisfied nor dissatisfied with professional position.

Figure 125: Level of satisfaction on professional position by type of HEI and graduation cohort



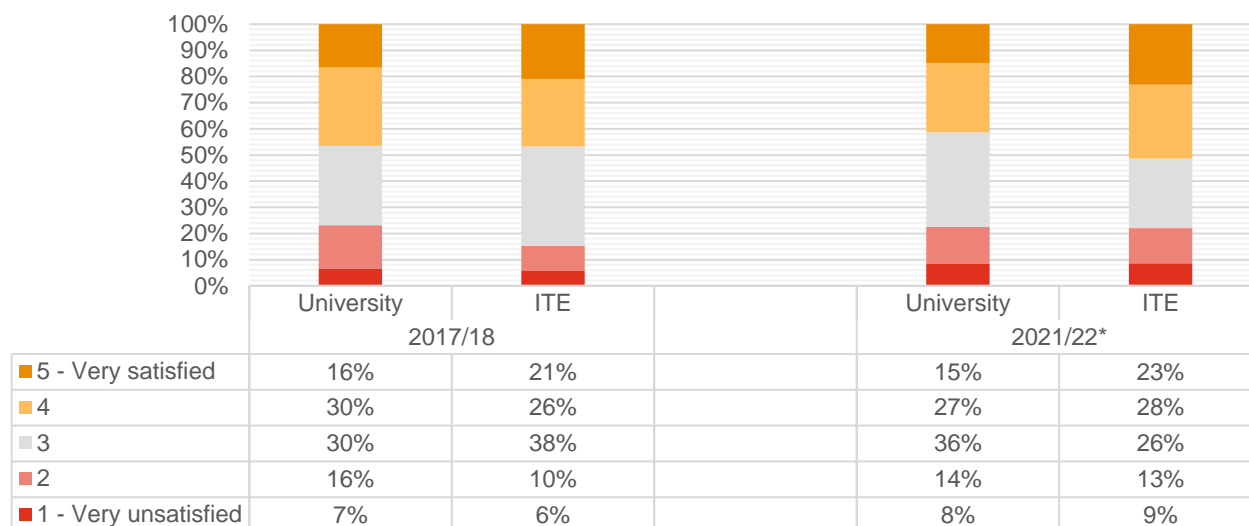
\*Statistically significant findings

Figure 126 illustrates the level of satisfaction with salary/revenues by type of HEI—University and ITE—for the 2017/18 and 2021/22 cohorts. In the 2017/18 cohort, University graduates demonstrated moderate levels of satisfaction with their salary or revenues, with 46% (combining ratings 4 and 5) and 30% reporting neither satisfied nor dissatisfied. For ITE graduates, satisfaction was slightly higher, with 47% and 38% reporting

neutral responses. However, dissatisfaction among ITE graduates was lower than their University counterparts at 16%.

In the 2021/22 cohort, satisfaction levels were relatively stable for University graduates, with 42% expressing satisfaction (combining ratings 4 and 5), 36% reporting neutral response. ITE graduates again reported higher satisfaction with their salary/revenues at 51% and only 26% reporting neither satisfied nor unsatisfied. However, 22% of ITE graduates reported dissatisfaction with their financial outcomes. The results for this cohort are statistically significant. Overall, the figure highlights a persistent gap between ITE and University graduates in terms of salary/revenue satisfaction, with ITE graduates consistently reporting higher satisfaction across both cohorts, albeit with slightly higher dissatisfaction in the 2021/22 cohort.

Figure 126: Level of satisfaction on salary/revenues by type of HEI and graduation cohort

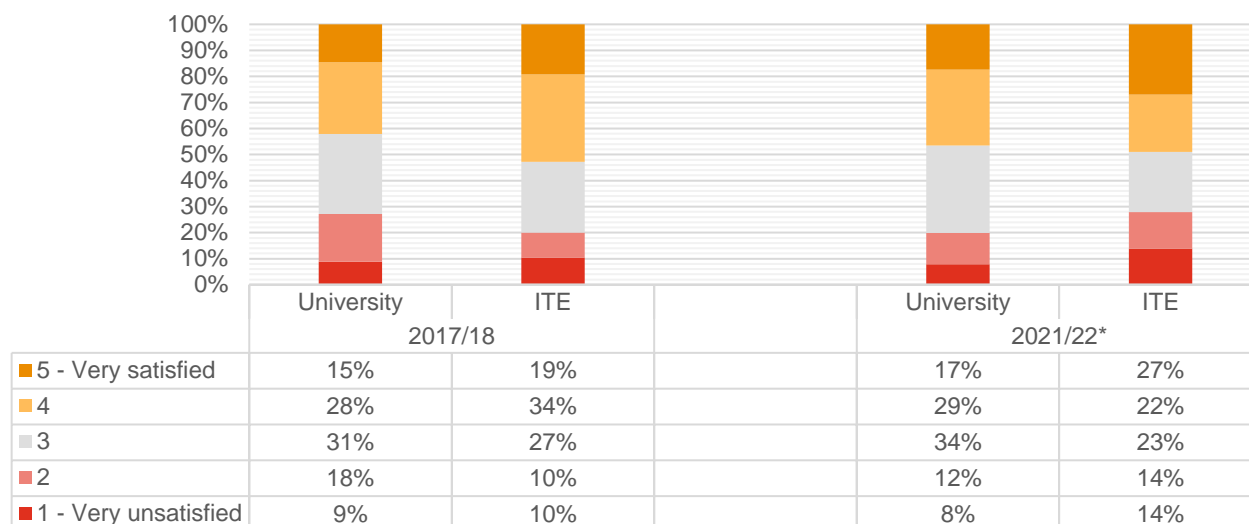


\*Statistically significant findings

Figure 127 illustrates the level of satisfaction with advancement opportunities by type of HEI—University and ITE—for the 2017/18 and 2021/22 cohorts. The results for the 2021/22 cohort are statistically significant. In the 2017/18 cohort, University graduates reported moderate satisfaction with advancement opportunities, with 43% of graduates expressing positive views (combining ratings 4 and 5). On the other hand, 27% of University graduates expressed dissatisfaction (combining ratings 1 and 2). Graduates from ITE institutions demonstrated slightly higher satisfaction levels, with 53% rating their advancement opportunities positively. Meanwhile, 20% of ITE graduates expressed dissatisfaction with the advancement opportunities provided by their programmes.

In the 2021/22 cohort, satisfaction with advancement opportunities improved for both HEI types. Among University graduates, 46% expressed satisfaction (combining ratings 4 and 5), while dissatisfaction decreased slightly to 20%. For ITE graduates, 49% expressed satisfaction with advancement opportunities, although dissatisfaction rose slightly to 28%. Overall, the figure highlights a persistent trend where ITE graduates consistently report higher satisfaction with advancement opportunities compared to their University counterparts.

Figure 127: Level of satisfaction on advancement opportunities by type of HEI and graduation cohort



\*Statistically significant findings

Figure 128 illustrates the level of satisfaction with working hours by type of HEI—University and ITE—for the 2017/18 and 2021/22 cohorts. Overall, the figure shows that the majority of graduates from both HEI types in both cohorts maintained high satisfaction with their working hours, with University graduates slightly more satisfied across both cohorts. However, there remains a small portion of graduates who remain dissatisfied with their working hours, particularly among ITE graduates in the 2021/22 cohort.

Figure 128: Level of satisfaction on working hours by type of HEI and graduation cohort

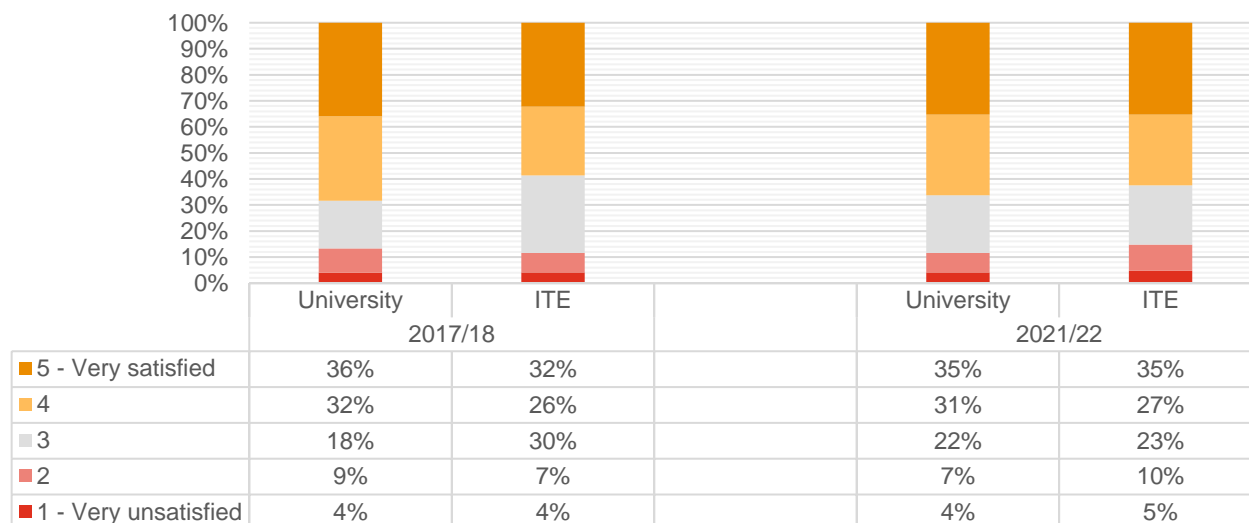


Figure 129 illustrates the level of satisfaction with professional positions by field of study for the 2017/18 and 2021/22 cohorts, focusing on the top and bottom performers in terms of satisfaction and dissatisfaction. In the 2017/18 cohort, Information and Communication Technologies recorded the highest satisfaction, with 81% of graduates expressing satisfaction with their professional positions (combining ratings 4 and 5). Services followed closely, with 75% satisfaction. On the other hand, dissatisfaction was highest among Natural Sciences graduates, with 33% expressing dissatisfaction (combining ratings 1 and 2).

In the 2021/22 cohort, the fields showing the highest satisfaction were Social Sciences and Journalism with 76% satisfaction, Arts and Humanities with 72%, and Education and Teacher Training and Information and Communication Technologies, both with 71% satisfaction. In contrast, the Natural Sciences field had the highest dissatisfaction, with 15% of graduates expressing dissatisfaction, followed by Business Administration and Law, both at 12% dissatisfaction, and Engineering and Architecture, Health, and Services, each with 10% dissatisfaction. Overall, Information and Communication Technologies, Social Sciences and Journalism, and Arts and Humanities consistently ranked among the top fields for job satisfaction across the two cohorts, while Natural Sciences, Law, and Business Administration fields exhibited higher levels of dissatisfaction.

Figure 129: Level of satisfaction on professional position by field of study and graduation cohort

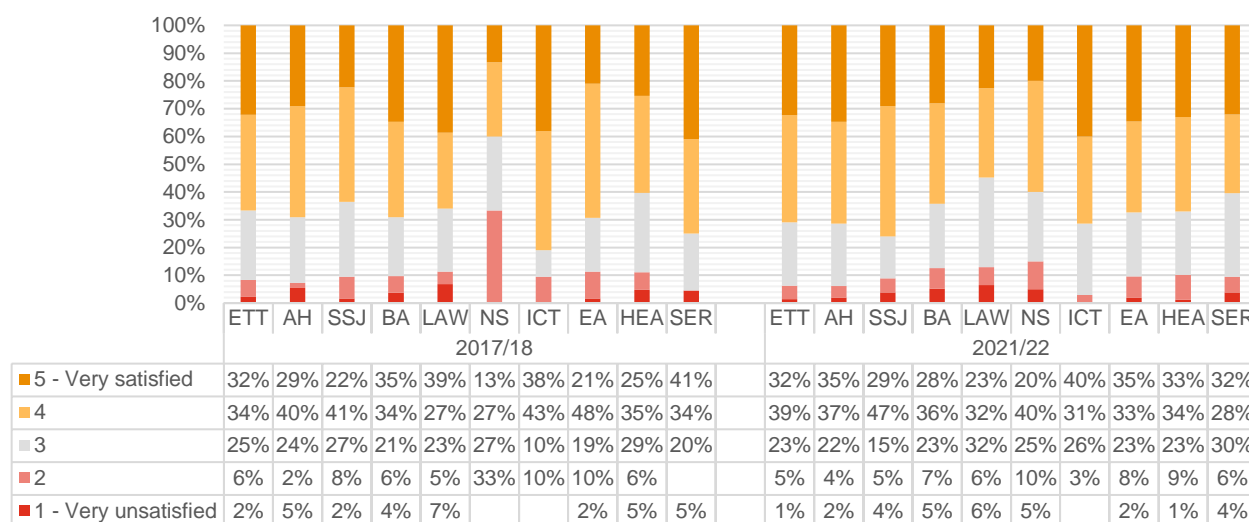


Figure 130 highlights the level of satisfaction with salary/revenues by field of study for the 2017/18 and 2021/22 cohorts, focusing on the top and bottom performers in terms of satisfaction and dissatisfaction. In the 2017/18 cohort, the highest satisfaction with salary/revenues was reported again by graduates from the field Information and Communication Technologies graduates, with 55% expressing satisfaction (combining ratings 4 and 5). Health followed closely, with 52% satisfaction, while Business Administration recorded 51%. At the other end, Natural Sciences showed the lowest satisfaction, with only 35% of graduates indicating positive views on their salary. Education and Teacher Training followed with 26% satisfaction, while both Arts and Humanities and Information and Communication Technologies tied at 25%, ranking low on salary satisfaction.

In the 2021/22 cohort, Information and Communication Technologies remained the top performer with 57% satisfaction, followed by Services at 55%, and Health once again performed well with 47% satisfaction. Conversely, Law recorded the lowest satisfaction, with 39% of graduates expressing dissatisfaction with their salary. Natural Sciences followed closely with 30%, and Social Sciences and Journalism recorded a 29% satisfaction, making it one of the lower-ranked fields in terms of salary satisfaction. Overall, Information and Communication Technologies consistently ranks among the top fields for salary satisfaction in both cohorts, while fields such as Natural Sciences, Law, and Social Sciences and Journalism reported lower levels of satisfaction, indicating areas where improvements in salary outcomes may be needed.

Figure 130: Level of satisfaction on salary/revenues by field of study and graduation cohort

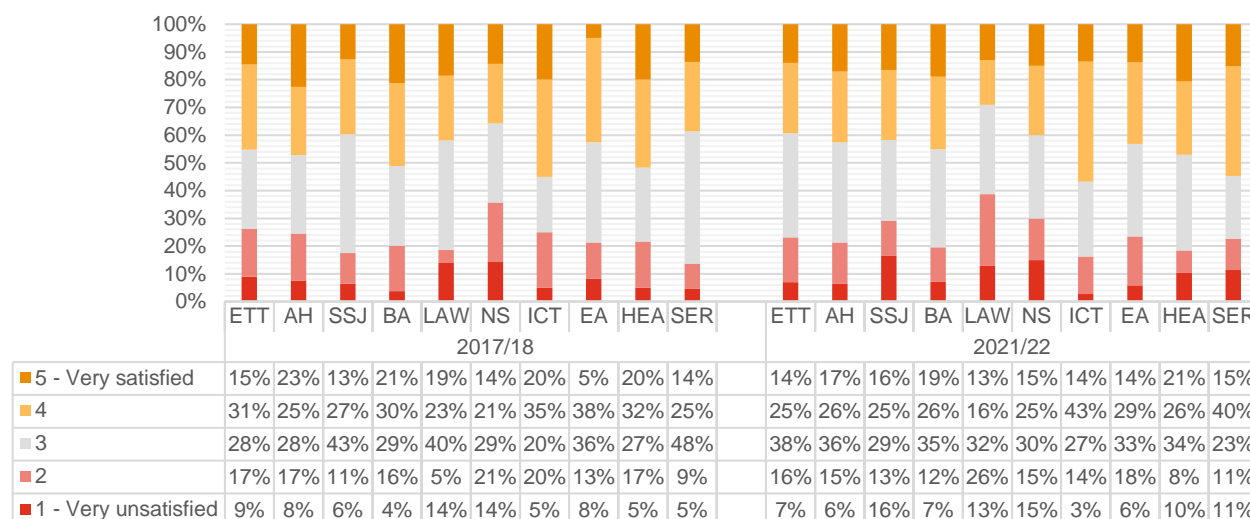
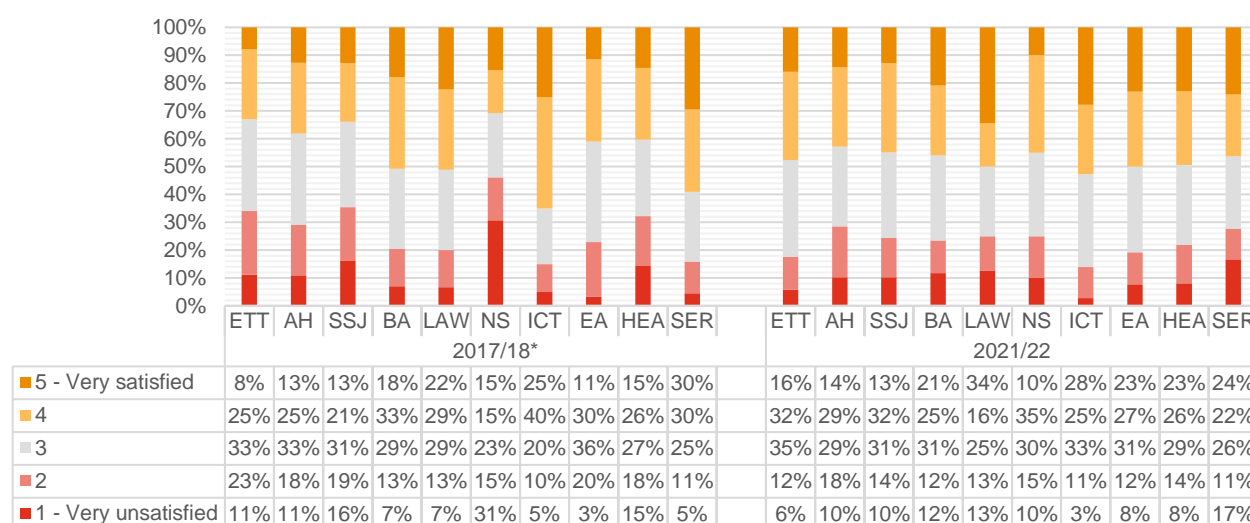


Figure 131 illustrates the level of satisfaction with advancement opportunities by field of study for the 2017/18 and 2021/22 cohorts, focusing on the top and bottom performers in terms of satisfaction and dissatisfaction. In the 2017/18 cohort, the highest satisfaction with advancement opportunities was reported by Information and Communication Technologies graduates, with 65% expressing satisfaction (combining ratings 4 and 5). Services followed with 60% satisfaction, while both Business Administration and Law achieved 51%. On the lower end, Natural Sciences showed the least satisfaction, with 46% of graduates reporting positive views on their advancement opportunities. Social Sciences and Journalism followed closely with 35% satisfaction, while Education and Teacher Training reported 34% satisfaction, rounding out the lowest performers.

In the 2021/22 cohort, Information and Communication Technologies remained a top performer with 53% satisfaction. Law and Engineering and Architecture both achieved 50%, while Health recorded 49% satisfaction. On the other end of the spectrum, Services showed the lowest satisfaction, with 28% of graduates expressing positive views on their advancement opportunities. Law was among the lowest again with 26% satisfaction, and Natural Sciences followed with 25% satisfaction. Overall, Information and Communication Technologies consistently performed well in terms of advancement opportunities in both cohorts, while fields like Natural Sciences and Law exhibited lower levels of satisfaction.

Figure 131: Level of satisfaction on advancement opportunities by field of study and graduation cohort

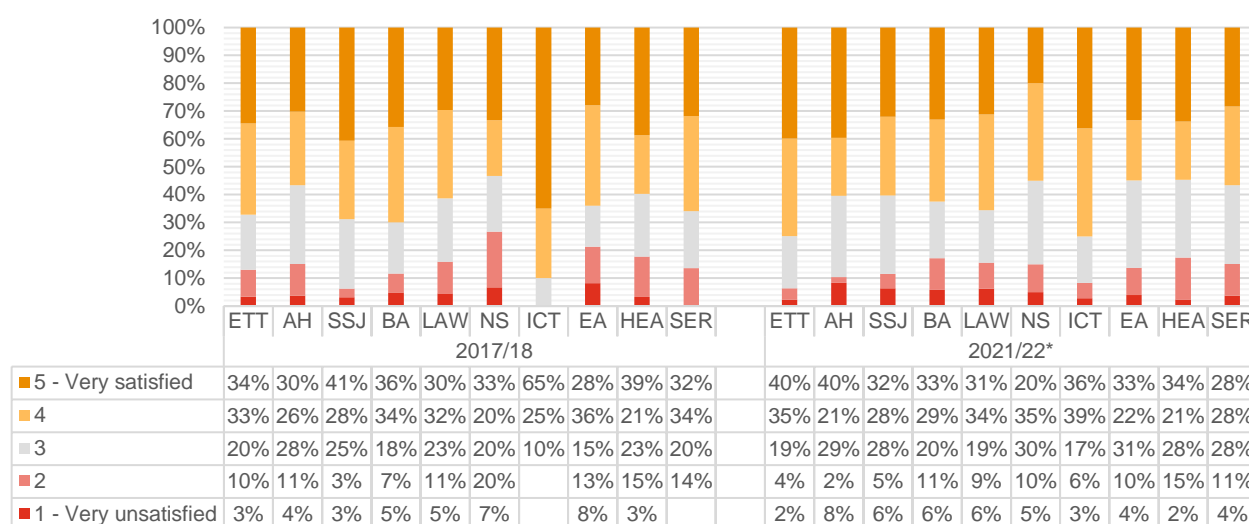


\*Statistically significant findings

Figure 132 illustrates the level of satisfaction with working hours by field of study for both cohorts, highlighting both the top and bottom performers in terms of satisfaction. In the 2017/18 cohort, Information and Communication Technologies graduates expressed the highest level of satisfaction with their working hours, with an impressive 90% combining ratings 4 and 5. Business Administration followed with 70% satisfaction, while Social Sciences and Journalism recorded 69% satisfaction. On the lower end, Natural Sciences graduates expressed only 27% satisfaction, making it the field with the lowest satisfaction. Engineering and Architecture came next with 21%, while Health graduates reported just 18% satisfaction with their working hours.

For the 2021/22 cohort, Information and Communication Technologies once again led the way, with 75% of graduates satisfied with their working hours, now joined by Education and Teacher Training, also at 75%. Law graduates expressed 65% satisfaction, while Arts and Humanities showed 61% satisfaction. On the opposite end of the spectrum, Business Administration and Health reported the lowest satisfaction at 17%. Following them were Law, Natural Sciences, and Services, all with 15% satisfaction, while Engineering and Architecture reported 14% satisfaction. Overall, Information and Communication Technologies graduates consistently reported the highest levels of satisfaction with working hours across both cohorts, while fields like Natural Sciences, Health, and Engineering and Architecture exhibited lower levels of satisfaction, indicating areas where improvements might be needed.

Figure 132: Level of satisfaction on working hours by field of study and graduation cohort



\*Statistically significant findings

### 5.3.3.2.3. Aspects of Job satisfaction by variables related to employment

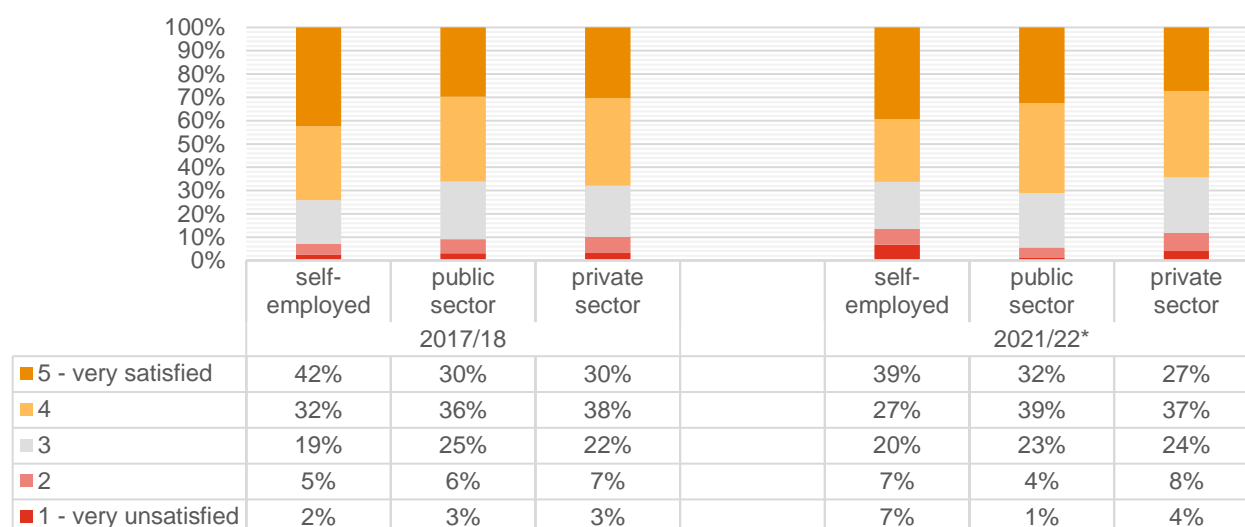
Figure 133 illustrates the level of satisfaction with professional positions across different types of employment—self-employed, public sector, and private sector—for the 2017/18 and 2021/22 cohorts. In the 2017/18 cohort, self-employed graduates reported the highest satisfaction with their professional positions, with 74% expressing satisfaction (combining ratings 4 and 5). Meanwhile, 7% expressed dissatisfaction (combining ratings 1 and 2). For public sector employees, satisfaction was slightly lower, with 66% expressing positive feedback about their positions, while dissatisfaction stood at 9%. Graduates employed in the private sector reported 58% satisfaction, with 5% expressing dissatisfaction.

In the 2021/22 cohort, satisfaction levels across all employment types saw slight variations. Among self-employed graduates, 66% expressed satisfaction with their professional position, and dissatisfaction rose slightly to 14%. In the public sector, satisfaction remained strong, with 71% expressing satisfaction, while dissatisfaction dropped to just 5%. For private sector employees, satisfaction was relatively stable, with 64%

of graduates satisfied and 12% dissatisfied with their position. The results for the 2021/22 cohort are statistically significant.

Overall, the data indicates that while satisfaction levels remain generally high across all employment types, public sector employees reported the highest satisfaction, particularly in the 2021/22 cohort, with a notable decline in dissatisfaction levels. Self-employed reported the highest satisfaction in the 2017/18 cohort, while private sector graduates experienced the lowest satisfaction across both cohorts.

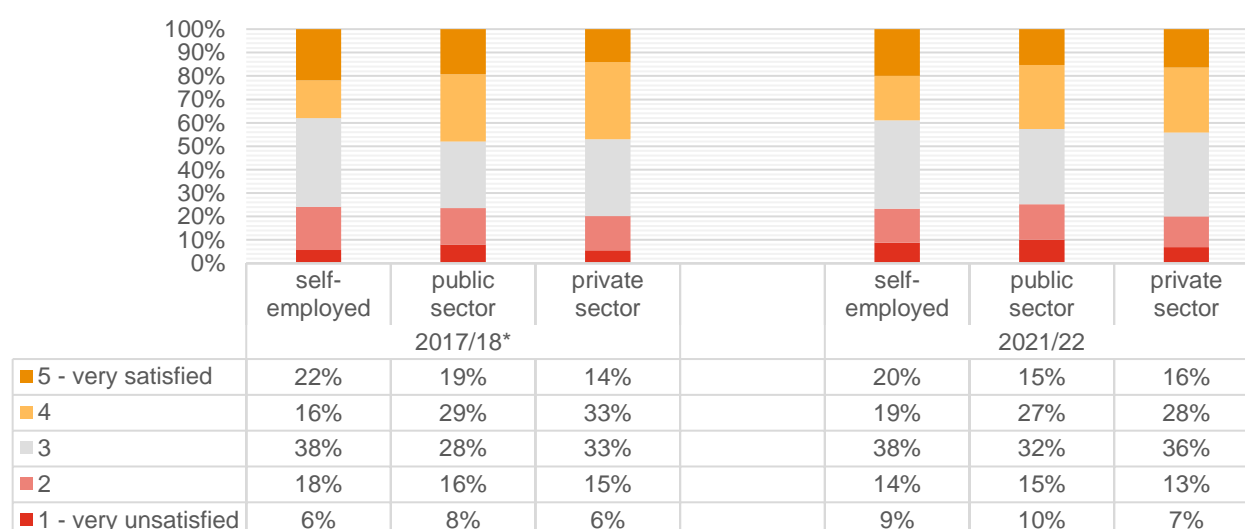
Figure 133: Level of satisfaction on professional position by type of employment and graduation cohort



\*Statistically significant findings

Figure 134 illustrates the level of satisfaction with salary/revenues across different types of employment—self-employed, public sector, and private sector—for the 2017/18 and 2021/22 cohorts. The results for the 2017/18 cohort are statistically significant. In the 2017/18 cohort, satisfaction levels for graduates employed in the public and private sector are higher when compared with graduates that are self-employed. A higher percentage of self-employed graduates reported as being neither satisfied nor dissatisfied. In the 2021/22 cohort, the pattern observed for satisfaction levels among the three types of employment is similar.

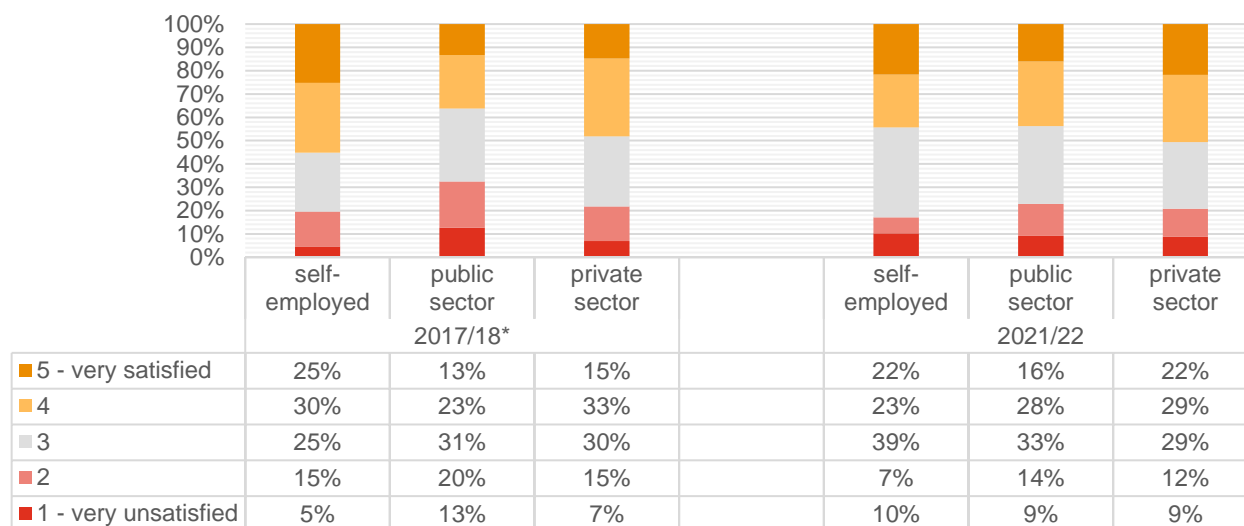
Figure 134: Level of satisfaction on salary/revenues by type of employment and graduation cohort



\*Statistically significant findings

Figure 135 illustrates the level of satisfaction with advancement opportunities across different types of employment—self-employed, public sector, and private sector—for both cohorts. The results for the 2017/18 cohort are statistically significant. In the 2017/18 cohort, satisfaction with advancement opportunities is higher among self-employed graduates and graduates in the private sector. Dissatisfaction (combining ratings 1 and 2) was found to be higher in the public sector. In the 2021/22 cohort, satisfaction with advancement opportunities has a similar pattern in the three employment sectors.

Figure 135: Level of satisfaction on advancement opportunities by type of employment and graduation cohort

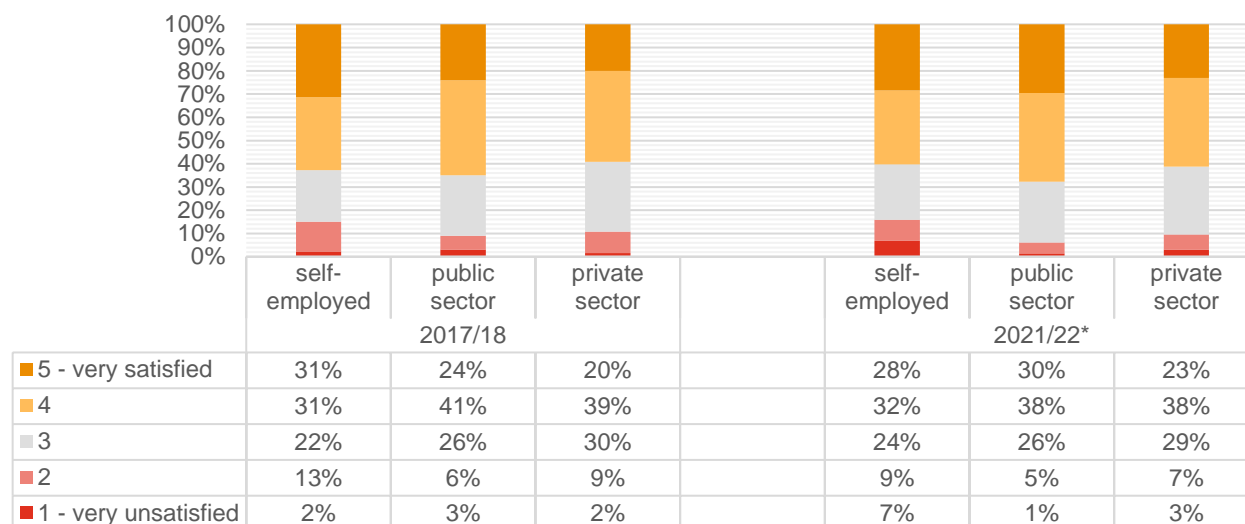


\*Statistically significant findings

Figure 136 illustrates the level of satisfaction with working hours across different types of employment—self-employed, public sector, and private sector—for both cohorts. In the 2017/18 cohort, the majority of graduates (approximately 60%) in all three types of employment reported high levels of satisfaction with working hours showed notable variation across employment types. Dissatisfaction (combining ratings 1 and 2) was higher for self-employed graduates at 15%.

In the 2021/22 cohort, satisfaction with working hours remained strong. Among the self-employed, 60% of graduates reported satisfaction, while dissatisfaction increased slightly to 16%. In the public sector, 68% of graduates expressed satisfaction, and dissatisfaction levels were notably low, at just 6%. In the private sector, 61% of graduates reported satisfaction, and 10% expressed dissatisfaction. The results for the 2021/22 cohort are statistically significant. Overall, across both cohorts, satisfaction with working hours was consistently high across all employment sectors, with the public sector showing the highest levels of satisfaction and the private sector reporting slightly lower satisfaction compared to other sectors.

Figure 136: Level of satisfaction on working hours by type of employment and graduation cohort



\*Statistically significant findings

Figure 137 illustrates the level of overall satisfaction by occupation for the 2017/18 cohort, across various occupational categories. Results associated with this figure take into consideration data from both cohorts (i.e., 2017/18 and 2020/21). Elementary Occupations (79%) and Managers (69%) reported the highest levels of satisfaction, while Service and Sales Workers (14%), as well as Clerical Support Workers (16%), recorded the lowest levels of satisfaction. Service and sales workers recorded the highest neutral rate at 40% followed by Clerical support workers at 30%.

Figure 137: Level of satisfaction by occupation

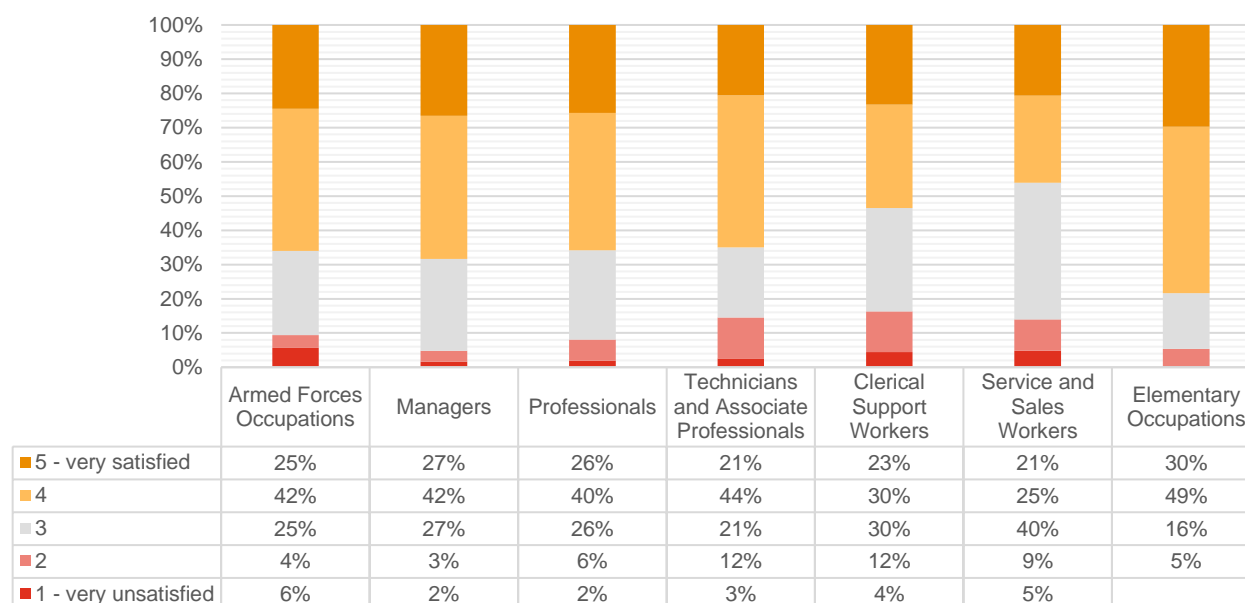
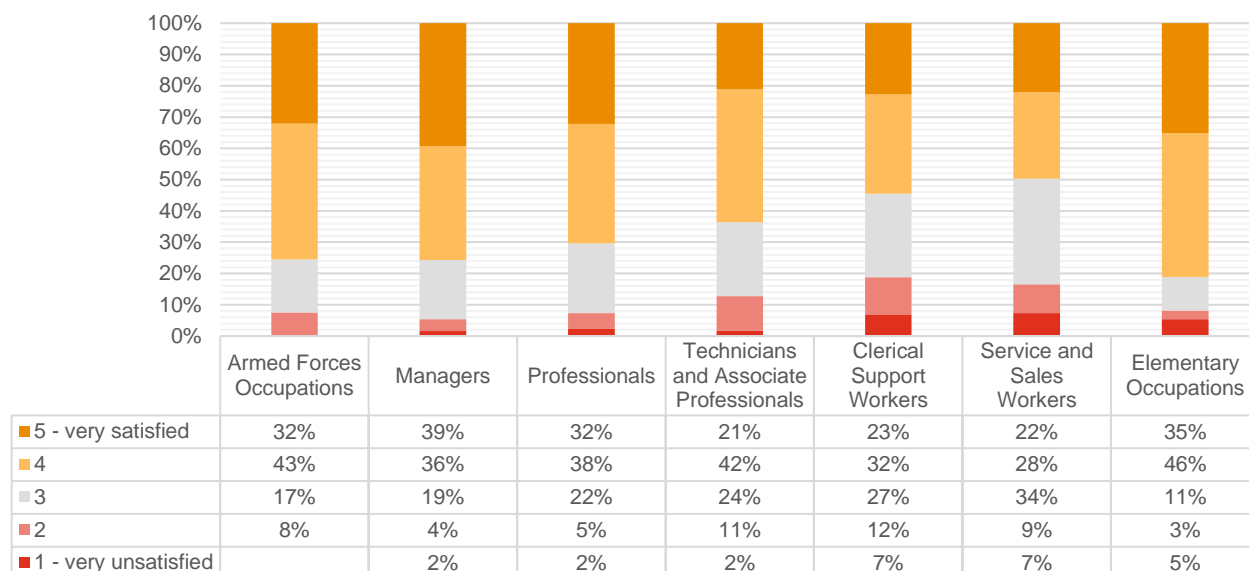


Figure 138 illustrates the level of satisfaction on professional positions by occupation. Results associated with this figure take into consideration data from both cohorts (i.e., 2017/18 and 2020/21). The highest satisfaction percentages are observed among Elementary occupations at 81%, followed by Armed forces and Managers,

both at 75% (combining ratings 4 and 5). The graduates that reported being unsatisfied with their professional positions were recorded in Clerical support workers (19%) followed by Service and sales workers at 16% (combining ratings 1 and 2). The latter group is also recording the highest rate on neither satisfied nor unsatisfied at 34% followed by Clerical support (27%).

Figure 138: Level of satisfaction on professional position by occupation



The results presented in Figure 139 incorporate data from both the 2017/18 and 2020/21 cohorts regarding satisfaction with salary/ revenue by occupation. Managers and Elementary occupations recorded the highest satisfaction with income at 51% and 62% respectively (combining 4 and 5 ratings). Service and sales, and Clerical support workers reported the highest rates of dissatisfaction with their salary at 28% and 27% respectively (combining 1 and 2 rates), while the former recorded the highest neutral rate at 35% followed by Professionals at 34%.

Figure 139: Level of satisfaction on salary/revenues by occupation

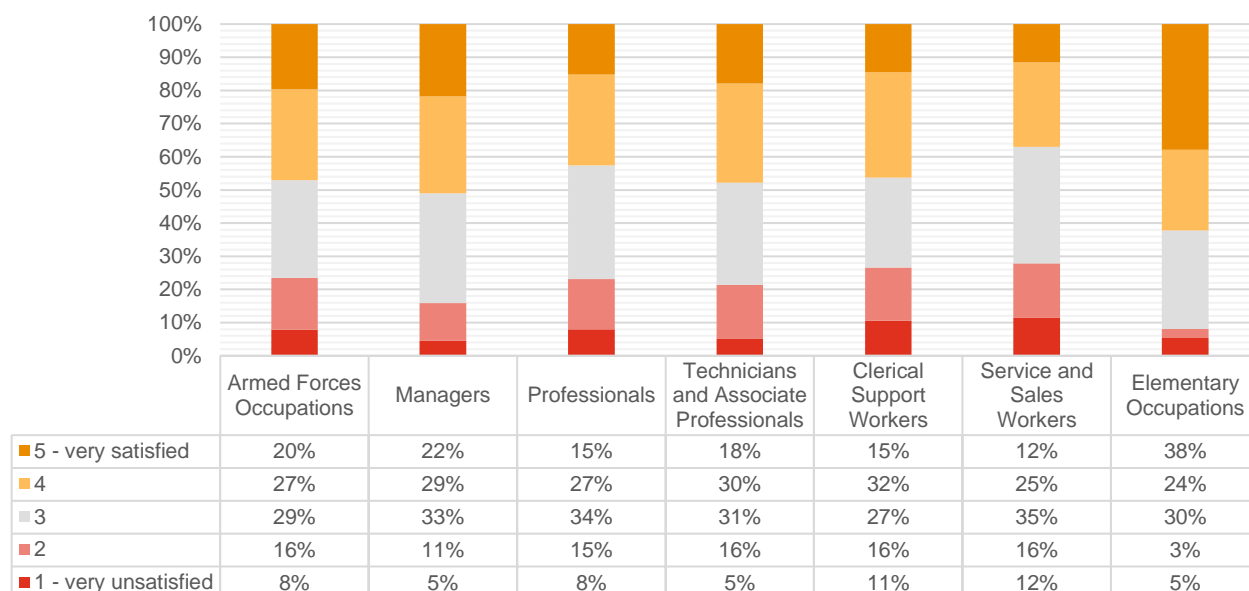


Figure 140 illustrates the level of satisfaction with advancement opportunities by occupation; the results shown in this figure are based on data from both the 2017/18 and 2020/21 cohorts. Managers recorded again the highest satisfaction with advancement opportunities at 56% followed by Elementary occupations at 53% (combining 4 and 5 ratings). Service and sales workers recorded the highest dissatisfaction rates at 35% followed by Technicians and Associate professionals at 27% (combining 1 and 2 rates). Elementary occupations recorded also the highest neutral satisfaction rate at 35% followed by Professionals and Technicians and Associates, both at 33%.

Figure 140: Level of satisfaction on advancement opportunities by occupation

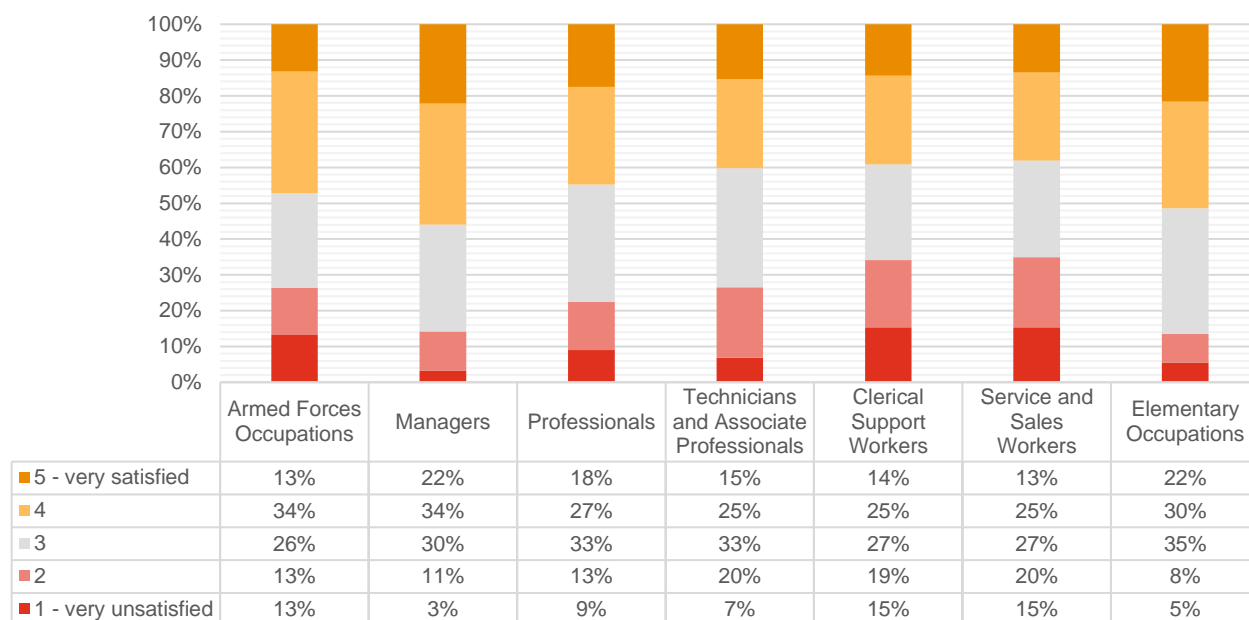


Figure 141 illustrates the level of satisfaction on working hours by occupation; the figure's results are based on data from both the 2017/18 and 2020/21 cohorts. Clerical support workers and Elementary occupations recorded the highest satisfaction with their working hours at 76% and 67% respectively (combining 4 and 5 ratings). The highest dissatisfaction is reported by Service and sales workers at 22% followed by Armed forces at 18% (combining 1 and 2 ratings). Clerical support workers, Managers and Armed forces recorded also the highest neutral percentages at 27% and 25% respectively.

Figure 141: Level of satisfaction on working hours by occupation

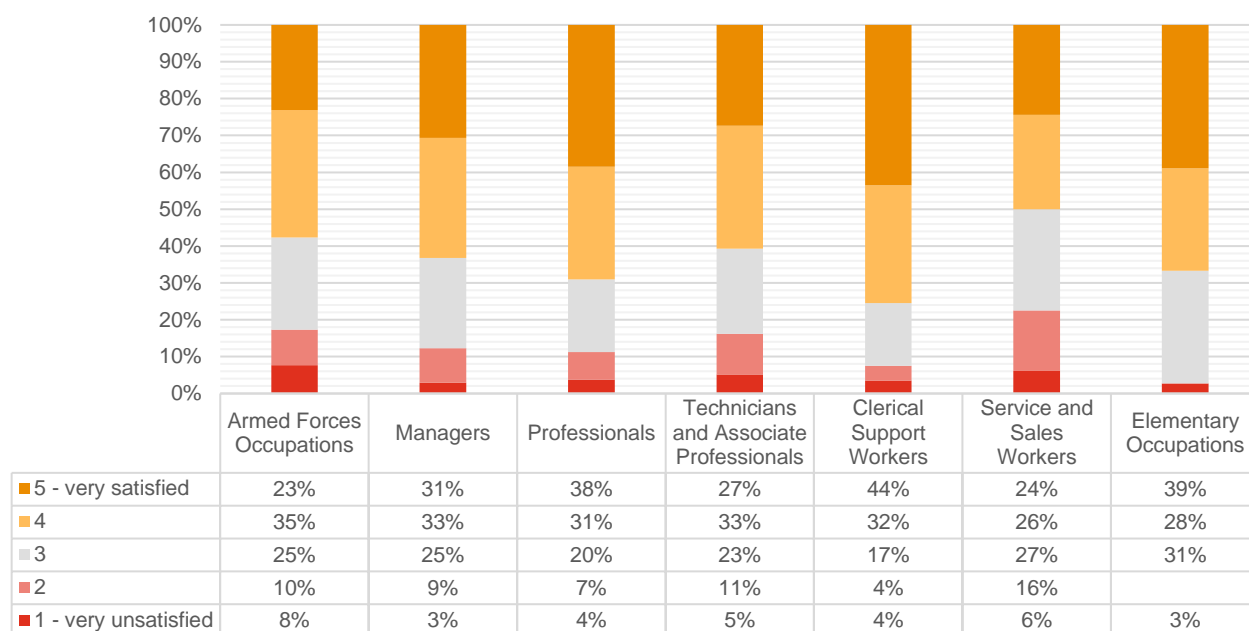


Figure 142 presents the level of satisfaction with professional positions by NACE (i.e., the European statistical classification of economic activities), highlighting both the most and least satisfied industries. The results shown in this figure are based on data from both the 2017/18 and 2020/21 cohorts. The top three sectors in terms of satisfaction were IT Services, Non-marketed Services, and Construction. On the other end of the spectrum, Manufacturing recorded the highest percentage of dissatisfaction, with 28% of graduates expressing dissatisfaction with their roles. The Distribution and Transport sector followed, with 19% dissatisfaction the Hospitality sector with 17% reporting dissatisfaction. This indicates that job satisfaction varies considerably across industries, with some sectors showing strong employee contentment and others presenting more mixed results.

Figure 142: Level of satisfaction by NACE group

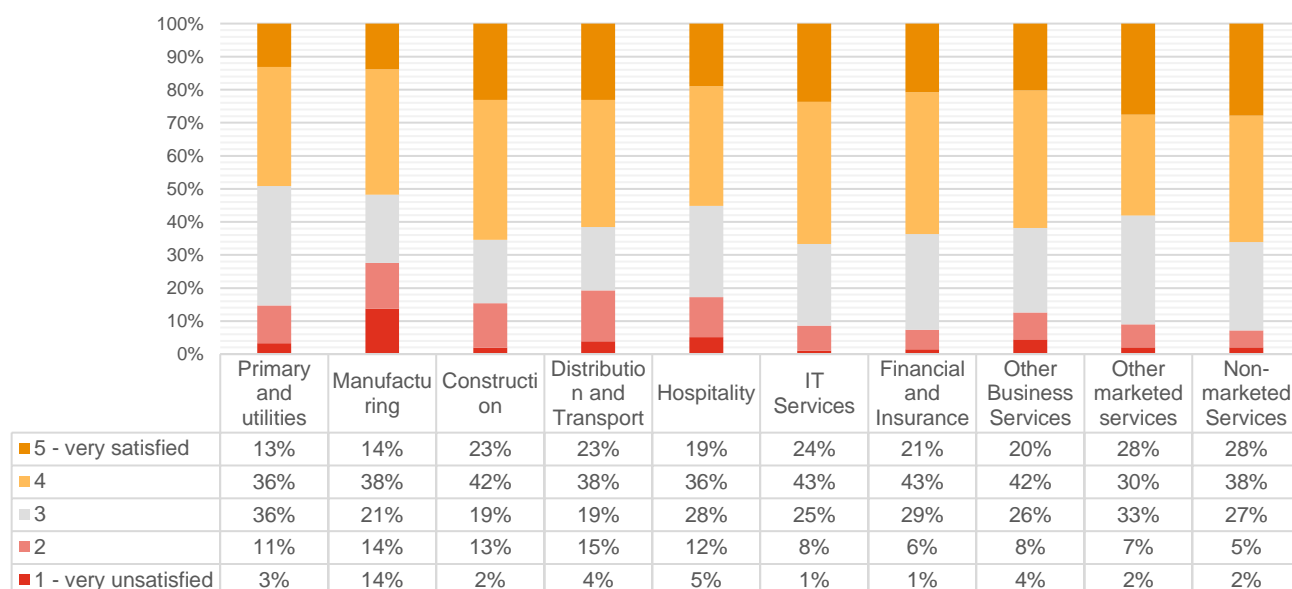


Figure 143 illustrates the level of satisfaction with professional positions by NACE group, highlighting both the most and least satisfied industries. This figure's results are based on data from both the 2017/18 and 2020/21 cohorts. The top three sectors in terms of satisfaction were Distribution and Transport, Non-marketed Services, and Manufacturing. At the opposite end, Manufacturing had the highest dissatisfaction rate, with 24% of graduates expressing discontent with their roles. Construction followed closely, with 21% dissatisfied and Hospitality sector with 18% of graduates reported dissatisfaction. These findings highlight significant variations in job satisfaction across different industries, with some showing a distinct divide between satisfied and dissatisfied employees.

Figure 143: Level of satisfaction on professional position by NACE group

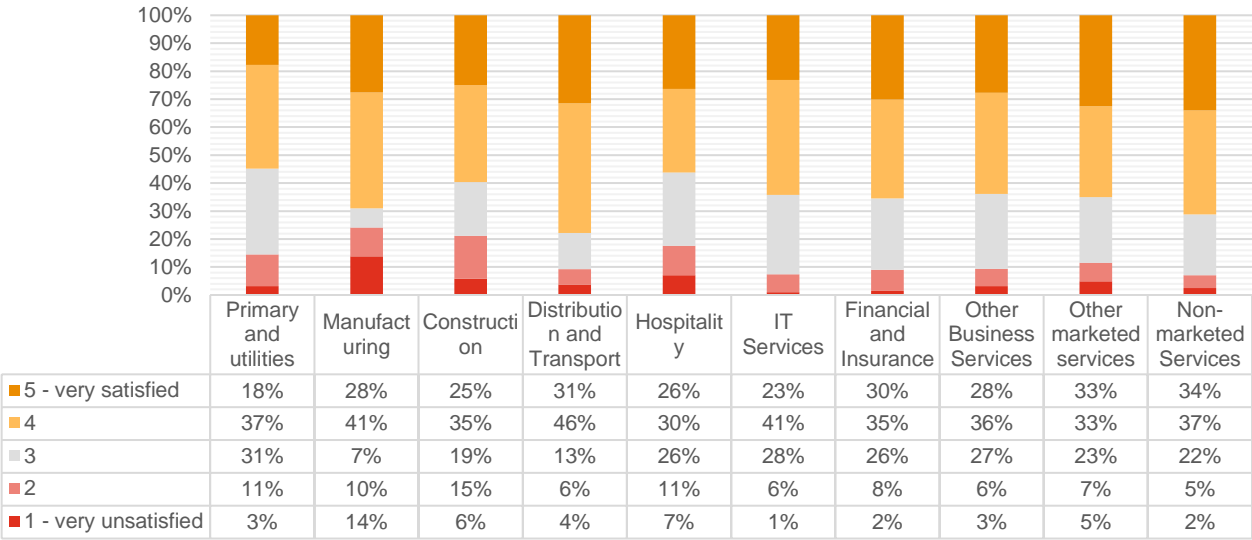


Figure 144 illustrates the level of satisfaction on salary/revenues by NACE group, highlighting both the top and bottom-performing sectors in terms of salary satisfaction. The top three sectors in terms of satisfaction were Financial and Insurance, Distribution and Transportation, and IT Services. On the lower end, Hospitality had one of the highest dissatisfaction rates, with 29.8% of graduates expressing dissatisfaction. Manufacturing also performed poorly, with 31% dissatisfaction Primary and Utilities sector had 25.4% of graduates reporting dissatisfied. Overall, sectors like Financial and Insurance, Distribution and Transportation, and IT Services emerged as the leaders in salary satisfaction. However, industries such as Manufacturing, Hospitality, and Primary and Utilities showed higher levels of dissatisfaction, indicating areas where graduates feel their salary expectations were not fully met.

Figure 144: Level of satisfaction on salary/revenues by NACE group

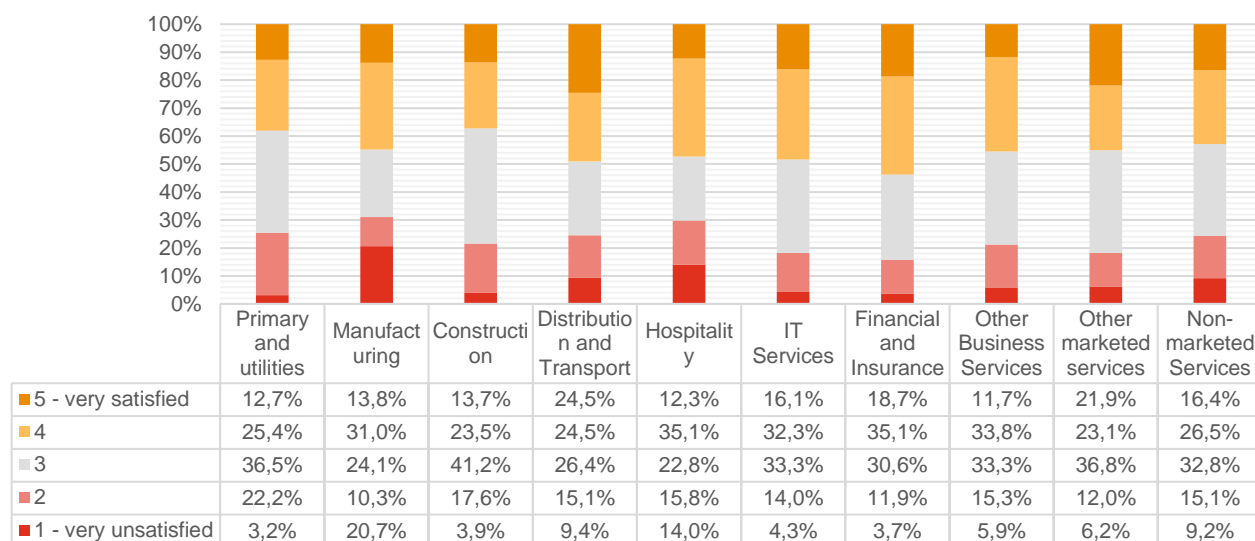


Figure 145 displays the levels of satisfaction regarding advancement opportunities by NACE group, showcasing the sectors with the highest and lowest career advancement satisfaction. The results represented in this figure incorporate data from both cohorts (2017/18 and 2020/21). The top three sectors in terms of satisfaction were Distribution and Transportation, Financial and Insurance, and Construction (tied with Other Marketed Services). On the other hand, the three sectors with the lowest satisfaction levels were Manufacturing, Primary and Utilities, and Hospitality. Manufacturing reported the highest dissatisfaction rate at 45%. Primary and Utilities followed closely, with 33% dissatisfaction and Hospitality with 32% of graduates reporting dissatisfaction with their advancement opportunities.

Figure 145: Level of satisfaction on advancement opportunities by NACE group

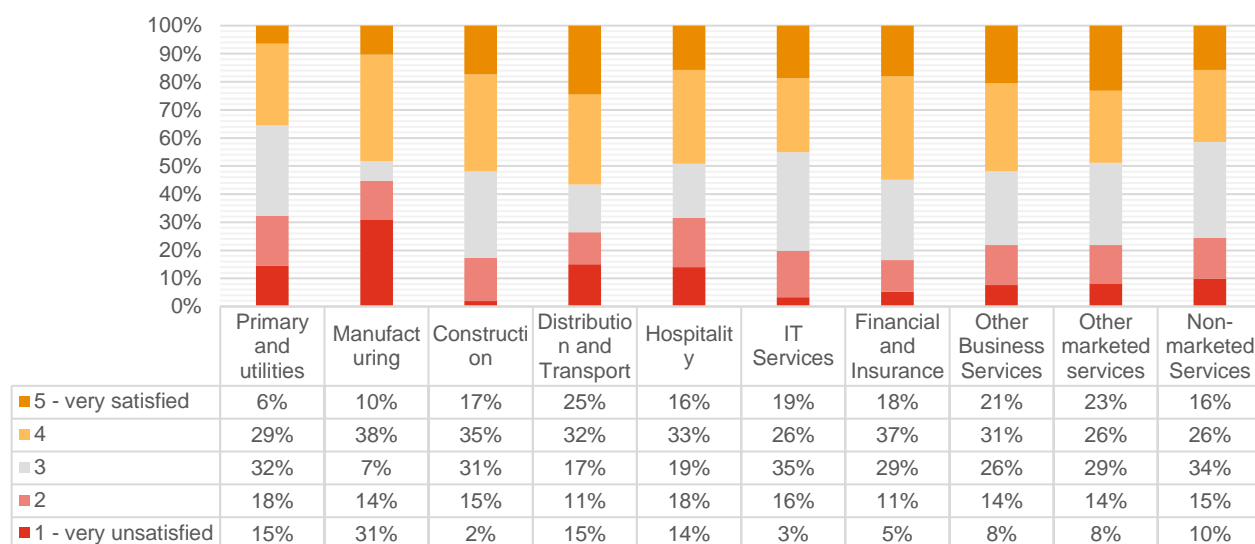
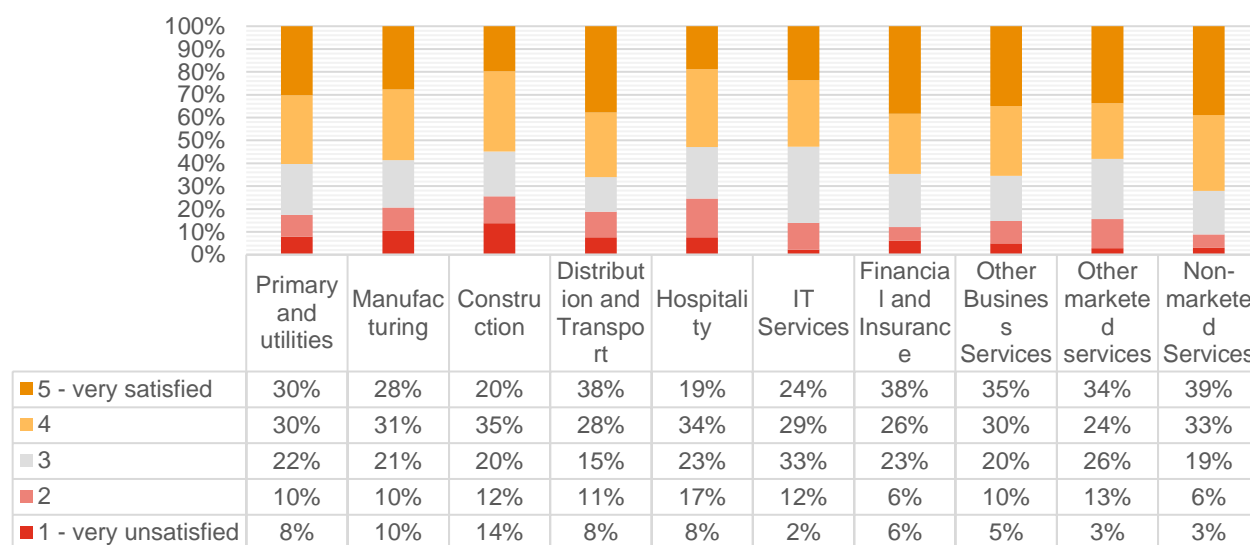


Figure 146 illustrates the level of satisfaction on working hours by NACE group, highlighting again both the top and bottom-performing sectors in terms of satisfaction with working hours for both cohorts. The top three sectors in terms of satisfaction were Non-marketed Services, Distribution and Transport, and Other Business

Services. On the other hand, the three sectors with the lowest satisfaction levels were Construction, Hospitality, and Manufacturing.

Figure 146: Level of satisfaction on working hours by NACE group



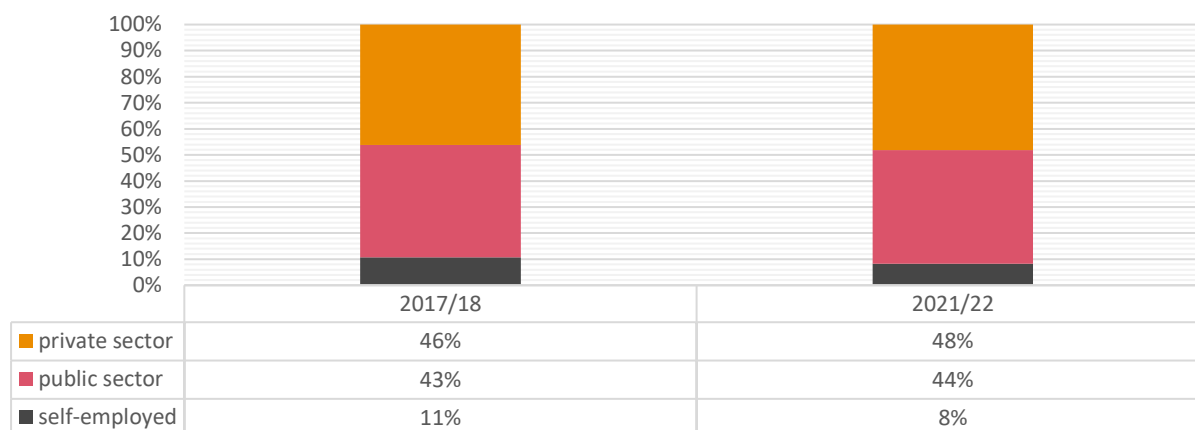
### 5.3.4. Type of employment

An important aspect relating to graduate surveys is the investigation of the career choices of HEI graduates and the identification of its determinants. This report examines, amongst others, choices between the public and the private sector as well as self-employment scanning for gender stereotypes that assume that male graduates prefer working in private sectors, while their female counterparts tend to prefer public sector jobs (World Economic Forum, 2023) .

Entrepreneurs are regarded as the backbone of the future economy, as they play a key role in generating the jobs of tomorrow (Kritikos, 2024). In this context, Higher Education assumes a critical role by equipping graduates with the skills necessary to transcend traditional boundaries, innovate, and potentially embark on entrepreneurial ventures. Consequently, this report seeks to shed light on the percentage distribution of self-employment which potentially could serve as an indicator of entrepreneurship within the workforce, particularly among young individuals.

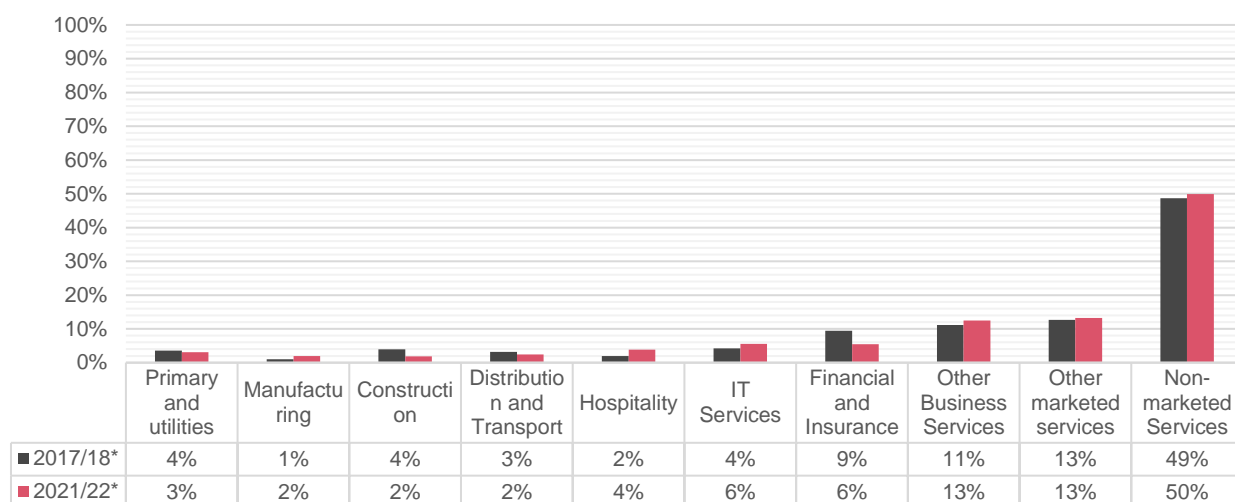
Figure 147 illustrates most of the participants work in the private and public sector. The majority of graduates in both cohorts is employed in the private sector (46% in the 2017/18 cohort and 48% in the 2021/22 cohort). A significant percentage is employed in the public sector (43% in the 2017/18 cohort and 44% in the 2021/22 cohort). A smaller percentage in 2017/18 (11%) and 2021/22 (8%) are self-employed.

Figure 147: Type of employment by graduation cohort



The economic sector of employment by NACE categories was also explored. Figure 148 presents the distribution of graduates from each cohort according to economic sectors in which they are employed by using NACE taxonomy. The pattern observed in both cohorts is similar. Specifically, half of the graduates in both cohorts are employed in the non-marketed Services group (49% and 50% for 2017/18 and 2021/22 respectively). Then the economic sectors of Other Marketed Services (13% for both cohorts) and Other Business Services (11% for 2027/18 and 13% for 2021/22) follow. In all other sectors the percentages of graduates employed were quite low (<9%). The sector with the lowest percentages was Manufacturing recoding 1% for 2017/18 and 2% for 2021/22 cohort. The distribution of graduates across NACE sectors across both cohorts was statistically significant.

Figure 148: Employment by NACE sector by graduation cohort



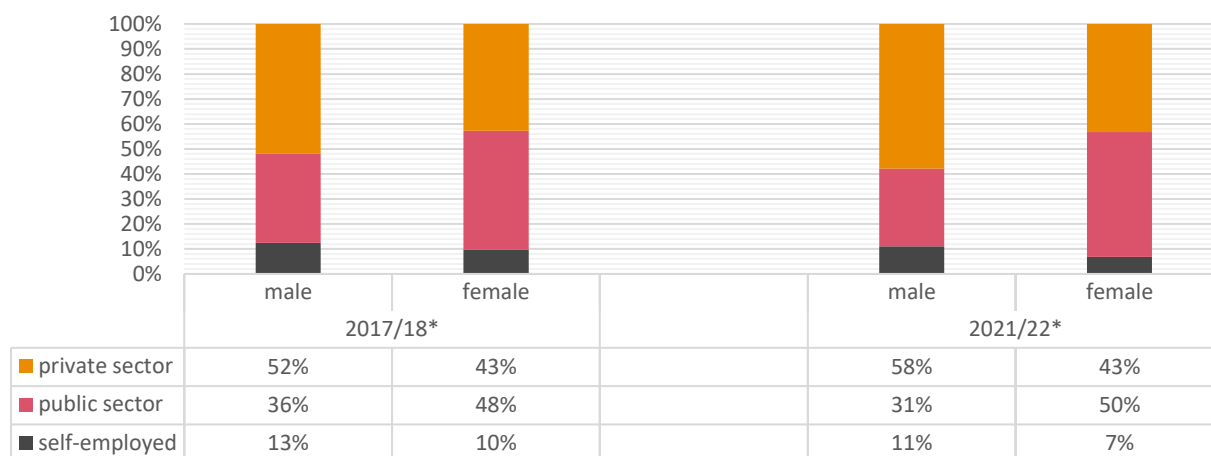
\*Statistically significant findings

Note: **Primary and utilities:** Agriculture, forestry, fishing, mining, quarrying, and Electricity, gas, steam, and air conditioning supply and Water supply; sewerage, waste management and remediation activities. **Manufacturing:** Anything related to manufacturing. **Construction:** Anything related to construction. **Distribution and Transport:** Wholesale and retail trade, repair of motor vehicles and motorcycles, transportation, and storage. **Hospitality:** Accommodation and food service activities. **IT Services:** Information and communication. **Finance and Insurance:** Financial and insurance activities. **Other Business Services:** Real estate activities, Professional, scientific, and technical activities, Administrative and support service activities. **Other Marketed Services:** Arts, entertainment and recreation, Other service activities, Activities of households as employers, Activities of extraterritorial organisations and bodies. **Non-marketed Services:** Public administration and defence; compulsory social security, Education, Human health, and social work activities.

#### 5.3.4.1. Type of employment by demographic variables

Figure 149 indicates the type of employment per gender. In 2017/18 the majority of male reported working in the private sector (52%) compared to females (43%). Similar pattern is noticed for self-employed with males recording a rate of 13% compared to females (10%). The opposite pattern appears for the public sector where females record higher percentage (48%) than males (36%). In the cohort 2021/22, a significantly higher percentage of males was employed in the private sector (58% over 43%) and a significantly higher percentage of females was employed in the public sector (50% over 31%). A similar pattern has been observed in self-employed participants with males recording 11% and females 7%. The differences in type of employment for graduates according to gender within both cohorts were statistically significant.

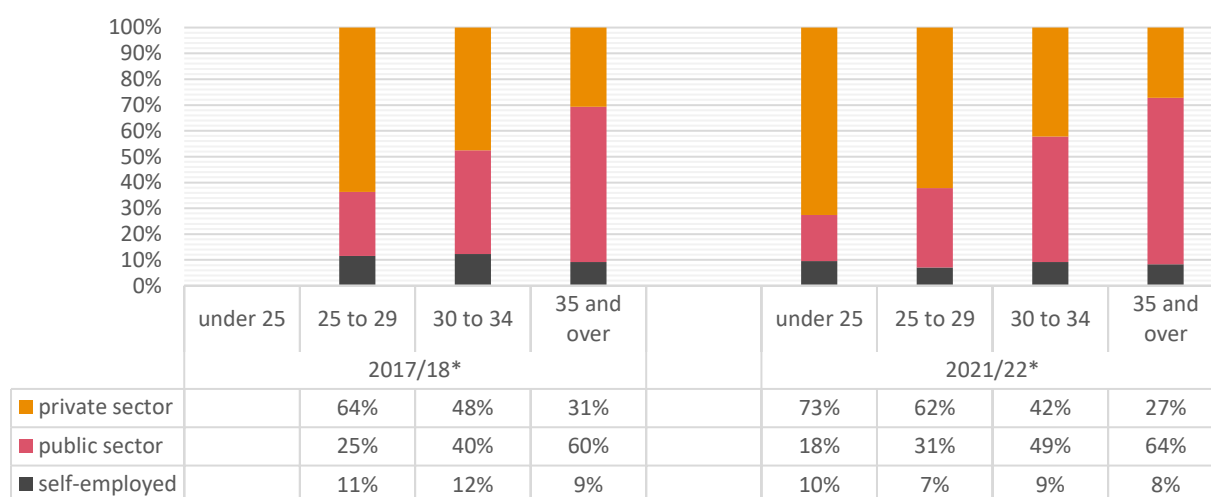
Figure 149: Type of employment by gender and graduation cohort



\*Statistically significant findings

Figure 150 illustrates the relationship between type of employment by age group (age at the time of the survey), which is statistically significant in both cohorts. Evidently, participants that graduated at the age of “35 and over” were mostly employed in the public sector across both cohorts recording 60% (2017/18) and 64% (2021/22). On the contrary, the majority of “25 to 29” graduates were employed in the private sector, both in 2017/18 (65%) and 2021/22 (73%) cohorts. The age groups of “30 to 34” appeared to be almost evenly spread across both the public and the private sector. Respondents with the highest rates on self-employment were those “30 to 34” for 2017/18 (12%) and “under 25” for 2021/22 cohort (10%). There is a similar pattern in both cohorts with the percentages in the public sector to increase with age, while the opposite seems to be true in the private sector.

Figure 150: Type of employment by graduates’ age (at time of the survey) and graduation cohort

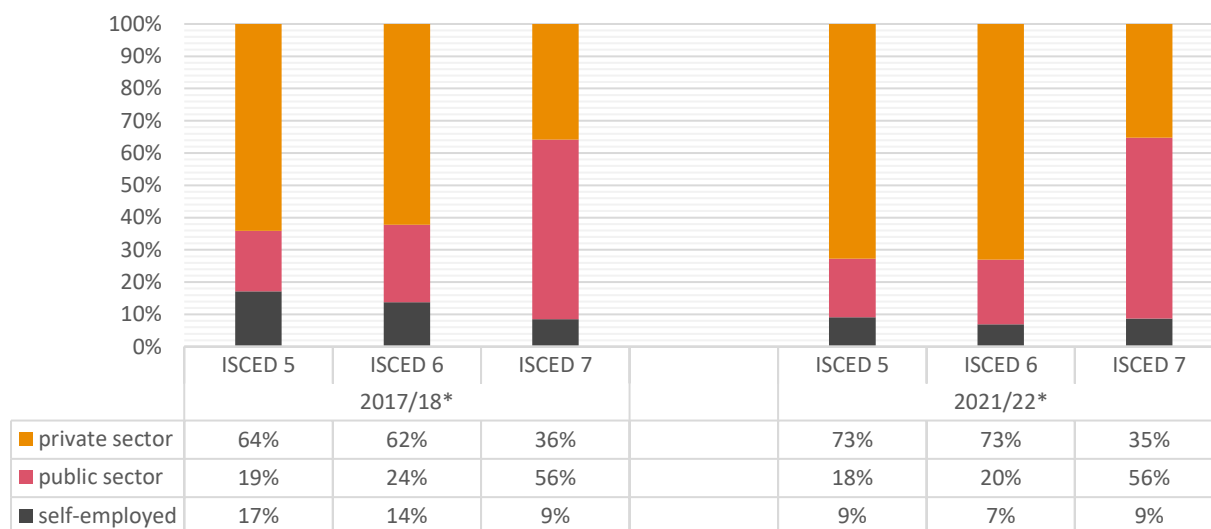


\*Statistically significant findings

### 5.3.4.2. Type of employment by variables related to Higher Education studies

In general, there was a similar pattern in the type of employment by level of degrees in both cohorts as illustrated in Figure 151. It was observed that the majority of ISCED 7 graduates were employed in the public sector at 56% in both cohorts. The majority of ISCED 5 at 64% in 2017/18 and 73% in 2021/22, and ISCED 6 graduates at 62% in 2017/18 and 73% in 2021/22 were employees in the private sector. Regarding self-employment, ISCED 5 graduates recorded the highest rate at 17% in 2017/18 and 9% in 2021/22. The relationship between type of employment and level of studies was statistically significant within both cohorts.

Figure 151: Type of employment by ISCED-level and graduation cohort



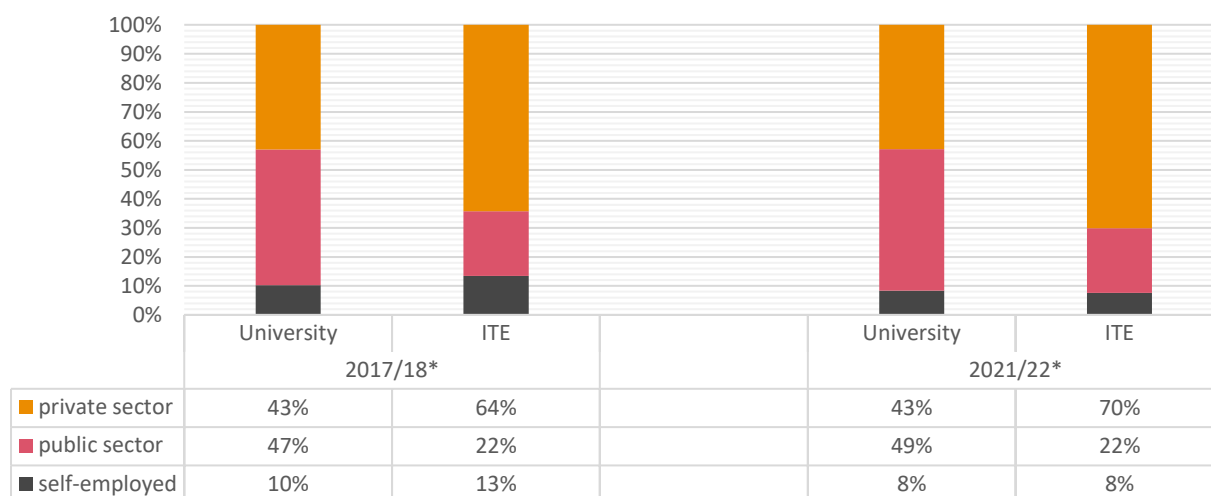
*\*Statistically significant findings*

The distribution of graduates in the working sectors, with respect to the type of HEI institution from which they graduated is presented in

Figure 152. For both cohorts the majority of ITE graduates are working in the private sector at 64% in 2017/18 and 70% in 2021/22. The University graduates in both cohorts recorded higher rates working in public sector at 47% (2017/18) and 49% (2021/22). For 2017/18 cohort the majority of self-employed were ITE graduates while for 2021/22 the percentage

was the same at 8% for both University and ITE graduates. The relationship between type of employment and type of HEI was statistically significant within both cohorts

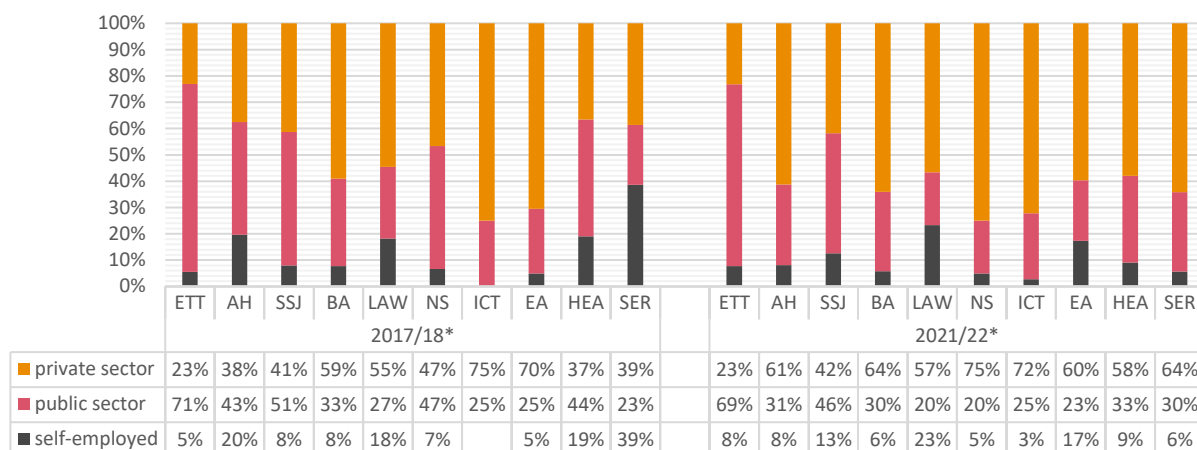
Figure 152: Type of employment by type of HEI and graduation cohort



*\*Statistically significant findings*

Figure 153 depicts the statistically significant relationship between the field of study and the graduates' employment sector. For the 2017/18 cohort the fields where most graduates work as private employees are Information and Communication Technologies (75%), Engineering and Architecture (70%) and Business Administration (59%). The fields with most public sector employees are Education and Teacher Training (71%), Social sciences and Journalism (51%) and Health (44%). Services is the field with the highest percentage of self-employed graduates at 39%. For the 2021/22 cohort the results are slightly different with the field where most graduates are employed in the private sector are Natural Sciences (75%), followed by Information and Communication Technologies (72%) and Services (64%). Regarding the fields where most graduates are employed in the public sector, the findings follow a similar pattern to 2017/28. Most graduates are in the field of Education and Teacher Training (69%), Social sciences and Journalism (46%) and Health (33%). surprisingly, most self-employed graduates come from Law at 23%.

Figure 153: Type of employment by field of study and graduation cohort



\*Statistically significant findings

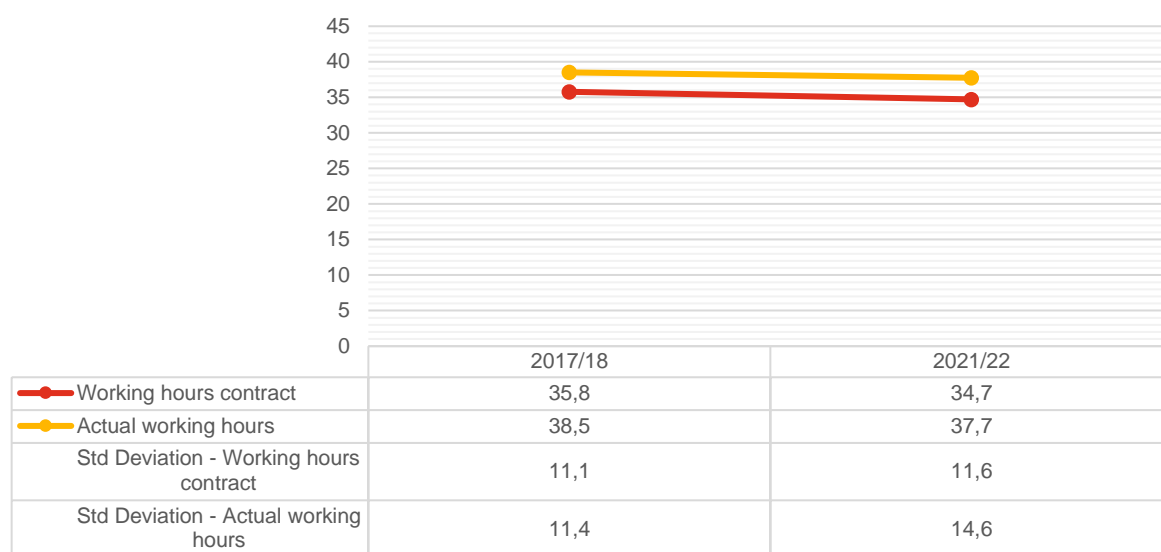
Note: Fields of study ETT-Education and Teacher Training, AH-Arts and Humanities, SSJ-Social Sciences and Journalism, BA-Business Administration, LAW-Law, NS-Natural Sciences (including Mathematics), ICT-Information and Communication Technologies, EA-Engineering and Architecture, HEA-Health, SER-Services. "Agriculture, Forestry, Fisheries, Veterinary and Services" is excluded from the analysis due to its small population size.

### 5.3.5. Working Hours

An integral aspect within the realm of job quality is the amount of the employees' working hours. Working long hours can have an adverse effect on the well-being of employees but also on their performance. According to OECD (2022), a person from an OECD country spends 37 hours per week at work. This section presents both contracted and actual working hours per week and examines discrepancies between actual working hours and contracted hours in respect to several demographics, variables related to graduates' studies and their employment. Findings are presented only for graduates who reported being employed or self-employed on a full-time basis (participants working on a part-time basis were excluded).

As illustrated by Figure 154, graduates' working-hour agreements have been approximately the same, with average working hours per week at 35,8 and 34,7 hours in the 2017/18 and the 2021/22 cohorts respectively. Actual working hours differ, and this is evident in the gap between contracted and actual hours. This gap has grown from 2,7 hours to 3 from the 2017/18 cohort to the 2021/22 cohort.

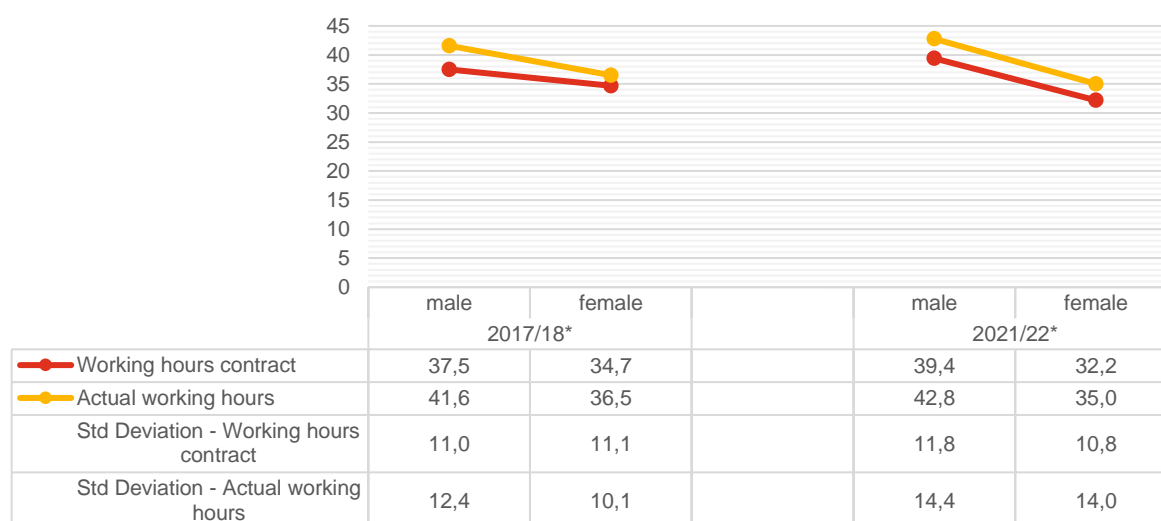
Figure 154. Actual and contracted working hours by graduation cohort



#### 5.3.5.1. Working hours by demographic variables

Figure 155 displays contracted and actual working hours by gender. It is observed that males reported significantly higher average actual and contracted hours than females in both cohorts. Specifically, in the 2017/18 cohort, males reported 37,5 contracted hours compared to 34,7 contracted hours reported by females and 41,6 actual working hours compared to 36,5 reported by females. Similarly, in the 2021/22 cohort, males reported 39,4 contracted hours compared to 32,2 contracted hours reported by females and 42,8 actual hours compared to 35 reported by females. The differences in working hours by gender within both cohorts are statistically significant.

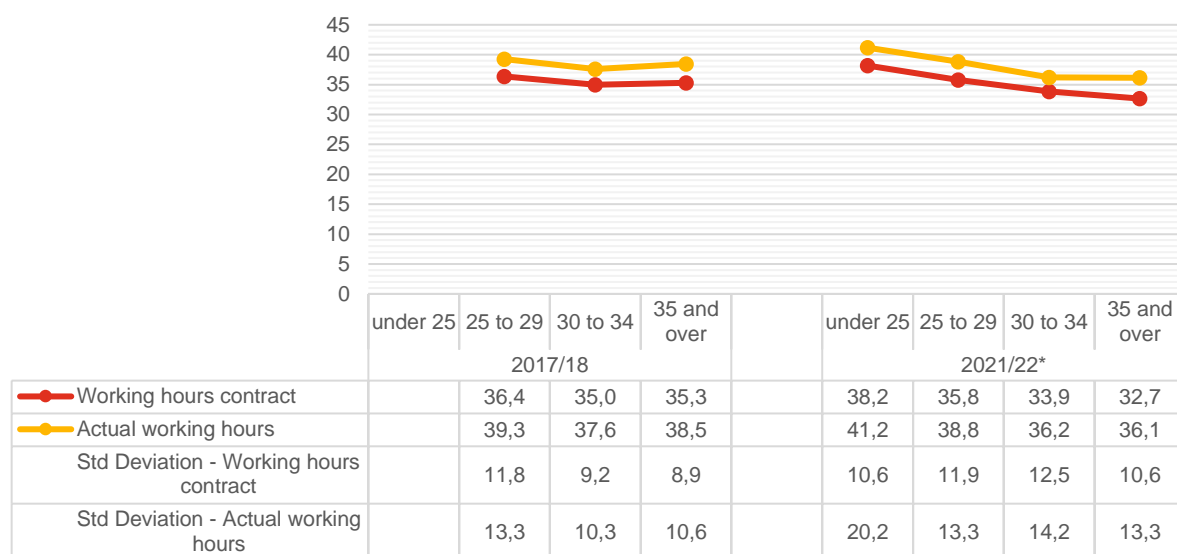
Figure 155: Actual and contracted working hours by gender and graduation cohort



\*Statistically significant findings.

Figure 156 presents the actual and contracted working hours according to age at the time of the survey for both cohorts. In 2017/18 cohort graduates “25 to 29” recorded the highest average on contracted working hours at 36,5 while their actual working hours were 39,3. High actual working hours have been recorded by graduates “35 and over” as well with the average reaching 38,5 hours. In 2021/22 cohort, younger graduates reported the highest actual and contracted working hours. In fact, both actual and contracted working hours decrease with age. Statistically significant differences in average actual and contracted working hours between age groups were found for 2021/22 cohort.

Figure 156: Actual and contracted working hours by age (at time of the survey) and graduation cohort

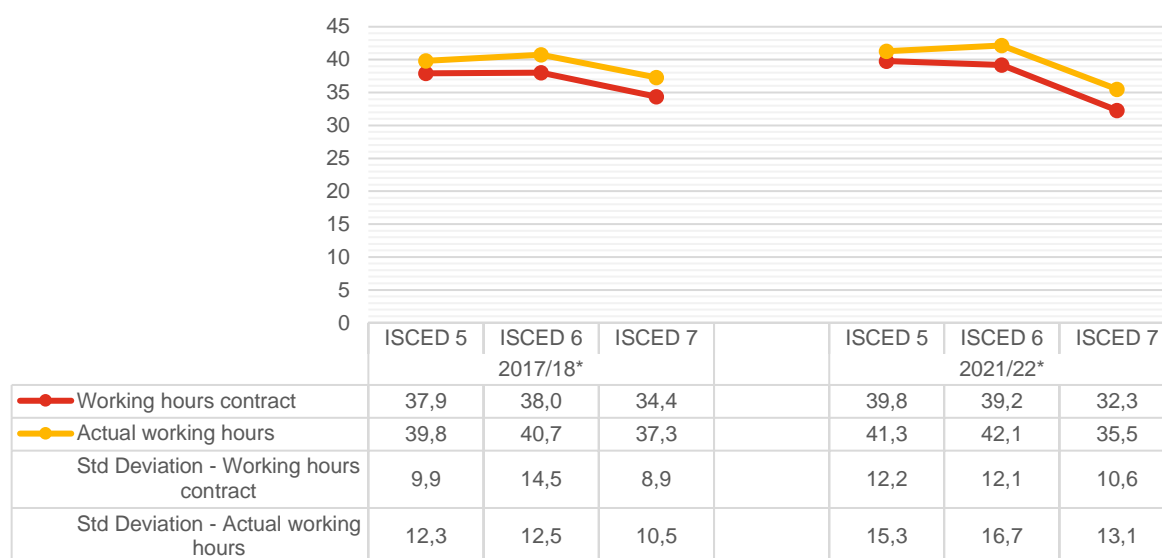


\*Statistically significant findings. Cohort 2021/22: for both contracted and actual working hours.

### 5.3.5.2. Working hours by variables related to Higher Education studies

Differences in actual and contracted working hours according to the level of studies is presented in Figure 157. In both cohorts, ISCED 7 graduates had the lowest contracted and actual working hours, with 34,4 and 32,3 contracted hours (for 2017/18 and 2021/22 respectively), and 37,3 and 35,5 actual working hours (for 2017/18 and 2021/22 respectively). Differences in actual and contracted working hours according to the level of studies for both cohorts are statistically significant.

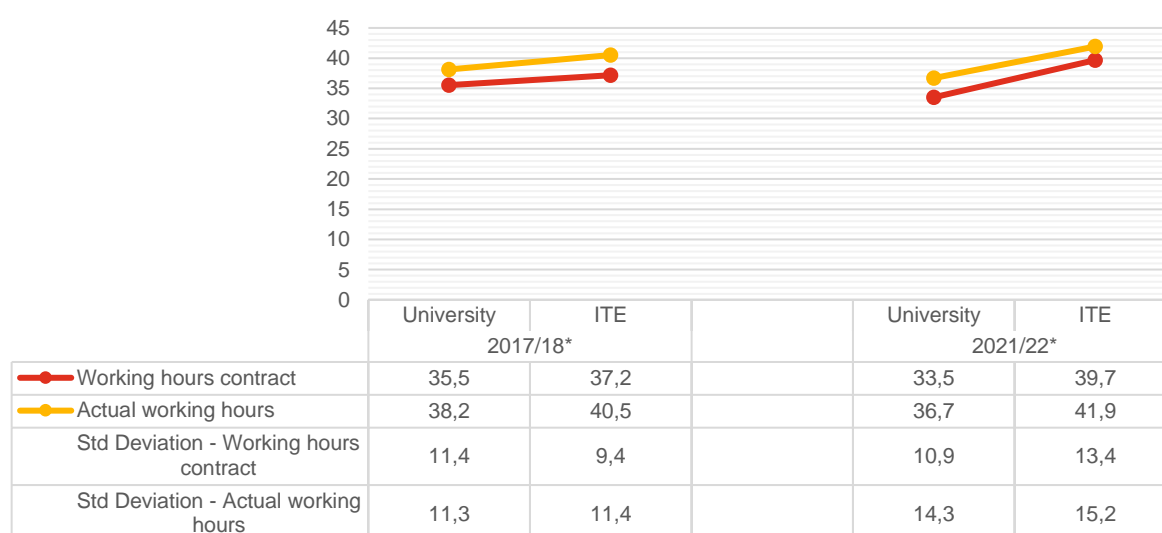
Figure 157: Actual and contracted working hours by ISCED-level and graduation cohort



\*Statistically significant findings

Comparisons of actual and contracted working hours between graduates from Universities and ITE are shown in Figure 158. In both cohorts, it is observed that graduates from ITE reported higher contracted and actual working hours than University graduates, especially in the 2021/22 cohort. These differences in contracted and actual working hours between graduates from Universities and ITE were statistically significant for both cohorts.

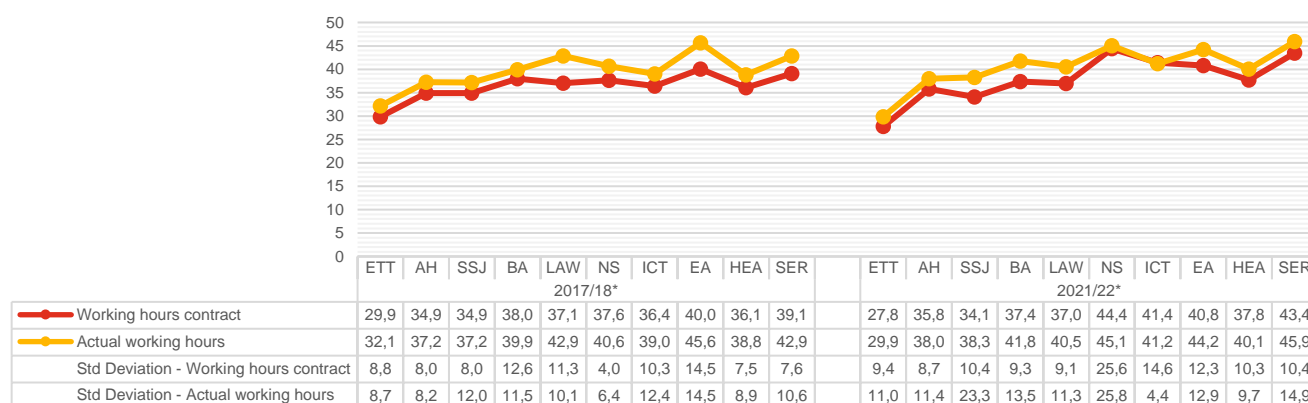
Figure 158: Actual and contracted working hours by type of HEI and graduation cohort



\*Statistically significant findings

Figure 159 presents the distribution of contracted and actual working hours segmented by field of study. For the 2017/18 cohort graduates from the field of Engineering and Architecture recorded the higher averages on contracted and actual working hours at 40 and 45,6 respectively. The field with the lowest averages of contracted (29,9) and actual (32,1) working hours was Education and Teacher Training. This pattern is similar to the 2021/22 cohort where graduates in Education and Teacher Training recorded the lowest averages on contracted and actual working hours at 27,8 and 29,9 respectively. Regarding contracted hours in this cohort, graduates in the field of Natural Sciences recorded the highest average at 44,4. However, the field where graduates work the longest hours on average is Services at 45,9. According to EU regulations and the relevant Cyprus Law, working hours per week may not exceed 48 hours on average, including overtime over a reference period of up to 4 months. It seems that all fields follow closely these regulations on both cohorts since none of it exceeds this amount. Differences in actual and contracted working hours according to the field of studies for both cohorts are statistically significant.

Figure 159: Actual and contracted working hours by field of study and graduation cohort



\*Statistically significant findings

Note: Fields of study ETT-Education and Teacher Training, AH-Arts and Humanities, SSJ-Social Sciences and Journalism, BA-Business Administration, LAW-Law, NS-Natural Sciences (including Mathematics), ICT-Information and Communication Technologies, EA-Engineering and Architecture, HEA-Health, SER-Services. "Agriculture, Forestry, Fisheries, Veterinary and Services" is excluded from the analysis due to its small population size.

### 5.3.5.3. Working hours by type of employment

Contracted and actual working hours were also explored by the type of employment (Figure 160). In both cohorts, graduates working in the private sector reported the highest average in contracted and actual working hours than graduates in public sector and self-employment. Public sector employees reported the lower averages for contracted and actual working hours. Differences in actual and contracted working hours according to type of employment for both cohorts are statistically significant.

Figure 160: Actual and contracted working hours by type of employment and graduation cohort



\*Statistically significant findings

### 5.3.6. Earnings

Engaging in Higher Education represents an investment requiring financial resources, time commitments, and opportunity costs, both for the society as a whole and the individual student, all with non-guaranteed returns. A measure to assess this return on investment is the initial earnings that graduates accrue as they embark on their careers in the labour market. Higher earnings often translate into increased tax contributions, making these earnings a potential indicator of the societal return on this investment (OECD, 2023).

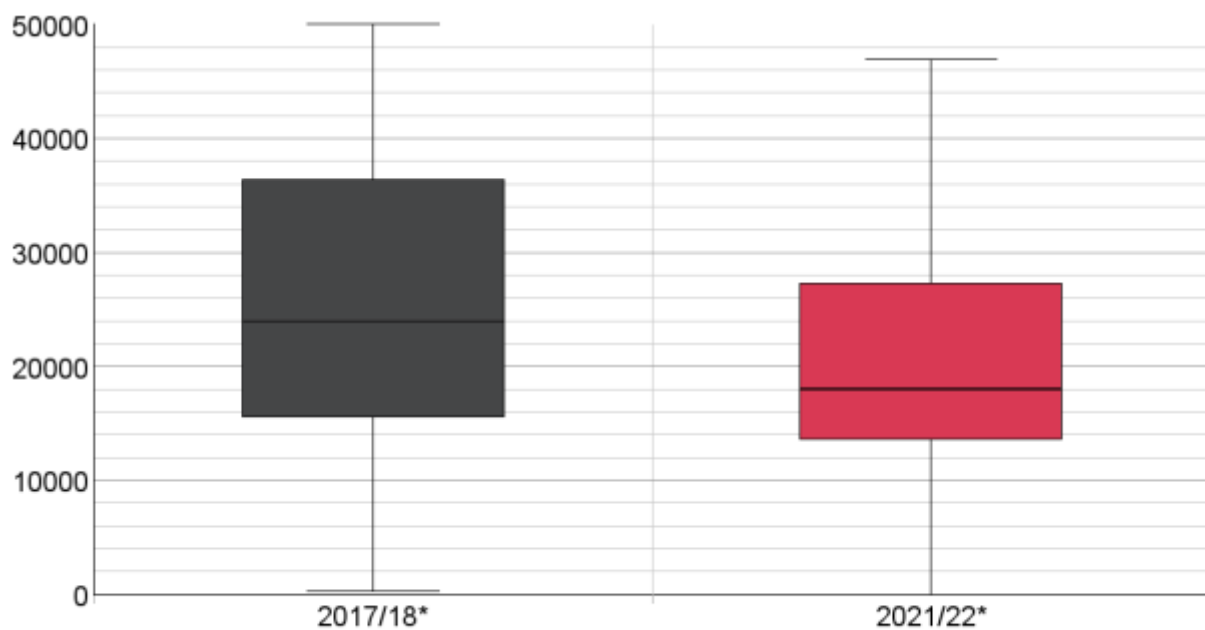
Earnings are considered a final key indicator when assessing the employment situation of graduates, therefore this sub-section presents graduates' annual earnings. Graduates in the questionnaire were asked to report gross annual salary (i.e., before income tax and other levies but including any regular extra earnings such as paid overtime, performance bonus, shift bonus) as well as annual supplementary earnings (such as 13th month salary and end of year bonuses). Graduates' annual earnings reported in this section are the sum of the gross annual salary and supplementary earnings.

This sub-section reports on median annual earnings, i.e., the amount which is in the middle of all reported earnings in each cohort of full-time employed graduates as well graduates who are self-employed. The median is regarded as a more reliable measure of average earnings because it is less influenced by potential outliers compared to the mean. Median annual earnings are reported in euro currency.

Differences in annual earnings between graduates are explored in relation to demographic variables, variables related to their studies and variables related to employment. Finally, it is also noting that findings presented in this section are based on self-reported data on a sensitive topic and thus might be affected by social desirability bias.

Earnings by graduation cohort is shown in Figure 161. The middle black line indicates the median earnings and the boxes above and below the middle line indicate the interquartile range (the range between the 1st and 3rd quartile). According to this figure, the median annual salary of the 2017/18 graduates was 23.943 euros which was significantly higher than the median annual salary of 18.000 euros of the 2021/22 graduates. Additionally, the earnings range in the 2017/18 cohort appears to be wider than in the 2021/22 cohort (length of the box) thus suggesting higher variability. The differences in the median annual earnings were statistically significant for both cohorts.

Figure 161: Annual earnings by graduation cohort



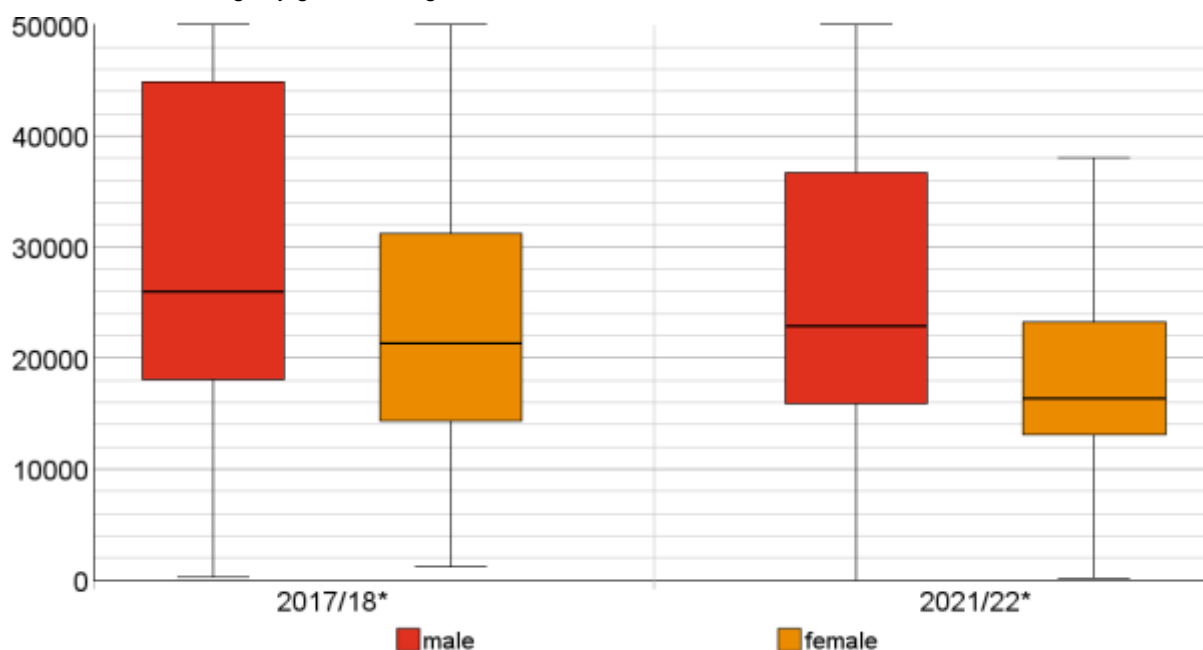
Earnings (EUR)		Quartiles		
		1st	2nd	3rd
	2017/18*	15.600	23.943	36.201
	2021/22*	13.677	18.000	27.243

*\*Statistically significant findings*

#### 5.3.6.1. Earnings by demographic variables

The distribution of earnings by gender is presented in Figure 162. Overall, males had significantly higher median earnings than females in both cohorts. Specifically, median earnings for males were equal to 26.000 euros in the 2017/18 cohort and to 22.893 euros in the 2021/22 cohort, in comparison to median earnings for females which was 22.831 euros in the 2017/18 and 16.327 euros in the 2021/22 cohort. However, the gender gap in median earnings increased from 2017/18 to 2021/22 (4.941 to 6.504 euros). The differences in earnings by gender were found to be statistically significant within both cohorts.

Figure 162: Annual earnings by gender and graduation cohort

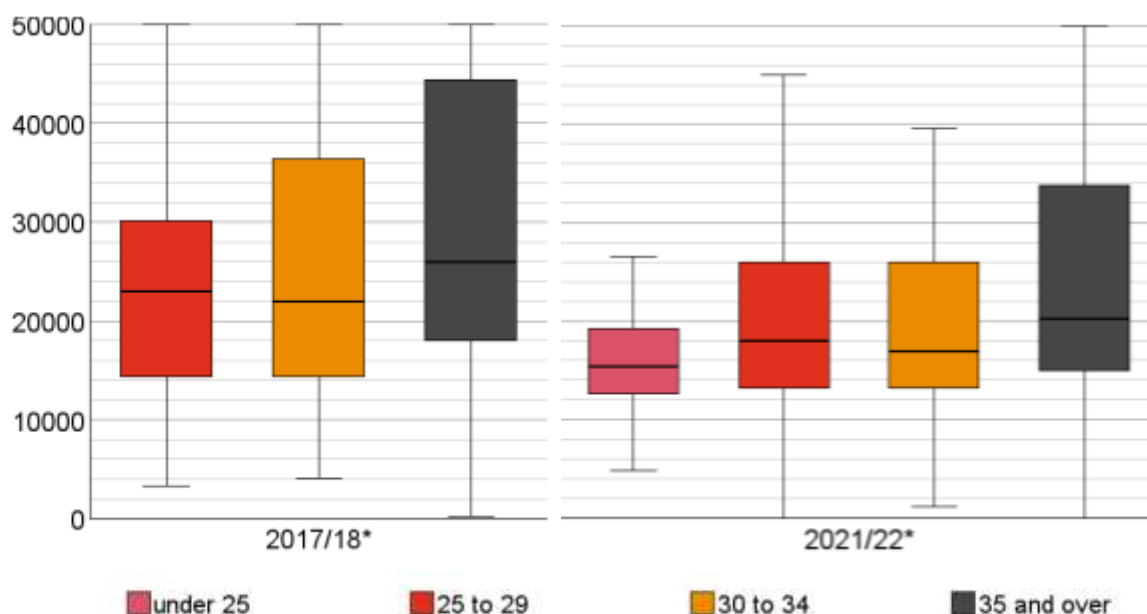


Earnings (EUR)		Quartiles		
		1st	2nd	3rd
2017/18*	Male	18.070	26.000	44.464
	Female	14.400	21.059	31.161
2021/22*	Male	15.649	22.831	36.621
	Female	13.119	16.327	23.200

*\*Statistically significant findings*

The distribution of earnings according to the age at the time of the survey is shown in Figure 163. Statistically significant differences in earnings by age were found in both cohorts. Particularly, the same pattern is observed in both cohorts, indicating that median earnings increase with age. This was expected as earnings tend to increase as graduates accrue more experience in the workplace. Moreover, peak earning years are usually after the age of 35 with a median at 25.932 and 19.857 euros respectively. In both cohorts, there was a noticeable variability in the earnings of participants who graduated at the age of over 35 years.

Figure 163: Annual earnings by age (at time of the survey) and graduation cohort



Earnings (EUR)		Quartiles		
		1st	2nd	3rd
2017/18*	under 25	N/A	N/A	N/A
	25 to 29	14.400	22.886	30.100
	30 to 34	14.400	21.949	36.320
	35 and over	18.000	25.923	44.211
2021/22*	under 25	12.600	15.356	19.200
	25 to 29	13.200	17.950	25.881
	30 to 34	12.998	16.947	25.990
	35 and over	14.846	19.857	33.787

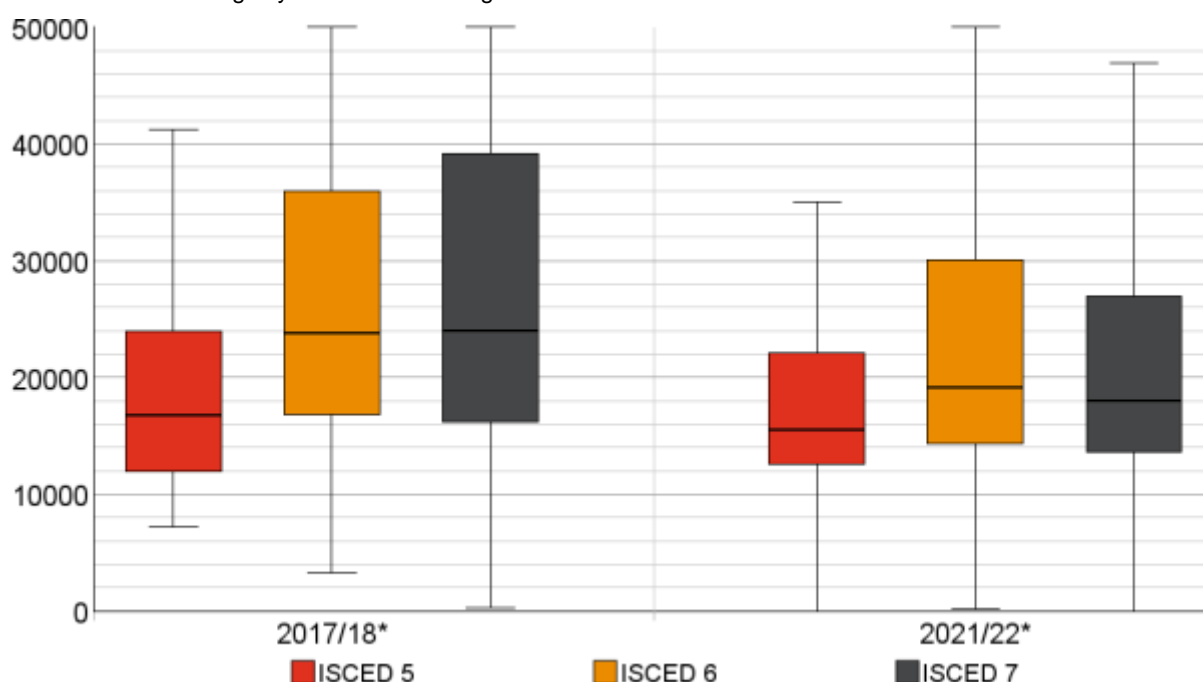
\*Statistically significant findings

### 5.3.6.2. Earnings by variables related to Higher Education studies

The distribution of earnings by level of studies is illustrated in Figure 164. It is evident that in both cohorts, median earnings differ significantly by level of studies. In the 2017/18 cohort median earnings increased by level of study with ISCED 7 graduates recording the highest earnings (24.000 euros) and ISCED 5 graduates the lowest (16.800 euros). Surprisingly, the difference between ISCED 6 and 7 graduates in the median earnings is only 200 euros less for the former. In the 2021/22 cohort the pattern changes with ISCED 6 graduates recording the highest earnings at 19.158 euros compared to ISCED 7 graduates recording median

earnings at 1.158 euros less. The lowest median earnings are recorded among ISCED 5 graduates at 15.473 euros. What else is evident is the large variability of annual earnings for ISCED 7 and ISCED 6 graduates (tall boxes) in 2017/18 and 2021/22 respectively. The differences in earnings were found to be statistically significant for both cohorts.

Figure 164: Annual earnings by ISCED-level and graduation cohort



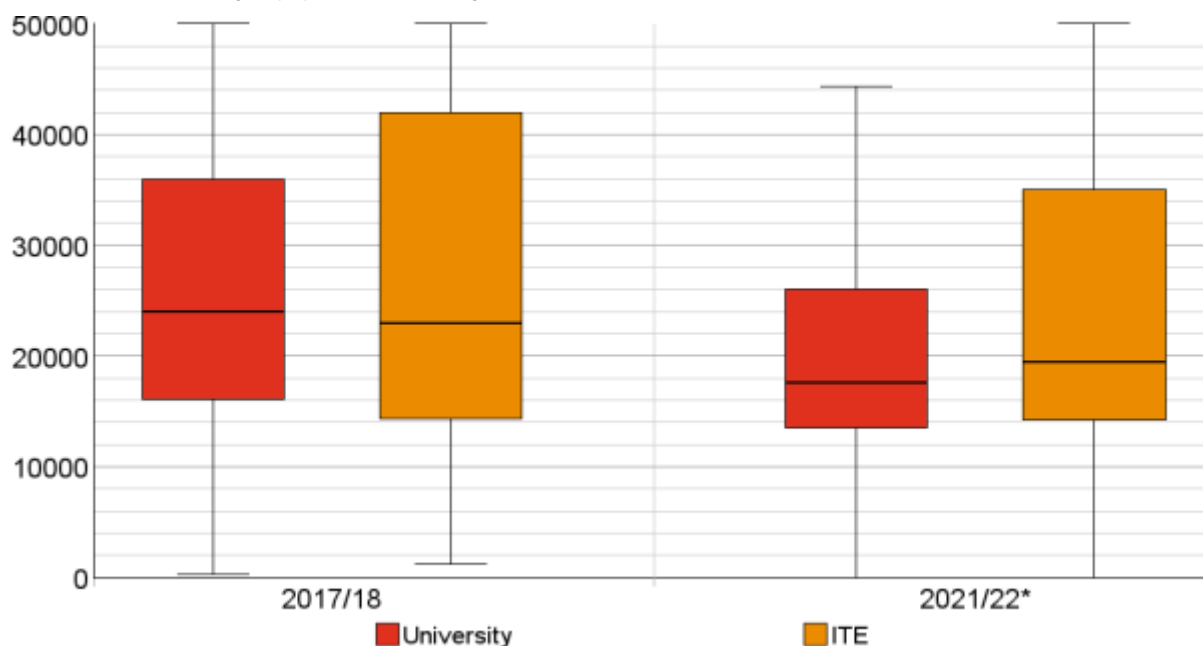
Earnings (EUR)		Quartiles		
		1st	2nd	3rd
2017/18*	ISCED 5	12.000	16.800	24.000
	ISCED 6	16.397	23.800	34.460
	ISCED 7	16.124	24.000	39.175
2021/22*	ISCED 5	12.600	15.473	21.441
	ISCED 6	14.400	19.158	30.066
	ISCED 7	13.657	18.000	26.850

\*Statistically significant findings

Figure 165 displays median earnings by type of HEI. In the 2017/18 cohort, the median earnings for University graduates were higher than those of graduates from ITE while the opposite is observed in the 2021/22 cohort. It is also worth noting that there is a large variability in annual earnings for both cohorts from ITE with a highly positively skewed distribution, meaning a higher number of data points with lower values. For the 2017/18 median earnings for University graduates reached the 24.000 euros compared to 22.788 euros for ITE graduates. For the 2021/22 cohort ITE graduates median earnings reached the 19.458 euros compared to the

17.594 euros for University graduates. The differences in median earnings between graduates from Universities and ITE were found to be statistically significant only for the 2021/22 cohort.

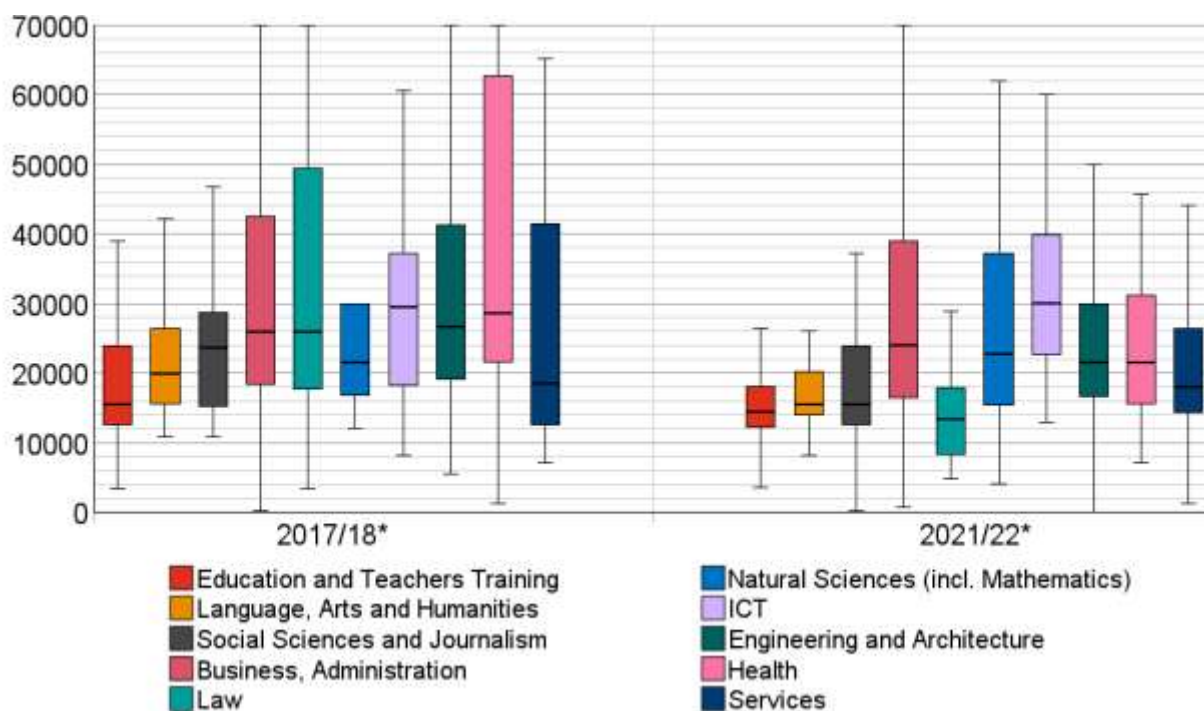
Figure 165: Annual earnings by type of HEI and graduation cohort



Earnings (EUR)		Quartiles		
		1st	2nd	3rd
2017/18	University	16.068	24.000	36.000
	ITE	14.400	22.788	41.302
2021/22*	University	13.494	17.594	26.000
	ITE	14.300	19.458	34.505

Figure 166 presents the statistically significant differences in earnings by field of study. In the 2017/18 cohort the highest median earnings belonged to graduates in the fields of Health (27.978 euros), Information and Communication Technologies (26.429 euros) and Engineering and Architecture (26.609 euros). The lowest earnings were reported by graduates in the fields of Education and Teacher Training (15.506 euros) and in the Services (16.892 euros). The largest variation in graduates' earnings were noted in the field of Health, Services and Law. In the 2021/22 cohort, graduates from the fields of Information and Communication Technologies (28.929 euros), Business, Administration (24.000 euros) and Natural Sciences (22.657 euros) record the highest median earnings. Graduates in the field of Law (13.476 euros) and Education and Teacher Training (14.400 euros) reported the lowest annual earnings. The largest variation in earnings in the 2021/22 cohort was recorded in Business Administration and Natural Sciences fields.

Figure 166: Annual earnings by field of study and graduation cohort



Earnings (EUR)		Quartiles		
		1st	2nd	3rd
2017/18*	Education and Teachers Training	12.600	15.506	24.000
	Language, Arts and Humanities	15.600	19.749	26.284
	Social Sciences and Journalism	15.311	22.844	28.690
	Business, Administration	18.461	26.000	42.144
	Law	16.880	25.720	48.929
	Natural Sciences (incl. Mathematics)	16.561	21.343	29.968
	ICT	18.191	26.429	35.194
	Engineering and Architecture	18.441	26.609	40.679
	Health	21.600	27.978	58.210
	Services	12.600	16.892	36.053

Earnings (EUR) - <i>Continued</i>		Quartiles		
		1st	1st	1st
2021/22*	Education and Teachers Training	12.071	14.400	18.000
	Language, Arts and Humanities	13.812	15.539	19.840
	Social Sciences and Journalism	12.648	15.600	23.145
	Business, Administration	16.482	24.000	39.000
	Law	8.265	13.476	17.653
	Natural Sciences (incl. Mathematics)	14.351	22.657	36.469
	ICT	21.739	29.929	39.630
	Engineering and Architecture	16.207	20.935	29.425
	Health	15.600	21.057	30.238
	Services	14.300	18.000	26.103

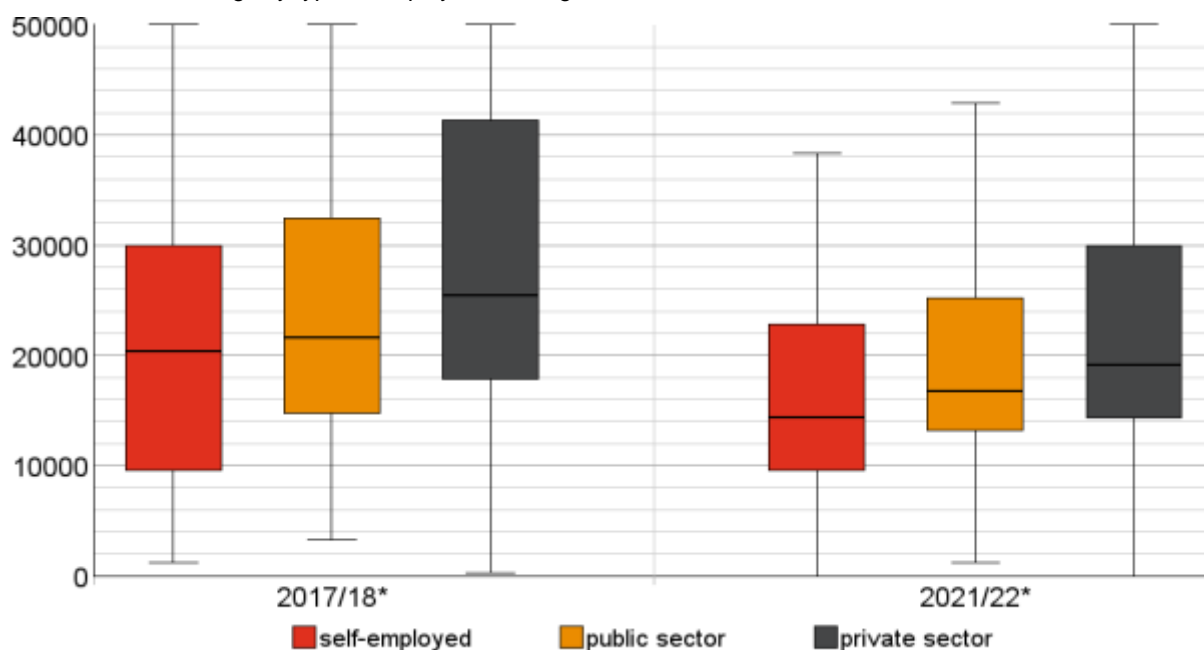
\*Statistically significant findings

Note: Fields of study ETT-Education and Teacher Training, AH-Arts and Humanities, SSJ-Social Sciences and Journalism, BA-Business Administration, LAW-Law, NS-Natural Sciences (including Mathematics), ICT-Information and Communication technologies, EA-Engineering and Architecture, HEA-Health, SER-Services. "Agriculture, Forestry, Fisheries, Veterinary and Services" is excluded from the analysis due to its small population size.

### 5.3.6.3. Earnings by type of employment

Figure 167 illustrates the distribution of earnings by employment type. The differences in earnings among different employment types were found to be statistically significant in both cohorts. In both cohorts, graduates working in the private sector reported the highest median earnings compared to those employed in the public sectors and self-employed. In the 2017/18 cohort the median earnings for private sector reached the 25.640 euros compared to 19.200 in the 2021/22 cohort. The 2017/18 cohort showed the greatest earnings variability in the private sector, while in the 2021/22 cohort, earnings variability was similar across all employment types and significantly lower.

Figure 167: Annual earnings by type of employment and graduation cohort

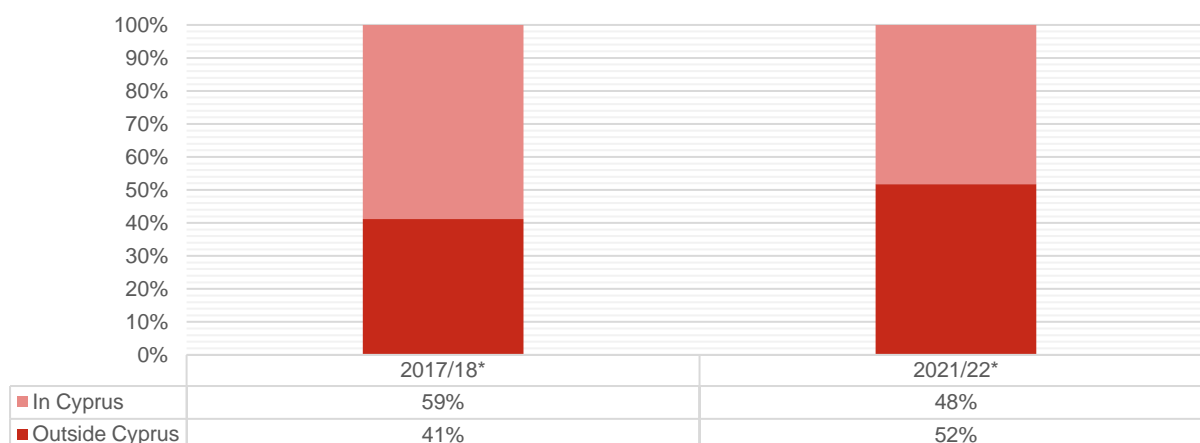


Earnings (EUR)		Quartiles		
		1st	2nd	3rd
2017/18*	Self-employed	9.600	20.400	29.529
	Public Sector	14.760	21.600	32.500
	Private Sector	17.750	25.460	41.363
2021/22*	Self-employed	9.600	14.400	22.800
	Public Sector	13.219	16.800	25.053
	Private Sector	14.400	19.200	30.000

### 5.3.7. Place of Employment

The current sub-section examines the place of employment, i.e., in Cyprus or abroad, for employed and self-employed graduates. It is evident from Figure 168, that most graduates in both cohorts have stayed in the country where they graduated i.e., in Cyprus. This percentage is higher in the 2017/18 cohort compared to cohort 2021/22 (59% and 48% respectively). As per the findings in 2021/22 graduate's majority works outside Cyprus at 52%. The findings for both cohorts are statistically significant.

Figure 168: Place of employment by graduation cohort

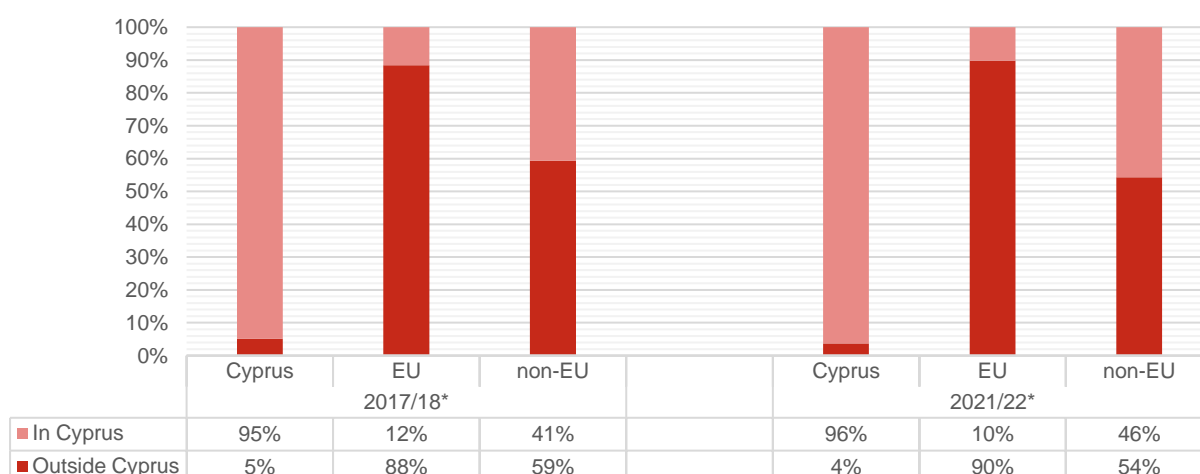


\*Statistically significant findings

### 5.3.7.1. Place of employment by country of birth

Figure 169 depicts the percentage of people employed in and outside of Cyprus by country of birth. Graduates were grouped in three categories according to the country of birth: Cyprus, EU and non-EU. A similar and statistically significant pattern is evident in both cohorts regarding the relationship between place of employment and country of birth. More than 90% of respondents categorized as 'Cyprus' found employment within the country. The vast majority (>85%) of graduates from EU countries are employed outside Cyprus since they are mostly distance learning students from Greece. Approximately half of the graduates from non-EU countries are employed in Cyprus and the other half abroad.

Figure 169: Place of employment by country of birth and graduation cohort



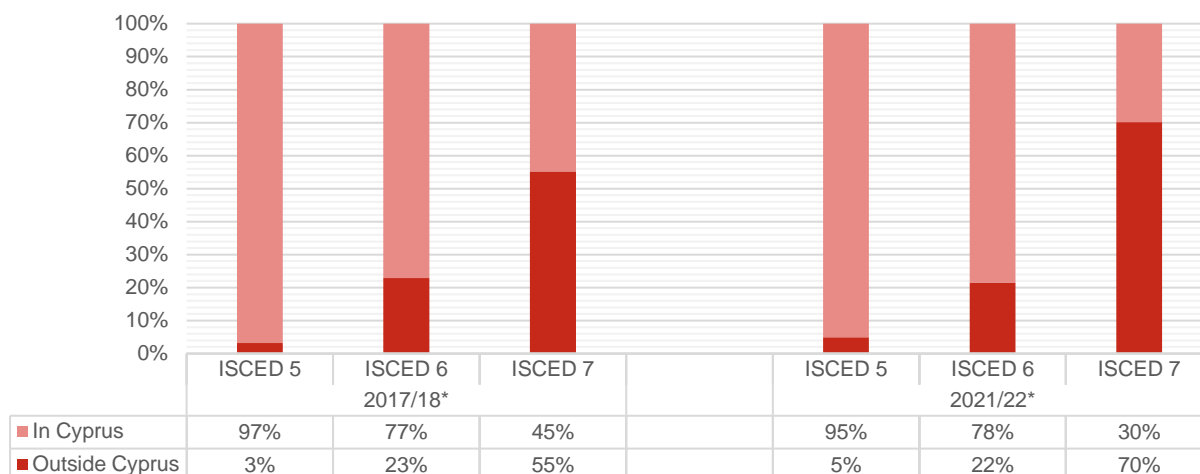
\*Statistically significant findings

### 5.3.7.2. Place of employment by variables related to Higher Education studies

Place of employment (inside and outside of Cyprus) according to education level is shown in Figure 170. It appears that in both cohorts, all ISCED 5 graduates reported finding employment in Cyprus at 97% and 95%

respectively. In the cohort 2017/18, most of ISCED 6 graduates found employment in Cyprus while ISCED 7 graduates have almost equal percentages of employment within and outside Cyprus at 45% and 55% respectively due to the fact that the students are distance learners from Greece. In the cohort 2021/22 again most ISCED 6 graduates found employment in Cyprus (78%) while most ISCED 7 graduates found employment outside Cyprus (78%). The current differences in the place of employment by education level were found to be statistically significant within both cohorts.

Figure 170: Place of employment by ISCED-level and graduation cohort

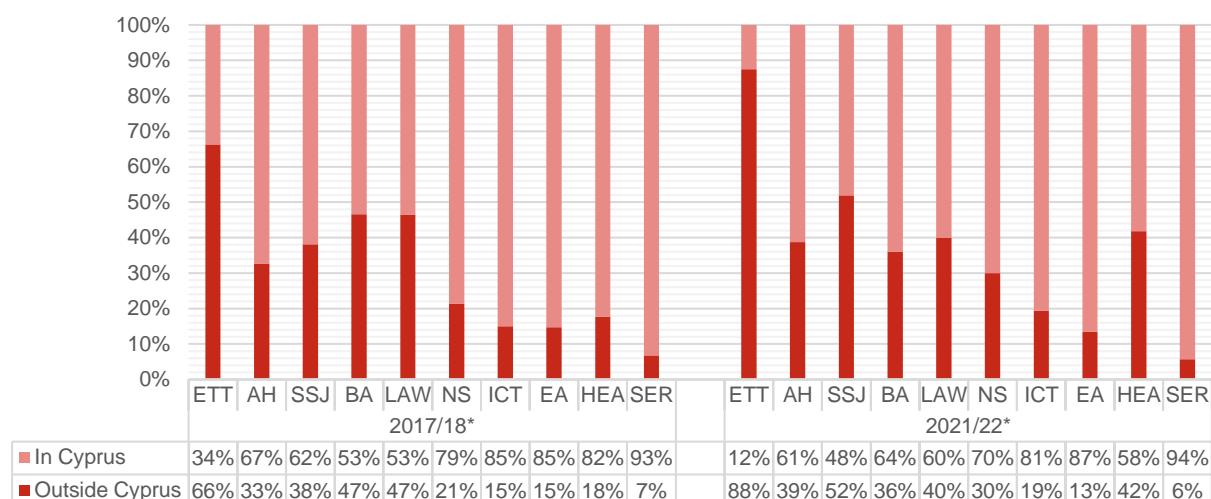


*\*Statistically significant findings*

Figure 171 depicts the percentage of graduates employed in and outside of Cyprus by field of study with statistically significant results. In both cohorts Education and Teacher Training graduates had the lowest percentages of employment in Cyprus at 34% and 12% respectively. Again, this is relevant to the country of origins of distance learning students from Greece. The higher percentages of graduates (>87) reporting finding employment in Cyprus were noted in the fields of Services, Engineering and Architecture and Information and Communication Technology.

In the 2017/18 cohort, the fields with the majority of graduates reporting working in Cyprus was Services (93%) followed by Engineering and Architecture and Information and Communication Technology (85%). In the 2021/22 cohort, the fields with most graduates finding employment in Cyprus were Services (94%), Engineering and Architecture at 87% and Information and Communication Technology at 81%.

Figure 171: Place of employment by field of study and graduation cohort



\*Statistically significant findings

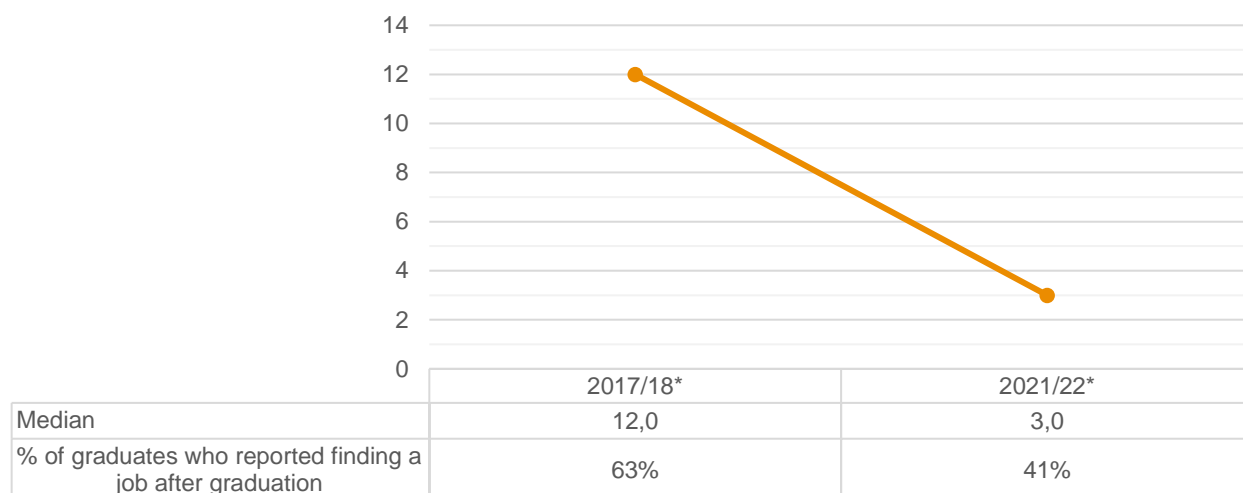
Note: Fields of study ETT-Education and Teacher Training, AH-Arts and Humanities, SSJ-Social Sciences and Journalism, BA-Business Administration, LAW-Law, NS-Natural Sciences (including Mathematics), ICT-Information and Communication Technologies, EA-Engineering and Architecture, HEA-Health, SER-Services. "Agriculture, Forestry, Fisheries, Veterinary and Services" is excluded from the analysis due to its small population size.

### 5.3.8. Time taken to find a job after graduation

In this section, the time (in months) needed to get a job after graduation is explored. In the relevant literature this is referred as employment gap. For this purpose, findings presented in this section are based only on data reported by graduates who indicated finding a job (full time or part time) after their graduation. Consequently, graduates who reported being unemployed, graduates who continued their studies, or graduates who had a job before graduation or during their studies (and did not try to find a new one after graduation), are not included in the median calculation. It is important to note that the percentages presented in the table below show the proportion of graduates on which the statistic (i.e., the median) presented is based.

Figure 172 illustrates the median time taken by graduates to find a job after graduation for the 2017/18 and 2021/22 cohorts. In the 2017/18 cohort, the median time for graduates to secure employment after graduation was 12 months, with 63% of graduates reporting they found a job within this period. In contrast, the 2021/22 cohort experienced a significantly shorter median time of just 3 months, with 41% of graduates finding employment after graduation. It is important to note that the 2017/18 cohort had more time available to seek employment compared to the 2021/22 cohort, who graduated more recently. The sharp decrease in the median time could suggest improvements in job search efficiency for the recent cohort, although the lower proportion of graduates finding employment may highlight challenges in the job market.

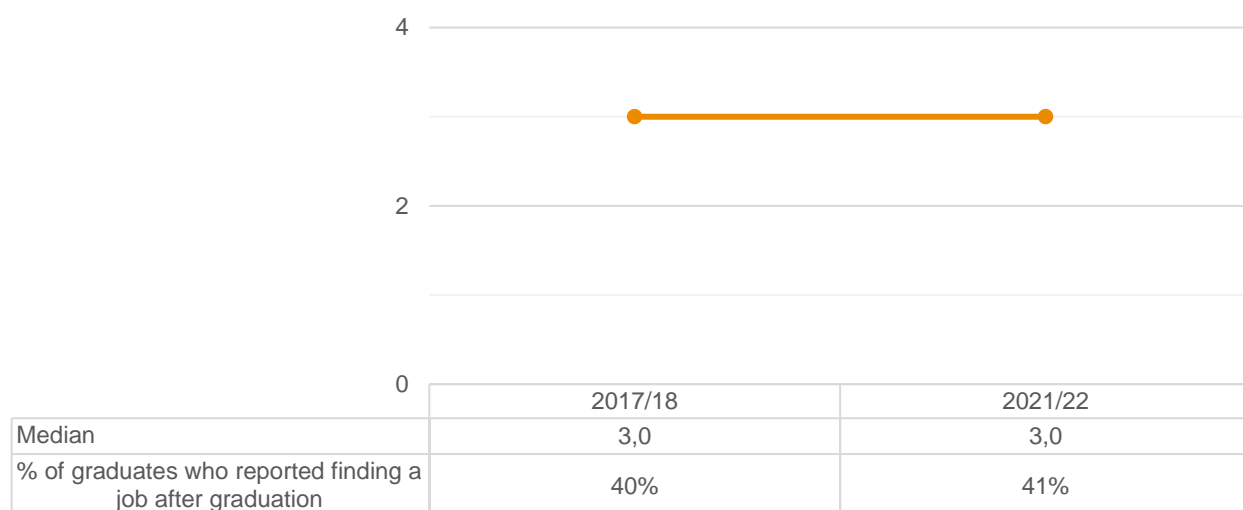
Figure 172: Median time taken to find a job after graduation-by-graduation cohort



\*Statistically significant findings

Figure 173 illustrates the median time taken to find a job after graduation for the 2017/18 and 2021/22 cohorts, with a focus on a fixed time frame of up to 18 months. For both the 2017/18 and 2021/22 cohorts, the median time to secure employment after graduation remained consistently at 3 months. The proportion of graduates who reported finding a job after graduation was 40% for the 2017/18 cohort and 41% for the 2021/22 cohort, showing no variation in employment outcomes between the two groups. This consistency in the median time to employment suggests that the graduates of these cohorts experienced a similar timeframe in securing employment after graduation.

Figure 173: Median time taken to find a job after graduation-by-graduation cohort (up to 18 months)

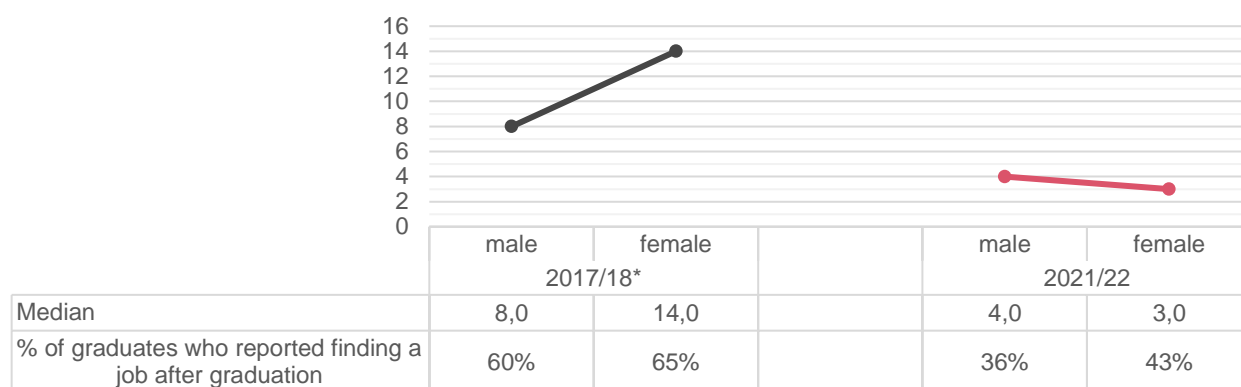


### 5.3.8.1. Time taken to find a job after graduation by demographic variables

Figure 174 illustrates the median time taken to find a job after graduation by gender for the 2017/18 and 2021/22 cohorts, highlighting differences in employment outcomes between male and female graduates. In the 2017/18 cohort, the data shows that females took significantly longer to find a job after graduation compared to males. Despite this difference in waiting time, the proportion of graduates who reported finding a job after graduation was relatively high, with 60% of males and 65% of females successfully securing employment.

In contrast, the 2021/22 cohort the difference in the median time taken to find employment between the two genders was smaller. Female graduates had a median waiting time of 3 months, while males had a slightly longer waiting period of 4 months. The percentage of male graduates who found employment after graduation was 36% and the percentage of female graduates was 43%.

Figure 174: Median time taken to find a job after graduation by gender and graduation cohort

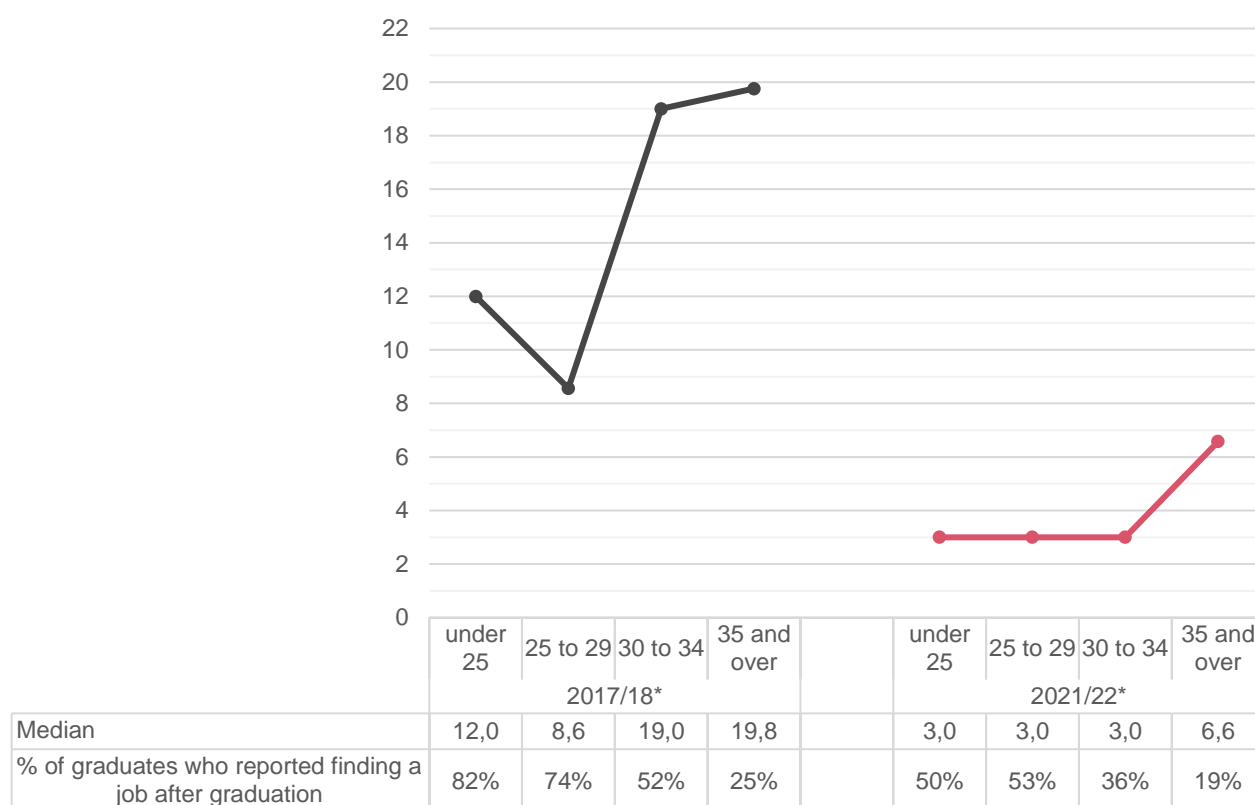


\*Statistically significant findings

Figure 175 presents the median time taken to find a job after graduation by age at graduation for the 2017/18 and 2021/22 cohorts, highlighting variations in job search duration based on the age of graduates. In the 2017/18 cohort, for older graduates it took longer to secure employment compared to younger graduates. Graduates at the age category “under 25” had a median time of 12 months to find a job after graduation, while those aged between 25 and 29 found employment in a shorter period, with a median of 8.6 months. However, graduates aged “30 to 34” and those aged “35 and over” experienced significantly longer job search durations, with median times of 19.0 months and 19.8 months, respectively. The percentage of graduates who reported finding a job after graduation varied by age, with younger graduates “under 25” achieving the highest success rate at 82%, followed by those aged “25 to 29” at 74%, “30 to 34” at 52%, and “35 and over” at 25%.

In the 2021/22 cohort, graduates “under 25”, as well as those aged “25 to 29” and “30 to 34”, had a median time of just 3 months to find a job, while those aged “35 and over” reported a slightly longer median time of 6.6 months. Regarding the proportion of graduates who found employment this was 50% of those “under 25”, 53% of those aged “25 to 29”, and 36% of those aged “30 to 34” finding jobs. The success rate was lowest among graduates aged “35 and over”, at 19%.

Figure 175: Median time taken to find a job after graduation by age (at graduation) and graduation cohort



\*Statistically significant findings

#### 5.3.8.2. Time taken to find a job after graduation by variables related to Higher Education studies

Figure 176 presents the median time taken to find a job after graduation by ISCED level for the 2017/18 and 2021/22 cohorts, highlighting differences across educational levels. For the 2017/18 cohort, graduates at ISCED 5 level took the longest to find a job, with a median waiting time of 15.0 months. Graduates at ISCED 7 level reported a median time of 13.5 months, while ISCED 6 graduates had the shortest median waiting time of 9.0 months. In terms of employment success, ISCED 6 graduates had the highest proportion of graduates who found a job after graduation, at 83%. ISCED 5 graduates reported a 56% success rate, while ISCED 7 graduates had a 53% success rate.

For the 2021/22 cohort, all ISCED levels reported a median time of 3.0 months to find a job after graduation. ISCED 6 graduates continued to show a relatively higher success rate, with 46% reporting finding a job after graduation, followed by ISCED 5 graduates with 44%, and ISCED 7 graduates with 38%.

Figure 176: Median time taken to find a job after graduation by ISCED-level and graduation cohort

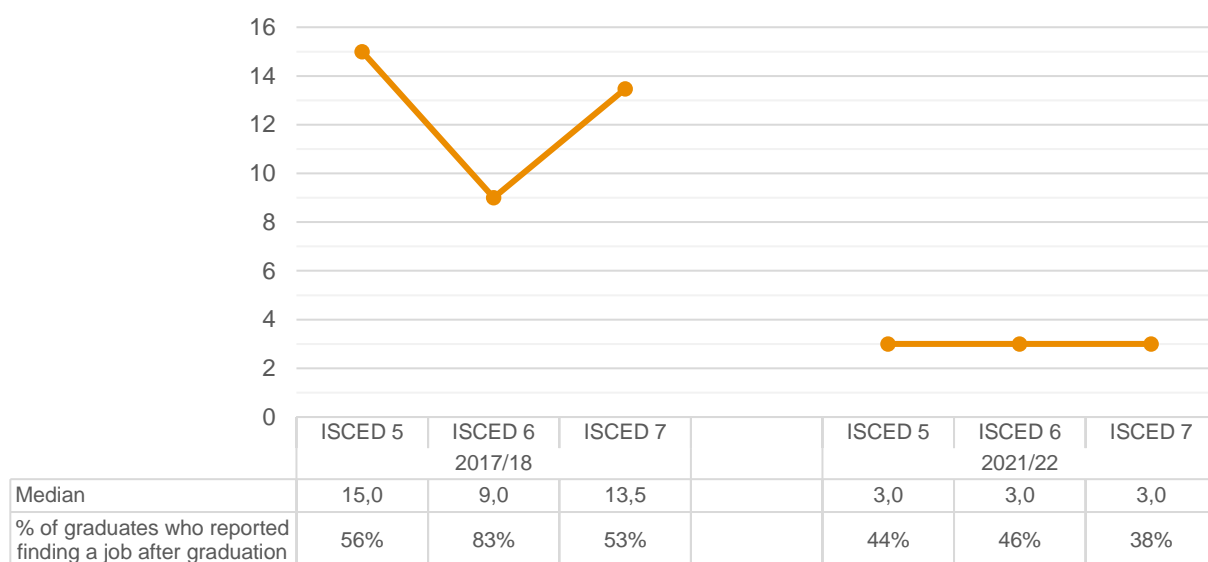


Figure 177 illustrates the median time taken to find a job after graduation by the type of Higher Education Institution (HEI) and graduation cohort for the 2017/18 and 2021/22 cohorts. For the 2017/18 cohort, university graduates took a median of 11.0 months to secure employment, while graduates from Institutes of Technical Education (ITE) required a longer median time of 15.0 months to find a job. Regarding the percentage of graduates who successfully found employment after graduation, university graduates fared better, with 64% reporting that they had found a job, compared to 57% of ITE graduates.

In the 2021/22 cohort, both University and ITE graduates reported a median time of 3.0 months to secure employment. However, the percentage of graduates who found employment after graduation dropped for both groups, with similar percentages of graduates securing a job after completing their studies.

Figure 177: Median time taken to find a job after graduation by type of HEI and graduation cohort

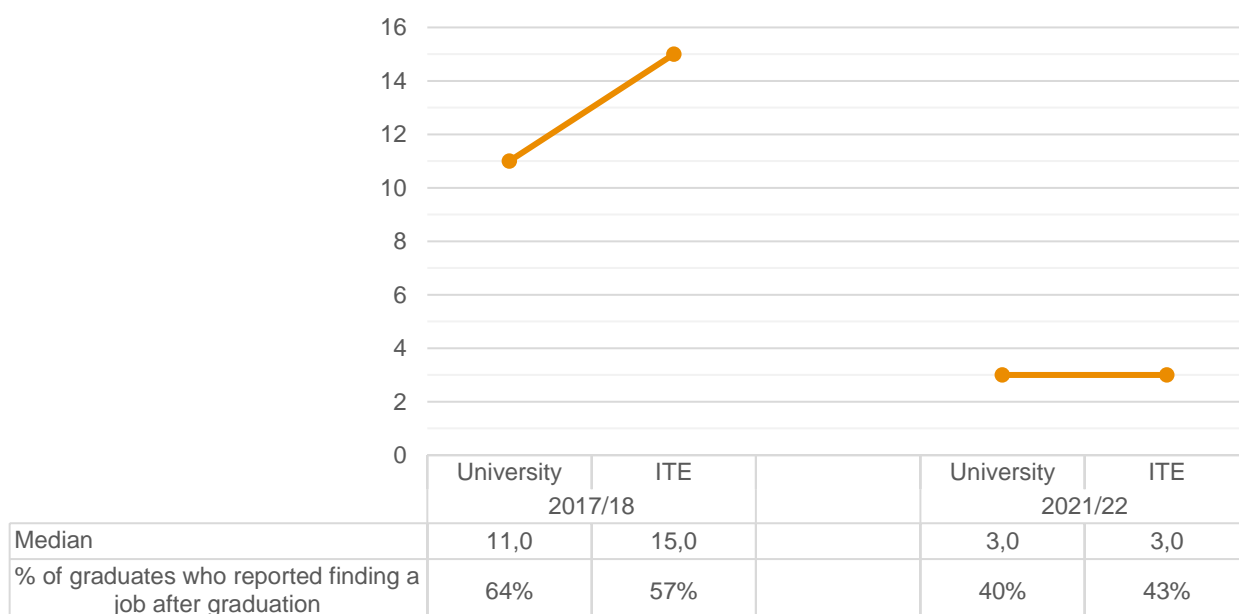
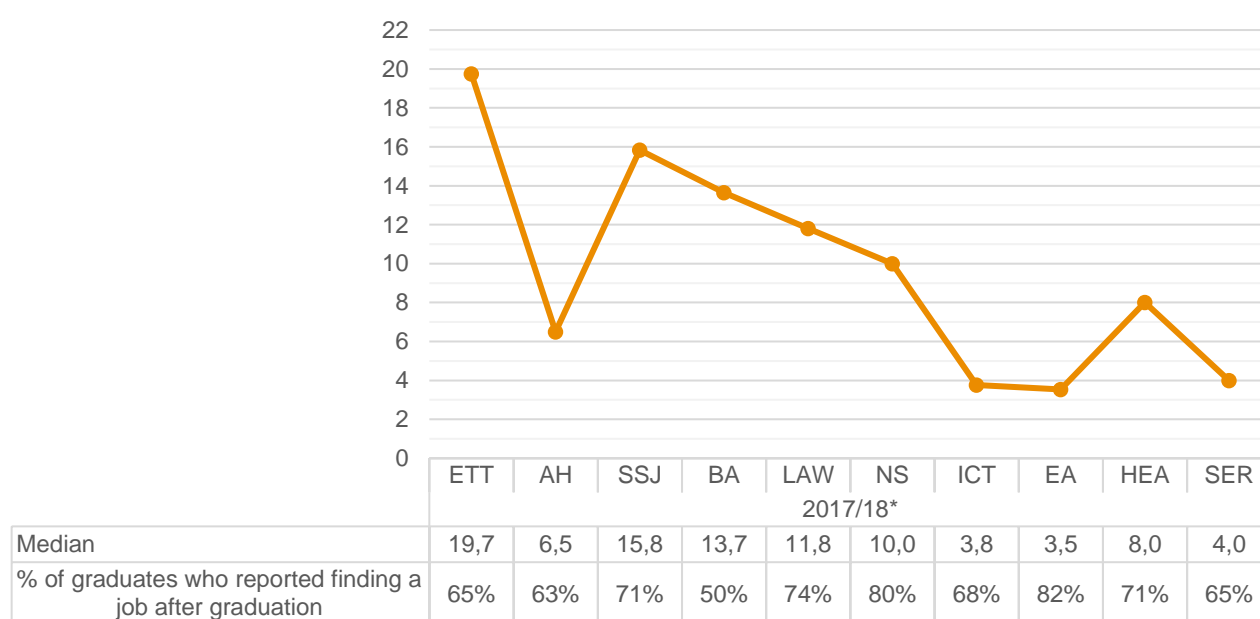
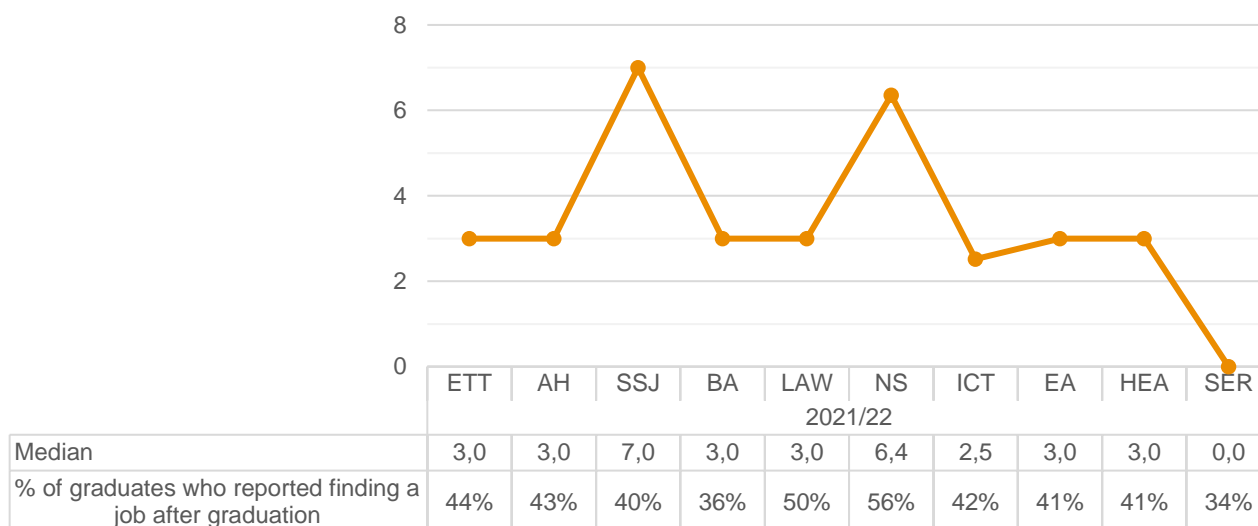


Figure 178 presents how long it took graduates from various fields of study to find employment after graduation. In the 2017/18 cohort, it took graduates from the field of Education and Teacher Training, and Social Science and Journalism notably longer to find employment, requiring approximately 19,7 and 15,8 months respectively. This might be a case for Education graduates since they are mostly employed in the public sector. Graduates from the fields of Business Administration also faced challenges, taking more than a year (13,7 months) to find employment. On the other hand, graduates from the field of Engineering and Architecture had the shortest waiting time to find employment compared to graduates from other fields (3,5 months) and at the same time a high percentage of employment (82%). The field with the highest employability after graduation was Natural Science at 80% but with a median of waiting at 10 months. Similar pattern is observed for Law graduates that even though the high employability percentage (74%) the median time waiting to find a job is at 11 months. The field of Information and Communication Technology recorded very low waiting time at 3,8 months and good employability percentages. These differences in median waiting time among 2017/18 graduates from different fields of study were statistically significant.

In the 2021/22 cohort, differences in time taken to find employment across the various fields of study were smaller. Graduates from all fields had similar median time to find employment except graduates from the fields of Social Sciences and Journalism, and Natural Sciences who had the highest waiting time (7 and 6,4 months respectively) and graduates from the field of Services who had the lowest (0 months). In all fields of study, the percentages of graduates that found a job after graduation do not indicate large discrepancies. The lowest percentages of graduates finding a job after graduation were recorded in the fields of Services and Business Administration (34% and 36% respectively) while the highest were recorded for the fields of Natural Sciences and Law (56% and 50% respectively).

Figure 178: Median time taken to find a job after graduation by field of study and graduation cohort





\*Statistically significant findings

Note: Fields of study ETT-Education and Teacher Training, AH-Arts and Humanities, SSJ-Social Sciences and Journalism, BA-Business Administration, LAW-Law, NS-Natural Sciences (including Mathematics), ICT-Information and Communication Technologies, EA-Engineering and Architecture, HEA-Health, SER-Services. "Agriculture, Forestry, Fisheries, Veterinary and Services" is excluded from the analysis due to its small population size.

### 5.3.9. Labour Market Participation for persons with disabilities

The current sub-section explores labour market participation for graduates in both cohorts with disabilities. In this report, the term disability is used as an umbrella term encompassing individuals with physical, sensory, intellectual, or psychosocial disabilities, as well as those with disorders, learning difficulties, or serious medical conditions. The participation of individuals with disabilities in the labour market is essential for fostering social inclusion and promoting equality. Employment enables individuals with disabilities to actively contribute to society and reduce discrimination. Moreover, it enhances their economic independence, providing financial autonomy and reducing reliance on social welfare programs. Figure 179 indicates whether graduates reported having any type of disability by graduation cohort. In both cohorts the percentage of graduates reporting having a disability was 5-6%

Figure 179: Disabilities/ disorders/ learning disabilities/ serious medical conditions by graduation cohort

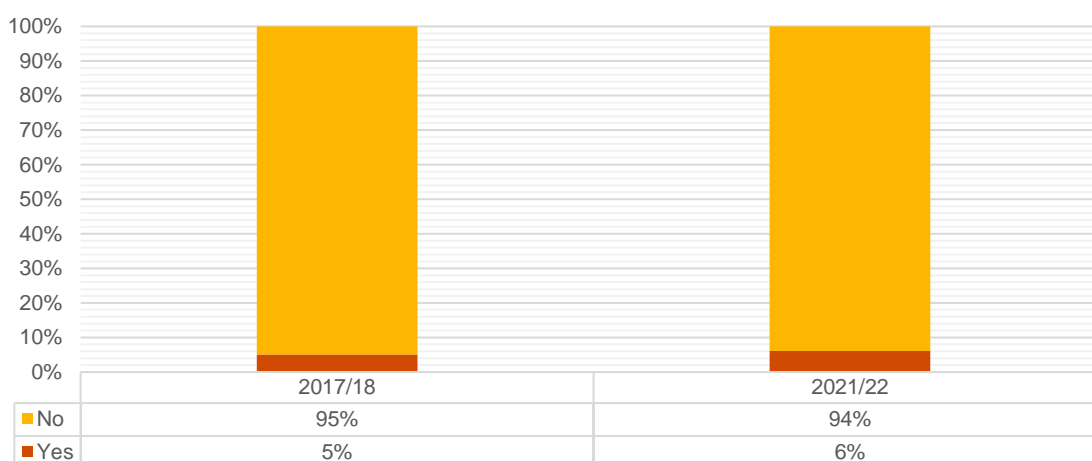
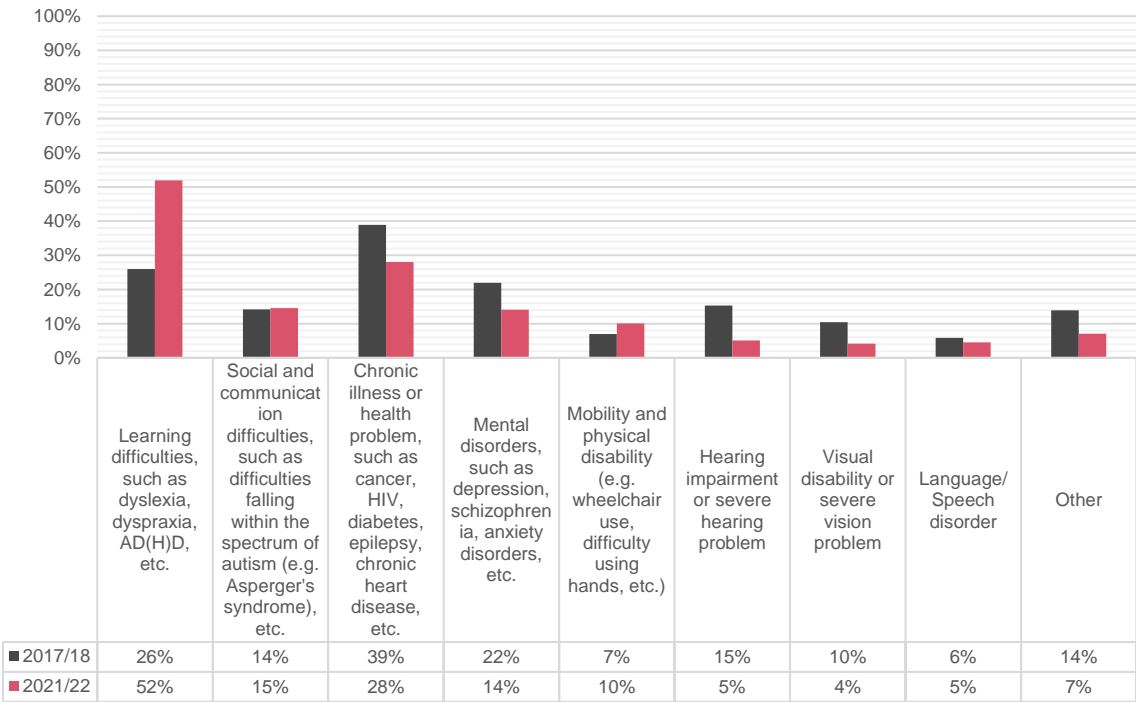


Figure 180 indicates the types of disabilities recorded by graduation cohort. In 2017/18 cohort, graduates reported that the most common type was chronic illness or health problem at 39%, followed by learning difficulties at 26%. The least reported condition reported was language/ speech disorder at 6% followed by mobility and physical disability at 7%. In 2021/22 cohort, the opposite pattern is observed. Learning difficulties were reported as the most common among all types at 52% followed by chronic illness or health problem at 28%. The least common condition was visual disability and severe vision problem (4%) followed by hearing impairment or severe hearing problem and language/ speech disorder both at 5%.

Figure 180: Types of disabilities by graduation cohort



**Error! Not a valid bookmark self-reference.** indicates the employment status of individuals with or without disabilities by graduation cohort. The general trend for both cohorts is that the majority of individuals with or without disabilities were employed with individuals with disabilities to report a slightly lower percentage of employment at 89% over 93% and 79% over 87% respectively. In the 2017/18 cohort, individuals with disabilities recorded more than a double rate of being unemployed compared to those without (7% over 3%). Similar is the pattern for 2021/22 cohort with 9% over 5% respectively. Individuals with disabilities reported also slightly higher percentages of being out of labour force compared to the graduates without disabilities at 4% over 3% and 12% over 8% respectively. There results were not found to be statistically significant for any cohort.

Figure 181: Individuals with or without disabilities by employment status and graduation cohort

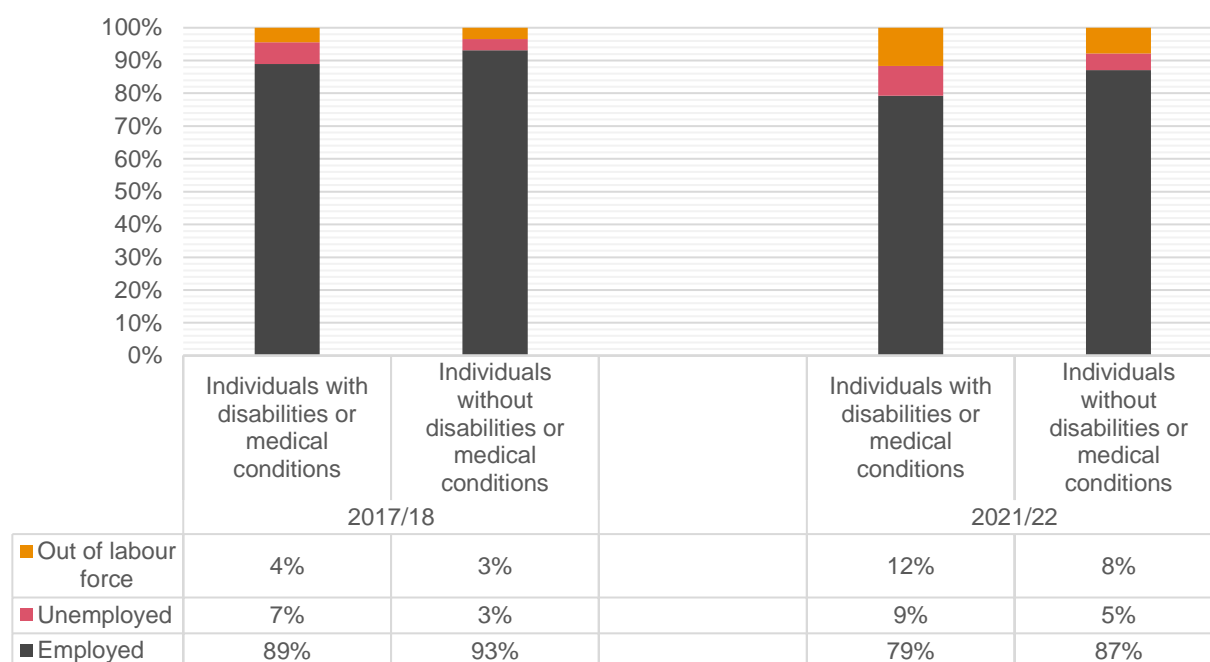


Figure 182 illustrates the sector of employment for graduates with and without disabilities by their graduation cohort. In the 2017/18 cohort, the majority of graduates with disabilities were employed in the public sector (46%), whereas in the 2021/22 cohort, most of these graduates were working in the private sector (52%). For graduates without disabilities, the private sector consistently represented the largest portion of their employment opportunities. Regarding self-employment, the percentages of graduates with disabilities and those without disabilities are similar across both cohorts. These results were not found to be statistically significant for any cohort indicating that disability status does not appear to significantly influence the selection of sector of employment. This suggests that graduates with and without disabilities are equally represented across various employment sectors, pointing to a level of inclusivity in sectoral opportunities. Figure 182: Percentages of individuals with or without disabilities/ disorders/ learning disabilities/ serious medical conditions by type of employment and graduation cohort

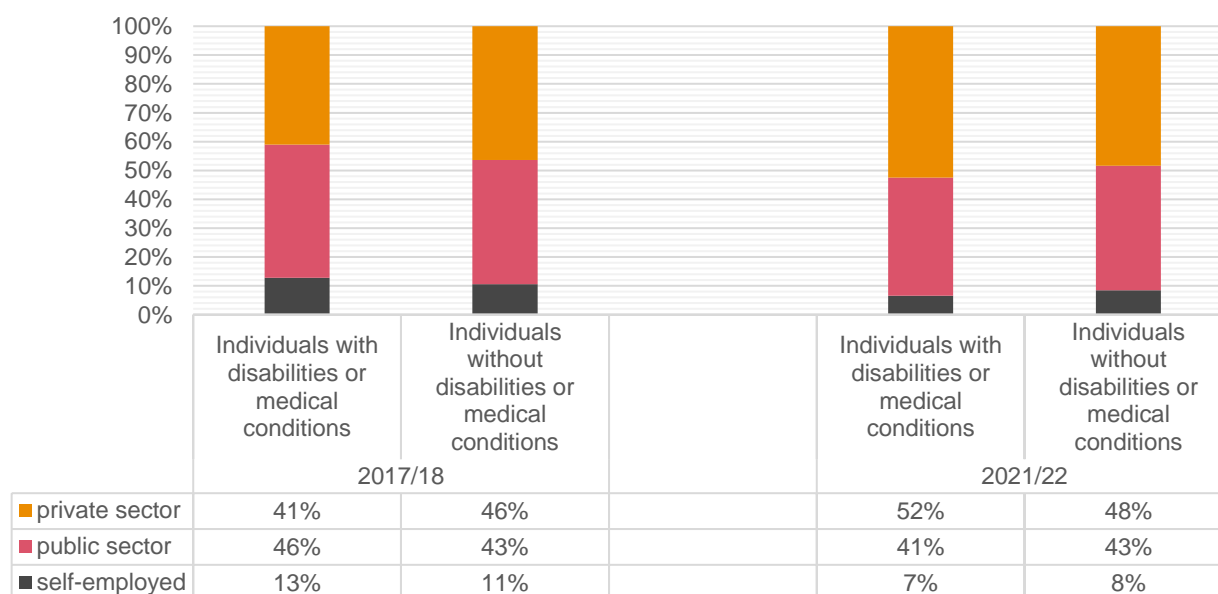
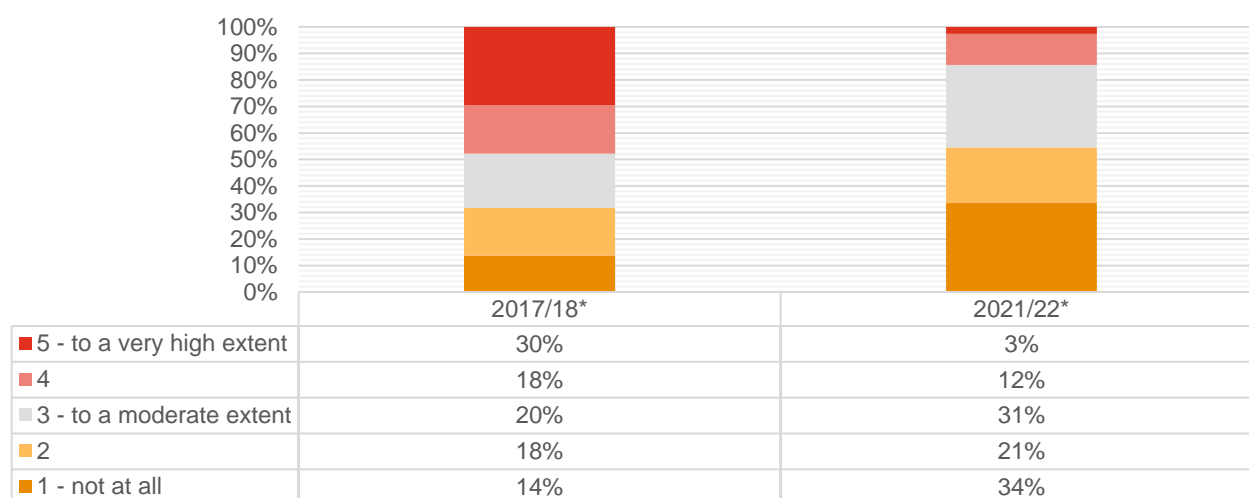


Figure 184 indicates the extent to which disability, poses a restriction for entering the labour market by graduation cohort with patterns differing significantly between the two graduation cohorts. In the 2017/18 cohort, approximately half of graduates (48%) with disability reported that their disability restricted their labour market entry at a high/ very high extent (when combining 4 and 5 ratings), while an additional 20% at indicated a moderate extent. In the 2021/22 cohort, only 15% of graduates reported that their disability restricted them at a high/ very high extent whereas 31% reported at a moderate extent. The results were found to be statistically significant within both cohorts. This suggests that while the perceived severity of restrictions has decreased among more recent graduates, the proportion experiencing moderate restrictions has increased. These findings may reflect improvements in accessibility or support mechanisms in the labour market between the two cohorts, but they also emphasise the persistence of challenges faced by graduates with disabilities.

Figure 183: The extent to which disability, illness, condition or special circumstance form a restriction for entering the labour market by graduation cohort



\*Statistically significant findings

Figure 184 indicated the extent to which graduates' disabilities pose a restriction for carrying out work by graduation cohort. Contrasting patterns were observed between the two cohorts. In the 2017/18 cohort, 37% of graduates reported being restricted to a high or very high extent, while 19% indicated moderate restrictions. The majority (45%) reported not being restricted at all. In the 2021/22 cohort, a notable shift was noted: 18% of graduates reported high or very high restrictions, 25% reported moderate restrictions, and 57% reported not being restricted at all. These differences suggest an improvement in the experiences of more recent graduates with disabilities in managing their work responsibilities. However, these results were not statistically significant for either cohort.

Figure 184: Extent to which disability poses a restriction for carrying out work by graduation cohort

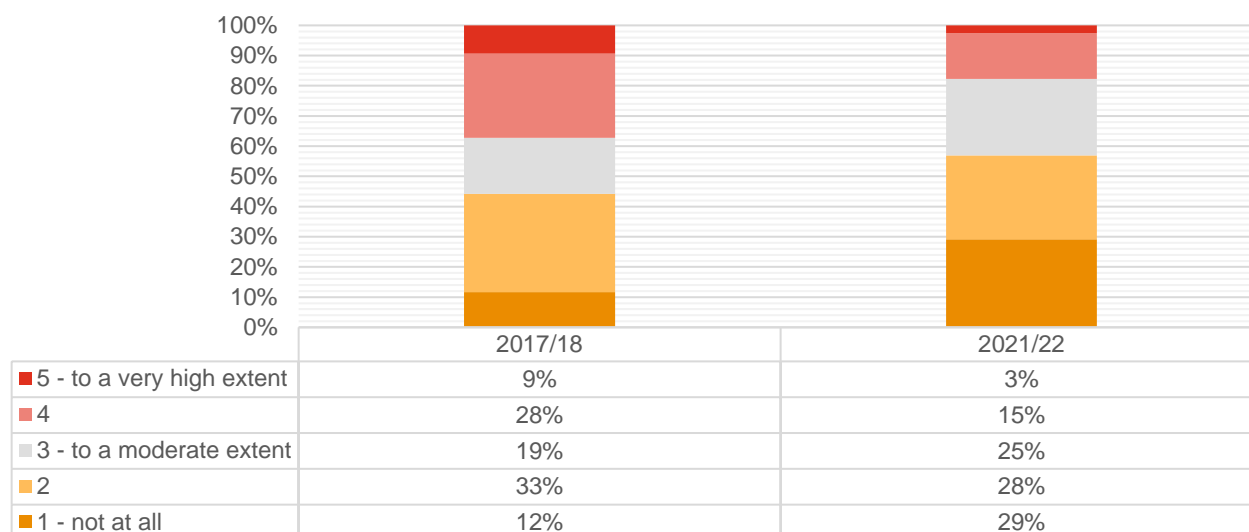
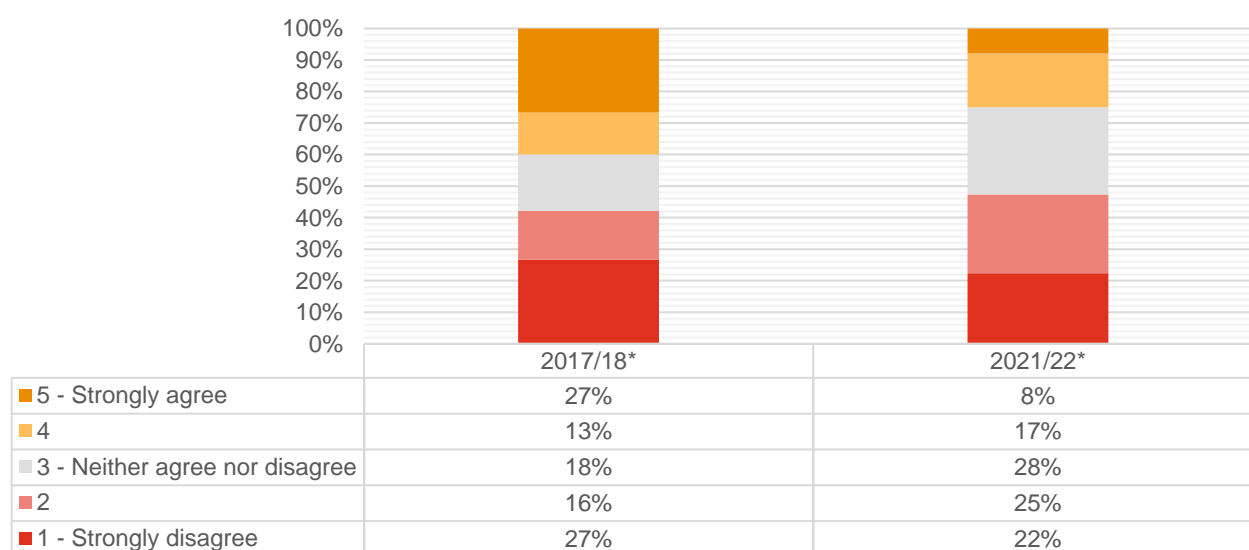


Figure 185 indicates the percentage of agreement on knowing where to turn or who to approach if they have questions about working with a disability by graduation cohort. In general, an opposite trend is observed between the two cohorts. This figure provides insight into how well-informed graduates feel about available resources or support systems related workplace challenges. In the 2017/18 cohort, 40% of graduates with disabilities agreed or strongly agreed that they know where to turn to or who to approach if they have questions about working with a disability while 43% disagreed or strongly disagreed. In the 2021/22 cohort only the 25% of graduates agreed or strongly agreed that they know where to turn with questions on working with a disability while 47% disagreed or strongly disagreed. In general, graduates at 2021/22 cohort reported that they do not know who to turn and approach for clarifications at work when working with disability/ medical condition. These results indicate that recent graduates reported a significantly lower level of awareness regarding where to seek guidance on disability-related workplace issues. The findings were found to be statistically significant for both cohorts highlighting a clear shift in awareness levels over time.

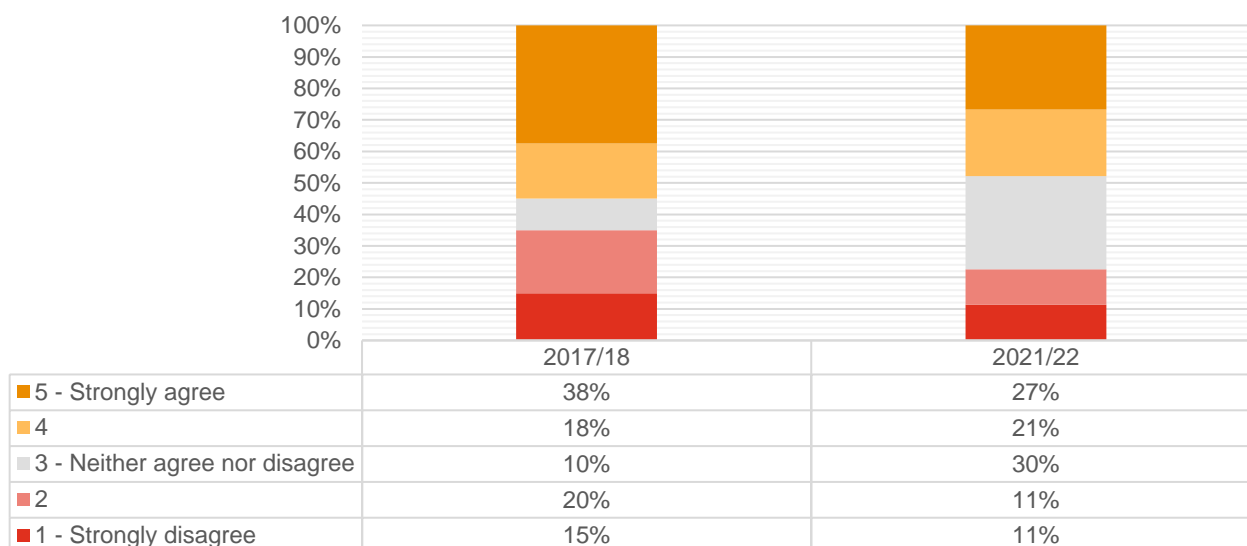
Figure 185: Knowing where to turn to or who to approach for workplace challenges related to disability by graduation cohort



\*Statistically significant findings

Figure 186 indicated the percentage of agreement regarding whether employers are supportive in relation to employment with a disability (for employed individuals) by graduation cohort. Both cohorts reported relatively high percentages of agreement with 56% of graduates in the 2017/18 cohort and 48% in the 2021/22 cohort indicating support (combining 4 and 5 ratings). In the 2017/18 cohort, 10% neither agree nor disagree with the statement while in the 2021/22 cohort this figure increased to 30%. The 2017/18 reported a higher level of disagreement (35%) with the statement when compared with the 2021/22 cohort. (22%). These differences suggest a slight shift in perceptions of employer support over time, with fewer graduates in the 2021/22 cohort expressing strong disagreement. These results were not found to be statistically significant for either cohort.

Figure 186: Employer support in relation to employment with a disability (for employed individuals) by graduation cohort



## 5.4. International mobility of graduates after graduation

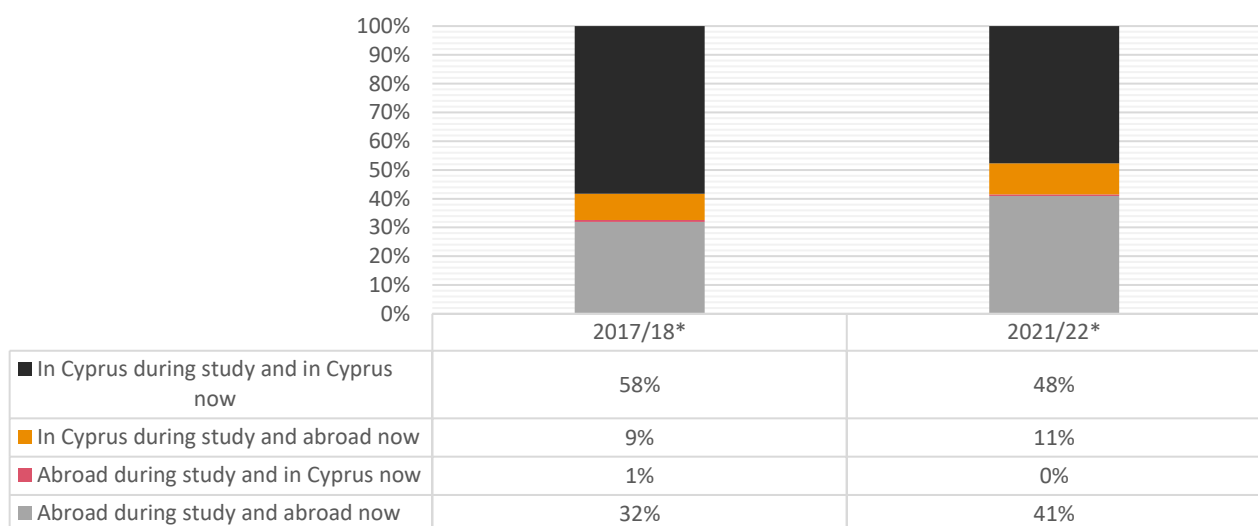
The concept of international mobility in the EU is usually perceived as a mechanism aimed at refining the equitable distribution of skilled professionals within the European labour market, amplifying the labour market opportunities available to employees, fostering intercultural tolerance, enhancing the growth and expansion of innovations and creativity catalysing the overall progress and dynamism of the labour market landscape (Unger & Jühlke, 2020). This analysis centres on mobile graduates, a term that is defined in various ways across the relevant literature. The definition adopted here is the one provided by Task Force 2 by the Expert Group on Graduate Tracking which defines mobile graduates as persons working or learning in a different country from that of graduation at any point following completion of their Higher Education studies (European Commission, 2021).

Collecting information on mobile graduates provides valuable information to both sending and receiving countries such as information regarding the extent and effects of brain drain, brain gain, reasons for mobility etc. This section presents findings in relation to the proportion of mobile graduates as well as associations with demographic variables and variables related to graduates' studies.

### 5.4.1. Mobile Graduates

In the questionnaire, graduates were asked to indicate the place of residence during studies in Higher Education as well as their current place of residence. Figure 187 presents graduates' responses for both cohorts. According to the definition of mobile graduates provided above, the proportion of mobile graduates in both cohorts is low, i.e., 9% and 11% for 2017/18 and 2021/22 cohorts respectively. It is also evident that the majority of graduates in both cohorts pursued their Higher Education studies in Cyprus and opted to remain in the country after graduation (58% and 48% for 2017/18 and 2021/22 cohorts respectively). It is also worth noting that a considerable proportion of graduates from both cohorts pursued their education at a Cyprus Higher Education Institution while residing abroad. This suggests that these graduates pursued their studies in distance learning programmes. Out of these, 32% and 41% for 2017/18 and 2021/22 cohorts respectively, chose to remain overseas. The findings were found to be statistically significant for both cohorts.

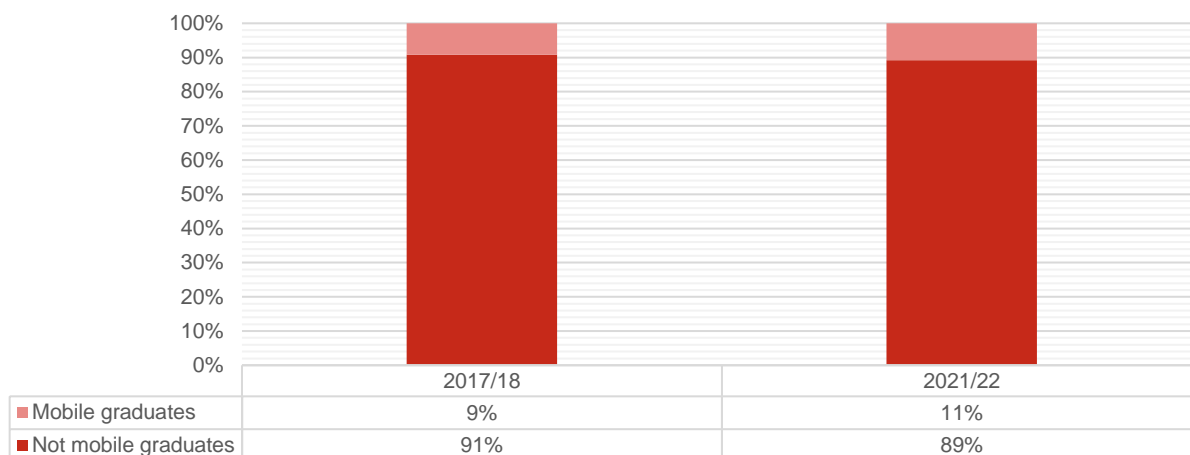
Figure 187: Mobile graduates by graduation cohort



\*Statistically significant findings

Figure 188 illustrates the percentage of mobile graduates per graduation cohort. The highlight here is that the percentage of mobile graduates per graduation cohort is very low. In the 2017/18 cohort mobile graduates reached only the 9%. In the 2021/22 the mobile graduates reached the 11%. It appears that most graduates tend to stay in Cyprus after completing their studies, likely pursuing employment opportunities.

Figure 188: Mobile graduates by graduation cohort

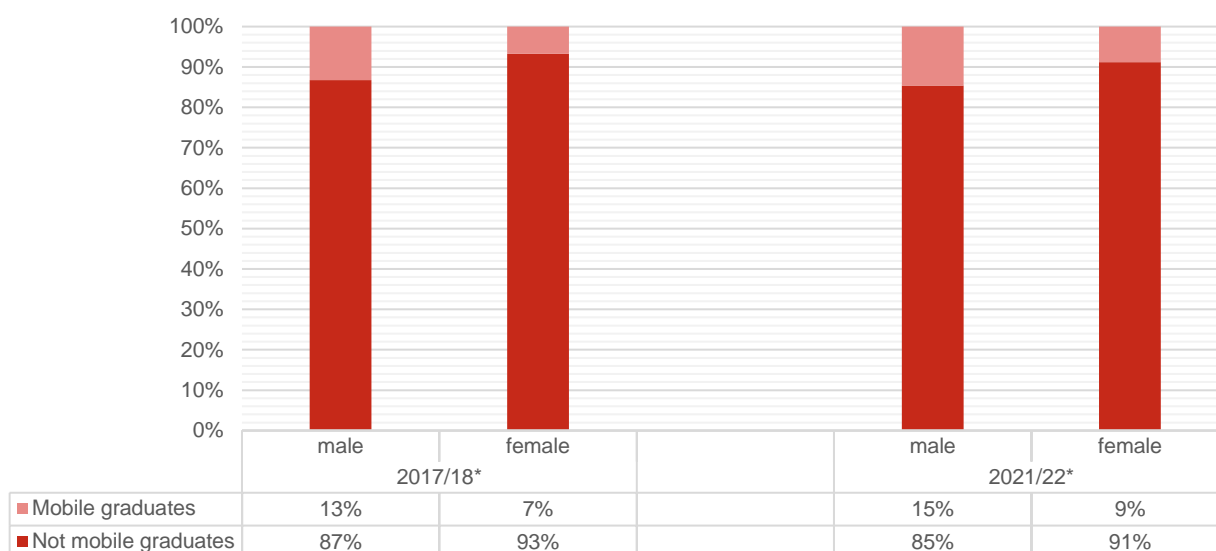


#### 5.4.1.1. Mobile graduates by demographic variables

In terms of gender differences, as shown in

Figure 189, it appears that a higher number of males than female graduates are mobile in both cohorts. These differences among the two genders were found to be statistically significant for both cohorts. Specifically, in the 2017/18 cohort, 13% of males and 7% of female graduates reported being mobile. In the 2021/22 cohort the percentages are slightly higher at 15% and 9% for males and females respectively.

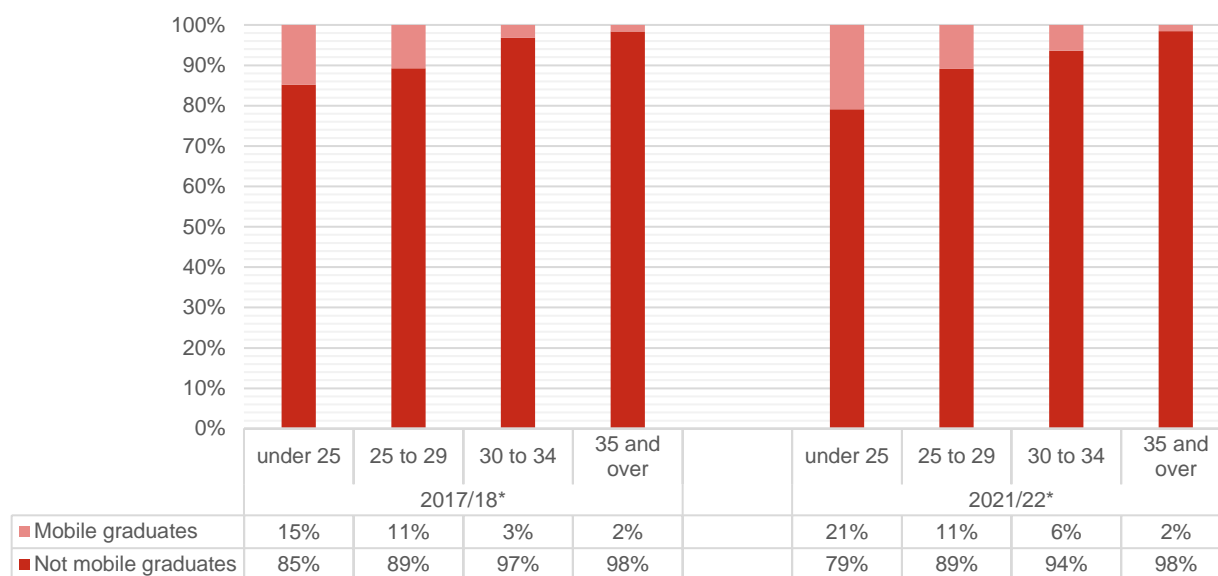
Figure 189: Mobile graduates by gender and graduation cohort



*\*Statistically significant findings*

Figure 190 illustrates the percentages of mobile graduates in relation to their age at graduation. It is evident that in both cohorts, individuals who graduated at the age of 29 or younger have an increased propensity for mobility. Notably, in both cohorts, a distinct trend emerges indicating that the younger the graduation age, the higher the proportion of a mobile graduate. Differences in the proportion of mobile graduates by age group were statistically significant for both cohorts. In the 2017/18 cohort, graduates “under 25” and “25-29” recorded the highest percentages at 15% and 11% respectively. The mobile graduates with the lowest percentage were aged 35 and over (2%). In the 2021/22 cohort, graduates “under 25” and “25-29” recorded the highest percentages at 21% and 11% respectively. The graduates with the lowest mobility percentage were in the age group of “35 and over” at 2%. These findings align with expectations, as age often brings increased family and personal responsibilities, which can encourage graduates to remain in the country.

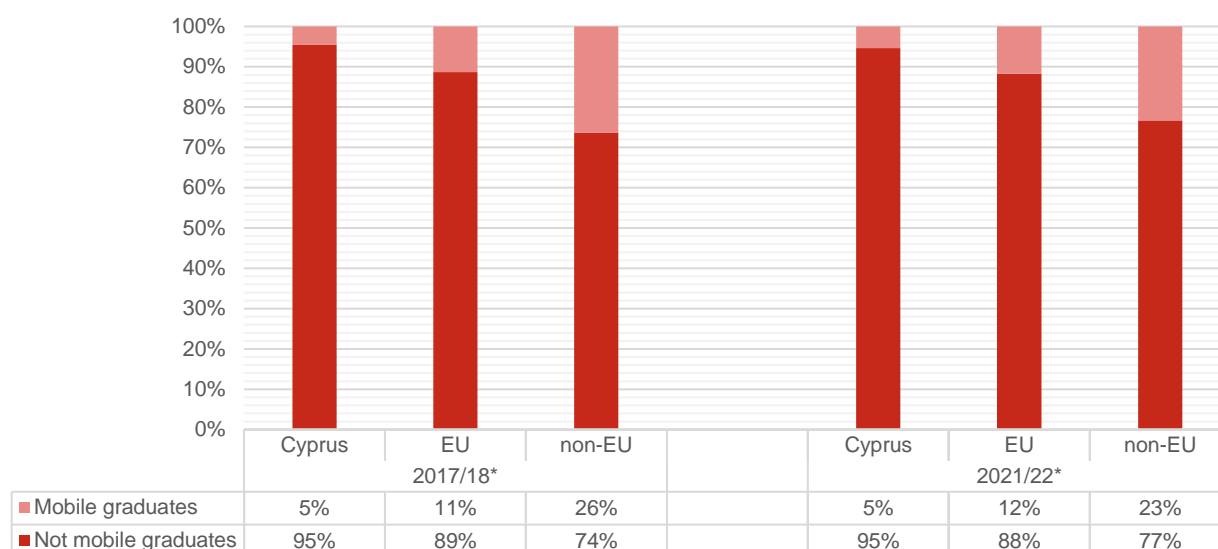
Figure 190: Mobile graduates by age (at graduation) and graduation cohort



\*Statistically significant findings

Figure 191 presents a breakdown of the percentages of mobile graduates based on their country of birth. A similar trend is observed in both cohorts, indicating that the smallest proportion of mobile graduates are those born in Cyprus, with 5% in both cohorts. Conversely, the largest proportion of mobile graduates are those born outside the EU, with 26% in the 2017/18 cohort and 23% in the 2021/22 cohort. EU mobile graduates' percentages are quite low at 11% and 12% for 2017/18 and 2021/22, respectively. The findings were found to be statistically significant for both cohorts.

Figure 191: Percentage of mobile graduates by country of birth and graduation cohort

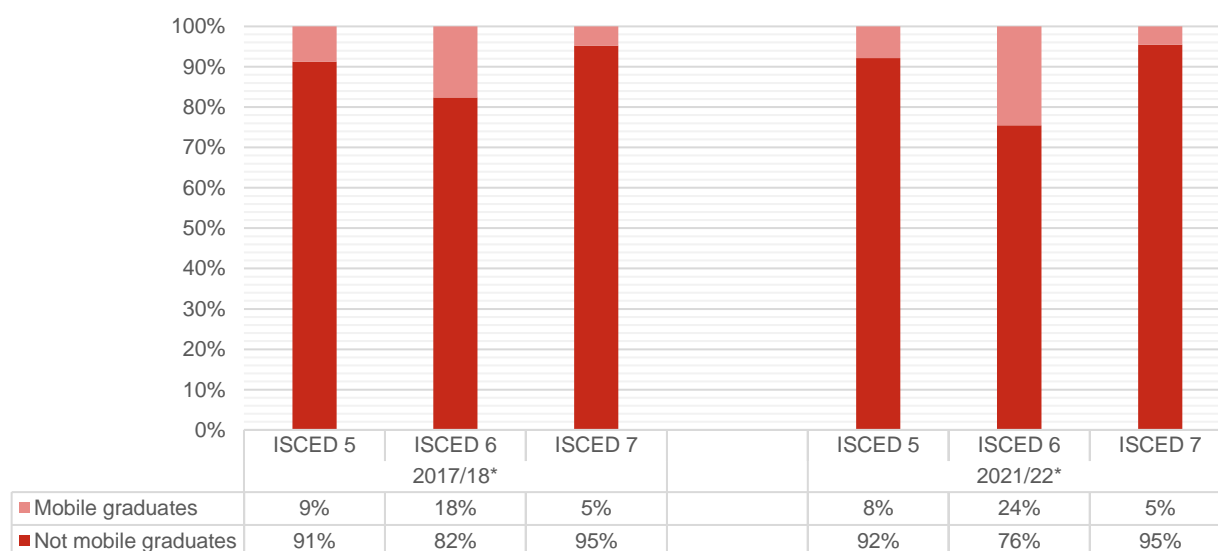


\*Statistically significant findings

#### 5.4.1.2. Mobile graduates by variables related to Higher Education studies

The association between the proportion of mobile graduates and level of studies is presented in Figure 192. It appears that in both cohorts ISCED 6 level records the highest percentages of mobility (18% in the 2017/18 cohort and 24% in the 2021/22 cohort). The lowest percentages of mobile graduates are recorded among ISCED 7 group at 5% in both cohorts. The mobility rate for ISCED 5 graduates was recorded at only 9% and 8% respectively. The differences in the proportion of mobile graduates by study level were statistically significant for both cohorts.

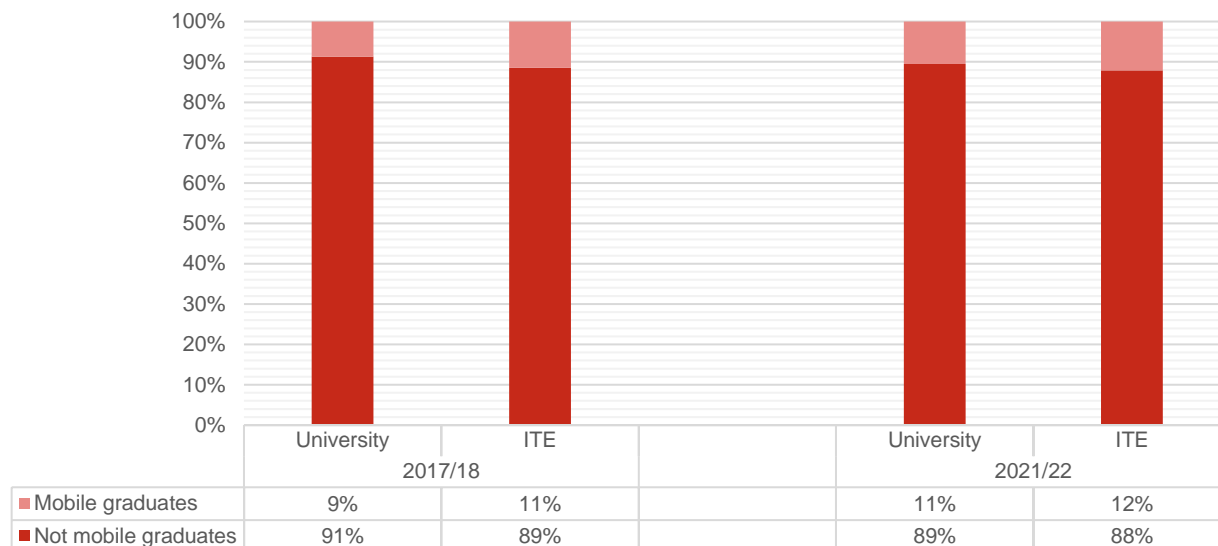
Figure 192: Mobile graduates by ISCED-level and graduation cohort



\*Statistically significant findings

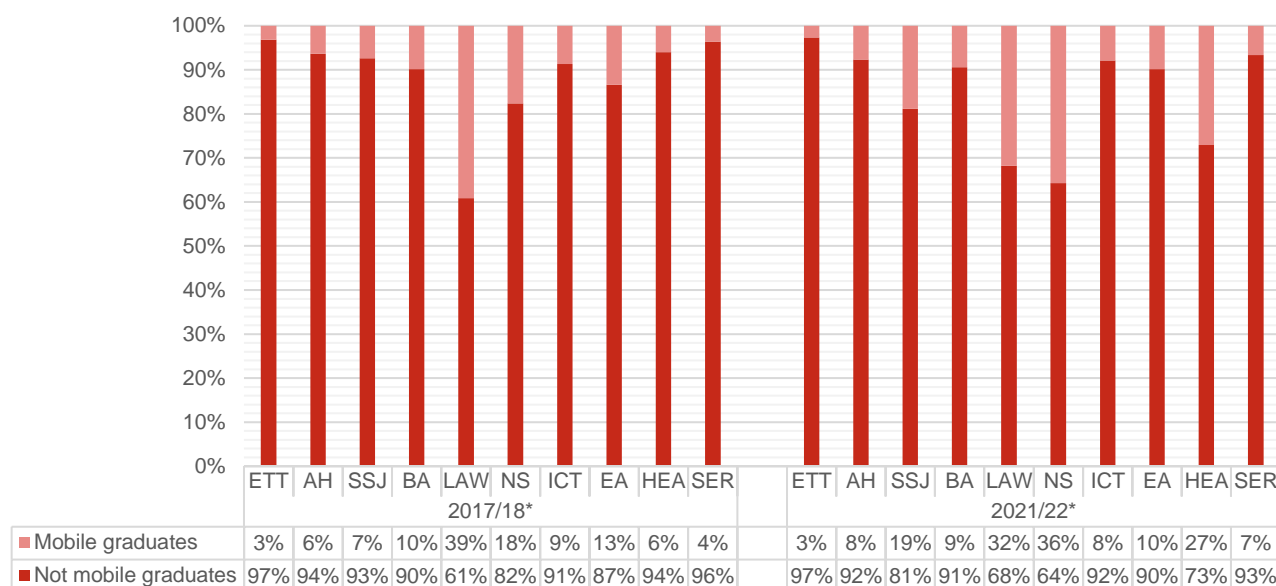
The percentages of University graduates and graduates from ITE who are considered mobile are displayed in Figure 193. In both groups, the percentages of mobile graduates were quite similar, with ITE graduates showing slightly higher rates. Specifically, University graduates recorded mobility rates of 9% and 11% for academic years 2017/18 and 2021/22 respectively, while 11% and 12% of ITE graduates reported mobility, or academic years 2017/18 and 2021/22 respectively.

Figure 193: Mobile graduates by type of HEI and graduation cohort



In the context of the graduates' field of study, Figure 194 provides an overview of the percentages of mobile graduates. In the 2017/18 cohort the fields of study with the highest proportion of mobile graduates were Law (39%) followed by Natural Sciences (18%) and Engineering and Architecture (13%). The fields with the lowest percentages of mobile graduates were Education and Teacher Training (3%) followed by Services (4%) and Health, Arts and Humanities (6%). In the 2021/22 cohort the study field Natural Sciences showed the highest percentage of mobile graduates at 36% followed by Law at 32% and Health at 27%. The lowest percentage of mobile graduates was again in the field Education and Teacher Training (3%) followed by Services (7%) and Information and Communication Technology (8%). The findings for both cohorts are statistically significant.

Figure 194: Mobile graduates by field of study and graduation cohort



\*Statistically significant findings

Note: Fields of study ETT-Education and Teacher Training, AH-Arts and Humanities, SSJ-Social Sciences and Journalism, BA-Business Administration, LAW-Law, NS-Natural Sciences (including Mathematics), ICT-Information and Communication Technologies, EA-Engineering and Architecture, HEA-Health, SER-Services. "Agriculture, Forestry, Fisheries, Veterinary and Services" is excluded from the analysis due to its small population size.

## 5.5. Skills Mismatch

One significant purpose of this survey is to provide data on skills mismatches to inform decision and policy makers. Skills mismatch is not a unidimensional concept. There are indeed various forms of skills mismatches, and multiple types can coexist simultaneously. In this section data on four types of skills mismatches are presented: vertical (overqualification and underqualification), horizontal, over-skilling and under-skilling.

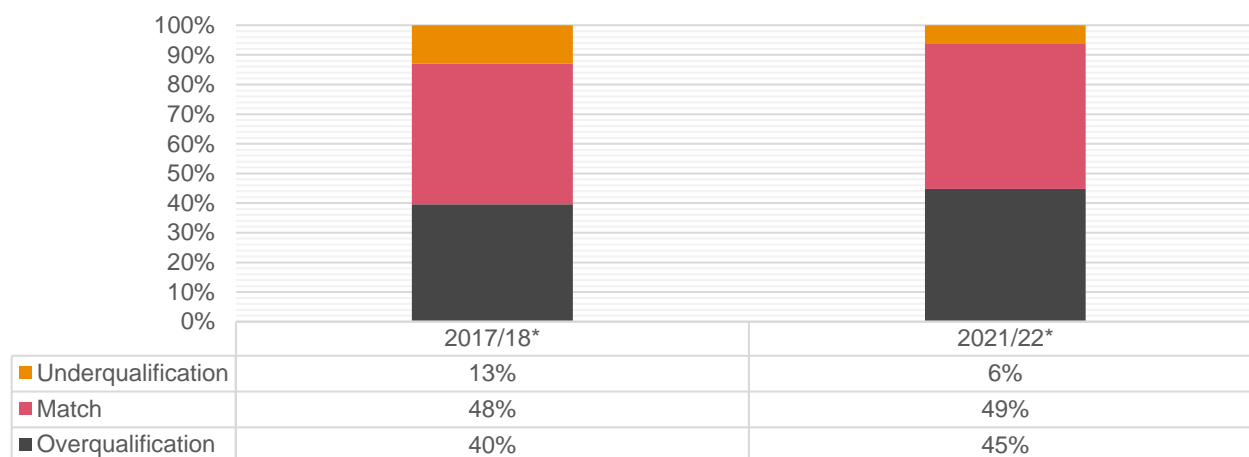
### 5.5.1. Vertical mismatch: Overqualification and Underqualification

When the level of an employee's qualifications is not the one required by his/her job, this is referred in the relevant literature as vertical mismatch. There are two types of vertical mismatch: overqualification and underqualification. Overqualification refers to the situation when employees have a higher level of education than it is required by their job while underqualification refers to exactly the opposite i.e., when employees have a lower level of education than it is required by their job. In the questionnaire graduates were asked to indicate the level of education that is usually required to perform their job. Their responses were grouped in three categories: match between education and employment, underqualification and overqualification. If the level of education selected by the graduates was lower than the one, they hold, then they were classified as overqualified. If the level of education selected by the graduates was higher than the one, they hold then they were classified as underqualified. All other cases were classified as matched.

Figure 195 illustrates the extent of vertical mismatch by cohort. It is evident that a considerable percentage of graduates in both cohorts, 40% of 2017/18 graduates and 45% of 2021/22, is overqualified. It is interesting that this percentage is following a similar pattern in both cohorts. For recent graduates, mismatch at the beginning of their career can be seen as a steppingstone toward a matched job, but it seems that the situation remains the same even for graduates five years after graduation. These results are alarming as a large percentage of graduates are in jobs where they cannot fully exploit their abilities. This reflects a waste of scarce

human capital from a macro-economic point of view (Rossen, et al., 2019). Underqualification appears to be a minor issue as a small percentage of graduates indicated having a level of education that is lower than the one required. However, in the 2017/18 the percentage is 13%, double compared to the 2021/22 cohort (6%). This might signal the need for upskilling in the former cohort. A considerable percentage of graduates in both cohorts, 48% of 2017/18 graduates and 49% of 2020/21, indicated that their education level was aligned with their current employment. The differences between vertical mismatch by graduation cohort were found to be statistically significant.

Figure 195: Vertical mismatch by graduation cohort

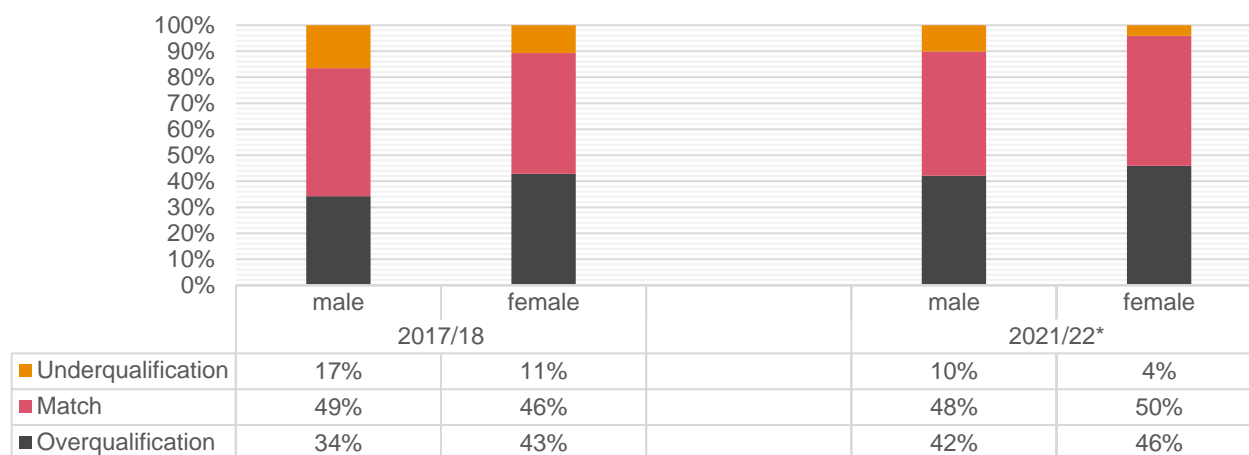


\*Statistically significant findings

#### 5.5.1.1. Vertical mismatch by demographic variables

The match between education and employment by gender in both cohorts is presented in Figure 196. In the 2017/18 cohort, the majority for both genders reported being matched with their current jobs at 49% and 46% for males and females respectively. A higher percentage of females indicated that they are overqualified (43%) compared to males (34%). The opposite was true for underqualification. In the 2021/22, half of female and male graduates indicated a match between their education and employment. More female graduates (46%) than males (42%) reported overqualification. More male (10%) than female (4%) graduates reported undereducation. Differences among the two genders were found to be statistically significant for the 2021/22 cohort.

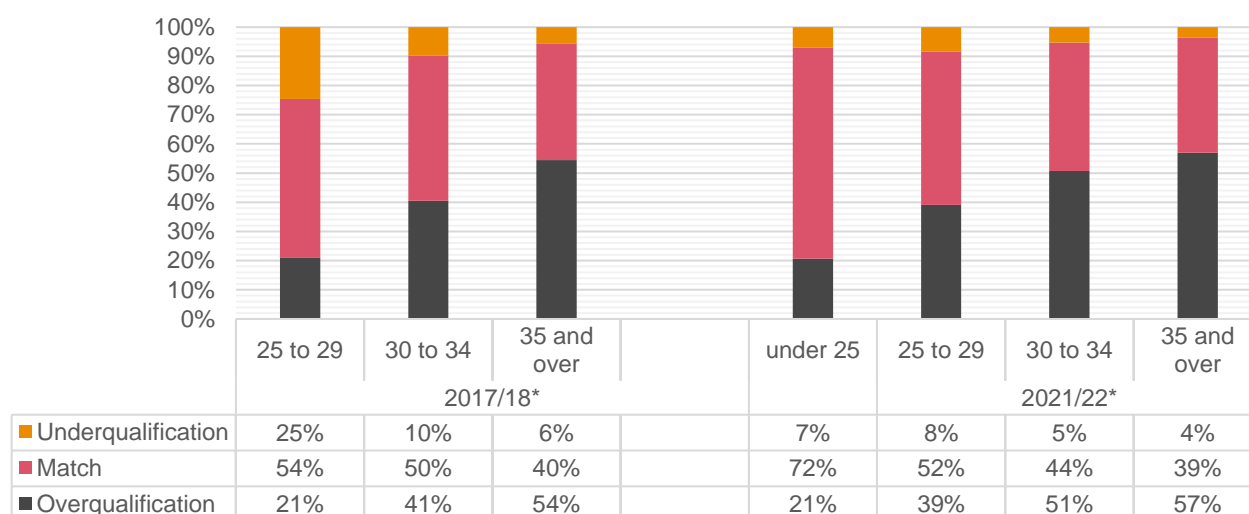
Figure 196: Vertical mismatch by gender and graduation cohort



\*Statistically significant findings

Vertical mismatch by age at the time of the survey is illustrated in Figure 197. It should be mentioned that in the 2017/18 cohort, only a very small number of participants were “under 25” and therefore this group was excluded from this exploration. A statistically significant pattern is observed in this figure, the percentage of overqualified graduates increase with age. The opposite pattern is observed for matched graduates as the percentage of matched graduates decreases with age in both cohorts. In both cohorts’ graduates aged “35 and over” (54% in the 2017/18 cohort and 57% of the 2021/22 cohort) had the higher percentages of overqualification. In the 2017/18 cohort the percentage of graduates reporting being underqualified decreases with age. Interestingly, in both cohorts, younger graduates indicate the highest percentages of match with age groups “25 to 29” to report 54% match for 2017/18 and “under 25” at 72% for 2021/22.

Figure 197: Vertical mismatch by age (at the time of the survey) and graduation cohort

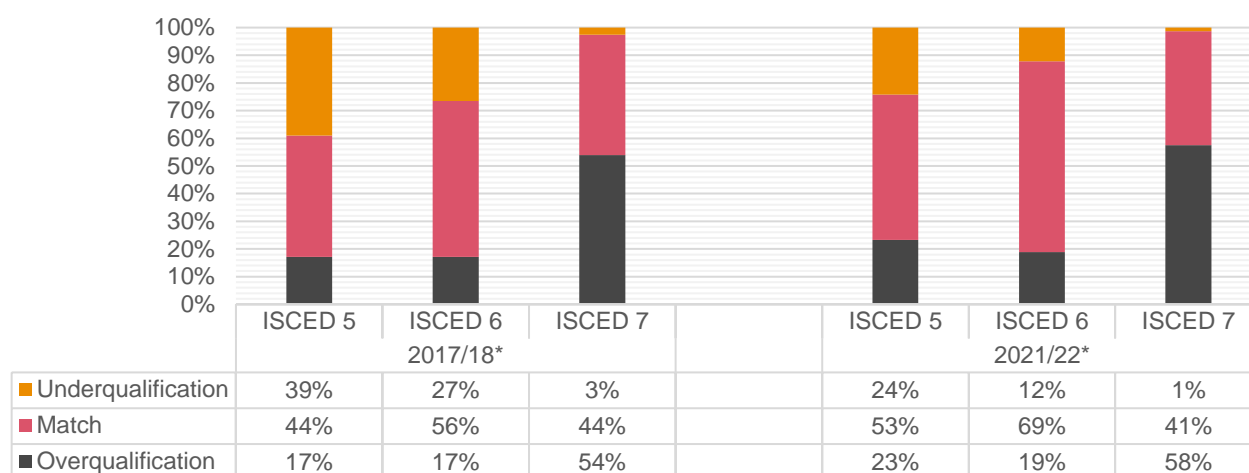


\*Statistically significant findings

### 5.5.1.2. Vertical mismatch by variables related to Higher Education studies

The relationship between vertical mismatch and level of education was found to be statistically significant in both cohorts as per Figure 198. In both cohorts the same pattern is observed, the majority of ISCED 5 and ISCED 6 graduates reported that their level of education matched with the requirements of their current employment while the majority of ISCED 7 graduates reported being overqualified at 54% and 58% respectively. ISCED 6 is the group with the highest percentage of graduates with matched jobs in both cohorts (56% in the 2017/18 and 69% in the 2021/22). It is also interesting to note that a considerable percentage of ISCED 5 graduates reported being underqualified recording a 39% and 24% for 2017/18 and 2021/22 respectively. This is a very alarming finding for the younger cohort.

Figure 198: Vertical mismatch by ISCED-level and graduation cohort

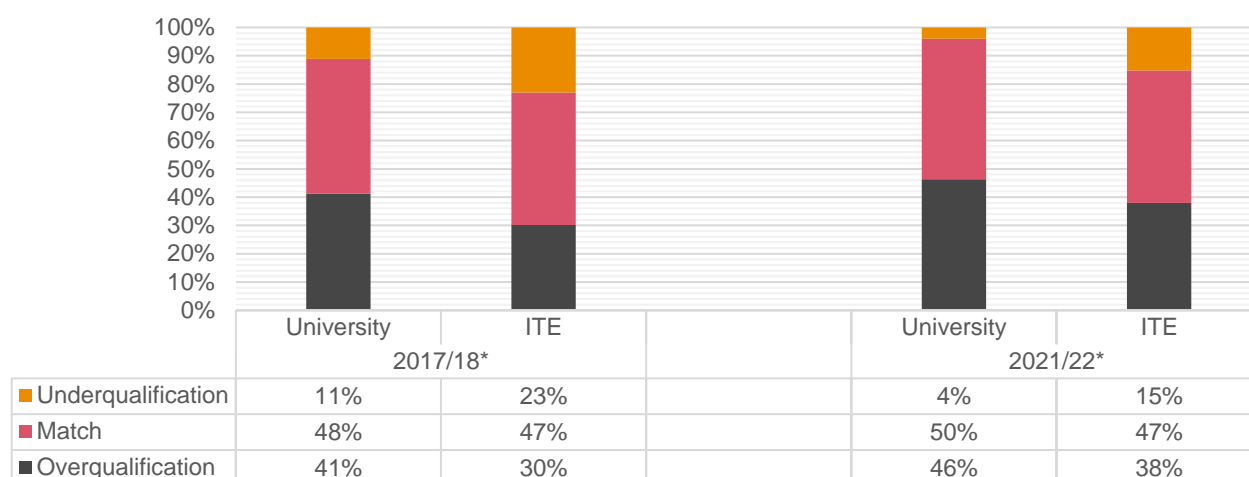


\*Statistically significant findings

Figure 199 **Error! Reference source not found.** presents the vertical match between education and current employment type in relation to the type of HEI the graduates attended. In the 2017/18 cohort, the majority of graduates from ITE (47%) reported being matched in their current job. Similar pattern is observed for the majority of University graduates at 48%. A higher proportion of University graduates indicated that they possess a higher level of qualification than it is required by their jobs, compared to graduates from ITE (41% and 30% respectively). More graduates from ITE (23%) reported being underqualified than University graduates (11%).

In the 2021/22 cohort, the majority of graduates from both Universities and ITE reported that their job matches their level of education (50% and 47% respectively). A large percentage though of graduates from both Universities and ITE reported being overqualified (46% and 38% respectively). Additionally, more graduates from ITE (15%) reported being underqualified than University graduates (4%). These differences in the distribution of vertical mismatch by the type of HEI were found to be statistically significant for both cohorts.

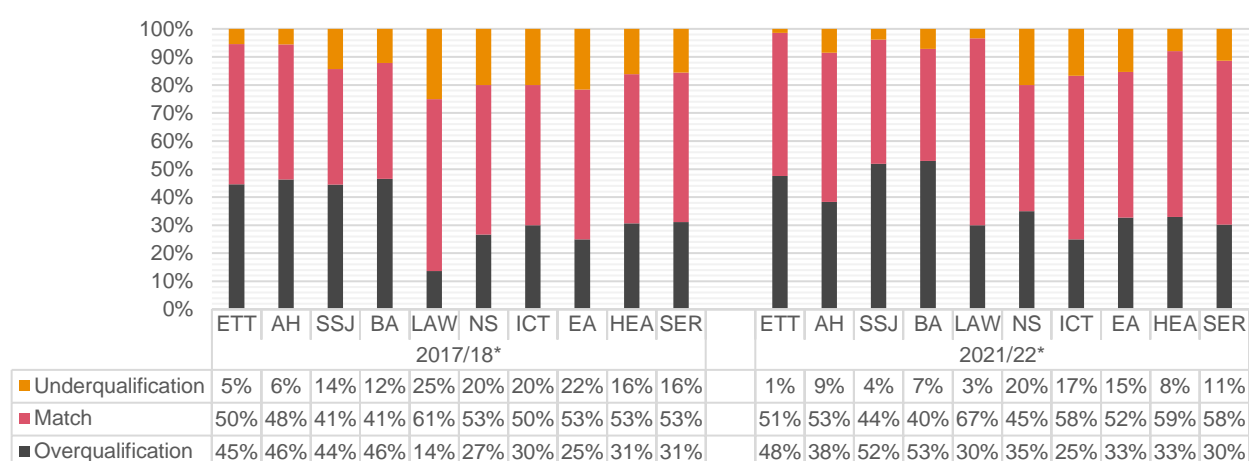
Figure 199: Vertical mismatch by type of HEI and graduation cohort



\*Statistically significant findings

The alignment between the level of education and current employment according to the field of study is displayed in Figure 200. Statistically significant differences were found in both cohorts. In the 2017/18 cohort, the majority of graduates in the fields of Arts and Humanities and Business Administration reported being overqualified (46%) followed by Education and Teacher Training (45%) and Social Sciences and Journalism (44%). In the field of Law, the majority of graduates reported being matched with their current job at 61% followed by Natural Sciences, Information and Communication Technologies, Engineering and Architecture, Health and Services at 53%. Law field recorded also the highest percentage of graduates reporting being underqualified when compared to other fields (25%). However, in the 2021/22 cohort, the majority of graduates in the fields of Business Administration and Social Sciences and Journalism (53% and 52% respectively) reported that they were overqualified, followed by Education and Teacher training (48%) and Arts and Humanities (38%). In the field of Health, the majority of graduates reported being matched with their current job at 58%. Natural Sciences was the field with the highest proportion of graduates among the other fields reporting being underqualified (20%).

Figure 200: Vertical mismatch by field of study and graduation cohort



\*Statistically significant findings

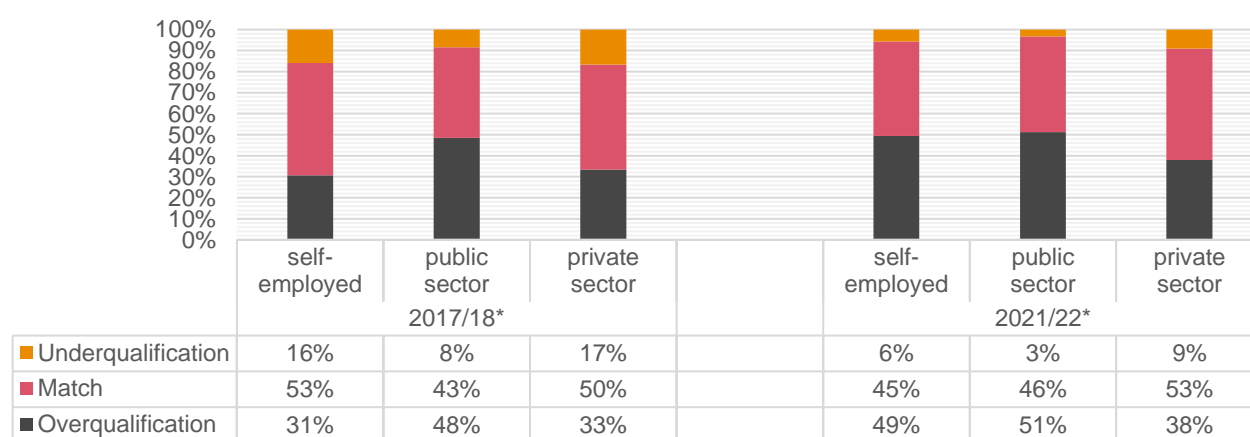
Note: Fields of study ETT-Education and Teacher Training, AH-Arts and Humanities, SSJ-Social Sciences and Journalism, BA-Business Administration, LAW-Law, NS-Natural Sciences (including Mathematics), ICT-Information and Communication technologies, EA-Engineering and Architecture, HEA-Health, SER-Services. "Agriculture, Forestry, Fisheries, Veterinary and Services" is excluded from the analysis due to its small population size.

### 5.5.1.3. Vertical mismatch by variables related to employment

Figure 201 illustrates the statistically significant relationship between the type of employment and vertical mismatch, as observed in both cohorts. It is evident that the highest percentage of graduates who were overqualified are employed within the public sector in both cohorts at 48% and 51% respectively. In the 2017/18 cohort the percentage of graduates who are self-employed that are overqualified is the lowest at 31%. Self-employed reported that their job matches their qualification at the highest percentage (53%). The lowest percentage of graduates who are underqualified is recorded in public sector (8%).

In the 2021/22 cohort, the highest percentage of graduates reporting that their job requirements align with their educational qualifications is recorded in the private sector (53%). In the 2021/22 cohort the percentage of graduates in the private sector that are overqualified is the lowest at 38%. The highest percentage of graduates who are overqualified is again in the public sector (51%) and the highest percentage of graduates who are underqualified is found in the private sector (9%) compared to the public sector at the lowest (3%).

Figure 201: Vertical mismatch by type of employment and graduation cohort



\*Statistically significant findings

Figure 202 demonstrates the extent of vertical mismatch according to categories of occupations based on ISCO-88 taxonomy for both cohorts together, due the small number of graduates in specific occupational categories. A very large percentage (77%) of graduates in the category of Armed forces Occupations reported that they were overqualified. Moreover, more than half of graduates employed in Clerical support occupations (55%) reported being overqualified. Graduates in the category of Elementary occupations indicated the highest match with their current job at 66% followed by Professionals at 52%. The category of Managers and Professionals reported as the most underqualified at 12% and 10% respectively.

Figure 202: Vertical mismatch by occupation

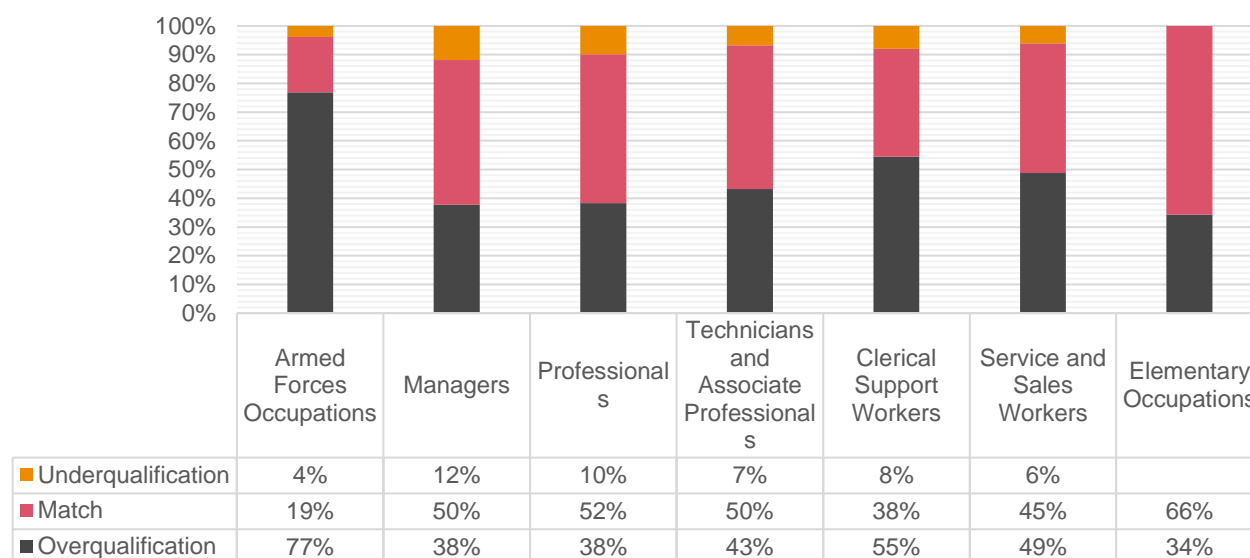
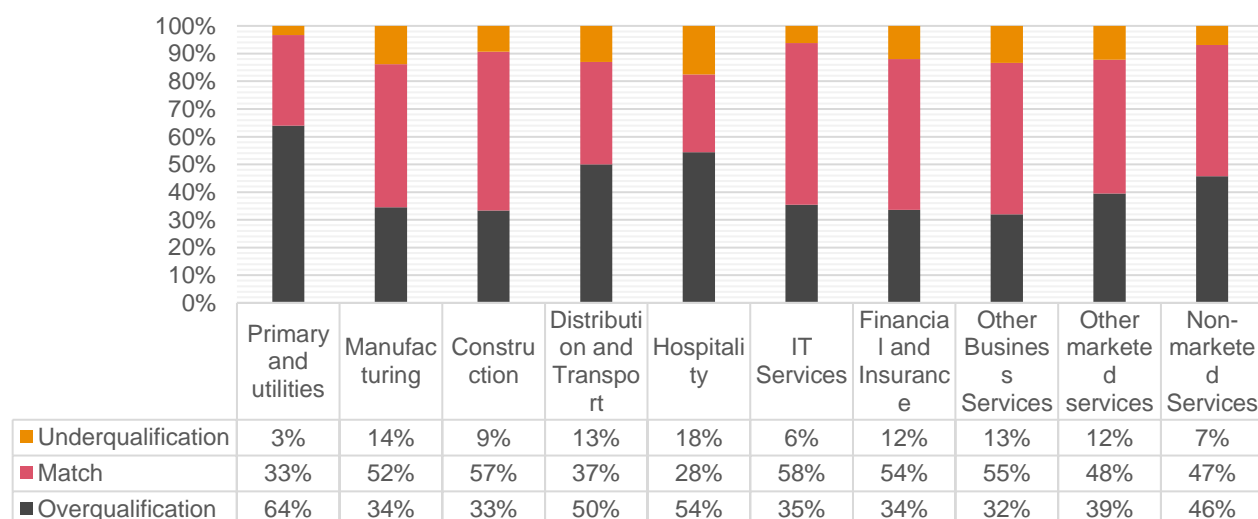


Figure 203 is indicating the vertical mismatch according to professional positions based on NACE group. The professional positions with the highest rates of graduates overqualified is Primary and utilities (64%) followed by Hospitality at 54%. The graduates reporting the highest rate of matching qualifications and job is in IT services (58%) closely followed by Construction (57%) and other Business services (55%). The highest percentage of positions reporting underqualified are in Hospitality at 18% followed by Manufacturing at 14%. The highlight is that there is a general trend for vertical mismatch across all professional positions.

Figure 203: Vertical mismatch by NACE group professional positions



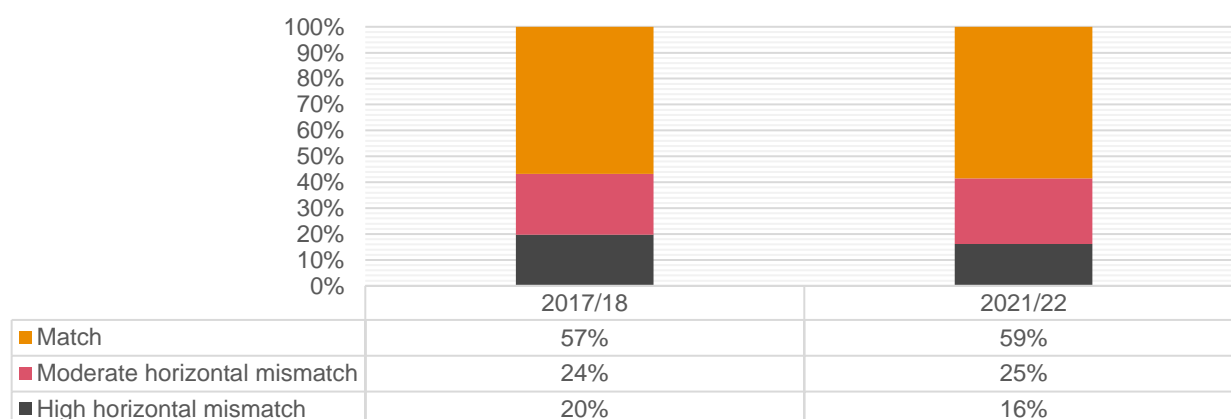
## 5.5.2. Horizontal mismatch

The discrepancy between an employee's attended field of study and the field required by their job, also referred to as horizontal mismatch, has gained growing attention in the literature. Measuring horizontal mismatch is important since compared to well-matched employees, horizontally mismatched workers generally experience a wage differential, are less satisfied with their jobs, and are more likely to regret their programme of study

(Somers, et al., 2019). This sub-section presents data regarding the extent of horizontal mismatch but also findings regarding the relationship between horizontal mismatch and demographic variables and variables related to the graduates' Higher Education studies and type of employment.

In the context of this study, graduates were asked to indicate the extent to which their current employment was aligned with the field of the programme of study from which they graduated. Graduates' responses by graduation cohort, are presented in Figure 204. It is evident that the majority of graduates in both cohorts reported that their current employment is in line with the field of their programme of study (57% and 59% respectively). The percentage of graduates who reported being horizontally mismatched at high level was 20% in 2017/18 and 16% in 2021/22. While moderate horizontal mismatch seems to be higher for both cohorts at 24% and 25% respectively. The combination of both moderate and high horizontal mismatch is slightly concerning highlighting a need for action.

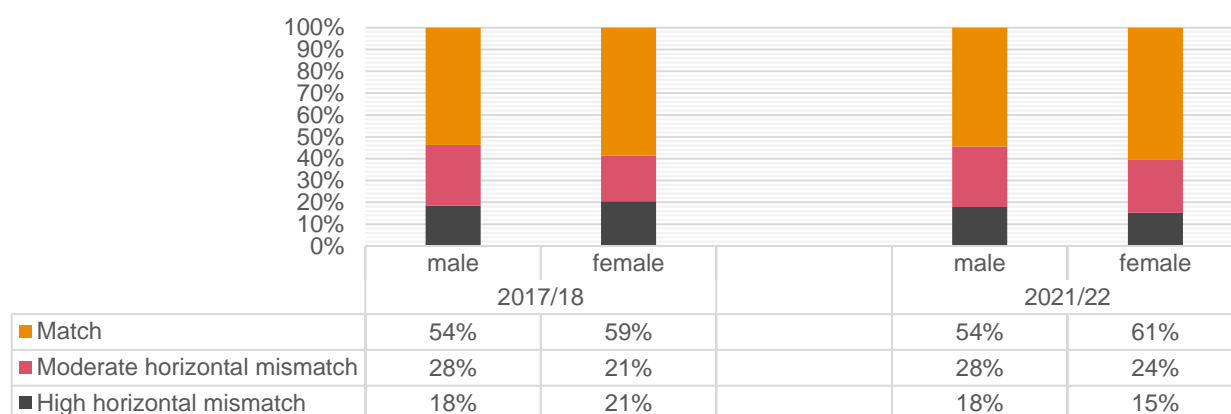
Figure 204: Horizontal mismatch by graduation cohort



#### 5.5.2.1. Horizontal mismatch by demographic variables

The relationship between horizontal mismatch and gender is shown in Figure 205. In the 2017/18 cohort, more females than males indicated that their current job matches the field of their programme of study (59%, as opposed to 54%) and significantly more males than females (28% as opposed to 21%) indicated that their job moderately matched the field of their studies. The percentage of males and females that reported a horizontal mismatch was similar (18% and 21% respectively). In the 2021/22 cohort, the majority of both male and female graduates indicated that their current job matches the field of their programme of study (54% and 61% respectively). Similar percentage of males and females reported that their job moderately matched the field of their studies (28% and 24% respectively) while the minority of males and females reported being horizontally mismatched (18% and 15% respectively). No statistically significant differences were found between genders on horizontal mismatch.

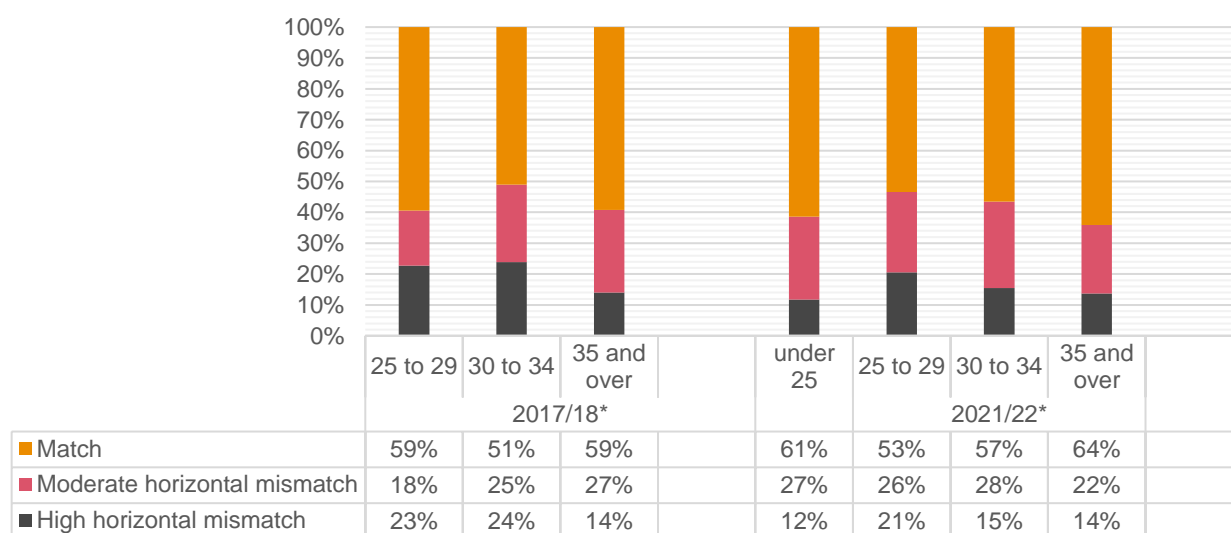
Figure 205: Horizontal mismatch by gender and graduation cohort



\*Statistically significant findings

Figure 206 presents the horizontal mismatch by age the time of survey and graduation cohort. In the 2017/18 cohort, the percentages of graduates reporting horizontal mismatch in each age group ranged from 14%-24% with age group “30 to 34” recording the highest. The highest percentages for horizontal match are recorded among age groups “25 to 29” and “35 and over” at 59%. In the 2021/22 cohort horizontal mismatch in each age group ranged from 12%-21% with the highest to be recorded by group “25 to 29” and the lowest by graduates “under 25”. The highest percentage of horizontal match is recorded on “35 and over” group (64%) followed by “under 25” (61%). This is a quite interesting find since the trend is that the oldest and the youngest participants’ responses are aligned. The differences between horizontal mismatch by age groups within each graduation cohort were found to be statistically significant.

Figure 206: Horizontal mismatch by age (at time of the survey) and graduation cohort

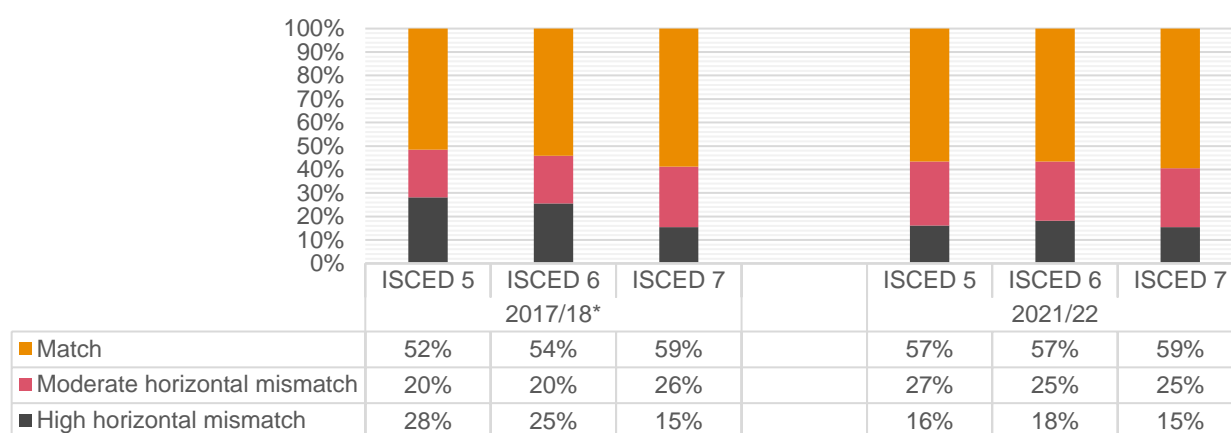


\*Statistically significant findings

### 5.5.2.2. Horizontal mismatch by variables related to Higher Education studies

The association between horizontal mismatch and the level of studies was statistically significant only for 2017/18 cohort, as shown in Figure 207. In both cohorts, ISCED 7 had the lowest percentage of graduates reporting that they were horizontally mismatched at high level (15%). In the 2017/18 cohort ISCED 5 had the highest percentage of graduates reporting that they were horizontally mismatched at 28% followed by ISCED 6 (25%). In 2021/22 cohort, more than half of graduates in all ISCED levels reported a well-match between the field of their degree and employment. Percentages of graduates reporting being horizontally mismatched at a high level ranged from 15%-18%. ISCED 6 had the highest percentage of graduates reporting being horizontally mismatched (18%). Interestingly the older cohort experiences higher levels of horizontal mismatch which this might signal that their skills are outdated, and they no longer align with the demands of the labour market.

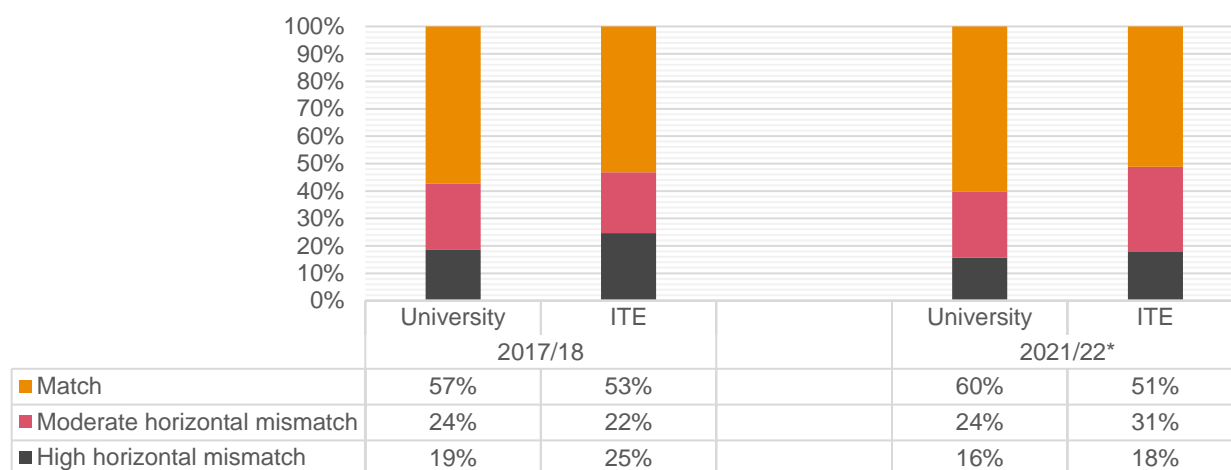
Figure 207: Horizontal mismatch by ISCED-level and graduation cohort



\*Statistically significant findings

Figure 208 displays the extent of horizontal mismatch by type of HEI. In both cohorts, a higher percentage of graduates from ITE were employed in jobs that did not align well with their field of study compared to University graduates. Specifically, in the 2017/18, 25% of graduates from ITE and 19% of graduates from Universities reported being horizontally mismatched at a high level. The corresponding percentages in the 2021/22 cohort were lower, 18% and 16% respectively. More than 22% of graduates from ITE and Universities reported that their job matched the field of their programme of study to a moderate extent in both cohorts with the highest to be recorded in the 2021/22 cohort for ITE graduates (31%). The association between the extent of horizontal mismatch and type of HEI was statistically significant only for 2021/22 cohort.

Figure 208: Horizontal mismatch by type of HEI and graduation cohort

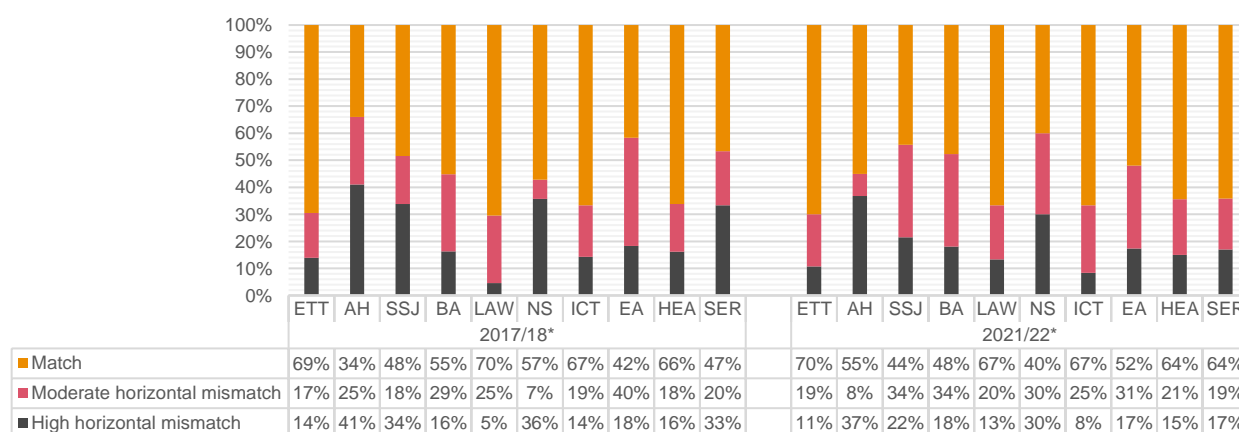


\*Statistically significant findings

Figure 209 indicates the horizontal mismatch between the fields of study per graduation cohort. In the 2017/18 cohort, the fields of Arts and Humanities graduates reported that their job did not align with the field of their degree at the highest level (41%) closely followed by Natural Sciences and Social Sciences and Journalism (36% and 34% respectively). The fields of Law recorded the lowest percentages of horizontally mismatched graduates (5%) followed by Education and Teacher Training and Information and Communication Technologies both at 14%.

In the 2021/22 cohort, the fields of Arts and Humanities and Natural Sciences recorded the highest percentages of graduates indicating they were employed in jobs which were unrelated to their field of study (37% and 30% respectively). The field of Information and Communication Technologies recorded the lowest percentages of graduates reporting being horizontally mismatched at 8% followed by Education and Teacher Training (11%). Statistically significant associations were also found between horizontal mismatch and field of study for both cohorts.

Figure 209: Horizontal mismatch by field of study and graduation cohort



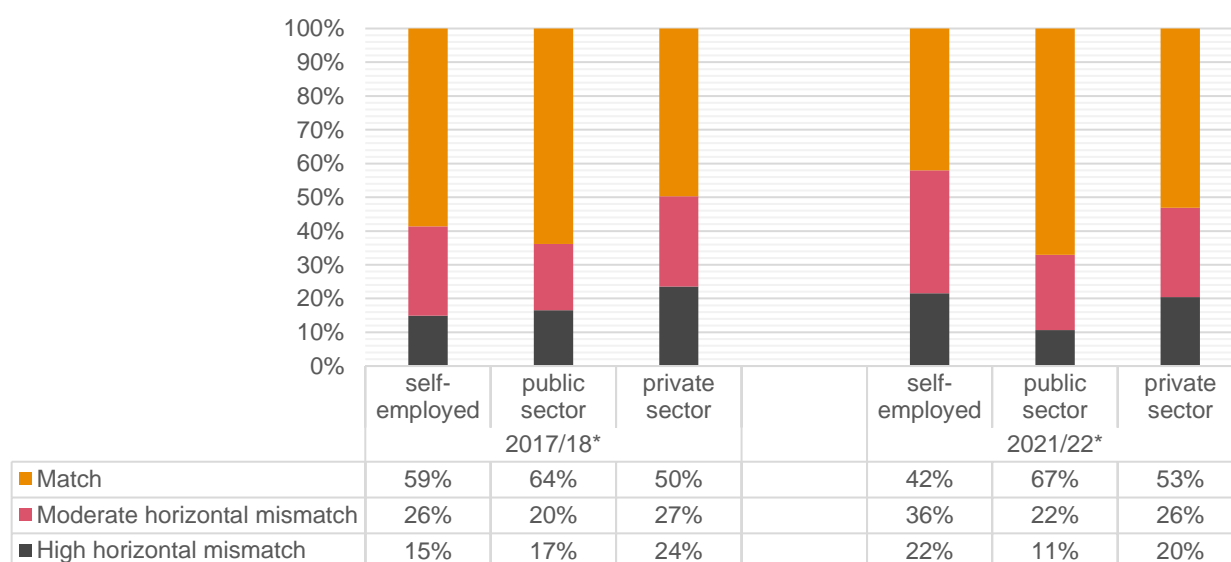
\*Statistically significant findings

Note: Fields of study ETT-Education and Teacher Training, AH-Arts and Humanities, SSJ-Social Sciences and Journalism, BA-Business Administration, LAW-Law, NS-Natural Sciences (including Mathematics), ICT-Information and Communication technologies, EA-

### 5.5.2.3. Horizontal mismatch by variables related to employment

In this sub-section, Figure 210 presents the association between horizontal mismatch by type of employment which was found to be statistically significant in both cohorts. In the 2017/18 cohort, graduates employed in the private sector experience horizontal mismatch to a greater extent (24%) than graduates who are self-employed (15%) or employed in the public sector (17%). In the public sector, 20% of graduates reported being matched to a moderate extent, while the corresponding percentages in the private sector and for self-employed were 27% and 26% respectively. The highest percentage of graduates reporting finding jobs that aligned well with their field of study was in the category of public sector (64%). In the 2021/22, 22% of self-employed graduates and graduates in the private sector reported a horizontal mismatch between their job and their field of study at 58% and 46% respectively. This percentage was much lower in the public sector (33%). The public sector had the highest percentage of graduates (67%) reporting that their employment aligned well with their field of study, a similar pattern as of the 2017/18 cohort.

Figure 210: Horizontal mismatch by type of employment and graduation cohort



\*Statistically significant findings

The relationship between horizontal mismatch and occupation was also explored and presented below. The classification of occupations was based on the International Standard Classification of Occupations ISCO-08. Due to the small number of graduates reporting their occupation, the categories Skilled Agricultural, Forestry and Fishery Workers, Craft and Related Trades Workers, Plant and Machine Operators, and Assemblers were excluded from the present exploration since the number of graduates within each of these categories was below 30. Moreover, findings are presented for both cohorts together.

Based on the Figure 211 the majority of graduates in the occupation categories Armed Forces, Service and Sales Workers and Clerical support workers reported that their current employment did not align with the field of their studies (64%, 59% and 53% respectively) when combining both high and moderate horizontal mismatch. The category Technicians and Associate Professionals recorded a considerable percentage of graduates (32%) reporting a moderate match between their job and the field of their degree. On the other hand, in the occupational categories Elementary Occupations and Professionals reported finding an employment which was in line with the field of their programme of study at a highest percentage (69% and 66% respectively).

Figure 211: Horizontal mismatch by occupation

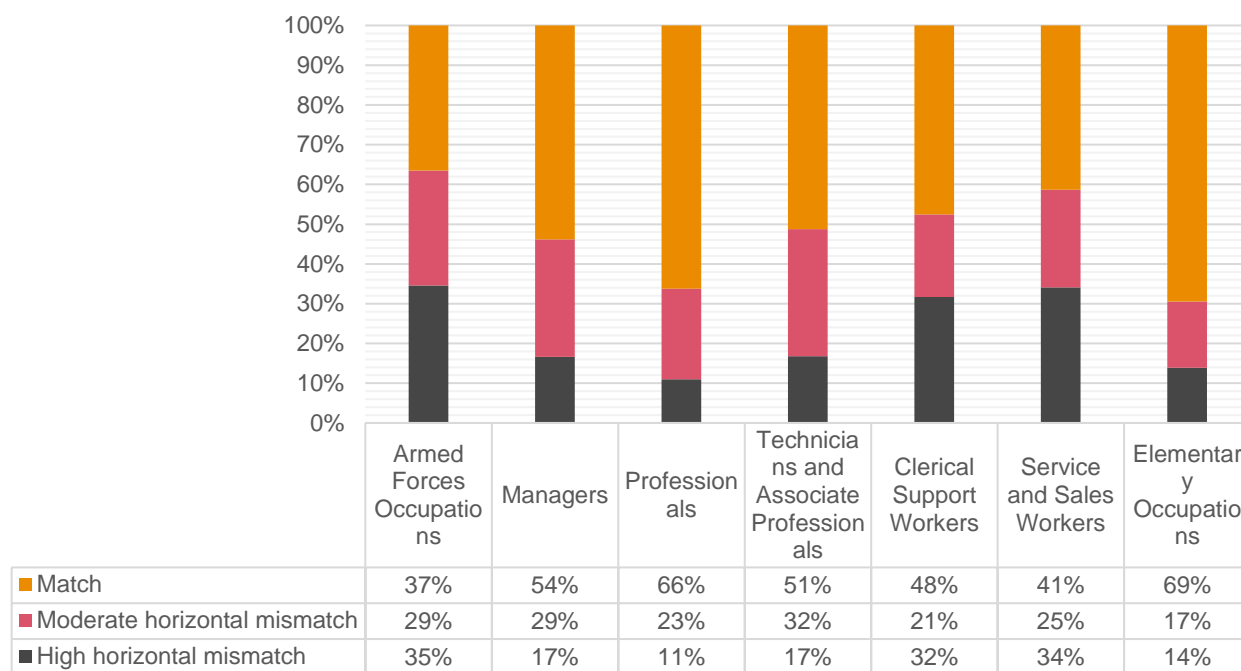
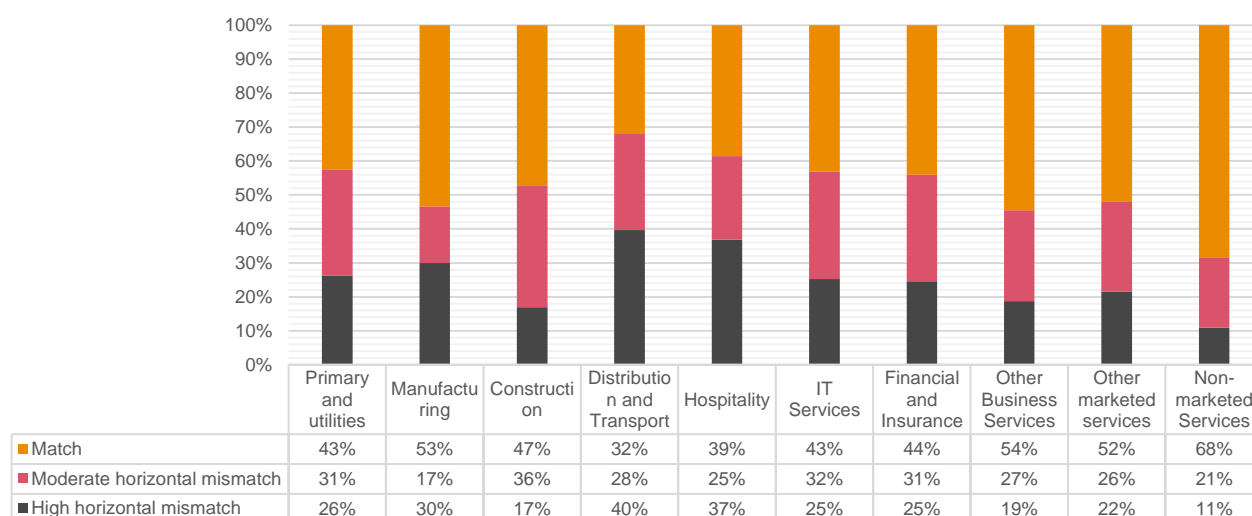


Figure 212 presents the differences in horizontal mismatch by professional positions as per NACE group. Distribution and transport professions recorded the highest percentage of horizontal mismatch at 68% closely followed by Hospitality at 62% (when combining moderate and high horizontal mismatch). Construction recorded a moderate horizontal mismatch at 36% followed by IT services (32%), however if you combined both moderate and high their percentages reach the 53% and 57% respectively. According to the figure the profession with the highest match of study field and job is observed in non-marketed services (68%) and other Business services (54%).

Figure 212: Horizontal mismatch by NACE group



### 5.5.3. Combined horizontal and vertical mismatch

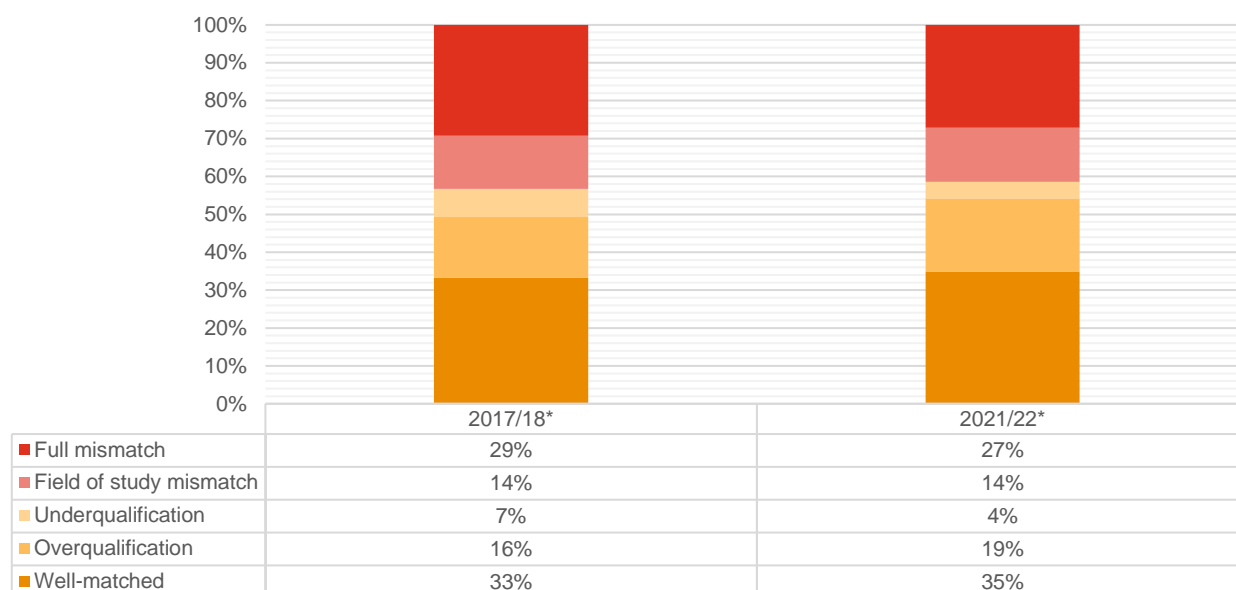
To gain a more comprehensive understanding of the alignment between graduates' education and their subsequent employment, a new composite variable that combines both horizontal and vertical mismatches was created. These two dimensions were integrated to provide a more holistic assessment of the extent and nature of mismatches experienced by graduates. The values of the new composite variable were classified in five categories as follows:

1. **Well-Matched:** Graduates whose level and field of education appropriately matches the job requirements.
2. **Overqualified:** Graduates whose level of education exceeds the requirements of their job but the field of study appropriately matches the job requirements.
3. **Underqualified:** Graduates whose level of education is below the requirements of their job but the field of study appropriately matches the job requirements.
4. **Field of Study Mismatch:** Graduates whose job does not align with their field of study but whose educational level matches the job requirements.
5. **Full/Double Mismatch:** Graduates who experience both a horizontal mismatch (field of study) and a vertical mismatch (level of education).

The different mismatch levels have been explored by demographic, Higher education studies and employment related variables which are presented in the subsections below.

Figure 213 presents the vertical and horizontal mismatch categories by graduation cohort. The general trend is that approximately one third of graduates in both cohorts consider themselves well-matched (33% and 35% for 2017/18 and 2021/22 respectively). The second highest reported category is the full-mismatch for both cohorts at 29% and 27% for 2017/18 and 2021/22 respectively. Both cohorts are reporting a misalignment mismatch of their job and their field of study at 14%. Slightly lower are the percentages for overqualified graduates at 16% and 19% for 2017/18 and 2021/22 respectively. The percentages for underqualification are the lowest at 7% and 4% for 2017/18 and 2021/22 cohorts respectively.

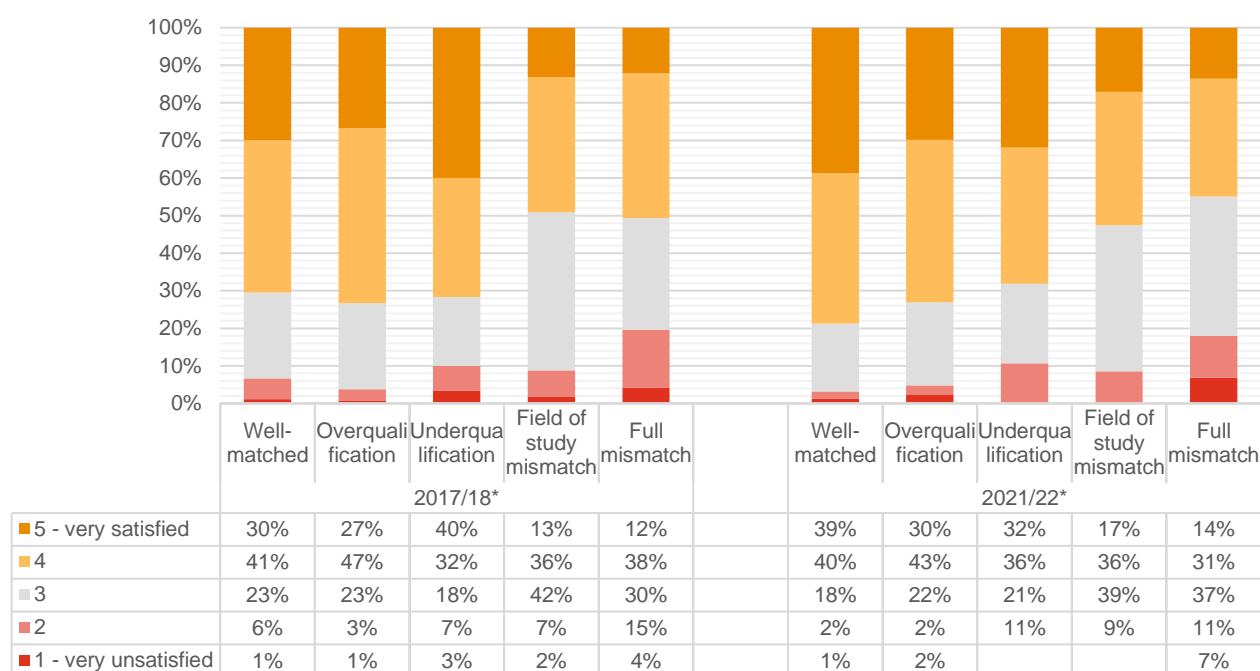
Figure 213: Combined Vertical and Horizontal mismatch by graduation cohort



\*Statistically significant findings

Figure 214 indicates statistically significant findings on the average job satisfaction for the five categories of the new composite variable by graduation cohort. In the 2017/18 cohort, overqualified graduates recorded the highest satisfaction at 74% followed by Underqualified (72%) and well-matched (71%) when combining satisfied and very satisfied responses. On the other hand, graduates experiencing field mismatches and full mismatches reported lower satisfaction levels. Only 49% of field-mismatched graduates and 50% of full-mismatched graduates expressed being satisfied with their job. Among these groups, fully mismatched graduates had the highest percentage (19%) of individuals who were unsatisfied (based on ratings of 1 and 2). In the 2021/22 cohort, well matched graduates reported the highest satisfaction at 79% followed by overqualified (73%) and underqualified (68%) when combining ratings 4 and 5. Only 53% of field-mismatched graduates and 45% of full-mismatched graduates expressed being satisfied with their job. Full mismatched graduates had again the highest percentage (18%) of individuals who were unsatisfied (based on ratings of 1 and 2). These findings highlight a clear trend: graduates with qualifications that align more closely with their job roles tend to report higher job satisfaction, while those facing full or field mismatches experience lower satisfaction, with a significant portion feeling unsatisfied with their job situation.

Figure 214: Average job satisfaction by Combined Vertical and Horizontal mismatch and graduation cohort

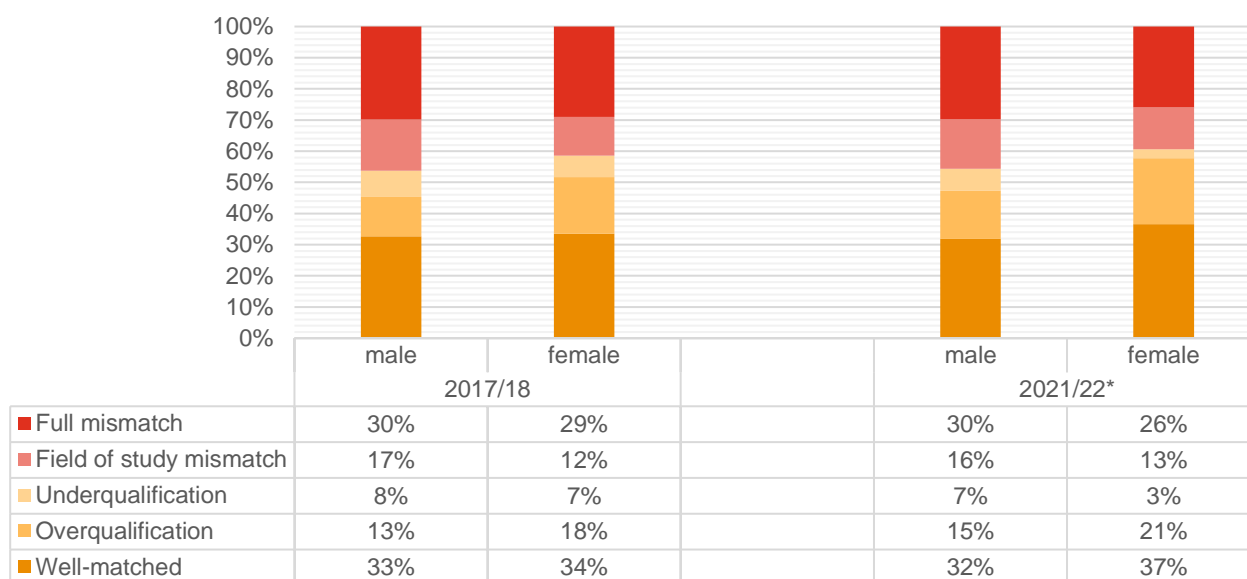


\*Statistically significant findings

### 5.5.3.1. Combined mismatch by demographic variables

Figure 215 presents the different levels of vertical and horizontal mismatch combined by gender and graduation cohort. The general trend for both cohorts and genders are that well-matched and full mismatch percentages are very close around 30%. Female graduates recorded higher percentages in the well-matched category at 34% over 33% and 37% over 32% than men in the 2017/18 and 2021/22 cohorts respectively. Male graduates reported higher percentages in the field of study mismatch compared to females at 17% over 12% and 16% over 13% for 2017/18 and 2021/22 cohorts respectively. In terms of underqualification female graduates recorded lower percentages than males at 7% and 3% respectively for 2021/22 cohort. These gender differences were found to be statistically significant only for 2021/22 cohort.

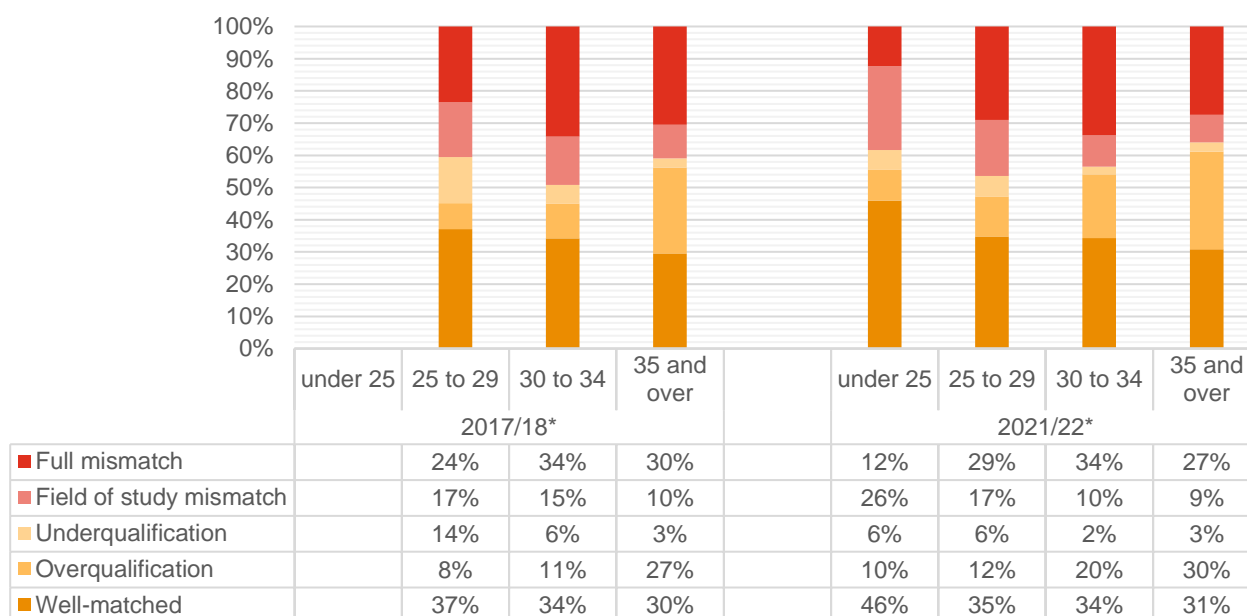
Figure 215: Vertical and Horizontal mismatch combined by gender and graduation cohort



\*Statistically significant findings

Figure 216 presents the different levels of vertical and horizontal mismatch combined by age at the time of the survey and graduation cohort. The general trend is that well-matched level is inversely proportional to age at the time of the survey. Overqualification graduates is higher in the “35 and over” age group in both cohorts while underqualified and field of study mismatched is higher among the youngest graduates. These differences in skill mismatches by age were found to be statistically significant for both cohorts.

Figure 216: Vertical and Horizontal mismatch combined by age (at time of the survey) and graduation cohort

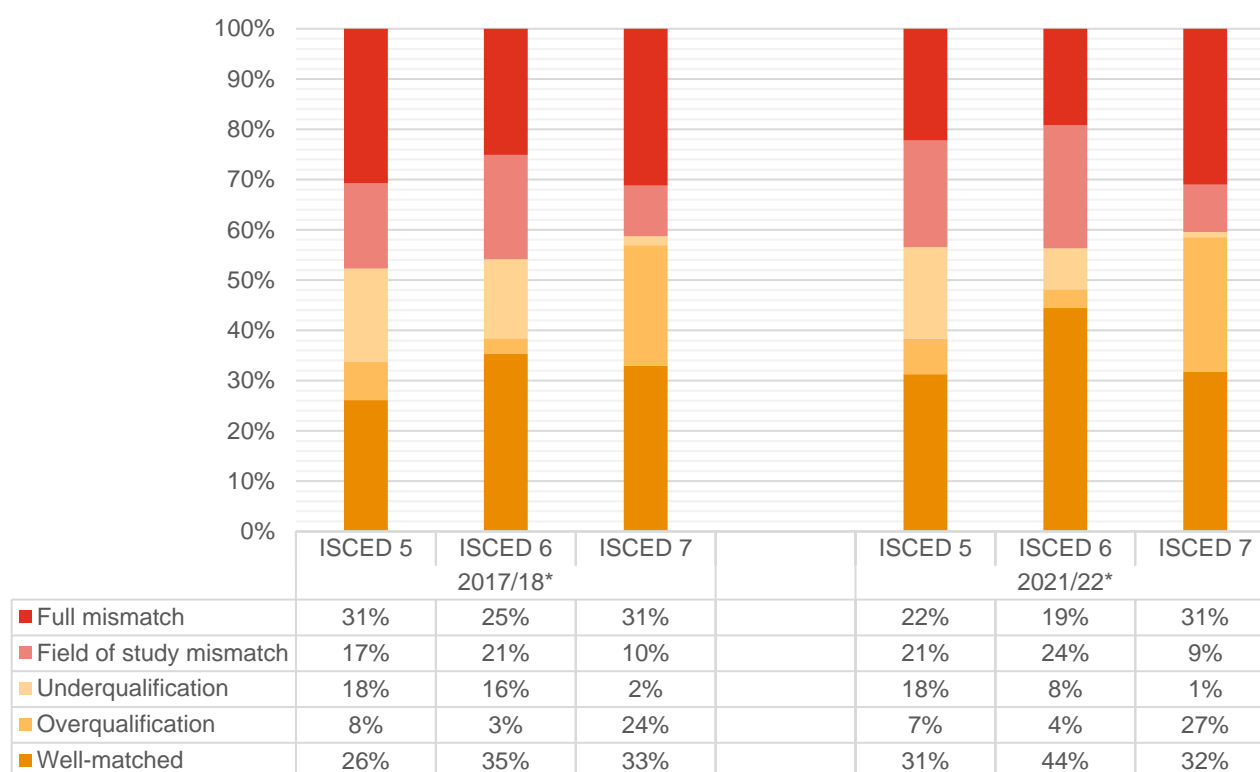


\*Statistically significant findings

### 5.5.3.2. Combined mismatch by variables related to Higher Education studies

Figure 217 presents the different levels of vertical and horizontal mismatch combined by levels of study and graduation cohort at a statistically significant level for both cohorts. The general trend is that ISCED 6 graduates record the highest level of well-matched at 35% and 44% in 2017/18 and 2021/22 cohorts respectively. High rated of full mismatch is observed in ISCED 5 and 7 in both cohorts at 31% for both levels for 2017/18 and 22% and 31% for 2021/22 respectively. As expected, the higher percentage of underqualification is recorded in ISCED 5 at 18% for both cohorts and the higher percentage for overqualification at ISCED 7. In terms of field of study mismatch, ISCED 6 is also recording the highest percentages in both cohorts at 21% and 24% respectively. These differences in the levels of vertical and horizontal mismatch by levels of study were statistically significant in both cohorts.

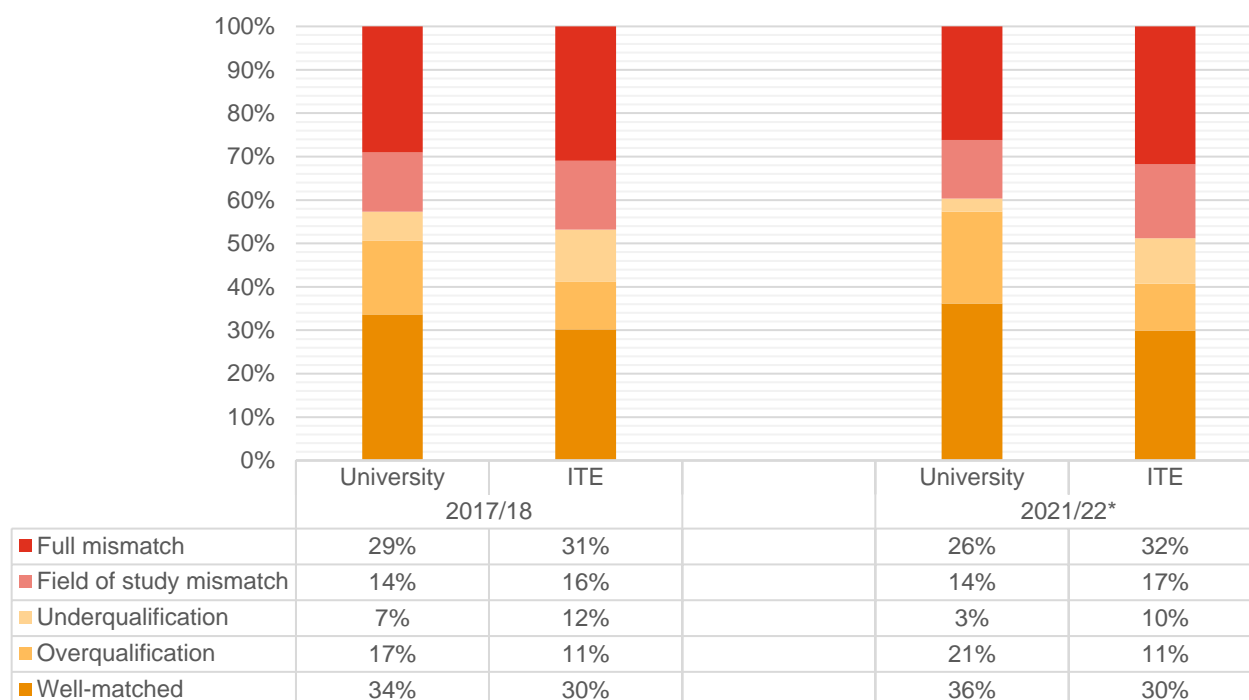
Figure 217: Vertical and Horizontal mismatch combined by ISCED-level and graduation cohort



\*Statistically significant findings

Figure 218 presents the different levels of vertical and horizontal mismatch combined by type of HEI and graduation cohort. Statistically significant differences were found only for 2021/22 cohort. The general trend is that University graduates reported the highest well-matched rates at 34% and 36% for 2017/18 and 2021/22 cohorts respectively. The same trend applies for overqualification with University graduates to record higher rates at 17% and 21% respectively. ITE graduates recorded the highest levels of full mismatch in both cohorts at 31% and 32% respectively; field of study mismatch at 16% and 17% and underqualification at 12% and 10% respectively.

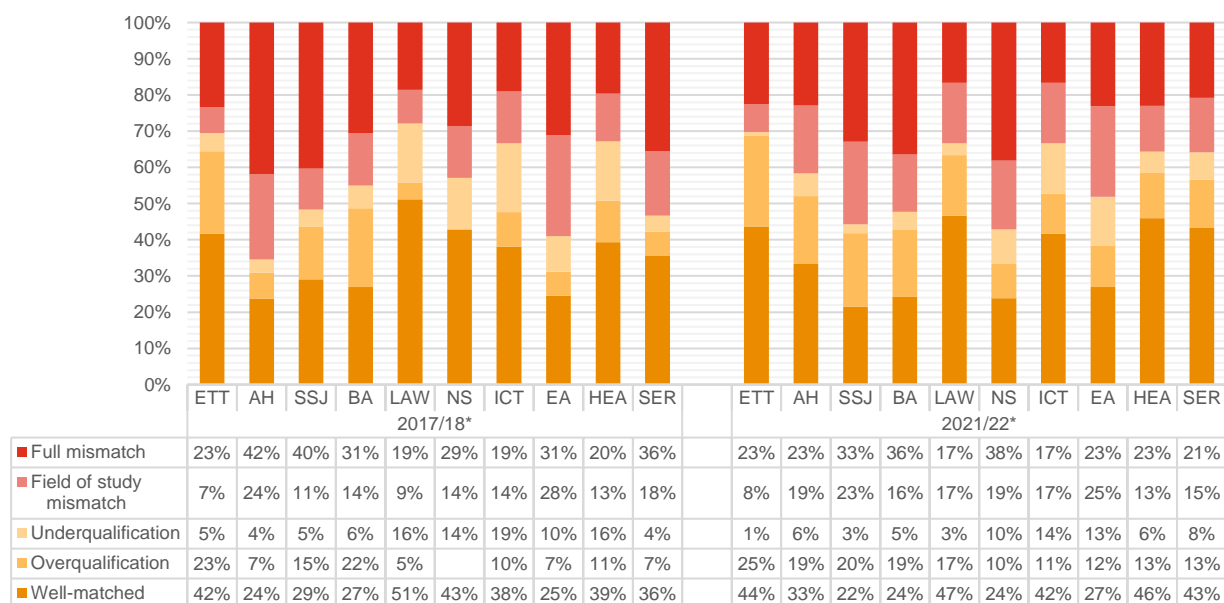
Figure 218: Vertical and Horizontal mismatch combined by type of HEI and graduation cohort



\*Statistically significant findings

Figure 219 presents the different levels of vertical and horizontal mismatch combined by field of study and graduation cohort at a statistically significant level for both cohorts. The general trend is that the graduates in the most fields of studies reported well matched to their jobs with Law (51% and 47%), Education and Teachers training (42% and 44%) and Health (39% and 46%) to record the highest percentages in both cohorts respectively. In 2017/28 cohort, Arts and Humanities (42%), Social Sciences and Journalism (40%) and Services (36%) recorded the highest full mismatch. Graduates from Engineering and Architecture recorded the highest levels of field of study mismatch in both cohorts at 28% and 25% respectively. Information and Communication Technologies graduates reported the highest underqualification in both cohorts at 19% and 14% respectively. Education and Teachers Training graduates recorded the highest overqualification in both cohorts at 23% and 25% respectively.

Figure 219: Vertical and Horizontal mismatch combined by field of study and graduation cohort



\*Statistically significant findings

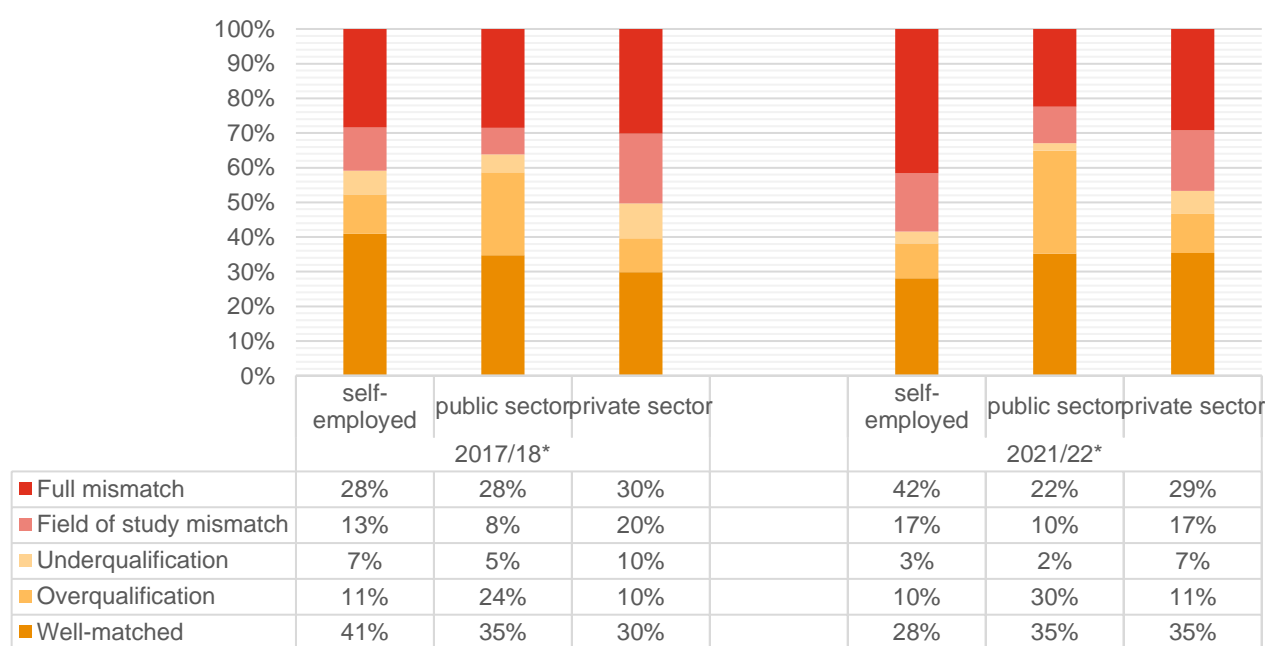
Note: Fields of study ETT-Education and Teacher Training, AH-Arts and Humanities, SSJ-Social Sciences and Journalism, BA-Business Administration, LAW-Law, NS-Natural Sciences (including Mathematics), ICT-Information and Communication Technologies, EA-Engineering and Architecture, HEA-Health, SER-Services. "Agriculture, Forestry, Fisheries, Veterinary and Services" is excluded from the analysis due to its small population size.

### 5.5.3.3. Combined mismatch by variables related to employment

Figure 220 presents statistically significant findings on the combined vertical and horizontal mismatch of graduates by type of employment and graduation cohort. In the 2017/18 cohort, self-employed graduates had the highest percentage of well-matched graduates at 41%, compared to 35% in the public sector and 30% in the private sector. However, full mismatch recorded high percentages across all employment types, affecting 28% of self-employed graduates, 28% of public sector graduates, and 30% of private sector graduates. Field of study mismatch was most prevalent in the private sector, reported by 20% of graduates, compared to 13% among the self-employed and 8% in the public sector. This highlights a more pronounced horizontal misalignment in the private sector. Overqualification was most common among public sector graduates with 24%, compared to 11% among the self-employed and 10% in the private sector and underqualification with underqualification remaining consistent and relatively low across all employment types with the private sector recording the higher percentage (10%).

For the 2021/22 cohort, well-matched graduates accounted for 35% in both the public and private sectors, while the self-employed reported a slightly lower percentage at 28%, reflecting a decline compared to the 2017/18 cohort. Full mismatch was most prevalent among the self-employed, with 42% of graduates falling into this category, a significant increase from the previous cohort. This was notably higher compared to the private sector, where 29% of graduates experienced full mismatch, and the public sector, which reported the lowest rate at 22%. Field of study mismatch was equally prevalent among the self-employed and private sector graduates, with 17% in both groups reporting a mismatch between their field of study and their job. Overqualification was the most pronounced in the public sector, affecting 30% of graduates, an increase from the 2017/18 cohort with underqualification remaining consistent and relatively low across all employment types with the private sector recording the higher percentage (7%).

Figure 220: Vertical and Horizontal mismatch combined by type of employment and graduation cohort



\*Statistically significant findings

Figure 221 highlights findings regarding vertical and horizontal mismatches among graduates across various occupations. Full mismatch is most prevalent in Armed Forces Occupations, where 56% of graduates experience both field and level mismatches. Clerical Support Workers follow at 41%, and Service and Sales Workers at 39%, indicating widespread misalignment in these roles. In contrast, Professionals and Elementary Occupations both report the lowest levels of full mismatch at 22%, suggesting a better alignment of education

and job roles in these fields. Managers report the highest levels of field of study mismatch at 20%, followed by Technicians and Associate Professionals at 16%. These findings highlight that educational backgrounds for these groups often fail to directly correspond to the specific requirements of their jobs. On the other hand, field of study mismatch is lowest among Armed Forces Occupations and Elementary Occupations, with both groups at 8%. Underqualification is the least common form of mismatch across all occupational categories. Technicians and Associate Professionals report the highest rate at 7%, reflecting occasional mismatches where job demands exceed graduates' qualifications. This might also be a case due to the rapid technological advancements that immediately affect these two occupations. Other groups, including Armed Forces Occupations, Managers, and Clerical Support Workers, all report relatively minimal underqualification at 2%, 5%, respectively. Overqualification is most prevalent among Clerical Support Workers, where 17% of graduates report holding qualifications exceeding job requirements. This is followed by Professionals at 20% and Armed Forces Occupations at 23%.

In contrast, Service and Sales Workers exhibit the lowest rate of overqualification at 12%, suggesting fewer cases of graduates being overqualified for roles in this sector. Graduates in Elementary Occupations are the most well-matched, with 56% reporting a strong alignment between their education and job requirements. This is followed by 39% among Professionals and 30% among Managers, indicating relatively strong educational job fit for these groups. In contrast, Service and Sales Workers and Clerical Support Workers report the lowest levels of well-matched graduates, with only 25% and 27%, respectively.

Overall, Armed Forces Occupations and Clerical Support Workers demonstrate high levels of full mismatch and overqualification, revealing systemic issues in aligning education with job demands. Elementary Occupations, by contrast, show the highest rates of alignment, with 56% of graduates being well-matched. Field of study mismatch remains a challenge for Managers and Technicians, while underqualification is relatively rare across all categories.

Figure 221: Vertical and Horizontal mismatch combined by occupation

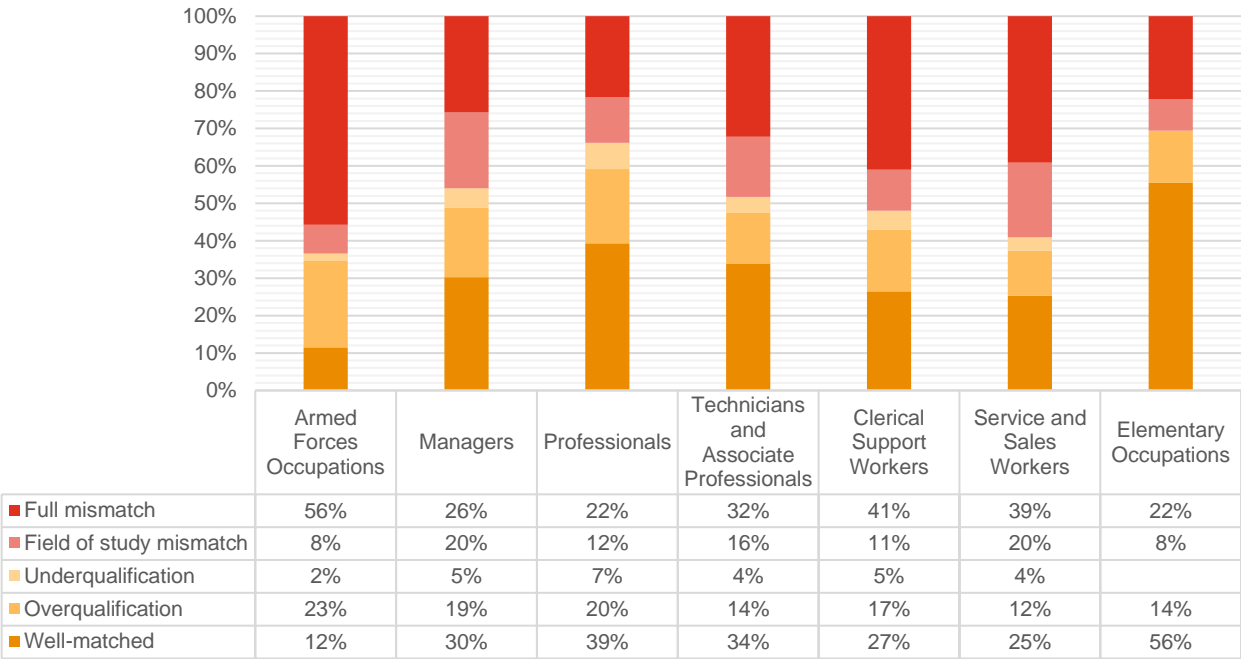
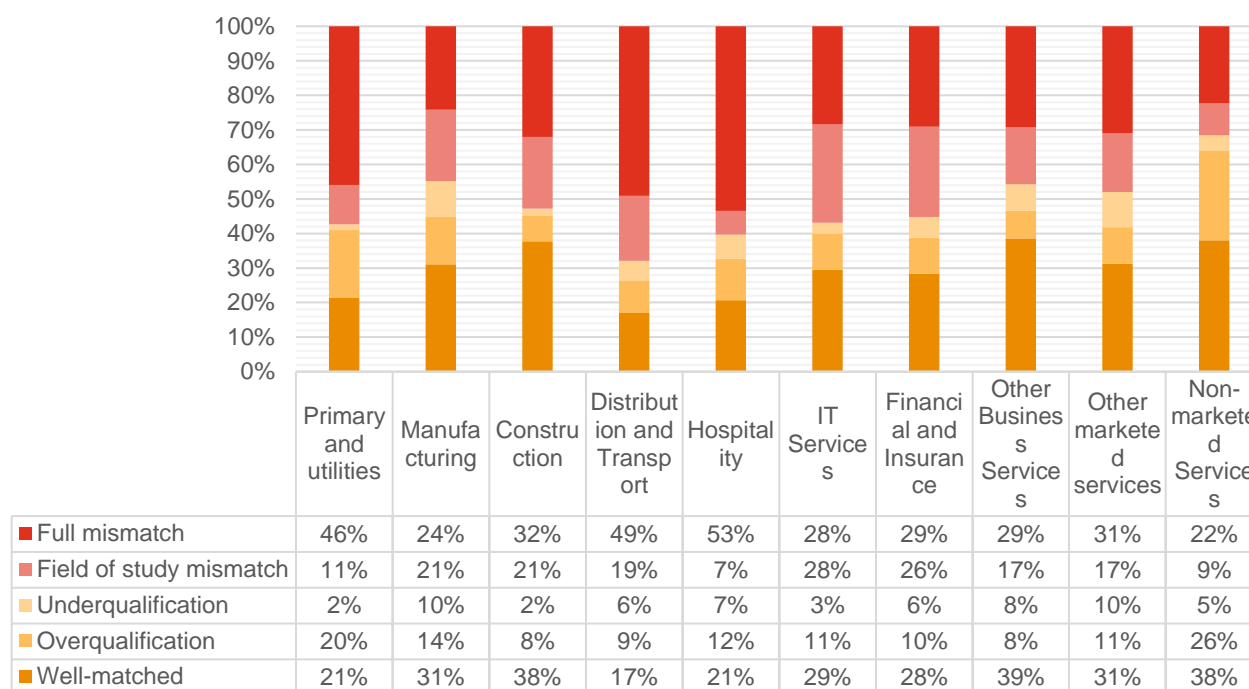


Figure 222 presents insights into the combined vertical and horizontal mismatches experienced by graduates across various NACE groups. Full mismatch is highest in the Hospitality sector, where 53% of graduates report both field and level mismatches, indicating substantial misalignment between education and job requirements in this sector. Distribution and Transport follow with 49%, further underscoring the challenges of aligning qualifications with job roles in these industries. Conversely, Non-marketed Services report the lowest level of full mismatch at 22%, suggesting stronger alignment between graduates' education and their roles in this

sector. Field of study mismatch is most pronounced in IT Services and Financial and Insurance sectors, where 28% and 26% of graduates, respectively, indicate that their field of study does not match their current employment. This contrasts starkly with Hospitality, which records the lowest field of study mismatch at only 7%, highlighting better alignment in this industry. Underqualification remains relatively rare but is most evident in Manufacturing and Other Marketed Services, with 10% of graduates in each sector reporting that their qualifications fall below job requirements. In contrast, IT Services report a low underqualification rate of only 3%, suggesting stronger alignment in this field. Overqualification is highest in Non-marketed Services and Primary and Utilities, where 26% and 20% of graduates, respectively, indicate that their qualifications exceed job requirements. This suggests inefficiencies in job matching within these sectors. By comparison, Construction shows the lowest level of overqualification, with just 8% of graduates reporting that their education surpasses job requirements. Other Business Services reports the highest percentage of well-matched graduates, with 39% indicating strong alignment between their education and job roles. Non-marketed Services and Construction follow closely, each reporting 38%.

On the lower end, Primary and Utilities and Hospitality both report just 21% of graduates being well-matched, illustrating a significant gap in these fields. The findings highlight notable discrepancies in the alignment of education and employment across NACE groups. Hospitality and Distribution and Transport stand out with the highest levels of full mismatch, indicating systemic misalignments in these sectors. Conversely, Other Business Services, Non-marketed Services, and Construction display the highest levels of well-matched graduates, reflecting stronger alignment between qualifications and job roles. Overqualification remains a critical issue in Non-marketed Services and Primary and Utilities, while underqualification is relatively uncommon but most evident in Manufacturing and Other Marketed Services.

Figure 222: Vertical and Horizontal mismatch combined by NACE group



#### 5.5.4. Over-skilling and under-skilling

Over-skilling refers to the situation where an employees' skills exceed those required by their job. It is therefore a form of skills underutilisation in the workplace. Over-skilling has been emerging as a key measure of mismatch in the recent literature, in preference to the more commonly used overqualification (Mavromaras & McGuinness, 2012). This is because qualifications reflect certified skills, mostly acquired in initial education while a great deal of skills are acquired during employment. Moreover, employees with the same level of formal

qualifications may display different degrees of competency and in different areas according to their field of study (OECD, 2011). On the other hand, under-skilling refers to employees who report that their skills and competences are lower than those required by their current job. It is possible that graduates' skills may be below the level needed because the expertise needed for their jobs has changed over time, due to several reasons (e.g., emerging new technologies).

In the context of this study, over-skilling and under-skilling were measured in respect to a number of key skills under seven main categories: soft, core, self-management, digital, manual, green and hard skills (Table 8). More categories of skills were added in the second cycle in order to align with the National Employers Skill Survey where employers were asked to evaluate their current workforce in terms of key skills grouped in seven categories. Graduates were asked to evaluate their own current level of each skill as well as the level required by their current job, on a seven-point rating scale (where 1 indicated low level of competence and 7 very high). Thus, in the context of this study over-skilling and under-skilling were subjectively measured.

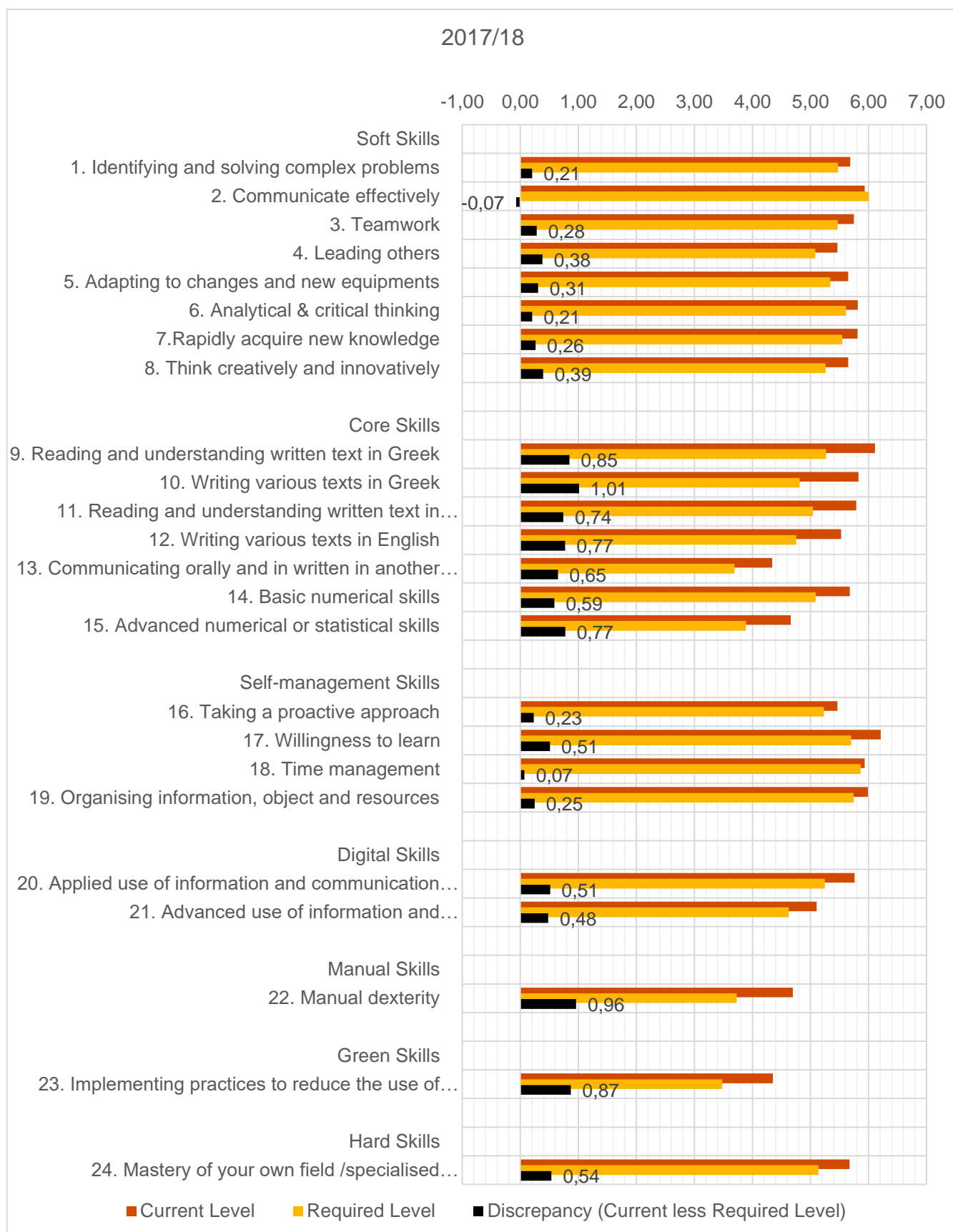
Table 8. Skills assessed in the context of NGTS

<b>Soft Skills</b>
1. Identifying and solving complex problems
2. Ability to communicate effectively (active listening, verbal communication, presentation skills)
3. Teamwork skills (ability to work with others toward a shared goal)
4. Leading others (build team spirit, delegate responsibilities, motivate others, coaching, mentoring)
5. Adapting to changes and new equipment
6. Analytical & critical thinking (identify the strengths and weaknesses, defend judgements based on evidence, reach to conclusions or approaches to problems)
7. Ability to rapidly acquire new knowledge
8. Think creatively and innovatively (Generate new ideas or combine existing ones to develop innovative, novel solutions)
<b>Core Skills</b>
9. Reading and understanding written text in Greek
10. Writing various texts (instructions, guidelines, manuals or reports) in Greek
11. Reading and understanding written text in English
12. Writing various texts (instructions, guidelines, manuals or reports) in English
13. Communicating orally and in written in another language
14. Basic numerical skills (access, use, interpret, and communicate mathematical information)
15. Advanced numerical or statistical skills (use of graphical, spatial, statistical and algebraic concepts)
<b>Self-management Skills</b>
16. Taking a proactive approach
17. Willingness to learn
18. Time management
19. Organising information, object and resources
<b>Digital Skills</b>
20. Ability for applied use of information and communication technologies (ICT, e.g., text processing, working with tables, retrieve information from the internet, e-mail)
21. Ability for advanced use of information and communication technologies (ICT, e.g., programming, syntax in statistical software)
<b>Manual Skills</b>
22. Manual dexterity (for example, to mend, repair, assemble, construct, or adjust things)
<b>Green Skills</b>

23. Implementing practices to reduce the use of raw materials, energy, water and limit pollution and waste.
<b>Hard Skills</b>
24. Mastery of your own field / specialised knowledge and skills related to your field of study

Figure 223 and Figure 224 present all skills assessed, the average scores reported for their current level and level required by their work for graduates in cohorts 2017/18 and 2021/22 respectively. In the 2017/18 cohort, graduates reported that they possess a high level of all skills assessed (average scores above 4,3). The highest average score for own level was noted for the self-management skill “Willingness to learn” (average score 6,2) while the lowest for the core skill “Communicating orally and in written in another language” (average score 4,3). Graduates also indicated that their current jobs require a high level of all types of skills (most skills with average scores above 3,5). The skill with the highest average score for required level by employment was soft skill “Communicate effectively” (average score 6) while the green skill had the lowest (average score 3,5). It is evident that graduates’ own level of skills is significantly higher than the corresponding required by their current work (except for the soft skill “Communicate effectively” for which there is a mismatch between own and required level) thus indicating under-skilling. The largest discrepancy between current own level and the level required by current employment relates to the skills “Writing various texts in Greek (+1) and “Manual dexterity” (+0,9). Statistically significant differences between current own level and the level required by their job were noted for all skills except for the soft skill “Ability to communicate effectively” and self-management skill “Time management”.

Figure 223: Current own level and required level of skills by job for the 2017/18 cohort.

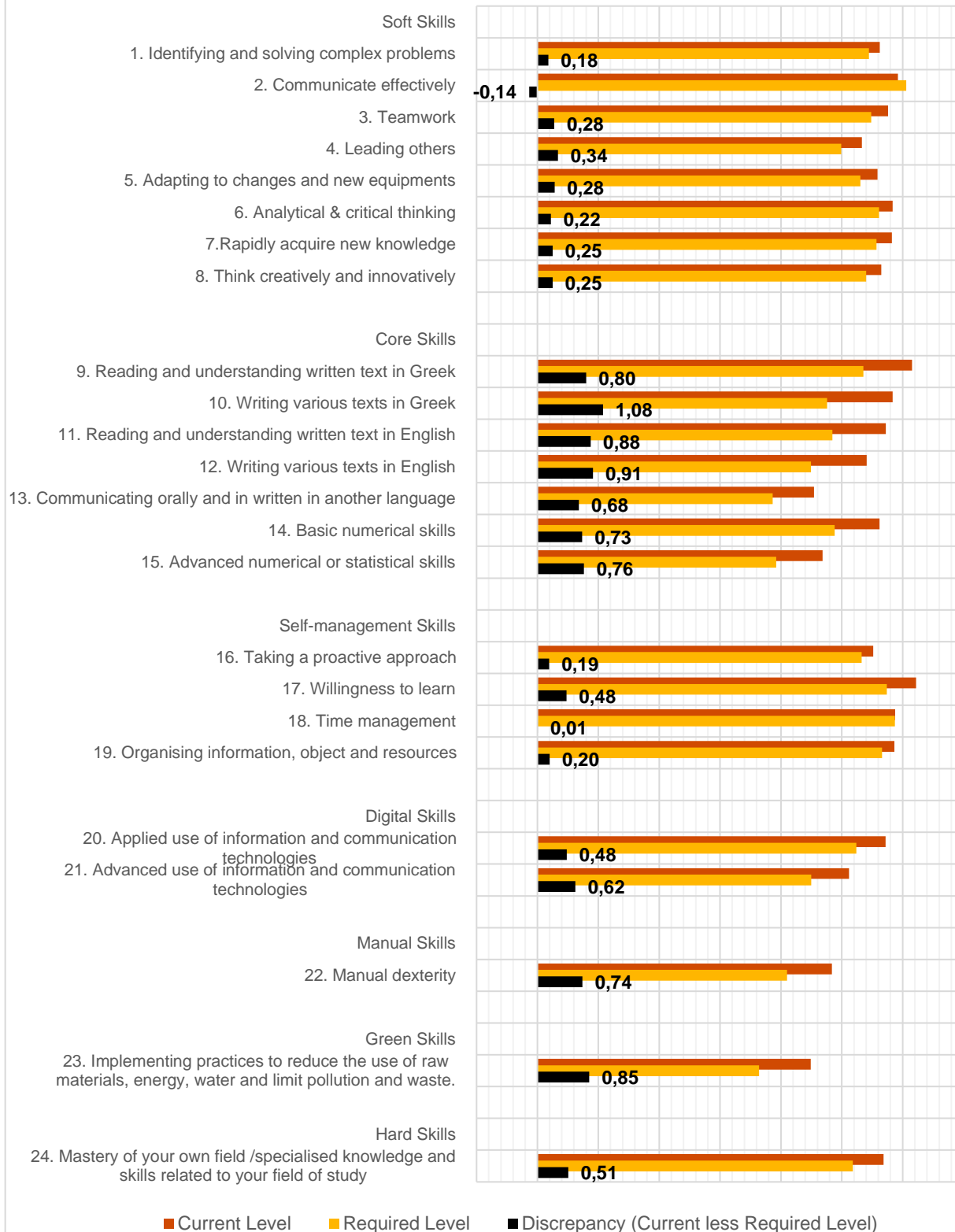


In the 2021/22 cohort, recent graduates also reported that they possess a high level of all skills assessed (average scores above 4,5). The highest average score for own level was noted for the self-management skill “Willingness to learn” (average score 6,2). The lowest average was recorded for the green skill “Implementing practices to reduce the use of raw materials, energy, water and limit pollution and waste” (average score 4,5). Recent graduates also indicated that their current jobs require a high level of all types of skills (all skills with average scores above 4,0). The soft skill “Communicate effectively” had the highest average score for required (average score 6). The lowest average was recorded for the green skill “Implementing practices to reduce the use of raw materials, energy, water and limit pollution and waste” (average score 3,6). It is evident that graduates’ own level of skills is significantly higher than the corresponding required by their current work (except for the soft skill “Communicate effectively” for which there is a mismatch between own and required level) thus indicating under-skilling. The largest discrepancy between current own level and the level required by current employment relates again to the skills “Writing various texts in Greek” (+1) and “Writing various texts in English” (+0,9 mean discrepancy). Statistically significant differences between current own level and the level required by their job were noted for all skills except for the self-management skill “Time management”.

Figure 224: Current own level and required level of skills by job for the 2021/22 cohort.

2021/22

-1,00 0,00 1,00 2,00 3,00 4,00 5,00 6,00 7,00



Over-skilling and under-skilling were also explored according to specific demographic variables and variables related to graduates' Higher Education studies. For this purpose, a discrepancy score was calculated for each skill by subtracting the required level from the corresponding current. Thus, positive discrepancies signalled over-skilling, whereas the negative discrepancies signalled under-skilling. Figure 223 and Table 9, and Figure 224 and Table 10, show over-skilling and under-skilling for sub-categories of graduates in cohorts 2017/18 and 2021/22 respectively according to demographic variables and variables related to their studies in Higher Education. Each row represents a different sub-category of graduates and each column a specific skill. For each skill, graduates' current own level and the level required by current work were compared using a paired t-test for each sub-category of graduates. The cells with a plus (+) sign indicate an over-skilling area, whereas the cells with a minus (-) sign indicate an under-skilling area, based on the discrepancy between current own level and the level required by employment for each skill. The signs in **red** font indicate a statistically significant discrepancy (i.e., the mean current level was found to be statistically different from the corresponding mean required level for that specific sub-category).

According to Table 9, it is evident that for the 2017/18 cohort, in all sub-categories of graduates statistically significant over-skilling was reported on most skills. On the other hand, no statistically significant under-skilling was reported with some minor exceptions. Some interesting findings are presented below:

- Both genders reported being statistically significant over-skilled in almost all types of skills assessed with one notable exception. For the skill "Communicate effectively," under-skilling was identified, indicating that the level of proficiency required by work exceeded the graduates' self-reported abilities. For the skills where over-skilling was reported, "Time management" showed no statistically significant differences between graduates' current skill levels and the levels required by their jobs for both genders. Similarly, for the skill "Identifying and solving complex problems," no statistically significant differences were observed for males.
- All age groups (age at the time of the survey) reported significant over-skilling in most of the skills assessed. Graduates over 30s reported to be over-skilled in all skill categories. Graduates in the group "25-29" reported to be under-skilled in two skills: "Communicate effectively" and "Taking a proactive approach" but only for the latter this under-skilling was statistically significant. For the age group "30-34" a statistically significant under-skilling was found for the skill "Communicate effectively".
- In terms of the level of studies, ISCED 7 graduates were found to be significantly over-skilled in all skills assessed except for "Communicate effectively" soft skill. ISCED 6 graduates were found to be generally over-skilled in terms of most skills (except for two skills) and this over-skilling was statistically significant in most cases. ISCED 5 graduates reported under-skilling in seven skills however this under-skilling was not found to be statistically significant.
- Graduates across all fields reported over-skilling in Digital, Manual, and Green skills, indicating that their proficiency in these areas often exceeded workplace requirements. For Core and Hard skills, over-skilling was also reported by graduates in all fields, with a few exceptions; however, these exceptions were not statistically significant. In contrast, the categories of Soft and Self-management skills presented a more varied picture, with graduates from some fields reporting over-skilling and others under-skilling. Among all fields, Law stood out as the area where under-skilling was most frequently reported compared to other fields.

Table 9: Comparisons of graduates' own level of skill and the level of skill required by their job (paired samples t-test) within sub-categories of graduates according to demographic variables and variables related to Higher Education studies for the 2017/18 cohort

Cohort 2017/18	Gender		Age at survey				Level			Fields of Study									
	Male	Female	under 25	25 to 29	30 to 34	35 and over	ISCED 5	ISCED 6	ISCED 7	ETT	AH	SSJ	BA	LAW	NS	ICT	EA	HEA	SER
<b>Soft Skills</b>																			
1. Identifying and solving complex problems	<b>+</b>	<b>+</b>		<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	-	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>
2. Communicate effectively	-	-		-	-	<b>+</b>	<b>+</b>	-	-	-	<b>+</b>	<b>+</b>	<b>+</b>	-	<b>+</b>	-	-	-	-
3. Teamwork	<b>+</b>	<b>+</b>		<b>+</b>	<b>+</b>	<b>+</b>	-	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	-	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	-	<b>+</b>	-
4. Leading others	<b>+</b>	<b>+</b>		<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	-	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>
5. Adapting to changes and new equipments	<b>+</b>	<b>+</b>		<b>+</b>	<b>+</b>	<b>+</b>	-	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	-
6. Analytical & critical thinking	<b>+</b>	<b>+</b>		<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>
7. Rapidly acquire new knowledge	<b>+</b>	<b>+</b>		<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	-	<b>+</b>	<b>+</b>	<b>+</b>	-	<b>+</b>
8. Think creatively and innovatively	<b>+</b>	<b>+</b>		<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>
<b>Core Skills</b>																			
9. Reading and understanding written text in Greek	<b>+</b>	<b>+</b>		<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>
10. Writing various texts in Greek	<b>+</b>	<b>+</b>		<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>
11. Reading and understanding written text in English	<b>+</b>	<b>+</b>		<b>+</b>	<b>+</b>	<b>+</b>	-	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	-	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>
12. Writing various texts in English	<b>+</b>	<b>+</b>		<b>+</b>	<b>+</b>	<b>+</b>	-	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	-
13. Communicating orally and in written in another language	<b>+</b>	<b>+</b>		<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>
14. Basic numerical skills	<b>+</b>	<b>+</b>		<b>+</b>	<b>+</b>	<b>+</b>	-	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>
15. Advanced numerical or statistical skills	<b>+</b>	<b>+</b>		<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>
<b>Self-management Skills</b>																			
16. Taking a proactive approach	<b>+</b>	<b>+</b>		-	<b>+</b>	<b>+</b>	-	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	-	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	-
17. Willingness to learn	<b>+</b>	<b>+</b>		<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>
18. Time management	<b>+</b>	<b>+</b>		<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	-	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	-	-	<b>+</b>	-	<b>+</b>	-
19. Organising information, object and resources	<b>+</b>	<b>+</b>		<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	-	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>
<b>Digital Skills</b>																			
20. Applied use of information and communication technology	<b>+</b>	<b>+</b>		<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>
21. Advanced use of information and communication technology	<b>+</b>	<b>+</b>		<b>+</b>	<b>+</b>	<b>+</b>	-	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>
<b>Manual Skills</b>																			
22. Manual dexterity	<b>+</b>	<b>+</b>		<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>
<b>Green Skills</b>																			
23. Implementing practices to reduce the use of raw materials	<b>+</b>	<b>+</b>		<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>
<b>Hard Skills</b>																			
24. Mastery of your own field /specialised knowledge and	<b>+</b>	<b>+</b>		<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	-	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>

Note 1: Red bold signifies statistically significant differences between graduates' own level of skill and the level required by their current job. The + symbol signifies over-skilling and the - sign under-skilling.

Note 2: Fields of study ETT-Education and Teacher Training, AH-Arts and Humanities, SSJ-Social Sciences and Journalism, BA-Business Administration, LAW-Law, NS-Natural Sciences (including Mathematics), ICT-Information and Communication technologies, EA-

*Engineering and Architecture, HEA-Health, SER-Services. "Agriculture, Forestry, Fisheries, Veterinary and Services" is excluded from the analysis due to its small population size.*

Table 10, illustrates the relevant findings for the 2021/22 cohort. Again, in all sub-categories of graduates statistically significant over-skilling was reported but not many statistically significant under-skilling. Some interesting findings are presented below:

- Both gender graduates reported being statistically significant over-skilled in almost all types of skills assessed except “Communicate effectively” which was found to be not statistically significant for males and statistically significant for females. From the self-management, “Time management” skill was the only skill but found to be under-skilled for males and over-skilled for females but non statistically significant for both genders
- All age groups (age at the time of the survey) reported significant over-skilling in most of the skills assessed. Graduates over 30s reported to be over-skilled in all skill categories. Graduates in the group “25-29” reported to be under-skilled in two skills: “Communicate effectively” and “Taking a proactive approach”. Participants in the younger age-groups “under 25 to 29” reported being statistically significant under-skilled in terms of “Time management”.
- ISCED 5 graduates were found to be over-skilled in all skills assessed and most of them indicating a statistically significant result. ISCED 6 and ISCED 7 graduates were found to be generally over-skilled in terms of most skills with statistically significant findings except “Communicating effectively” and “Time Management for ISCED 6 but at non-statistically significant level. This might suggest that the programmes of study are mostly aligned with the requirements of the job market and employers.
- Graduates in all fields of studies reported being over-skilled in all core skills. Graduates in the fields of Arts and Humanities, Business Administration and Law reported being statistically significant over-skilled in almost all skills assessed. Again, the skill that is reported as under-skilled was “Communicate effectively” except in the field of Arts and Humanities, Law and Services that is over-skilled but at a non-statistically significant level. In the fields of Information and Communication technologies and Engineering and Architecture the most non-significant results were recorded along with some skills to be under-skilled.

Table 10: Comparisons of graduates' own level of skill and the level of skill required by their job (paired samples t-test) within sub-categories of graduates according to demographic variables and variables related to Higher Education studies for the 2021/22 cohort

Cohort 2021/22	Gender		Age at survey				Level			Fields of Study									
	Male	Female	under 25	25 to 29	30 to 34	35 and over	ISCED 5	ISCED 6	ISCED 7	ETT	AH	SSJ	BA	LAW	NS	ICT	EA	HEA	SER
<b>Soft Skills</b>																			
1. Identifying and solving complex problems	+	+	+	+	+	+	+	+	+	+	+	+	+	-	+	+	-	+	+
2. Communicate effectively	-	-	-	-	-	-	+	-	-	-	+	-	-	+	-	-	-	-	+
3. Teamwork	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
4. Leading others	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
5. Adapting to changes and new equipments	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
6. Analytical & critical thinking	+	+	+	+	+	+	+	+	+	+	+	+	+	-	+	+	-	+	+
7. Rapidly acquire new knowledge	+	+	+	+	+	+	+	+	+	+	+	+	+	-	+	-	-	-	+
8. Think creatively and innovatively	+	+	+	+	+	+	+	+	+	-	+	+	+	+	+	+	+	+	+
<b>Core Skills</b>																			
9. Reading and understanding written text in Greek	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
10. Writing various texts in Greek	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
11. Reading and understanding written text in English	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
12. Writing various texts in English	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
13. Communicating orally and in written in another language	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
14. Basic numerical skills	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
15. Advanced numerical or statistical skills	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
<b>Self-management Skills</b>																			
16. Taking a proactive approach	+	+	+	+	+	+	+	+	+	+	+	+	+	-	+	-	-	-	+
17. Willingness to learn	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	-	+	+	+
18. Time management	-	+	-	-	+	+	+	-	+	+	+	-	+	+	-	-	-	-	+
19. Organising information, object and resources	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	-	+
<b>Digital Skills</b>																			
20. Applied use of information and communication technology	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
21. Advanced use of information and communication technology	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
<b>Manual Skills</b>																			
22. Manual dexterity	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
<b>Green Skills</b>																			
23. Implementing practices to reduce the use of raw materials	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
<b>Hard Skills</b>																			
24. Mastery of your own field /specialised knowledge and skills	+	+	+	+	+	+	+	+	+	+	+	+	+	-	+	+	+	+	+

Note 1: Red bold signifies statistically significant differences between graduates' own level of skill and the level required by their current job. The + symbol signifies over-skilling and the - sign under-skilling.

Note 2: Fields of study ETT-Education and Teacher Training, AH-Arts and Humanities, SSJ-Social Sciences and Journalism, BA-Business Administration, LAW-Law, NS-Natural Sciences (including Mathematics), ICT-Information and Communication technologies, EA-Engineering and Architecture, HEA-Health, SER-Services. "Agriculture, Forestry, Fisheries, Veterinary and Services" is excluded from the analysis due to its small population size.

Table 11 and Table 12 present findings from a different type of analysis for the 2017/18 and 2021/22 cohorts respectively. In the context of this analysis, the discrepancy between graduates' own level of each skill and the level of skill required by their job was calculated and compared among different sub-groups of graduates (based on demographic variables and variables related to their Higher Education studies) using independent samples t-test. In this type of analysis, the magnitude of discrepancy between current own and required level is taken into account. Red bold fonts signify statistically significant differences between mean discrepancy skill scores (current own level minus required level by work) between sub-categories of graduates based on demographic variables or variable related to their studies. The fill colour of each cell indicates the magnitude of discrepancy, with light red indicating negative mean discrepancy signalling under-skilling, light yellow indicating positive mean discrepancy of low magnitude signalling over-skilling to a low extent and green indicating positive mean discrepancy of high magnitude ( $>0,5$ ) signalling greater over-skilling.

Table 11 can be interpreted both horizontally and vertically, offering valuable insights into skill mismatches. Horizontally, the analysis reveals that high over-skilling is most prevalent in the Core, Digital, Manual, Green, and Hard Skills categories, as indicated by the predominance of green shading. Conversely, the Soft and Self-management skills categories show more yellow shading, suggesting lower levels of over-skilling, while also recording the highest instances of under-skilling. Core and Hard skills also exhibit the most statistically significant discrepancies between graduates' skill levels and job requirements. Vertically, the table highlights specific subgroups of graduates and the instances of over-skilling or under-skilling they report, including cases where these discrepancies are statistically significant. Over-skilling is the predominant pattern across all subgroups. However, ISCED 5 graduates and graduates from the field of Law stand out as reporting the most instances of under-skilling. Notably, graduates from the field of Law reported statistically significant under-skilling in the Hard Skills category.

Table 11: Comparisons of average discrepancy skill score (between graduates' own level of skill and the level of skill required by their job) by demographic variables and variables related to Higher Education studies (independent samples t-test) for the cohort 2017/18

Cohort 2017/18	Gender		Age at survey			Level			Fields of Study									
	Male	Female	25 to 29	30 to 34	35 and over	ISCED 5	ISCED 6	ISCED 7	ETT	AH	SSJ	BA	LAW	NS	ICT	EA	HEA	SER
<b>Soft Skills</b>																		
1. Identifying and solving complex problems	0,1	0,3	0,3	0,1	0,2	0,4	0,2	0,2	0,4	0,2	0,4	0,1	-0,2	0,4	0,3	0,0	0,0	0,2
2. Communicate effectively	0,0	-0,1	-0,1	-0,2	0,1	0,1	-0,1	0,0	-0,2	0,2	0,1	0,0	-0,3	0,2	-0,1	-0,1	-0,4	0,0
3. Teamwork	0,2	0,3	0,1	0,4	0,4	0,0	0,0	0,4	0,5	0,5	-0,1	0,3	0,3	0,5	0,5	-0,1	0,3	-0,1
4. Leading others	0,4	0,4	0,3	0,4	0,5	0,4	0,2	0,5	0,4	0,5	0,7	0,2	-0,1	1,1	0,5	0,5	0,6	0,4
5. Adapting to changes and new equipments	0,4	0,3	0,2	0,4	0,4	0,0	0,2	0,4	0,5	0,6	0,2	0,2	0,1	0,2	0,5	0,2	0,4	0,0
6. Analytical & critical thinking	0,3	0,2	0,1	0,2	0,4	0,3	0,1	0,3	0,3	0,4	0,3	0,2	0,0	0,4	0,4	0,3	0,1	0,2
7. Rapidly acquire new knowledge	0,3	0,2	0,1	0,1	0,4	0,2	0,1	0,3	0,6	0,5	0,1	0,2	-0,3	0,4	0,4	0,1	-0,4	0,0
8. Think creatively and innovatively	0,5	0,4	0,2	0,5	0,5	0,3	0,4	0,4	0,3	0,4	0,9	0,3	0,0	1,0	0,6	0,4	0,4	0,6
<b>Core Skills</b>																		
9. Reading and understanding written text in Greek	1,0	0,8	1,0	1,0	0,6	0,5	1,0	0,8	0,7	1,1	0,6	0,7	0,5	1,7	1,4	1,8	0,5	0,9
10. Writing various texts in Greek	1,0	0,9	1,1	1,1	0,8	0,7	1,1	0,9	0,8	1,3	0,7	0,9	0,6	2,4	2,1	2,0	0,2	1,0
11. Reading and understanding written text in English	0,6	0,9	0,2	0,9	1,1	-0,1	0,3	1,1	1,7	0,9	0,9	0,5	-0,1	0,6	0,5	0,3	0,6	0,1
12. Writing various texts in English	0,7	0,9	0,4	0,8	1,1	-0,3	0,6	1,0	1,4	0,9	1,0	0,6	0,2	0,7	0,8	0,4	1,0	-0,2
13. Communicating orally and in written in another language	0,5	0,8	0,5	0,4	1,0	0,5	0,3	0,9	1,3	0,4	1,1	0,5	0,4	0,6	0,9	0,3	0,3	0,1
14. Basic numerical skills	0,8	0,5	0,1	0,7	0,9	-0,1	0,4	0,8	0,7	0,8	1,0	0,5	0,1	0,5	1,1	0,8	0,4	0,0
15. Advanced numerical or statistical skills	0,8	0,8	0,5	0,8	1,0	0,3	0,7	0,9	1,2	0,6	0,9	0,6	0,5	0,5	1,1	1,1	0,9	0,2
<b>Self-management Skills</b>																		
16. Taking a proactive approach	0,3	0,2	0,0	0,2	0,4	-0,2	0,1	0,4	0,3	0,0	0,6	0,2	-0,3	0,1	0,8	0,4	0,6	-0,1
17. Willingness to learn	0,6	0,5	0,5	0,4	0,7	0,2	0,5	0,6	0,7	0,6	0,7	0,5	0,0	0,6	0,6	0,6	0,4	0,3
18. Time management	0,2	0,1	0,1	0,0	0,2	0,0	-0,1	0,2	0,2	0,0	0,0	0,2	-0,3	-0,1	0,2	-0,1	0,2	-0,2
19. Organising information, object and resources	0,3	0,3	0,2	0,3	0,3	0,2	0,1	0,4	0,5	0,3	0,3	0,3	-0,4	0,3	0,3	0,2	0,2	0,0
<b>Digital Skills</b>																		
20. Applied use of information and communication technology	0,6	0,5	0,5	0,6	0,6	0,5	0,4	0,6	0,8	0,6	0,7	0,4	0,3	0,3	0,5	0,4	0,6	0,1
21. Advanced use of information and communication technology	0,6	0,4	0,4	0,6	0,5	-0,1	0,4	0,6	0,7	0,2	0,7	0,4	0,3	0,3	0,5	0,5	0,6	0,3
<b>Manual Skills</b>																		
22. Manual dexterity	1,1	0,9	0,7	1,1	1,0	0,3	0,9	1,1	0,9	1,1	1,2	0,9	0,9	0,5	2,0	1,1	0,8	0,5
<b>Green Skills</b>																		
23. Implementing practices to reduce the use of raw materials	1,0	0,8	0,4	1,1	1,1	0,1	0,5	1,2	1,1	0,7	1,3	0,8	0,5	0,9	1,1	0,7	1,1	0,4
<b>Hard Skills</b>																		
24. Mastery of your own field /specialised knowledge and skills	0,6	0,6	0,4	0,6	0,6	0,4	0,4	0,6	0,6	1,2	0,9	0,4	-0,1	0,7	0,4	0,8	0,6	0,2

Note 1: Red text signifies statistically significant mean differences between mean discrepancies between subcategories of each demographic variable or variable related to graduates' studies. The fill colour of each cell indicates the level of discrepancy, with light red being negative, yellow being moderately positive and green being more than moderately positive.

Note 2: Fields of study ETT-Education and Teacher Training, AH-Arts and Humanities, SSJ-Social Sciences and Journalism, BA-Business Administration, LAW-Law, NS-Natural Sciences (including Mathematics), ICT-Information and Communication technologies, EA-Engineering and Architecture, HEA-Health, SER-Services. "Agriculture, Forestry, Fisheries, Veterinary and Services" is excluded from the analysis due to its small population size.

Table 12 presents the same type of analysis for the 2021/22 cohort and can be interpreted both horizontally and vertically, offering valuable insights into skill mismatches. Horizontally, the analysis reveals that high over-skilling is most prevalent in the Core, Digital, Manual, Green, and Hard Skills categories, as indicated by the predominance of green shading. Conversely, the Soft and Self-management skills categories show more yellow shading, suggesting lower levels of over-skilling, while also recording the highest instances of under-skilling. Core and Hard skills also exhibit the most statistically significant discrepancies between graduates' skill levels and job requirements. Vertically, the table highlights specific subgroups of graduates and the instances of over-skilling or under-skilling they report, including cases where these discrepancies are statistically significant. Over-skilling is the predominant pattern across all subgroups. However, ISCED 5 graduates and graduates from the field of Law stand out as reporting the most instances of under-skilling. Notably, graduates from the field of Services reported statistically significant under-skilling in almost all skills.

Table 12: Comparisons of average discrepancy skill score (between graduates' own level of skill and the level of skill required by their job) by demographic variables and variables related to Higher Education studies (independent samples t-test) for the cohort 2021/22

Cohort 2021/22	Gender		Age at survey				Level			Fields of Study									
	Male	Female	under 25	25 to 29	30 to 34	35 and over	ISCED 5	ISCED 6	ISCED 7	ETT	AH	SSJ	BA	LAW	NS	ICT	EA	HEA	SER
<b>Soft Skills</b>																			
1. Identifying and solving complex problems	0,3	0,1	0,1	0,0	0,2	0,3	0,5	0,0	0,2	0,0	0,2	0,3	0,4	-0,4	0,0	0,0	0,0	0,1	0,3
2. Communicate effectively	0,0	-0,2	-0,1	-0,2	0,0	0,0	0,2	-0,2	-0,1	-0,3	0,0	0,0	0,0	0,2	-0,5	-0,1	-0,2	0,0	0,0
3. Teamwork	0,3	0,3	0,3	0,2	0,4	0,3	0,3	0,2	0,3	0,3	0,4	0,3	0,3	0,7	0,0	0,1	0,3	0,2	0,1
4. Leading others	0,3	0,4	0,2	0,4	0,5	0,3	0,2	0,3	0,4	0,3	0,7	0,4	0,4	0,6	0,7	0,6	0,4	0,1	0,0
5. Adapting to changes and new equipments	0,4	0,2	0,2	0,2	0,3	0,4	0,3	0,2	0,3	0,3	0,3	0,1	0,3	0,6	0,2	0,6	0,3	0,0	0,3
6. Analytical & critical thinking	0,3	0,2	0,1	0,1	0,4	0,4	0,1	0,1	0,3	0,3	0,5	0,2	0,4	0,0	0,3	0,1	-0,1	0,1	0,0
7. Rapidly acquire new knowledge	0,3	0,2	0,0	0,0	0,4	0,5	0,1	0,0	0,3	0,3	0,4	0,2	0,5	0,0	0,4	-0,1	0,0	-0,1	0,0
8. Think creatively and innovatively	0,4	0,1	0,2	0,1	0,3	0,4	0,3	0,3	0,2	-0,1	0,4	0,2	0,5	0,4	0,7	0,1	0,3	0,2	0,2
<b>Core Skills</b>																			
9. Reading and understanding written text in Greek	1,2	0,6	0,8	1,0	0,8	0,6	0,6	1,2	0,7	0,5	0,9	0,9	1,0	0,6	2,0	2,0	1,3	0,5	0,7
10. Writing various texts in Greek	1,4	0,9	1,0	1,3	1,1	0,8	1,2	1,2	1,0	1,0	1,1	1,1	1,0	0,6	2,4	2,3	1,3	0,7	1,1
11. Reading and understanding written text in English	0,7	1,0	0,3	0,7	1,1	1,1	0,6	0,3	1,1	1,5	1,0	0,9	0,5	0,6	0,4	0,1	0,7	0,1	0,8
12. Writing various texts in English	0,9	1,0	0,5	0,8	1,2	1,1	0,9	0,4	1,1	1,5	0,9	0,9	0,6	0,6	0,6	0,2	0,6	0,5	1,0
13. Communicating orally and in written in another language	0,6	0,7	0,4	0,5	1,1	0,8	0,4	0,2	0,9	1,2	1,0	0,6	0,6	0,6	0,3	0,1	0,3	0,1	0,1
14. Basic numerical skills	0,9	0,7	0,6	0,6	0,7	1,0	0,6	0,6	0,8	0,8	1,2	1,0	0,5	1,0	0,7	0,8	1,0	0,9	0,4
15. Advanced numerical or statistical skills	0,9	0,7	0,7	0,5	0,8	1,0	0,6	0,5	0,9	0,8	0,7	0,7	0,7	1,0	0,6	0,9	0,9	0,7	0,7
<b>Self-management Skills</b>																			
16. Taking a proactive approach	0,2	0,2	0,1	0,0	0,2	0,4	0,2	0,0	0,2	0,2	0,1	0,5	0,3	0,0	0,2	0,0	0,0	0,0	0,2
17. Willingness to learn	0,6	0,4	0,3	0,3	0,5	0,8	0,3	0,3	0,6	0,4	0,7	0,6	0,6	0,6	0,3	0,0	0,4	0,1	0,2
18. Time management	-0,1	0,0	-0,1	-0,2	0,1	0,1	0,1	-0,1	0,0	0,0	0,2	-0,2	0,1	0,1	-0,1	-0,2	-0,2	-0,3	0,0
19. Organising information, object and resources	0,3	0,2	0,1	0,1	0,3	0,3	0,4	0,0	0,3	0,3	0,7	0,0	0,3	0,1	0,1	0,1	0,0	-0,2	0,2
<b>Digital Skills</b>																			
20. Applied use of information and communication technology	0,6	0,4	0,6	0,4	0,6	0,5	0,6	0,3	0,6	0,6	0,5	0,4	0,4	0,5	0,7	0,0	0,4	0,2	0,7
21. Advanced use of information and communication technology	0,7	0,6	0,6	0,5	0,8	0,6	0,5	0,4	0,7	0,8	0,7	0,6	0,6	0,4	0,2	0,3	0,3	0,3	0,8
<b>Manual Skills</b>																			
22. Manual dexterity	0,9	0,6	0,6	0,5	0,7	1,0	0,5	0,6	0,8	0,7	1,1	0,5	0,7	1,7	0,6	1,0	0,9	0,5	0,6
<b>Green Skills</b>																			
23. Implementing practices to reduce the use of raw materials	0,8	0,9	0,8	0,7	0,8	1,1	0,6	0,8	0,9	1,0	1,1	0,6	0,7	1,4	1,2	0,6	0,5	0,9	0,6
<b>Hard Skills</b>																			
24. Mastery of your own field /specialised knowledge and skills	0,6	0,5	0,3	0,5	0,6	0,6	0,5	0,3	0,6	0,6	1,0	0,5	0,5	-0,3	0,7	0,0	0,4	0,1	0,6

Note 1: Red text signifies statistically significant mean differences between mean discrepancies between subcategories of each demographic variable or variable related to graduates' studies. The fill colour of each cell indicates the level of discrepancy, with light red being negative, yellow being moderately positive and green being more than moderately positive.

Note 2: Fields of study ETT-Education and Teacher Training, AH-Arts and Humanities, SSJ-Social Sciences and Journalism, BA-Business Administration, LAW-Law, NS-Natural Sciences (including Mathematics), ICT-Information and Communication technologies, EA-Engineering and Architecture, HEA-Health, SER-Services. "Agriculture, Forestry, Fisheries, Veterinary and Services" is excluded from the analysis due to its small population size.

## 5.6. Upskilling and reskilling during employment

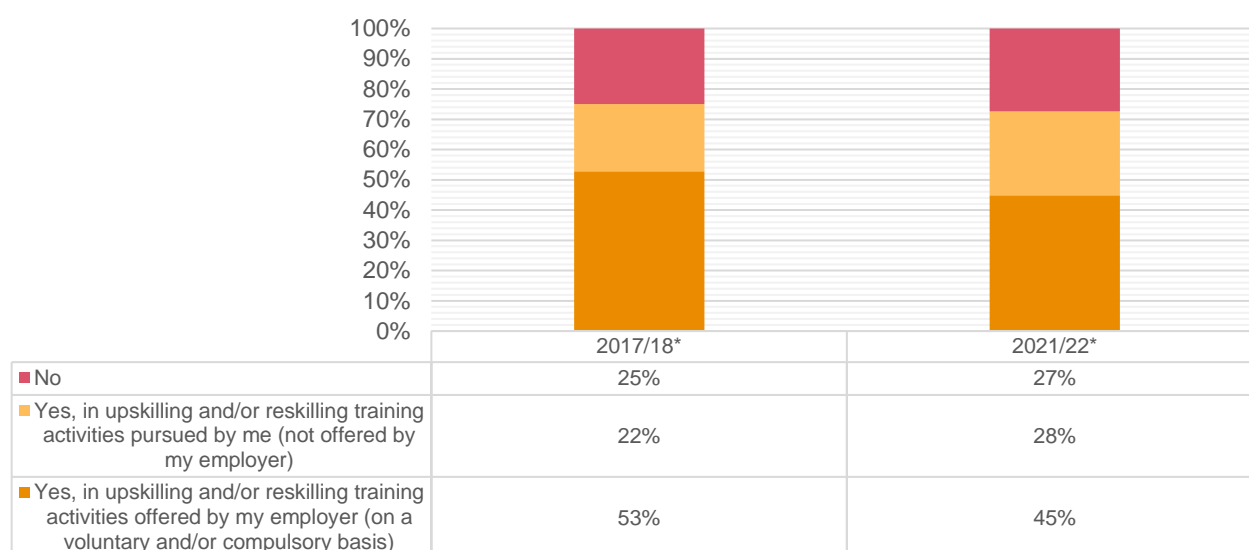
Upskilling and reskilling activities prepare employees for recent and fast-approaching developments, which may require more agility. Although upskilling and reskilling are related, upskilling focuses on enhancing employees' current skills rather than preparing them for new roles. Specifically, upskilling relates to learning new and enhanced skills that concern the graduate's current role, a "levelling up" of his/her skills. Upskilling is typically a more intentional learning process where one usually elevates his/her current skills through skills development courses, certifications, or mentorship programmes. Upskilling enhances an employee's existing skills (Gallie, 1991). In contrast, reskilling prepares current workers for different roles (Li, 2022). Reskilling involves learning new cross-functional skills and is highly important if one would like to change his/her career path and engage in a different role. Both upskilling and reskilling activities are considered important as they prepare the workforce, companies and organisations to adjust and handle fast changing market conditions and fast developing technologies.

This study also examined graduates' involvement in upskilling and reskilling activities during employment. Specifically, it explored the extent of their participation in these activities, as well as the reasons behind their engagement. It is important to note that only graduates who indicated they were employed or self-employed responded to questions regarding upskilling and reskilling activities.

### 5.6.1. Participation in upskilling and reskilling activities during employment

Graduates were asked to indicate their participation in upskilling and reskilling activities during the past year, but also to express whether these training activities were offered by their employer (on a compulsory and/or voluntary basis). Figure 225 shows that the majority of graduates in both cohorts participated in upskilling and reskilling activities in the past 12 months. Particularly, a slightly higher percentage of 2017/18 graduates (75%) reported as having engaged in upskilling and reskilling activities than 2021/22 graduates (73%). It is observed that 53% of 2017/18 graduates and 45% of 2021/22 graduates participated in training activities offered by their employer either on a compulsory or voluntary basis. This suggests that employers acknowledge the need and benefits of providing continuous professional development to their employees. It is also observed that 22% of 2017/18 graduates and 28% of 2021/22 ones took part in upskilling and reskilling activities on their own initiative, thereby showing their dedication and motivation for learning. These findings might also suggest a potential gap in skills, as indicated by the need for both employer-provided training and self-initiated upskilling and reskilling activities. These differences in participation rates in upskilling and reskilling activities between the two cohorts were found to be statistically significant. The significant differences in participation rates between the two cohorts may highlight evolving demands in the labour market.

Figure 225: Graduates' participation in upskilling and reskilling activities during employment the past 12 months by graduation cohort

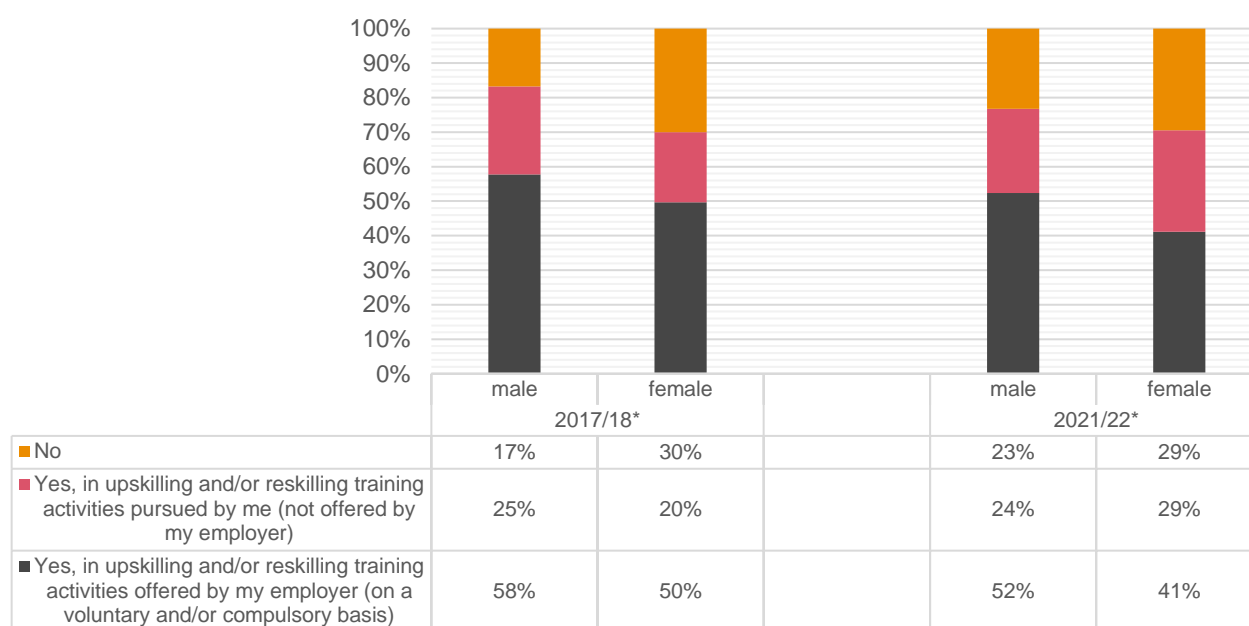


\*Statistically significant findings

#### 5.6.1.1. Participation in upskilling and reskilling activities during employment by demographic variables

Statistically significant differences were found between males and females regarding their participation in upskilling and reskilling training during the past 12 months within both cohorts (Figure 226). In the 2017/18 cohort, the percentage of graduates who did not participate in upskilling and reskilling training activities was higher for female graduates (17% for males and 30% for females). Additionally, more males (56%) than females (50%) participated in training activities provided by their employer while more females (27%) than males participated in training activities on their own initiative. In the 2021/22 cohort, a higher percentage of female graduates (29%) than male (23%) reported not engaging in upskilling and training activities. Again, significantly more males (52%) than females (41%) participated in training activities provided by their employer. Both genders showed relatively similar percentages of participation in training activities initiated on their own.

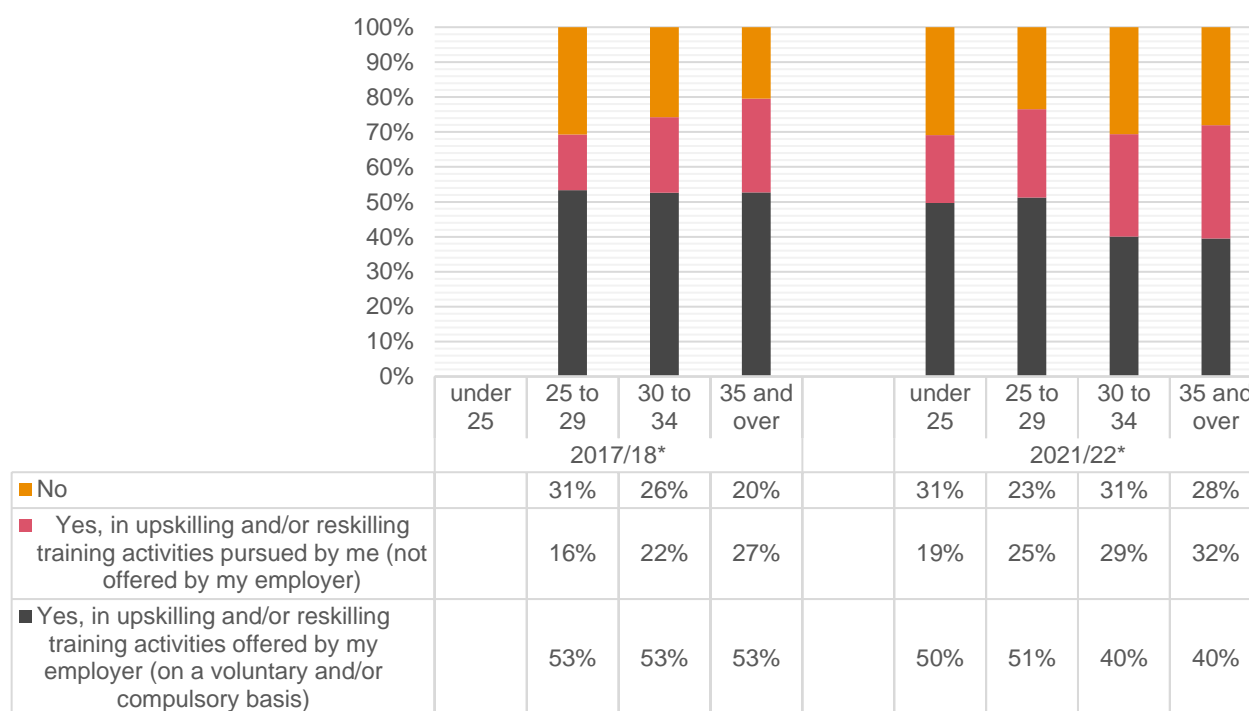
Figure 226: Graduates' participation in upskilling and reskilling activities during employment the past 12 months by gender and graduation cohort



\*Statistically significant findings

Participation in upskilling and reskilling training activities during employment the past 12 months by age at the time of the survey is shown in Figure 227. In the 2017/18 cohort, only a very small number of participants belonged in the age group “under 25” and therefore this group was excluded from this exploration. In the 2017/18 cohort, participants over the age of 35 had the highest participation rate in upskilling and reskilling training activities during employment, reaching 80% while participants from the age group “25 to 29” the lowest (69%). The majority of graduates in all age groups that reported engaging in upskilling and reskilling training activities during employment, also reported that these activities were offered by their employer on a compulsory or voluntary basis. The age group with the highest participation rate in self-initiated training activities was “35 and over” (27%). The differences in participation rates in upskilling and reskilling training activities during employment during the past 12 months by age at the time of the survey were statistically significant for the 2017/18 cohort. In the 2021/22 cohort, the age groups “under 25” and “30 to 34” had the lowest participation rate in upskilling and reskilling training activities during employment among the age groups (69%). Similar to the earlier cohort, most graduates across all age groups cited employer-provided training as the primary source. Additionally, the “35 and over” age group had the highest participation rate in self-initiated training activities.

Figure 227: Graduates' participation in upskilling and reskilling activities during employment the past 12 months by age (at time of the survey) and graduation cohort

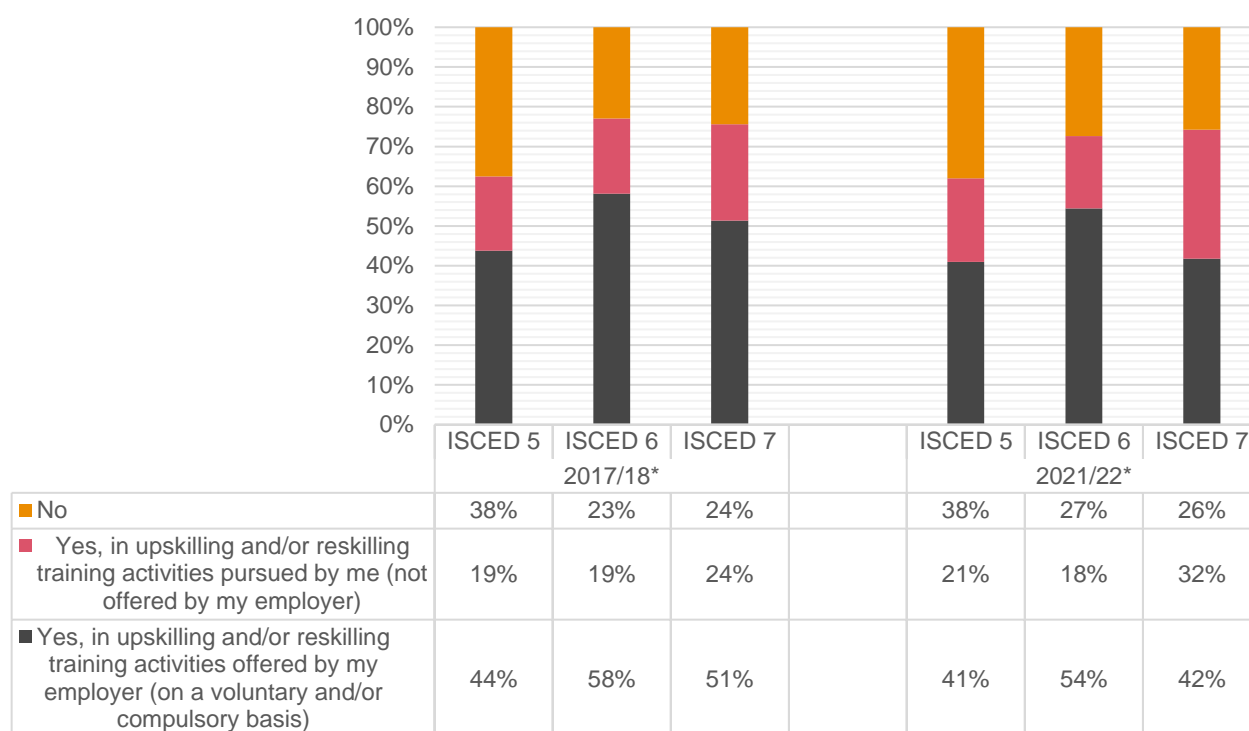


\*Statistically significant findings

#### 5.6.1.2. Participation in upskilling and reskilling activities during employment by variables related to Higher Education studies

Engaging in upskilling and reskilling activities during employment by level of studies is presented in Figure 228. In the 2017/18 cohort, ISCED 6 graduates had the highest participation percentage (77%) in upskilling and reskilling activities during employment while ISCED 5 graduates the lowest (63%). In particular, ISCED 5 graduates reported the lowest participation percentage in both categories of upskilling and reskilling activities i.e., the ones provided by employer (44%) but also self-initiated (19%). ISCED 7 graduates reported the highest participation in self-initiated training activities. In the 2021/22 cohort ISCED 7 graduates reported the highest participation percentage (74%) in upskilling and reskilling activities during employment. ISCED 5 graduates exhibited the lowest participation percentage in upskilling and reskilling activities provided by employer (41%) while ISCED 7 had the highest percentage in participating in upskilling and reskilling activities based on their own initiative (32%). These differences in participation rates in upskilling and reskilling activities by the level of studies were found to be statistically significant within both cohorts.

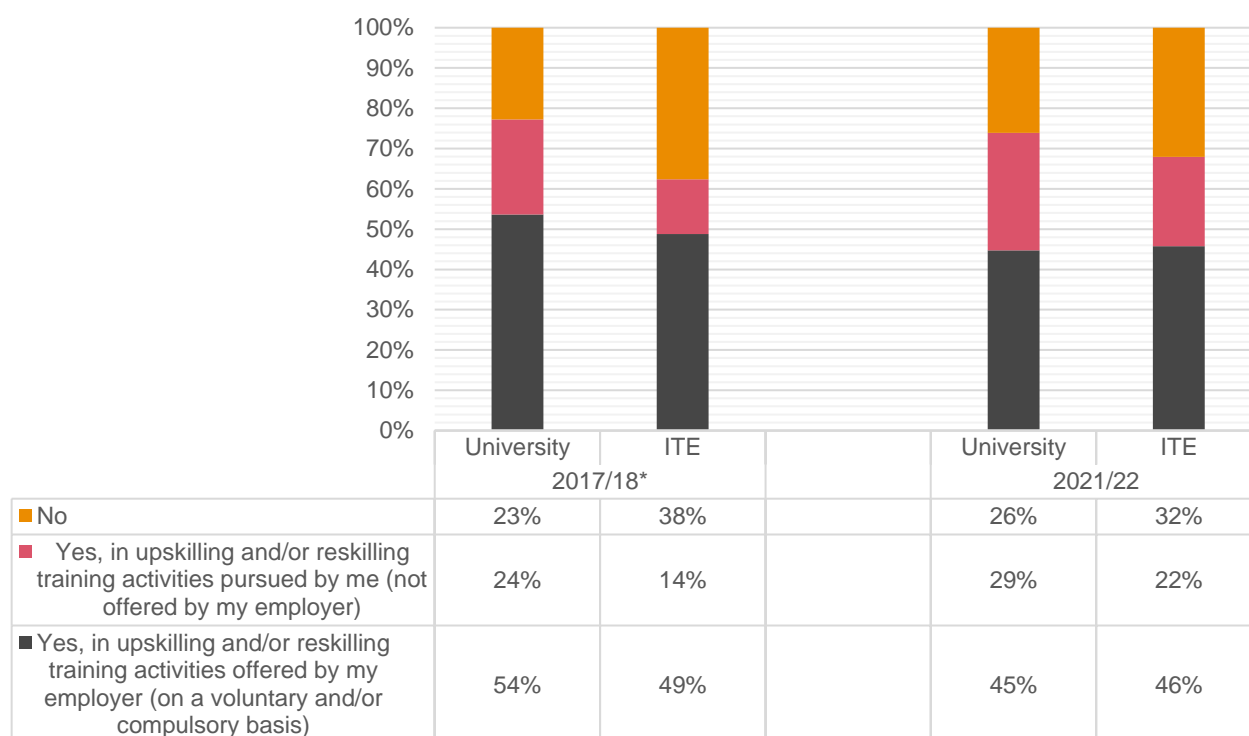
Figure 228: Graduates' participation in upskilling and reskilling activities during employment the past 12 months by ISCED-level and graduation cohort



\*Statistically significant findings

The participation rates in upskilling and reskilling activities during employment, categorised by the type of higher education institution from which participants graduated, are shown in Figure 229. Statistically significant differences were found in participation rates in upskilling and reskilling activities during employment among graduates from Universities and ITE within only the 2017/18 cohort. In the 2017/18 cohort, the participation rates of University graduates (78%) were significantly higher than the corresponding percentage of graduates from ITE (63%). University graduates had also higher percentages of participation in both types of upskilling and reskilling training activities (provided by their employer and those undertaken based on their own initiative). In the 2021/22 cohort University graduates had a higher participation rate (74%) compared to graduates from ITE (68%) in upskilling and reskilling activities. Graduates from ITE had similar percentages (46%) of participation in upskilling and reskilling training activities provided by their employer with University graduates (45%), while University graduates had higher participation rates (29%) in undertaking self-initiated upskilling and reskilling training activities undertaken based on their own initiative (22%).

Figure 229: Graduates' participation in upskilling and reskilling activities during employment the past 12 months by type of HEI and graduation cohort



\*Statistically significant findings

The participation rates in upskilling and reskilling activities during employment were also explored by field of study (Figure 230). In the cohort 2017/18, most graduates in all fields participated in upskilling and reskilling activities during employment during the past 12 months with graduates in the field of Business Administration noting the highest participation rate (78%). Graduates in the field Information and Communication Technologies had the highest participation rate in upskilling and reskilling activities provided by employers (67%) while graduates in the field of Services had the highest participation rate (32%) in upskilling and reskilling activities undertaken based on their own initiative. In the cohort 2021/22 there were statistically significant differences in participation rates in upskilling and reskilling activities between the various across different fields of study. Most graduates in all fields participated in upskilling and reskilling activities during employment. Graduates in the field of Natural Sciences including Mathematics (84%) had the highest overall participation rate while graduates in the field of Arts and Humanities the lowest (57%). Graduates in the field of Natural Sciences including Mathematics had the highest participation in employer-provided training (79%) while graduates in the field of Education and Teacher Training in training undertaken based on their own initiative (36%) had the highest percentage. These findings highlight the variations in participation rates by field, reflecting differences in industry demands, employer support, and graduates' motivation for continuous learning.

Figure 230: Graduates' participation in upskilling and reskilling activities during employment the past 12 months by field of study and graduation cohort



\*Statistically significant findings

Note: Fields of study ETT-Education and Teacher Training, AH-Arts and Humanities, SSJ-Social Sciences and Journalism, BA-Business Administration, LAW-Law, NS-Natural Sciences (including Mathematics), ICT-Information and Communication Technologies, EA-Engineering and Architecture, HEA-Health, SER-Services. "Agriculture, Forestry, Fisheries, Veterinary and Services" is excluded from the analysis due to its small population size.

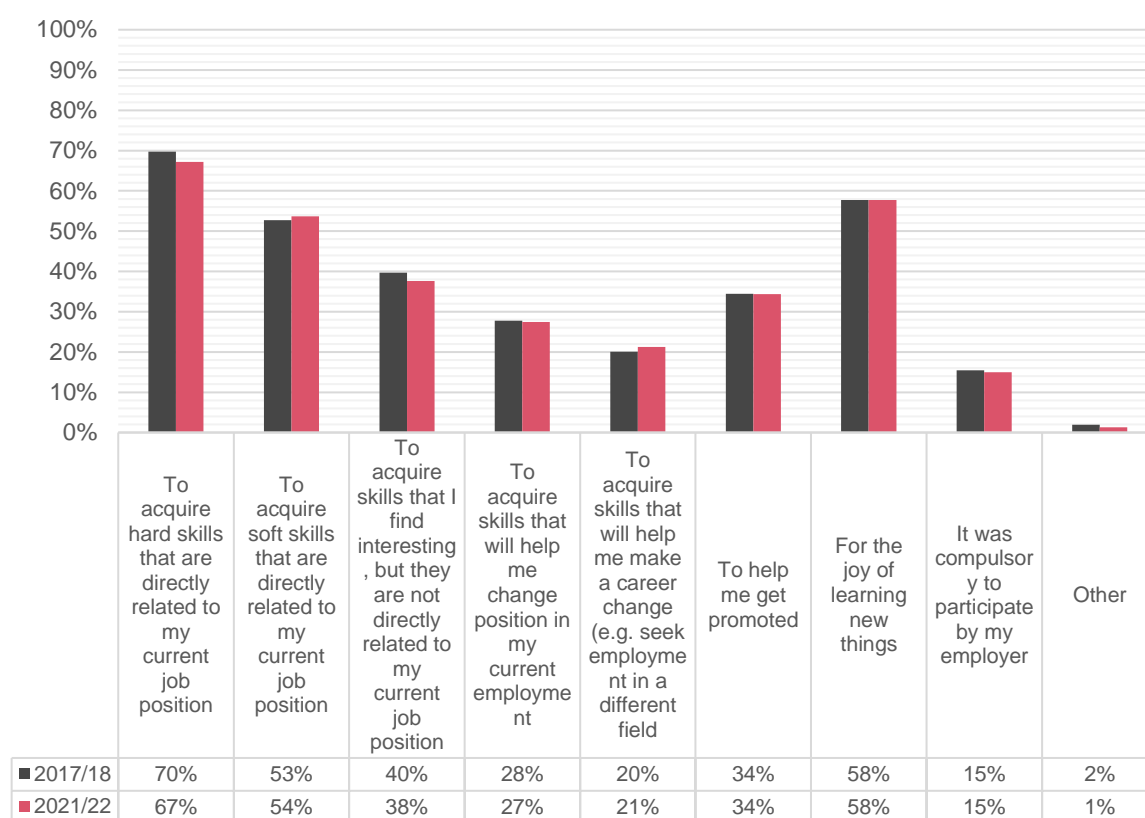
### 5.6.2. Reasons for participating in upskilling and reskilling activities during employment

Investigating the drivers for graduates' involvement in upskilling and reskilling activities was crucial. For instance, did graduates perceive gaps in their hard or soft skills, did they seek upskilling or reskilling for career advancement, a career change, or personal development? Thus, the current sub-section explores the reasons behind graduates' involvement in upskilling and reskilling training activities. In the context of this study, graduates were asked to indicate the motives for their participation in upskilling and/or reskilling training activities in the past 12 months. Graduates were given a list of eight reasons and asked to select up to three, ranking them in order of importance, with the first option representing the most significant reason.

As depicted in Figure 231, the results seem to be consistent between the two cohorts. The main reason selected by most graduates for participating in upskilling and reskilling activities was the acquisition of hard skills related to their current job position (70% and 67% for the 2017/18 and 2021/22 graduates respectively). This finding raises important questions about how effectively graduates are prepared with the workplace skills they need from their Higher Education studies. The persistent demand for hard skills training suggests that many graduates may enter the workforce without fully mastering the technical competencies necessary for their positions, potentially indicating gaps in the curriculum or the evolving nature of skill demands in the labour market.

The second most common reason selected was for the joy of learning for the 2017/18 graduates (58%) and for the 2021/22 cohort (58%). The third most frequent reason was the acquisition of soft skills for the 2017/18 graduates (53%) and for the 2021/22 graduates (50%). Interestingly lower percentages of graduates (34% for 2017/18 and 2021/22) indicated that they participated in training activities for getting a promotion. One key advantage of engaging in upskilling and reskilling activities is gaining the essential skills needed for a successful career change. However, this reason was selected by 20% and 21% for the 2017/18 and 2021/22 cohorts respectively. The lowest percentage of graduates (15%) in both cohorts reported that they participated in upskilling and reskilling activities since this was mandated by their employers.

Figure 231: Reasons for participating in upskilling and reskilling activities during employment by graduation cohort

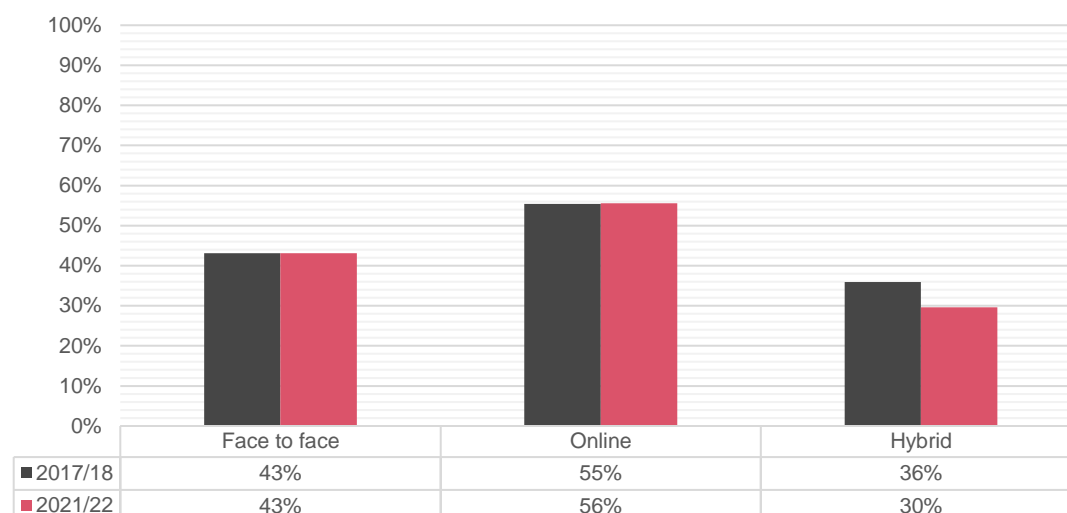


Note: Participants could select more than one answer in this question

### 5.6.3. Delivery of upskilling and reskilling training activities

Upskilling and reskilling activities can be delivered in various formats, including online, face-to-face or hybrid. This sub-section presents the delivery format of the upskilling and reskilling training activities in which graduates participated in the past 12 months. According to Figure 232, in both cohorts, online training was the most used method, accounting for 55% and 56% for 2017/18 cohort and 2021/22 cohort respectively. This was somewhat anticipated, as online learning has become a popular trend following the Covid-19 pandemic. A considerable percentage of graduates indicated that they participated in upskilling and reskilling training activities conducted in a face-to-face format (43% in both cohorts). It is evident that although online training is easy and convenient, training employee using a face-to-face format has still several advantages (such as keeping trainees engaged, allowing more interactions etc.). A lower percentage of graduates indicated that they participated in hybrid-style training programmes in both cohorts (36% in the 2017/18 cohort and 30% in the 2021/22 cohort).

Figure 232: Delivery of upskilling and reskilling training activities during employment by graduation cohort

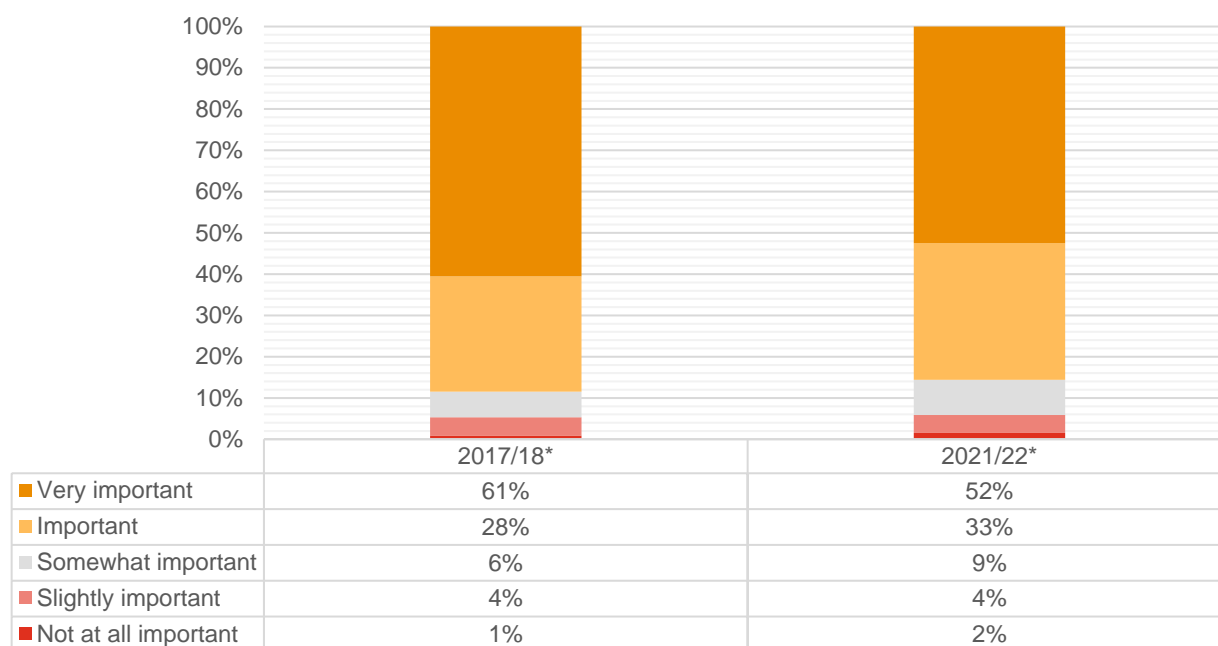


*Note: Participants could select more than one answer in this question*

#### 5.6.4. Importance of upskilling and reskilling opportunities

The present subsection presents the results concerning the importance of upskilling and reskilling opportunities. It focuses on graduates (excluding those who are self-employed) who participated in upskilling or reskilling activities over the past 12 months, for both cohorts. As shown in Figure 233, in both cohorts, most graduates believe that upskilling and reskilling opportunities are of high importance (89% and 85% for the 2017/18 and 2021/22 graduates respectively). These differences among the two cohorts were found to be statistically significant.

Figure 233: The importance of upskilling and reskilling opportunities during employment the past 12 months by graduation cohort

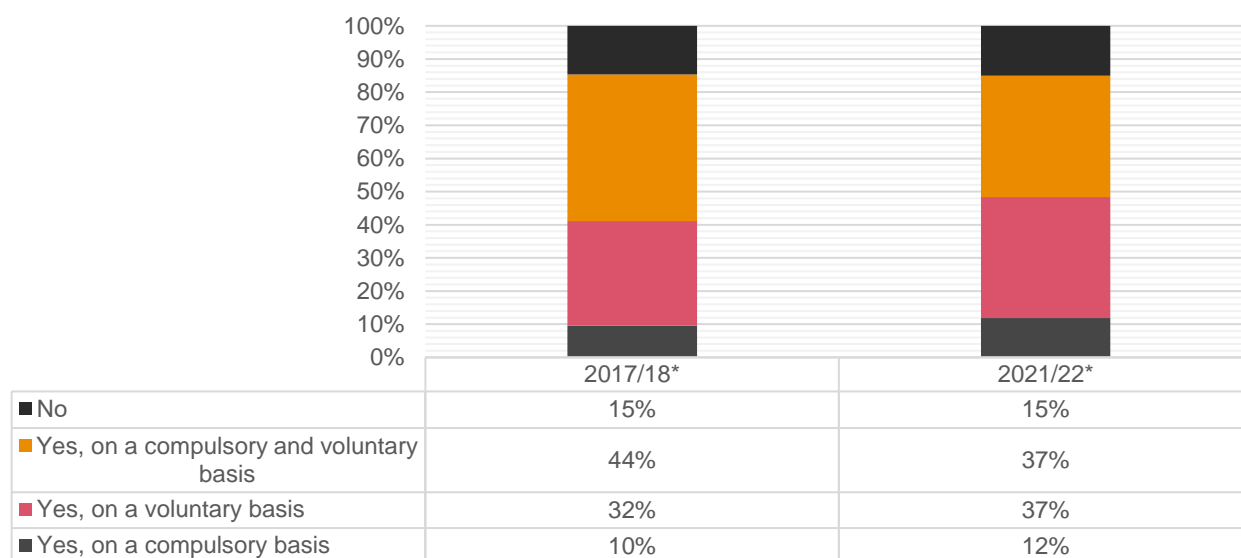


\*Statistically significant findings

### 5.6.5. Employer opportunities for participation in upskilling and reskilling

Another aspect explored in the study was whether the graduates' current employers (excluding graduates who are self-employed) offered opportunities for participating in upskilling and/or reskilling training activities over the past 12 months. This part of the survey aimed to understand the extent to which employers are supporting their employees' professional development by offering training that enhances or updates their skills in response to evolving industry demands. According to Figure 234, 85% of the 2017/18 and 2021/22 cohort reported that their employers offer opportunities for participation in upskilling and reskilling. The most common type of offering is a combination of both compulsory and voluntary training, with 44% for the 2017/18 graduates while for the 2021/22 graduates 37% indicated that their employers provided a combination of both compulsory and voluntary training, with another 37% stating that the opportunities were voluntary. These differences between the two cohorts were found to be statistically significant.

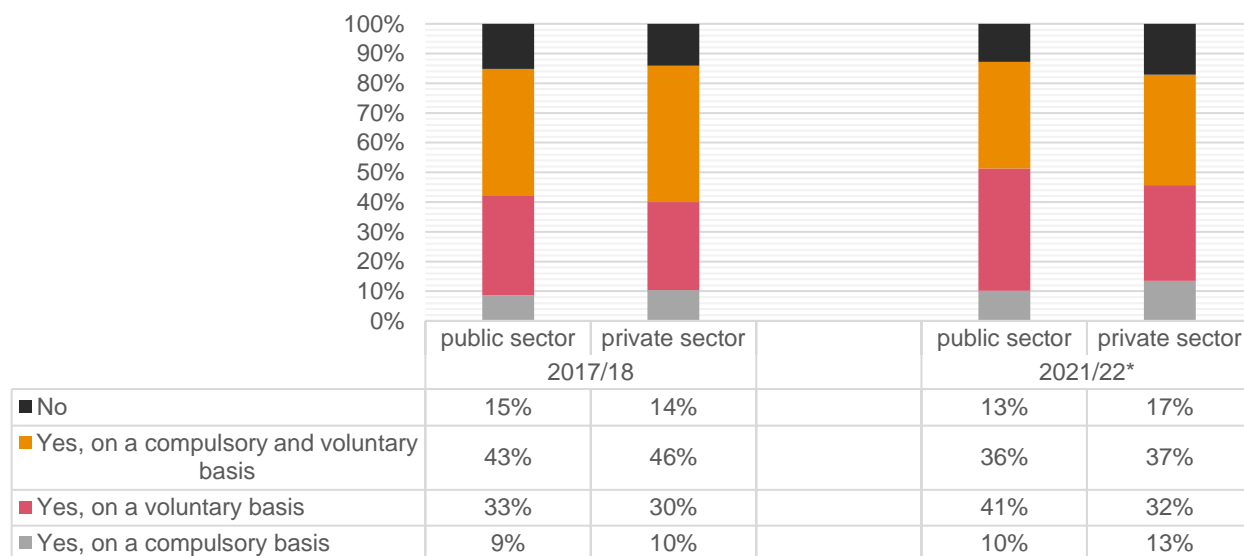
Figure 234: Employer opportunities for participation in upskilling and reskilling



\*Statistically significant findings

Opportunities offered by employers for engaging in upskilling and reskilling activities were also explored by sector of employment (excluding self-employed graduates). According to Figure 235, in the 2017/18 cohort it appears that a similar percentage of graduates (15% in the public sector and 14% percent in the private sector) have not been offered opportunities to participate in any kind of reskilling and upskilling activity. Additionally, a higher percentage of graduates working in the private sector (46%) have been offered opportunities to participate in both compulsory and voluntary activities than graduates working in the public sector (43%). As for the 2021/22 cohort, the percentage of graduates that have not been offered opportunities to participate in any kind of reskilling and upskilling activity is lower for the graduates working in the public sector (13%) than for the graduates working in the private sector (17%). A higher percentage of graduates employed in the public sector (41%) have been offered opportunities to participate in training activities on a voluntary basis when compared to graduates employed in the private sector (32%). These differences in opportunities to engage in upskilling and reskilling activities offered by employers by sector of employment were found to be statistically significant only in the 2021/22 cohort.

Figure 235: Employer opportunities for participation in upskilling and reskilling by type of employment



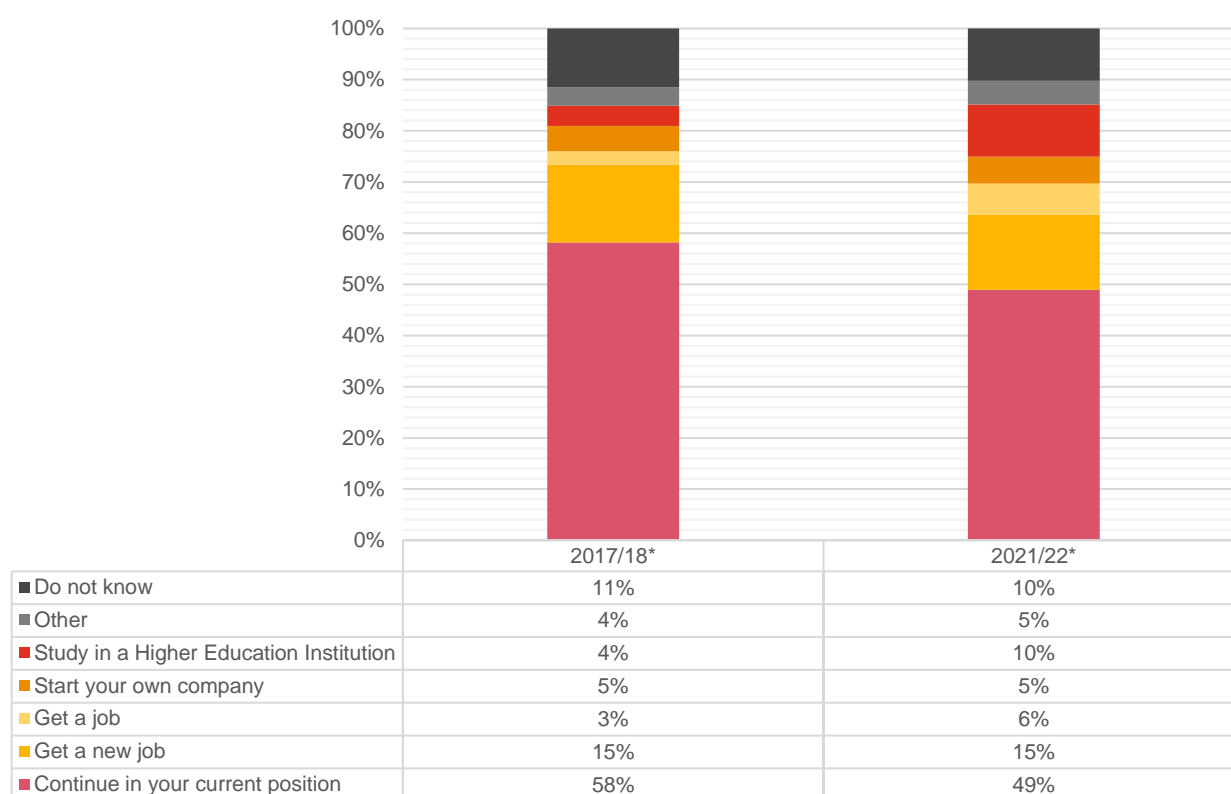
\*Statistically significant findings

## 5.7.Future Plans

This section is presenting the results on questions about the future plans of all graduates for fall 2024 as well as future plans of employed individuals, categorized by combined mismatch and graduation cohort. The data provides insights into how graduates plan to engage with the labour market or further education, and how these plans differ based on their perceived skills mismatch (e.g., overqualification, underqualification, horizontal mismatch, double mismatch).

Figure 236 presents the percentage of graduates' future plans for fall 2024 by graduation cohort. Similar patterns are observed in both cohorts, with the most common response to be "continue in my current position" (58% for 2017/18 and 49% and 2021/22). The second most frequent plan was "get a new job," which was selected by 15% of graduates in both cohorts. The third most common answer was the "do not know" at 11% for the 2017/18 and 10% for the 2021/22 indicating uncertainty about their future plans. A 5% in both cohorts reported plans to start their own company. In 2017/18 cohort, 3% reported they will get a job and 4% that they will study in HEI. The 2021/22 cohort showed slightly higher percentages for these plans, with 6% reporting they would get a job and 10% intending to study in an HEI. In general, both cohorts appear to have similar future plans with the majority indicating they will continue in their current positions, and thus indicating that their studies have not changed significantly their immediate career trajectories.

Figure 236: Future plans (for fall 2024) by graduation cohort



\*Statistically significant findings

Figure 237 presents the percentage of employed individuals' future plans by the variables combined mismatch and graduation cohort. The trends in both cohorts are similar regarding future plans for the different categories of mismatch with the most common future plan across all categories of mismatch being "continue in the current position." In the 2017/18 cohort, underqualified graduates recorded the highest percentage (77%) of those planning to stay in their current position, followed by overqualified at 70% and well-matched at 65%. This suggests that underqualified graduates in the 2017/18 cohort were more likely to remain in their current

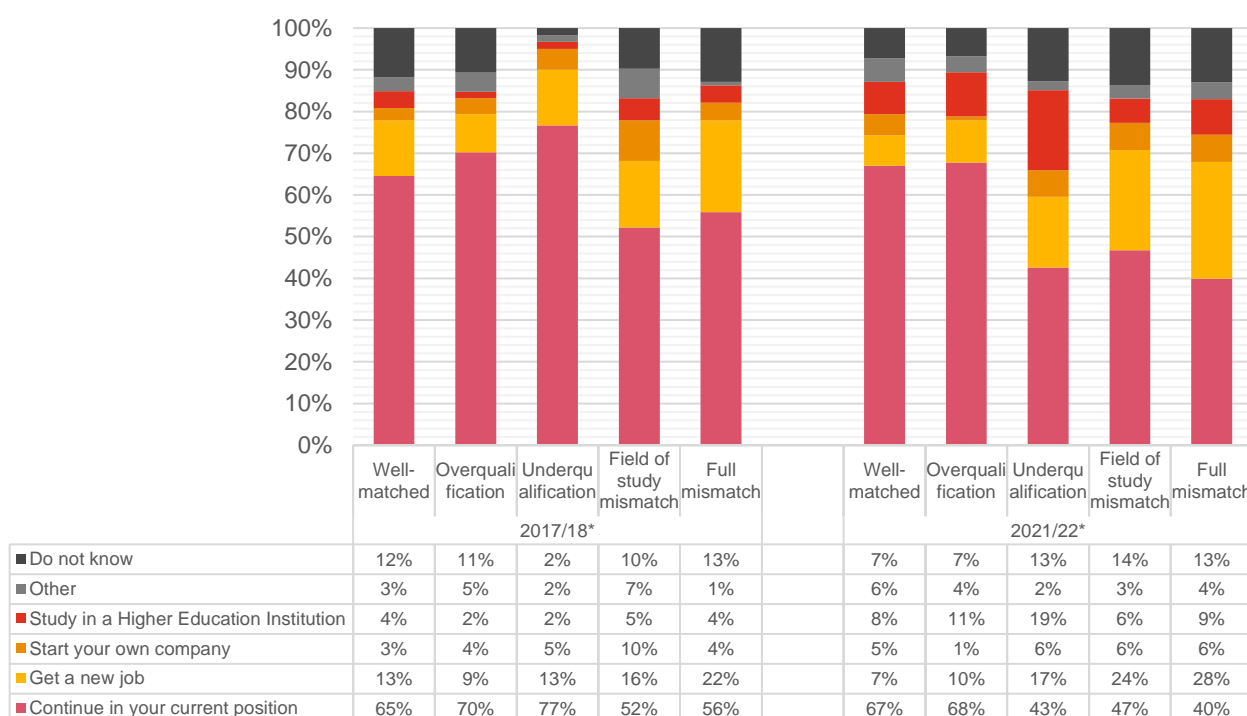
positions, possibly due to limited opportunities. In the 2021/22 cohort, overqualified graduates reported the highest rate (68%) of those planning to continue in their current position. However, graduates with a field of study mismatch reported a significantly lower rate (47%) of intending to stay in their current position, suggesting that graduates who face a mismatch between their qualifications and their job roles may be less satisfied with their current employment and more likely to seek other opportunities.

In both cohorts, graduates with full mismatch reported the highest percentage of plans to get a new job with 22% in the 2017/18 cohort and 28% in the 2021/22 cohort. Graduates with field of study mismatch followed with 22% in the 2017/18 cohort and 24% in the 2021/22 cohort. These results indicate that graduates that face a full mismatch between their qualifications and their job roles are more likely to seek new job opportunities compared to other categories of mismatch.

In the 2017/18 cohort, full mismatched graduates reported the highest percentage on “do not know” response at 13% followed by well-matched at 12%. This suggests that full mismatch graduates in this cohort were more uncertain about their future plans. Field of study mismatched graduates reported the highest rate on starting their own business option at 10%. In the 2021/22 cohort, the option study in a HEI was the most popular among underqualified graduates with 19% indicating this as their future plan, surprisingly followed by overqualified graduates at 11%. Field of study mismatched graduates reported the highest percentage (14%) for “do not know” responses indicating a higher level of uncertainty compared to other categories.

These findings suggest that while graduates with different types of mismatch appear to have similar future plans, the specific distribution of responses varies across cohorts, with full mismatch graduates more likely to seek new jobs and field of study mismatched graduates more inclined to consider entrepreneurship. Additionally, underqualified graduates in the 2021/22 cohort seem more likely to consider further study.

Figure 237: Future plans by combined mismatch and graduation cohort



\*Statistically significant findings

## 6. Challenges and Limitations

During the implementation of the second cycle of the National Graduate Tracking Survey for 2023, a number of challenges and limitations of varying scope and significance arose, requiring effective resolution. More specifically, the most prominent of those challenges were:

1. Difficulties encountered in contacting the graduates:
  - HEIs experienced technical difficulties when sending out invitations and reminders communications to their graduates, such as:
    - Unavailability of email accounts/ software, which delayed or prevented them from sending some of the reminders to their graduates, as per the agreed schedule.
    - Restrictions on the number of emails some HEIs were permitted by their software to send per day, which resulted in minor delays in sending the invitations/ reminders to graduates.
  - Difficulties, in certain cases, in successfully sharing the relevant information to the graduates. In more detail:
    - There were cases where communications were not sent in the correct manner (e.g., incorrect matching of some graduates to the respective unique access codes and wrong body text or attachments) or in an incomplete manner (e.g., missing information that the HEIs had to complete/ adjust themselves, such as the Unique IDs and the personalized URLs of their graduates).
    - There were cases where a considerable amount of time and effort had to be spent in providing step by step guidance to the HEIs representatives on how to complete the process of sending out the invitations/ reminders to their graduates, mainly focusing on using the mail merge functionality.
  - Unavailability of contact details retained by the HEIs for all their graduates for either T+1 or T+5 cohorts (graduates of academic years 2017/18 and 2021/22).
2. Lack of control over the dates in which the HEIs' representatives were completing the tasks required for the survey launch (e.g., provision of the number of graduates for each cohort) and sending out the relevant communications for the survey, resulting in delayed invitations/ reminders sent or in omitting sending some of the communications required.
3. Unavailability of a central database from the Ministry's side, where pseudonymised general (demographic) information would be available, resulted in some limitations during the data cleansing process. For specific missing values (e.g., age, date of birth, field of study, ISCED level), relevant requests were submitted to HEIs, which in some cases led to removing specific responses due to tight timeframes and delays in responses.

In general, the main challenges and limitations faced during the second cycle of the National Graduate Tracking Survey stemmed from the process of contacting graduates in compliance with Data Protection regulations and the absence of a centralised database. Specifically, relying on HEIs to act as intermediaries for communicating messages from the Ministry of Education, Sport, and Youth to graduates led to various challenges, inefficiencies, and occasional errors. Identifying a more effective solution for future cycles—such as granting the Ministry direct access to graduates' contact information to facilitate communication via the dedicated platform—could significantly improve efficiency and potentially boost response rates. It is also worth noting that, both the PwC and MESY project teams are already working towards this direction, having undertaken and planned several related actions, including contacting the Office of the Commissioner for Personal Data Protection and requesting for their insights in this matter.

While valuable insights have been provided through the survey for the graduates of both cohorts, it is essential to also acknowledge and address the following data cleansing and processing limitations that may have an impact on findings and conclusions:

- **Data Quality and Accuracy:** One of the primary challenges in this project has been ensuring the accuracy and completeness of the data collected. The findings rely on self-reported information from graduates, which may be subject to recall bias, social desirability bias and other inaccuracies.

- **Non-response Bias:** The data is based on voluntary participation, which may introduce selection bias. Graduates who chose to respond to the survey may differ systematically to those who did not, potentially skewing the results. Although various actions were undertaken to encourage participation, response rates were low. When response rates are low, there is an increased risk of nonresponse error. Additionally, missing data to certain questions of the questionnaire may have introduced nonresponse error at question level.
- **Small Sub-group Analysis:** For certain subgroups (especially in the field of study per cohort comparisons), the sample size may have been relatively small, which can be a limiting factor in relation to statistical power and reliability of conclusions drawn from these subgroups.
- **Weighting:** The results presented in this report are, unless explicitly stated otherwise, weighted based on the raking procedure, considering the following variables: "Cohort", "Gender", "Age at Graduation", "Degree ISCED level", "Degree Field" and "HEI type". It is noted that, for the population frequencies for each of the afore-mentioned variables, data provided from HEIs was used. However, since data for "Age at Graduation" was unavailable, Eurostat data from 2017/18 and 2021/22 was used as an approximation for the weighting process.

## 7. Conclusions

The implementation of the second cycle of the National Graduate Tracking Survey 2023 supports further the significance of developing a national mechanism for tracking Higher Education graduates on a longitudinal basis. Developing a national mechanism and participating in relevant European Surveys is essential for enhancing the education system, supporting economic development, and ensuring better outcomes for graduates, employers, and society as a whole..

The findings presented provide valuable insights but also hold significance for shaping policy agendas, as detailed information on important matters such as graduate satisfaction with their Higher Education studies and experiences, labour market outcomes, as well as on different types of skills mismatches are provided. More specifically, graduates were invited to share their perspectives on questions organised into six broad thematic areas: “Education Experience”, “Labour Market Participation and Labour Market Outcomes”, “International mobility of graduates after graduation”, “Skills Mismatch” and “Upskilling and reskilling during employment”. Significant insights can be drawn from the comprehensive statistical analysis conducted on questions related to each thematic area. This in-depth examination of the data produces a plethora of valuable information that can inform decision-makers, guide policy development, and enhance our understanding of the various aspects addressed within the survey.

Several conclusions emerge concerning the first domain of inquiry. Traditional modes of teaching and learning predominated during the respondents’ studies in Higher Education, with over 50% reporting considerable use. Simultaneously, limited utilisation of non-traditional methods was reported, as well as limited opportunities for participation in internships and work placements offered in the context of graduates’ programmes of study, indicating room for potential improvements in hands-on and work-related learning experiences. It was evident that graduates held a very positive view of work-related experiences during their Higher Education studies, with a significant percentage reporting participation in labour market activities either facilitated by their HEIs or driven by their own initiative. A noteworthy finding is that a higher proportion of graduates reported gaining this labour market experience during studies in a related field. The international experiences during studies for both cohorts were quite limited (20%). Graduates from both cohorts also reported high satisfaction with their studies, while admitting that their studies had a positive impact on their professional career and personal development. The general trend in both cohorts is that graduates reported very satisfied and that they would be choosing both again having today’s perspective. Limited pursuit of further education is detected - a significant finding given the relatively small proportion of graduates who continued their studies in Higher Education. Specifically, only 12% of those who have graduated in 2017/18 continued their studies in Higher Education and a smaller percentage of 2021/22 graduates (11%).

The newly added sections on skills development indicated self-management skills as the most developed among graduates and highlighted the need for including more green and digital activities during studies to enhance the relevant skills. The findings indicated a gradual but limited improvement in the integration of environmental sustainability into study programmes over time, with a notable share of graduates still perceiving insufficient emphasis on this topic. Overall, there was a slight upward shift in Artificial Intelligence (AI) integration between cohorts, however a considerable proportion of graduates still perceived limited cover of AI topics in their study programmes.

Findings on transition to work after graduation have shed a light in different relevant aspects. The trend for ISCED 5 and 6 graduates in both cohorts was that they started looking for paid work after graduation with the latter recording the highest percentage (57% over 65% and 54% over 58% for 2017/18 and 2021/22 cohorts, respectively). The majority of ISCED 7 graduates (50% for the 2017/18 cohort and 48% for 2021/22 cohort) reported having a job already and did not want a new role. In the 2017/18 cohort, the fields of Law (92%), Information and Communication Technologies, Health (70%) and Engineering and Architecture (69%) with had more than 70% of the majority graduates looking for jobs only within their own field of study. In the 2021/22 cohort, the higher percentage of graduates reporting looking for job within their own field of study were recorded in the fields of Information and Communication Technologies (91%), Law (81%), Education and Teacher Training (78%), Health (75%) and Services (70%). This suggests that graduates from STEM and health fields do not seek employment outside their specific areas of expertise, highlighting a strong alignment between their academic training and career aspirations. In the other fields the situation is more mixed with a considerable percentage of graduates looking both within and outside their field for a job. Social Sciences and

Journalism graduates reported the highest percentage (10% for 2017/18 and 12% for 2021/22 cohorts) of looking for job also outside their field in both cohorts. This indicates that graduates from fields such as Social Sciences and Journalism may face fewer opportunities or lower demand within their specific areas of study, prompting them to explore employment options in other sectors. It also highlights the broader versatility of skills gained in these disciplines, which can be applied across various industries. The main reason why graduates reported looking for jobs outside their field of study was the lack of work available in their field (50% and 37% for 2017/18 and 2021/22 cohorts, respectively) and lack of work experience (17% and 22% respectively). These findings might suggest limited job opportunities in certain fields or increased adaptability among graduates. However, the persistent challenge of insufficient work experience highlights the need for stronger connections between education and the labour market, such as internships, apprenticeships to better prepare graduates for employment within their field of study.

Several important conclusions can also be drawn from the questions linked to the labour market participation of graduates. The analysis reveals that, in both cohorts, a high percentage of graduates are actively participating in the labour force, with 95% of the graduates of the 2017/18 cohort and 73% of the 2021/22 cohort stating that they are currently employed. Notably, a very high percentage of Cypriot graduates from both cohorts have found employment in Cyprus, with more than 95% choosing to work in the country. The survey also reveals changes in the employment patterns of graduates. The proportion of EU graduates finding employment in Cyprus decreased by 2%, while the corresponding proportion of Cypriots and non-Europeans increased by 1% and 5% respectively. The majority of graduates in both cohorts is employed in the private sector (46% in the 2017/18 cohort and 48% in the 2021/22 cohort). A significant percentage is employed in the public sector (43% in the 2017/18 cohort and 44% in the 2021/22 cohort). A smaller percentage in 2017/18 (11%) and 2021/22 (8%) are self-employed.

Regarding key aspects of job quality (job security, working hours and earnings), a high percentage of graduates reported having contracts of unlimited duration (more than 55% for both cohorts). The contracted and actual working hours of respondents from both cohorts are relatively similar. Significant differences between contracted and actual working hours are found among graduates from some fields of study, with graduates in the field of Law and Engineering and Architecture reporting a high number of actual working hours without though reaching the maximum permitted by European regulations and Cyprus Law. Median annual earnings of the 2017/18 cohort were significantly higher (23.943 euros) than that of the recent one (18.000 euros).

Gender pay gap is again evident, with males earning significantly more than females in both cohorts. In line with expectations, ISCED 7 graduates had the highest median earnings in the 2016/17 cohort, but in the 2021/22 cohort, it was ISCED 6 graduates who reported the highest income. Time taken to find a job after graduation was also explored. It was evident that it took a longer time for graduates in the 2017/18 cohort to find employment (median time of 12,1 months), compared to the 2021/22 cohort (median time 3,0 months). However, a higher proportion of graduates reported finding a job after graduation in the 2017/18 cohort (63%), when compared to graduates in the 2021/22 cohort (41%). In relation to the field of study, in the 2017/18 cohort, graduates from the field of Education and Teacher Training reported the longest time taken (approximately 19,7 months) to find a job and graduates from the field of Engineering and Architecture had the shortest waiting time (3,5 months). In the cohort 2021/22, graduates from the field of Social Sciences and Journalism had the longest waiting time (7 months), when graduates from the field of Services the lowest (0 months). In all fields of study, the percentages of graduates that found a job after graduation do not indicate extreme discrepancies. The survey also assesses job satisfaction, which on average appears to be moderate to high in both cohorts with marginal gender age, type of education and field of studies differences. Additional analyses have been conducted regarding different aspects of job satisfaction including professional position, salaries/ revenues, advancement opportunities and working compared to variables related to studies and employment. The highlights of these findings lay on the fact that graduates are less satisfied with their career advancements and earnings compared to other factors.

In this cycle, labour market participation for graduates with disabilities was also explored. Graduates with disabilities comprised approximately 6% of each cohort. The general trend in both cohorts is that the majority of graduates with disabilities were employed, although with a slightly lower percentage rate of employment than graduates with no disabilities (at 89% versus 93% in 2017/18 cohort and 79% versus 87%, in 2021/22 cohort). In the 2017/18 cohort, the majority of graduates with disabilities were employed in the public sector (46%), whereas by the 2021/22 cohort, the majority had shifted to employment in the private sector (52%). Graduates also highlighted the impact of their disability on entering the labour market. In the 2017/18 cohort,

48% of graduates reported that their disability restricted them for entering the labour market at a high/very high extent whereas in the 2021/22 cohort, this figure significantly decreased to 15%. Additionally, both cohorts reported relatively high levels of agreement regarding their employer's support in relation to employment with disability with 56% in the 2017/18 cohort and 48% in the 2021/22 cohort. These findings suggest progress in reducing barriers to employment for graduates with disabilities, as evidenced by the significant decline in the percentage reporting their disability as a high or very high restriction on entering the labour market (from 48% in 2017/18 to 15% in 2021/22). However, the slightly lower employment rates for graduates with disabilities compared to their peers without disabilities highlight the need for targeted policies and initiatives to bridge this gap.

The results also reveal insights regarding mobile graduates, i.e. graduates now living in a country different from where they graduated, either for work or further education. The analysis shows that the percentage of mobile graduates in both cohorts is relatively modest, standing at 9% for 2017/18 cohort and slightly higher at 11% for the 2021/22 cohort. Particularly, an interesting trend emerges regarding gender differences. In both cohorts, males exhibit a higher propensity to migrate compared to their female counterparts, suggesting that male graduates are more inclined to seek opportunities outside the country. Additionally, age at graduation plays a significant role in graduates' mobility, as younger graduates are more likely to embark on international journeys in search of career prospects compared to the older ones. This pattern highlights the dynamic nature of young graduates seeking diverse experiences abroad. When considering the graduates' level of study, bachelor's graduates are found to be keener in studies' mobility. A detailed examination of the field of study reveals interesting insights. In both cohorts, the fields of Law and Natural Sciences record the highest proportion of mobile graduates.

Graduates' successful transition into the labour market hinges on finding employment that aligns with their educational qualifications and field of study. Findings suggest a high extent of overqualification which does not come as a surprise. Cyprus has one of the highest percentages of Higher Education graduates in the age groups 25-34 within the EU, thus indicating the high educational level of its workforce. Specifically, a substantial percentage of graduates, over 40% in both cohorts, reported that they are overqualified for their current positions. Interestingly, gender differences emerge in this context. In both cohorts, the percentages of females reported being overqualified was higher than males. Quite similar trends are observed in both cohorts with some minor differences. Most males (48%) perceive themselves as well matched in the 2017/18 (49%) compared to females. In the 2021/22 cohorts though the females reported 50% well matched over 48% for males. The majority of graduates in both cohorts reported that their current employment aligns with their field of study. However, a significant proportion of graduates, 20% in the 2017/18 cohort and 16% in the 2021/22 cohort, held contrary opinions, indicating some degree of misalignment between their education and job roles.

In the current study, a new composite variable was developed to incorporate both horizontal and vertical mismatches. This new composite variable included four distinct categories of mismatches. The values of the new composite variable were classified in five categories: Well-Matched, Overqualified, Underqualified, Field of Study Mismatch, Full/Double Mismatch. The findings indicate that 33% and 35% of graduates in 2017/18 and 2021/22 cohorts respectively, are fully matched with their jobs. This highlights that skills mismatches are widespread and significant. Full mismatch was found to be around 29% and 27% in the 2017/18 and 2021/22 cohorts respectively. Younger graduates with a bachelor's degree from university demonstrated higher levels of well-matched employment in both cohorts. In terms of fields of studies, Law graduates recorded higher levels of well-matched horizontally and vertically.

Graduates evaluated their proficiency in hard, soft, core, self-management, green, manual, digital skills and compared it to the skill levels required for their current jobs. Both cohorts reported high proficiency across all assessed skills and indicated that their current roles demand high skill levels, suggesting that their education has effectively prepared them for these positions. All graduates indicated over-skilling in all types of skills assessed. Interesting findings emerged regarding graduates' current own level of skills compared to the level of skills required by their job within and between different sub-groups of graduates (based on demographic variables and variables related to their Higher Education studies).

Graduates' involvement in upskilling and reskilling activities during their employment has additionally yielded several significant insights. It is apparent that graduates actively engage in upskilling and reskilling activities during their employment. As expected, a higher percentage of graduates from the 2017/2018 cohort (53%) reported participating in these activities compared to those from the 2021/22 cohort (45%). This might indicate that a larger proportion of earlier graduates actively pursued opportunities to enhance their skills through

additional training or that their skills were outdated. When asked about the primary motivation for participating in upskilling and reskilling activities, a consistent pattern appeared across both cohorts as graduates state that they were mainly driven by the desire to acquire hard skills that align with their current job roles. This finding might suggest that graduates recognise the need to constantly update and/or to acquire new skills in order to adjust to rapidly changing skill demands. Another concern might be that their studies are not properly preparing them for their future workplace and job roles. Online training was the prevalent method of choice, but face-to-face sessions were also used. These results underscore the importance of continuous learning and skill development in the contemporary workforce.

The final section regarding future plans for fall 2024 for both cohorts indicated some interesting results. In general, both cohorts appear to have similar future plans with the majority indicating they will continue in their current positions, and thus indicating that their studies have not changed significantly their immediate career trajectories. Similar patterns were observed in both cohorts, with the most common response to be "continue in my current position" (58% for 2017/18 and 49% and 2021/22). The second most frequent plan was "get a new job," which was reported by 15% of graduates in both cohorts. A 5% in both cohorts reported plans to start their own company. In 2017/18 cohort, 3% reported they will get a job and 4% that they will study in HEI. The 2021/22 cohort showed slightly higher percentages for these plans, with 6% reporting they would get a job and 10% intending to study in an HEI.

Regarding the percentage of employed individuals' future plans by the variables combined mismatch and graduation cohort. The trends in both cohorts are similar regarding future plans for the different categories of mismatch with the most common future plan across all categories of mismatch being "continue in the current position." In the 2017/18 cohort, underqualified graduates recorded the highest percentage (77%) of those planning to stay in their current position, followed by overqualified at 70% and well-matched at 65%. This suggests that underqualified graduates in the 2017/18 cohort were more likely to remain in their current positions, possibly due to limited opportunities. In the 2021/22 cohort, overqualified graduates reported the highest rate (68%) of those planning to continue in their current position. The results indicate that graduates that face a full mismatch between their qualifications and their job roles are more likely to seek new job opportunities compared to other categories of mismatch. These findings suggest that while graduates with different types of mismatch appear to have similar future plans, the specific distribution of responses varies across cohorts, with full mismatch graduates more likely to seek new jobs and field of study mismatched graduates more inclined to consider entrepreneurship. Additionally, underqualified graduates in the 2021/22 cohort seem more likely to consider further study.

The findings offer significant insights into graduates' career experiences and paths, but also into the challenges they face in the labour market. One of the most worrying finding is the extent of skills mismatches, as a considerable proportion of graduates are in jobs which do not fully align with their education or skills. The percentage of overqualification is extensive. This results in the underutilization of their potential, causing dissatisfaction and reducing opportunities for career progression. When graduates are not engaged in roles that match their education and skill levels, it not only limits their personal growth but also hampers the broader economy, as the full potential of the workforce is not realized.

Considering these findings, there is an urgent need to better understand emerging skill needs in the labour market. This involves improving labour market intelligence to provide a clearer picture of future trends and demands. By identifying these needs, stakeholders in both education and industry can make informed decisions to address the evolving requirements of the workforce. The National Graduate Tracking Survey and the National Employers' Skills Survey, both integral parts of the Department of Higher Education's project under the Recovery and Resilience Plan (RRP), are key tools in gathering this essential labour market information. They serve to provide relevant, evidence-based data to policymakers and key stakeholders, enabling them to shape educational and employment policies that are more responsive to labour market needs. It is important that both surveys continue to be utilized to track trends and adjust strategies as needed. These surveys will serve as a foundational resource for identifying areas where educational reforms are required, such as improving the match between graduates' skills and the labour market's needs. This mismatch calls for targeted interventions

More in-depth analysis is underway, employing advanced statistical techniques such as regression models to explore significant relationships within the data. This analysis aims to predict factors influencing graduate employment outcomes, such as the impact of certain educational qualifications or experiences on employment prospects. It will also explore the factors that contribute to the acquisition of high-level skills, which are often

essential in reducing skill mismatches, and analyse vertical and horizontal mismatches to better understand how different types of mismatches impact the labour market.

The possibility of developing forecasting models based on findings from both National Graduate Tracking and National Employers' Skill Surveys will also be explored in the context of this project, aiming at making future projections regarding the skills needed by the labour market. These models will aim to project the skills required by the labour market in the future, helping to anticipate shifts in demand and ensuring that educational institutions can proactively adjust their offerings. By doing so, it will be possible to provide more accurate, forward-looking information to students, educators, employers, and policymakers, helping to create a more agile and responsive educational system that meets the evolving needs of the labour market.

Key recommendations for future roll outs are in preparation to ensure the support of Higher Education Institutions, and the improvement of the availability of up-to-date contact information. As far as the target group is concerned, all relevant results show that it is advantageous to compare graduates at an early stage in the labour market (one year after graduation) with graduates who had some years' time to further develop their career (five years after graduation). Future cycles of the NGTS should explore ways to improve response rates, combining survey data with data from administrative sources, revising the legal framework, developing a central database with graduates' contact details and making the NGTS more visible to current students of Higher Education Institutions, graduates, as well as to the wider public.

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# Appendix I: Informed Consent

## General Information

The National Graduate Tracking Survey (NGTS) is funded by the Cyprus Recovery and Resilience Plan, and it is being conducted every year with the **aim of improving the connection between the Educational System and the labor market** at national level. The NGTS is carried out by the Department of Higher Education of the Ministry of Education, Sport and Youth (MESY) (Kimonos and Thoukydidou Corner, Akropoli, 1434 Nicosia, Cyprus), in collaboration with PricewaterhouseCoopers (PwC) Cyprus Limited (PwC Central, 43 Demostheni Severi Avenue, CY-1080 Nicosia, Cyprus).

The National Graduate Tracking Survey aims to collect data from all Cyprus Higher Education Institutions' graduates. Graduates are asked to fill in **an online questionnaire**. The main topics of the questionnaire are the characteristics of their programme of study, skills acquired, learning pathways and modes of learning, international mobility, and labour market outcomes. Data on personal and social characteristics are also collected to better understand different groups of graduates.

You have been sent this invitation from the Higher Education Institution from which you graduated, on our behalf, without us receiving your contact details. **This ensures that you can take part in the survey anonymously**, without us knowing your name and address.

**Your participation in the survey is voluntary. Not participating will not have any negative consequences for you.**

## Data Protection

Your responses to the questionnaire will be analysed by both PwC Cyprus and MESY for scientific and statistical purposes and published in such a way that any inference based on individual survey participants and their individual answers is no longer possible. The data will be merged, ensuring that it is impossible to identify individuals. Key findings will be published in aggregate form.

All participating organisations (the Ministry of Education, Sport and Youth and PwC Cyprus) take the necessary technical and organisational measures to protect your data from any unauthorized access. The survey is conducted in line with the requirements of the European General Data Protection Regulation (GDPR), the Act of 10 May 2018 on the protection of personal data, and applicable national laws (i.e., Law 125(I)/2018 – “Law providing for the Protection of Natural Persons with regard to the Processing of Personal Data and for the Free Movement of such Data” of 2018).

It goes without saying that the survey complies with all legal provisions of data protection. We assure you:

- that we do not store your contact data together with the data provided in the questionnaire,
- that we treat your contact information as strictly confidential and do not disclose it to third parties,
- that all the data provided in the questionnaire are used solely for teaching, scientific and statistical purposes,
- that the data provided in the questionnaire, as well as the data on the way the questionnaire was processed will be kept for a maximum of 10 years after the survey. This does not apply to anonymised data.

## Further Information

In case of questions about general information on the research project or about data protection, the staff members of both the Ministry of Education, Sport and Youth and PwC Cyprus will be happy to support:

- Revecca Nicolaidou (PwC): Tel: +357 22555646 | Email: [cy\\_graduatetracking@pwc.com](mailto:cy_graduatetracking@pwc.com)
- Alexandra Petridou (MESY): Tel: +357 22800966 | Email: [apetridou@moec.gov](mailto:apetridou@moec.gov)

# Appendix II: Legal Memo relating to communication with graduates

Please see below some high-level comments relating to the initial communication that the institutions will perform with the graduate students to invite them to participate in the survey.

1. Pursuant to the provisions of Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data and repealing Directive 95/46/EC (the "GDPR"), data controllers and data processors must process personal data on a lawful basis.
2. The use of the personal data of the graduate students, being the data subjects, and more specifically their contact information (i.e., email address and/or telephone number) by the institutions for the purposes of inviting them, either via email or via SMS, to participate in the survey as part of the project "Development of a National Graduate Tracking Mechanism and Design and Implementation of an Employer's Skills Survey" constitutes processing of personal data. Each institution should ensure that it meets the requirements for lawful processing before inviting each graduate student to participate in the survey, depending on which of the following scenarios is applicable:
  - i. **Scenario A:** The graduate student opted out from the processing of his or her personal data for the purposes of communicating surveys for research or statistical analysis.
  - ii. **Scenario B:** The graduate student consented to the processing of his or her personal data for the purposes of communicating surveys for research or statistical analysis.
  - iii. **Scenario C:** The graduate student neither consented nor opted out from the processing of his or her personal data for the purposes of communicating surveys for research or statistical analysis.
3. Considering the relevant provisions of the GDPR and applicable data protection laws, please see below our high-level comments as to lawfulness of the processing of personal data (i.e., the use of the contact details of the graduate students for the purpose of communicating to them the survey) for each particular scenario:

## **(i) Scenario A:**

Given that the graduate student expressly chose to opt-out from communications relating to the participation in surveys for research or statistical analysis, there is no legal basis for the processing of his or her personal data for the purposes of inviting him or her to participate in the survey. In this respect and to the extent that such communication was specifically opted-out (e.g., opting out for direct marketing or promotional material may not equate to an opting out from this communication), we take the view that the institution should not proceed with the processing of the personal data of the graduate student to communicate to him/her the survey since such communication may be rendered unlawful pursuant to the provisions of the GDPR and applicable data protection laws.

## **(ii) Scenario B:**

The institution may consider relying on the following ground:

**Lawful basis of consent:** The data subject has given consent to the processing of his or her personal data for one or more specific purposes (Article 6(1)(a) of the GDPR). Where the processing is based on consent, the data controller should be able to demonstrate that the data subject has consented to the processing of his or her personal data (Article 7(1) of the GDPR). If the data subject's consent is given in the context of a written declaration which also concerns other matters,

the request for consent should be presented in a manner which is clearly distinguishable from the other matters, in an intelligible and easily accessible form, using clear and plain language (Article 7(2) of the GDPR). Further, the consent must be freely given by the data subject to the data controller (Article 7(4) of the GDPR).

Provided that the graduate student consented to the processing of his or her contact details for communications relating to the participation in surveys for research or statistical analysis and/or future communications and/or related processing activities by the institution and provided that such consent meets the above mentioned requirements, we take the view that the lawful basis for the processing of the personal data of the graduate student to communicate to him or her the survey could be achieved on the basis of consent.

### **(iii) Scenario C:**

The institution may consider relying on the following grounds:

- a) Lawful basis of public interest: The processing of personal data of the data subject is necessary for the performance of a task carried out by the data controller which is in the public interest (Article 6(1)(e) of the GDPR).

The processing of the contact details of the graduate student by the institution shall be carried out for the purposes of inviting the graduate student to participate in the survey which is conducted by a public authority, being the Ministry of Education, Sport and Youth and the whole project is financed by the Recovery and Resilience Facility of the European Commission and national funds. The specific objectives of this project are to develop and implement a National Graduate Tracking Mechanism, a National Employers' Skills Survey and the EUROGRADUATE Survey in Cyprus with the ultimate goal of collecting data that will help fully understand the gap between the skills acquired by graduates of Higher Education Institutions and the skills required by the industry that will employ them. This will be achieved via the development of appropriate infrastructure and implementation of the most effective dissemination activities by the Ministry of Education, Sport and Youth.

In this respect, we take the view that the lawful basis for the processing of the contact details of the graduate student to communicate to him or her the survey could be achieved on the basis of such processing of personal data being necessary for the performance of a task (i.e., to invite graduate students to participate in the survey) carried out in the public interest. For this, we have assumed that the Ministry of Education, Sport and Youth has the authority to conduct the survey as part of the project.

- b) Lawful basis of legitimate interest: The processing is necessary for the purposes of the legitimate interests pursued by the data controller or by a third party, except where such interests are overridden by the interests or fundamental rights and freedoms of the data subject which require protection of personal data (Art. 6(1)(f) of the GDPR).

It should be noted that at any rate the existence of a legitimate interest would need careful assessment including whether a data subject can reasonably expect at the time and in the context of the collection of the personal data that processing for that purpose may take place (in the future). The interests and fundamental rights of the data subject could in particular override the interest of the data controller where personal data is processed in circumstances where data subjects do not reasonably expect further processing.

It could be argued that the communication by the institution to the graduate as regards the participation in the survey may constitute a legitimate interest which is not unlawful, it is reasonably expected by the graduate student and is not expected to derive any direct benefits to the institution. Given the overall goals of the project to which the survey forms part of, the legitimate interest pursued by this communication corresponds to the general public interest that the society may derive from such a project. In addition, the use of personal data of the graduate student is not expected to have a negative impact on him/her and could potentially even have a positive impact on him or her given that the participation in the survey gives the graduate student the chance to win a gift.

In this respect, we take the view that the lawful basis for the processing of the personal data of the graduate student to communicate to him or her the survey could be achieved on the basis of legitimate interests. Taking into consideration that this processing of the personal data by the institution shall be solely for the purposes of communicating the survey to the graduate student, this shall be non-intrusive to the graduate student and its respective rights and freedoms. As an additional measure to safeguard the respective rights and freedoms of the graduate student, the institution may provide an easy-to-use opportunity for the graduate student to opt-out from any future related communication. By way of an example, this may be in the form of (i) an 'unsubscribe' option where the communication is in the form of an email or (ii) a 'Stop SMS' option where the communication is via SMS.