Erasmus Mundus Joint Master Graduate Impact Survey 2020/21
Comprehensive report of results

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with the assistance of
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Title

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Before EM: Graduates' Background

The GIS 2020/21 analyses Erasmus Mundus (EM) Joint Master Degree graduates from the three graduation cohorts 2010/11, 2015/16 and 2019/20. All alumni who graduated in one of those years and held an Erasmus Mundus Scholarship during their EMJMD were invited to reply, and ultimately, 2.015 were surveyed for this report. The data was weighted to represent all invited graduates. Therefore, **all results refer to the EM Scholarship holders of the mentioned cohorts**. Because only few EM graduates attended the programme without scholarship, and for ease of reading, **those will be called "graduates" or "alumni" subsequently**. EM Alumni originate from all around the globe. EU citizens account for only 13% of alumni from the observed cohorts, whereas citizens of Latin America (18%) and Non-EU-Europeans (15%) make for the largest group.

Region of Origin (citizenship)

One of the core features of the Erasmus Mundus Programmes are the international profile and inclusion of a global student body. Indeed, not only the programmes, but also the graduating students' origin from all around the world. With EU citizens (13%) being only the fourth largest group, more graduates originate from Latin America (18%), non-EU European states (15%) and Africa (14%). However, some more graduates already lived within European, North American, or Oceanian countries for previous studies, although this is not a major phenomenon.

Summary Chart 1: Graduates' region of origin
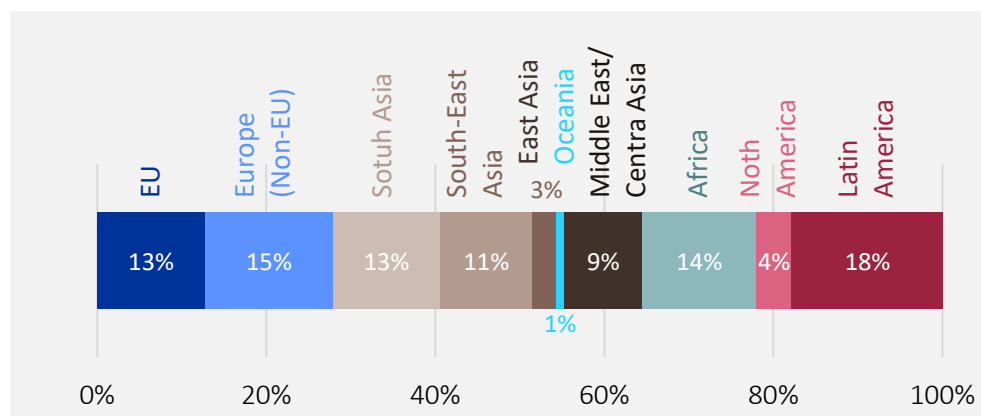
Source: EMJMD Graduate Impact Survey 2020/21, all surveyed graduates (n = 2015); details in Figure 3

The eight official **Erasmus Mundus fields of study** are uneven in size. Most alumni graduated in the fields of information science and engineering (36%), environmental and geosciences (28%) and social sciences (15%). 10% of graduates studied in the field of life sciences. Meanwhile, graduates from the four smaller fields economics,

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mathematics, chemistry, and physics make between 2% and 4% each and altogether account for only 12% of all graduates.

The **gender distribution** within the fields varies a lot, ranging from 65% women in the social sciences to only 25% in mathematics programmes. Furthermore, the highest share of graduates who selected the "other/diverse" option can be found in the social sciences (2%). The life sciences are closest to an equal distribution, with 55% female and 45% male students.

Almost all respondents (except 2) relied on the **Erasmus Mundus Scholarship** to finance living. Every other graduate from the EU and every third from North America and Oceania could draw on additional sources, mostly savings and family support. Alumni from South Asia and Africa almost never had other resources available.

Entering EM Programmes: Awareness, information, and Access

Graduates from different regions assess the **awareness of the Erasmus Mundus programmes** very diversely: Most alumni from North America (89%) report that Erasmus Mundus is rather unknown, not standing out between many other international study possibilities. EU citizens point out the possible confusion with the Erasmus+ actions in general. The majority of alumni from Africa and South Asia report a rather high, or very high visibility (58%).

Summary Chart 2: Regions with highest and lowest awareness of EMJMD
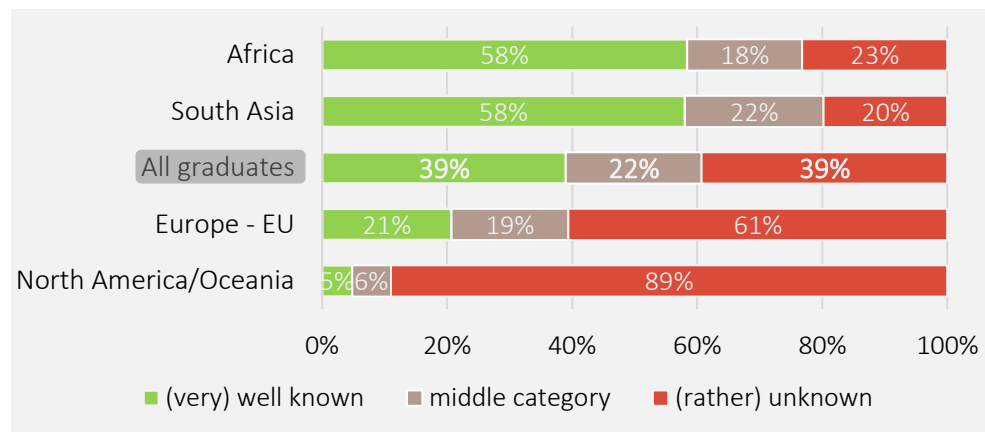
Source: EMJMD Graduate Impact Survey 2020/21, all surveyed graduates (n = 2015); details in Figure 7

Most graduates **learned about the EMJMD programmes primarily** via their own online research or personal contacts. Information from universities or lecturers is another noticeable source but has declined since around 2010. EM students and alumni on the other hand became somewhat more relevant in learning about EMJMD programmes. To **increase awareness**, graduates who did their EMJMD more recently (i.e., later cohorts) suggest more information through alumni, representatives, and educational fairs than those from older cohorts. Nonetheless,

advertising the programmes through universities is still seen as the most useful approach by far.

When it comes to **motives to choose an EM programme**, the scholarship and the internationality aspects are the most important drivers. Still, academic, and career-related motives were at least secondary reasons for the majority of alumni surveyed.

Policy impulses for awareness and programme promotion include:

- Increasing advertisement of EM through institutions via **multipliers** such as national counselling offices for international study programmes or networks of EM lecturers
- Relying more heavily on personal information exchange, for instance by EM alumni or representatives
- If possible, utilizing targeted online advertisement to reach potential EM students from underrepresented groups
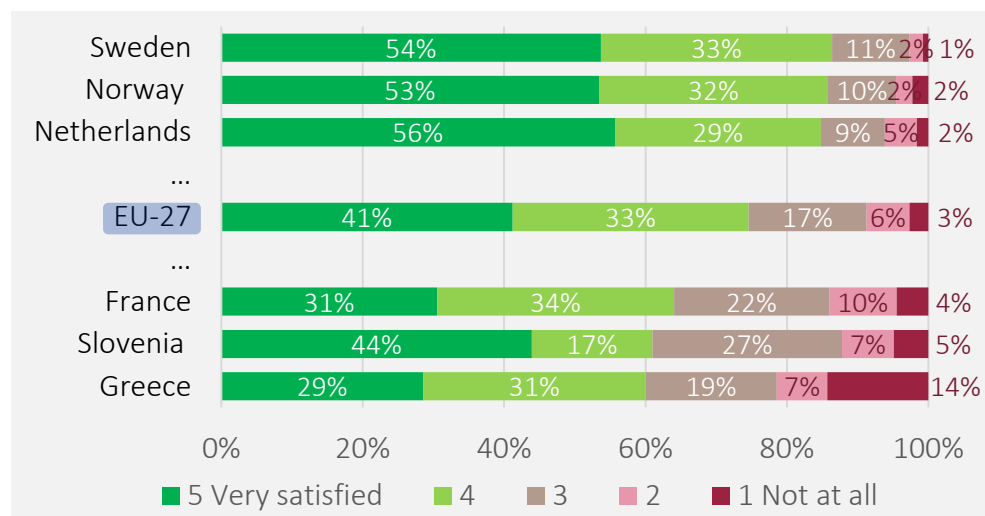
Studying in EM Programmes: Reception and Satisfaction

The **overall satisfaction with the EMJMD programmes** is relatively similar amongst different fields of study, cohorts, and regions of origin. Amongst all graduates, 53% were very satisfied and 37% rather satisfied with their EMJMD as a whole. A small effect visible in many satisfaction-related questions is alumni from the EU, North America and Oceania tending to assess more critically.

When it comes to **satisfaction with the study programmes at the individual host universities**, the feedback comes out somewhat more differentiated. Tying this to the host countries, the host institutions in northern EU countries achieve the most positive responses, along with universities in the UK.

Summary Chart 3: Countries with highest and lowest assessed institutions

	5 Very satisfied	4	3	2	1 Not at all
Sweden	54%	33%	11%	2%	1%
Norway	53%	32%	10%	2%	2%
Netherlands	56%	29%	9%	5%	2%
…					
EU-27	41%	33%	17%	6%	3%
…					
France	31%	34%	22%	10%	4%
Slovenia	44%	17%	27%	7%	5%
Greece	29%	31%	19%	7%	14%

Source: EMJMD Graduate Impact Survey 2020, n = 4.804 ratings by 2.013 graduates; detail in Figure 14

When looking into particular **aspects of programme and course quality**, study facilities and attitudes toward international students were assessed as satisfying at all host institutions by over 50%. Teaching and guidance aspects were less positively reviewed, as well as extracurricular activities (33%; see Figure 15). Teaching and content are rated to be less coordinated between institutions, as well (Figure 18).

Practical Elements have become both more frequent and better assessed in the past decade: the latest cohort (2019/20) had more internships, exchange with potential employers, and practical experiences within the programmes than previous cohorts. The share of those elements being assessed as satisfying increased as well.

Policy impulses on forging links between studying and practice:

- Encourage practical elements becoming a standard in EMJMD programmes, but account for very different forms that "practice" can take in different fields of study

Graduates received either **joint diplomas** (39%), **separate diplomas** per institution (26%) or combined forms (35%). 15% experienced recognition problems. While no degree type is more prone to such issues, they occur more often in certain regions, namely Asia and Latin America (Figure 21).

EM Outcomes: Personal Impact

The **greatest impact** of having studied in an EM programme is considered to be on their own career by a relative majority of 32% of the graduates. This was also the most selected greatest impact for most regional groups. Intercultural competences follow with 21%, which a total of 80% report as one (of several) significantly affected area of life. This was the most selected area amongst graduates

In terms of **personal development**, most graduates see a (rather) high improvement in openness and curiosity about new challenges, tolerance to others' values and opinions, and different aspects of self-awareness.

The **country of residence** after graduation is, in most cases, not the country of origin: 23% of EU citizens and 27% of graduates from non-EU countries remain in, or return to, one of their EM host countries. 27% of EU citizens and 29% of non-EU citizens live neither in their home- nor in one of their host countries. However, more return to their country of origin as years after graduation pass.

Summary Chart 4: Country of residence (host, home, other) by cohort

	one of EM host countries	country of origin	other country
2019/20	34%	40%	24%
2015/16	28%	34%	34%
2010/11	15%	56%	28%
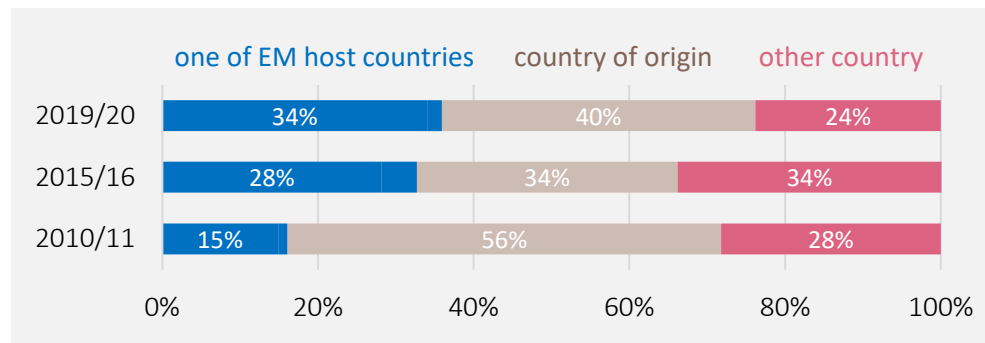
Source: EMJMD Graduate Impact Survey 2020, n = 2.003 graduates, details in Section 5.2

51% of graduates living in their home country again and 37% living neither in their home nor in a former host country would like to live in one of their former host countries. Asked about the **reasons for the choice of the current place of residence**, this group particularly often reports work permit and visa issues and not being able to find a job elsewhere, but also private/family reasons and the fact that it is their home country.

The **attitude towards the EU** is most affected in alumni from (South) East Asia, North America and Oceania, and the Middle East. Non-EU citizens alumni from outside the EU assess studying in the EU and the ways EU countries cooperate better than EU citizens.

Competences and personal development are affected largely by the EMJMD for most graduates. While communication-related and cognitive skills are widely improved, planning and management as well as ICT skills are less improved and linked to certain fields of study. For personality, EM programmes seem to impact openness and self-awareness most of the time, but less often social and political engagement.

Occupation after EM Graduation: Employment and Career Impact

In the **first 6 months after graduation**, about 39% of graduates from the observed cohorts leave higher education and start or continue working, 21% continue studying, 6% work and continue studying, 26% start a job search, and 7% engage (exclusively) in other activities.

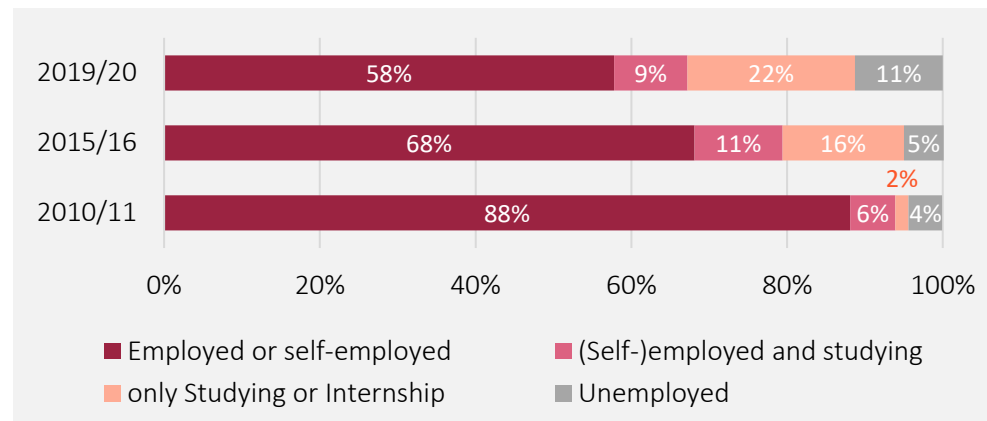## Summary Chart 5: Occupation in the first 6 months after graduation
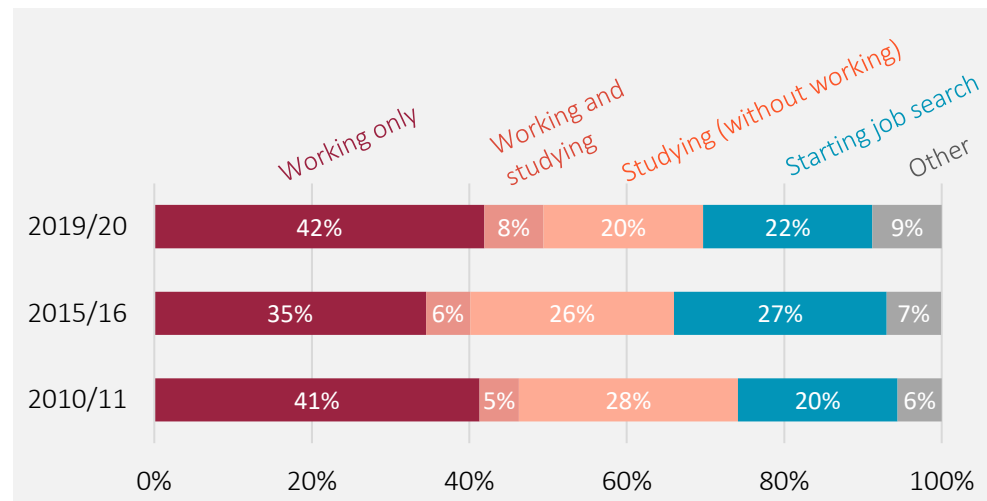
The proportions of initial activities after graduation vary strongly between fields of study: Most mathematics, chemistry, and physics graduates continue studying exclusively. Alumni from the social sciences, environmental and geosciences and life sciences mostly start working instead. Graduates in economics are the most likely to look for a job first.

If they **continue to study**, most graduates within all fields seek PhD programmes, especially in life sciences and natural sciences (mathematics, chemistry, physics). Natural sciences graduates' applications for PhD programmes are the most successful, while those of environmental and geosciences graduates are least. Although those who continue studying are less often employed in the first years after graduation, after ten years their employment rate is as high as among those graduates that left higher education directly after their EMJMD.

Those who **enter job search** after graduating from their EMJMD programme are less often successful and take longer to find a job when *only* searching in EU countries. Visa and work permit issues and the competition are main reasons for unsuccessful job searches within the EU. African and Middle Eastern alumni are less often successful in their first job search.

Summary Chart 6: Occupation at time of survey (spring 2021) by cohort.

Cohort	Employed or self-employed	(Self-)employed and studying	only Studying or Internship	Unemployed
2019/20	58%	9%	22%	11%
2015/16	68%	11%	16%	5%
2010/11	88%		6% / 2%	4%

Source: EMJMD Graduate Impact Survey 2020, n = 1.997 graduates. Details in section 6.3

Regarding the **occupation during the survey time**, the vast majority of graduates are (self-)employed ten years after graduation. This development is also visible for each field of study, except economics, where the employment is higher 5-6 years after graduation (97%) than 10-11 years after (87%).

To assess whether employment is adequate to the EMJMDs field of study and level of education (i.e., master level), the **education-employment match** was analysed. 78% of all graduates assess their job as corresponding to their field of study and adequate for a master's degree holder. 18% have a job for which they are either overqualified, or which is not related to their field of study, and in 4% of cases, both apply. Compared to the general population of master graduates (EUROGRADUATE pilot survey) in various European countries, the proportion of EM graduates with (fully) matching jobs is high.

Looking into **how well particular personal skills fit the requirements of their job**, EM alumni feel well equipped with foreign languages, cognitive, and teamwork skills. Planning and communication skills on the other hand, are very often assessed to be lacking by graduates.

Graduates with matching employment give higher **occupation satisfaction ratings** more often. The same is true for graduates who initially remained studying or did an internship, whereas graduates who worked and studied simultaneously become less satisfied over time.

EM Engagement after Graduation: The EMA

The **Erasmus Mundus Association**, the official student and alumni organization for Erasmus Mundus programmes, is known to 87% of graduates. 55% of graduates reported holding an EMA membership. Although this proportion is somewhat lower in the 2019/20 cohort (49%), it has the highest share of graduates who consider themselves as *active* EMA members (10%). The number of memberships is above

average among graduates from Africa and Asia and lowest among graduates from the EU and Latin America. The advantages of an EMA membership for social and professional networks are felt far more by members that deem themselves active members. This shows that active engagement can benefit the alumni despite the voluntary character, but also suggests broader actions that cover more of the membership body and thus make a membership more attractive.

Summary Chart 7: Assessment of EMA membership advantages by activity
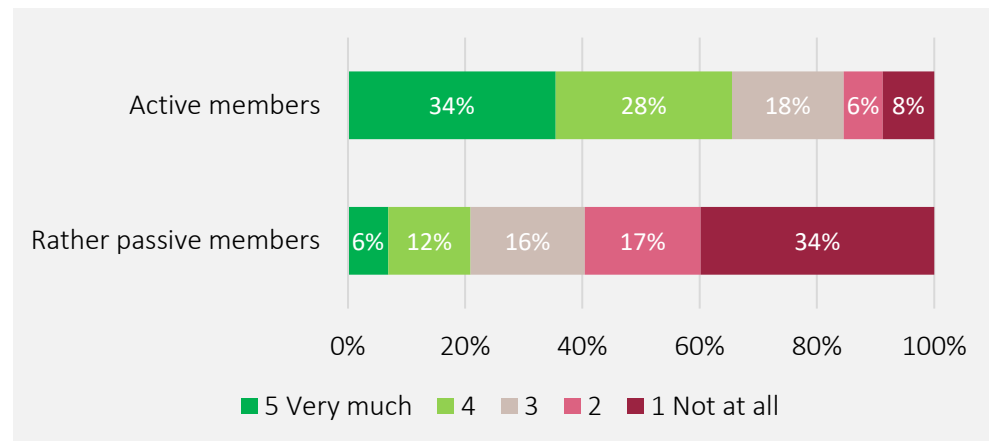
Source: EMJMD Graduate Impact Survey 2020, n = 884, details in Figure 50.

Policy impulses for broadening EMA visibility and membership:

- Focus on **support and member acquisition among EM students**, benefiting from EMA's unique expertise that no other counselling can offer.

- Offer **versatile advantages** that match the different further pathways of graduates as shown in this report.

- **Low thresholds for participation opportunities** to include less active members better.

1   Introduction

What is the Erasmus Mundus Graduate Impact Survey?

This report presents and discusses the results of the **2020 Erasmus Mundus Graduate Impact Survey** (GIS). The Erasmus Mundus Graduate Impact Survey is an annual survey that has been conducted since 2007 on behalf of the European Commission's Directorate General for Education, Youth, Sport and Culture. The central aim of the survey and the following analyses depicted in this report is the evaluation of the Erasmus Mundus Joint Master Degrees (EMJMD) programme. These are highly internationalized Master programmes that are organized decentrally by consortia of higher education institutions under the Erasmus+ framework of the European Union. The programmes take place in at least two and up to four countries both inside and beyond the European Union. The updated list of Erasmus Mundus joint masters currently on offer is available at the Erasmus Mundus Catalogue (https://ec.europa.eu/erasmus-mundus)

Background: International study mobility within and beyond Europe

The advantages of international study mobility go far beyond individual, temporary experiences of other places and cultures. Intercultural exchange fosters the mutual integration of national societies with each other, enhances the scope of knowledge and competences that can be attained, and benefits personal development. Therefore, the European Union along with associated countries has for a long time worked towards extending this mobility and reducing barriers and obstacles – namely in the strategic framework for European cooperation in education and training (ET 2020).

As a result, international mobility of students has largely increased both within the European Union as well as in exchange with other global regions within the past decades. The Bologna Process and the implementation of a European Higher Education Area (EHEA) that already reaches beyond EU states entrenched fundamental conditions for this mobility within Europe and adjacent regions. As one of the latest renewals of the commitment towards international study mobility, EHEA country ministers responsible for higher education vowed for an inclusive, innovative, and interconnected higher education area, acknowledging the embeddedness of the area in global contexts, and planning to broaden the access for global students as a result of their 2020 conference (Rome Ministerial Communiqué, 2020).

As a branch of the Erasmus+ framework, the Erasmus Mundus Actions have, for over a decade, broadened the scope of international study mobility to a global level. Following its objective to combine "showcas[ing] European excellence in higher education" and "international mobility for students […] with EU-funded scholarships" (European Commission: Erasmus Mundus Action), the Erasmus Mundus Joint Master Degrees aim at a global studentship, rather than (mainly) at students within the EHEA. The programmes stand out by being organized by higher education institutions of at least three programme (and, in some cases, partner) countries (which also are

not exclusively EU countries) and requiring students to study in at least two and up to four different countries (ibid.).

This report analyses the impact of participating in such programmes, the background and characteristics of its graduates and outcomes for their personal, professional, and academic life.

Report structure

This report consists of three segments:

1. the introductory and methodology sections explaining the content-related and technical background of the results (chapters 0 and 2),
2. a summary chapter containing the most important results in condensed form (chapter 0), and
3. the detailed results, which are organized in 5 thematical chapters (chapter 3 to 7).

At the end of the report there is also a glossary explaining key terms used in the analysis.

2 Methodology

2.1 Target group

The Graduate Impact Survey aims to survey Erasmus Mundus (EM) graduates shortly after graduation, as well as five and nine years later. This allows for longitudinal analysis and observing different pathway stages after graduation. It also ensures that graduates don't have to respond to the survey multiple years in a row, which would result in survey fatigue. Still, to ensure a sufficient number of responses and accounting for usual return rates, the graduates from two adjacent years were selected for each cohort: those of **2010/11**, **2015/16** and **2019/20**.

Thanks to the cooperation of the European Education and Culture Executive Agency (EACEA), the GIS 2020/21 could rely on an official, comprehensive list of all EMJMD graduates who received a scholarship to contact. Due to the relatively small population size – 8.729 (former) scholarship holders are registered for the mentioned graduation years – all persons were invited, rather than drawing a sample. The GIS 2020/21 thereby enhances the precision of the target group coverage: For the first time, the graduates to invite could be selected directly based on their graduation year – rather than by estimating the graduate cohorts based on the programme starting year, as it was the case in the last Graduate Impact Surveys. However, graduates who did not receive a Scholarship could not be sampled, as they are not included in the mentioned database. It can be assumed that the number of participations in EMJMD programmes without an scholarship in the respective cohorts is neglectable.

2.2 Questionnaire contents

The EM Graduate Impact Survey 2020/21 was an online questionnaire that drew on the established questionnaire that was developed throughout past GIS rounds. It consists of questions about

- Graduates' EMJMD studies (field, host countries, financial sources, motives, diploma awarded)
- Reception of EM (awareness, information sources, satisfaction with various aspects, improvement suggestions)
- Follow-up occupation (job search, job entry, further studies, international mobility)
- Occupation at time of the survey (career, phases of unemployment, utilization of skills from EM, job characteristics, match of employment)
- Impact on personality and qualification (greatest general impact, skills and competences, assessment of labour market preparation, personal and cultural development, networking)
- Erasmus Mundus Association (EMA) membership and its benefits
- Ongoing interaction with EM host countries/institutions, Europe, and the EU
- Demographic information (age, gender, citizenship, previous degrees, residence)

Refinements of the GIS 2019 questionnaire were implemented based on feedback from the European Commission's DG EAC and the Erasmus Mundus Association. They enhanced the existing questionnaire by adding new questions concerning the study possibilities without the EM Scholarship, better promotion of the programme, recognition of EM diploma, education-employment match, and the ongoing interaction with and views towards Europe and the EU. The flow of questions on the first activities after the EM graduation was disentangled to allow respondents to answer quicker.

Overall, the questionnaire therefore was longer than the 2019 questionnaire. However, this did not result in more dropouts: The number of respondents leaving the questionnaire after the first and before the last page decreased from 7,6% (of respondents who started the survey) in the GIS 2019 to 5,9% in the GIS 2020/21.

## 2.3   Data collection and protection

The online questionnaire was hosted by the IHS and was accessible through all common web browsers. The field phase during which the survey was accessible for respondents lasted from April 20th, 2021, to June 15th, 2021. It therefore took place within the first year after the graduation of 2020 graduates. The graduates identified by the EACEA were also contacted by the Agency via email. Each email contained a unique access link for the survey provided by IHS. This ensured that each contacted graduate could fill out the survey only once. However, it was possible to pause and reopen the survey as long as it was not finished.

The described procedure also fulfilled data protection purposes. Although the IHS collected and analysed the survey data, only the EACEA had contact information of the graduates and it is not possible for any of those institutions to link names or contact information to survey answers.

Figure 1 shows the breakdown of all contacted graduates by the outcome of the mail invitation: Out of the 8.729 invited graduates, 2.562 answered the questionnaire at least partially. After defining the valid questionnaires, a total of 2.015 questionnaires proved to be complete and valid for analysis. Valid questionnaires must fulfil three criteria:

- the questionnaire was finished up to the last page,
- the respondent is part of the target group according to the answers, and
- essential demographic information was reported (i.e., not skipped unanswered).

Figure 1:   Number of targeted graduates by contact success, response, and cohort
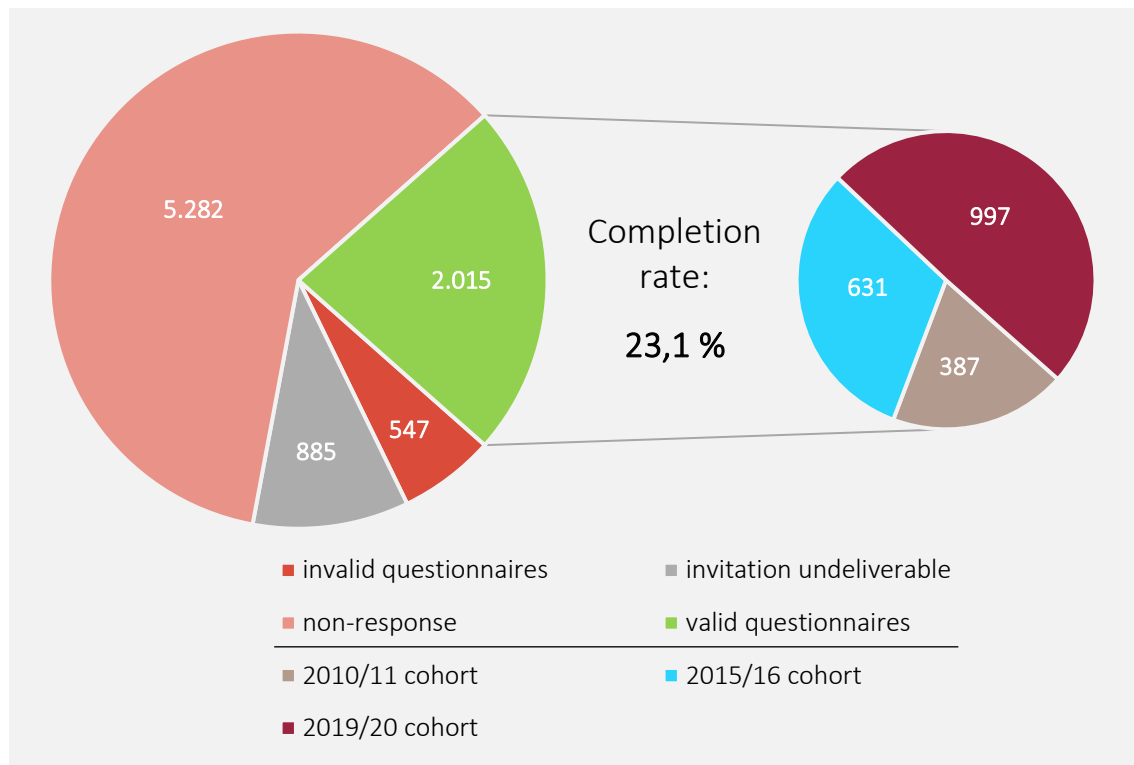
Source: EMJMD Graduate Impact Survey 2020/21, all surveyed graduates (n = 2015)

2.4   Sample and weighting

To enhance the representativeness of the findings, the GIS 2020/21 data is weighted: All respondents got assigned a factor that determines how much their answers contribute to the analyses results. This factor, the *weight*, is based on whether respondents' central characteristics are over- or underrepresented in the sample compared to the population of scholarship holders. The characteristics used for weighting were:

- Age group
- Gender
- Region of origin
- Field of study
- Cohort

Respondents with underrepresented characteristics get assigned higher weights and vice versa. This way, sampling biases are reduced. Figure 2 illustrates how weighting affects the analysis results by using the example of age groups. The method used for weighting is *iterative proportional weighting*, also known as *raking*. This method calculates and adjusts weights for each case repeatedly until the distribution of each weighting characteristic corresponds to the target population when the weights are applied to the sample (Valliant et al. 2018).

## Figure 2:   GIS 2020/21 weighting exemplified by the age distribution
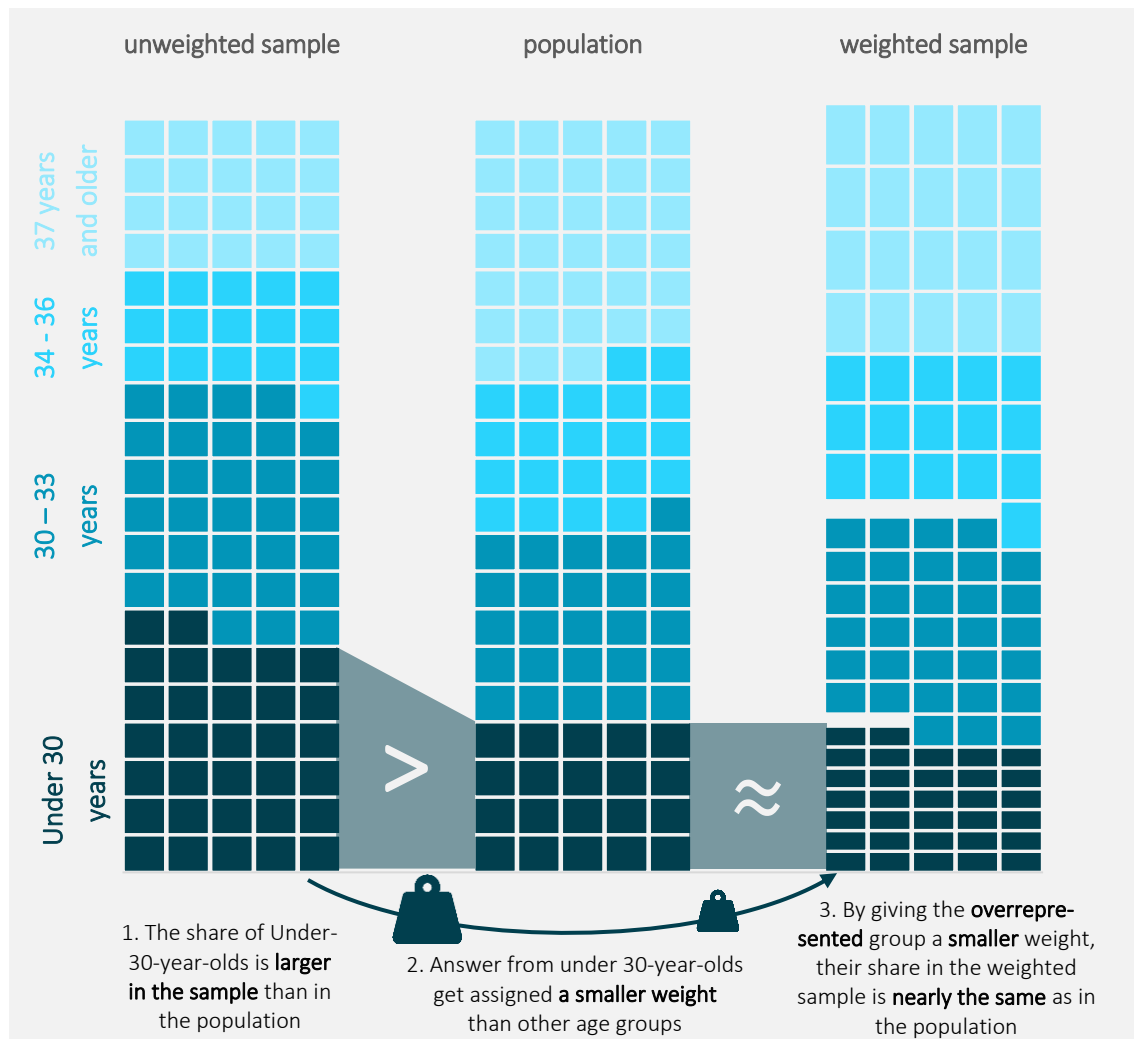
Source (GIS 2020/21 sample): EMJMD Graduate Impact Survey 2020/21, all surveyed graduates (n = 2015)
Source (population): EACEA data

All results presented in this report are based on weighted values unless stated otherwise. **The report is therefore representative to graduates from the years 2010/11, 2015/16 and 2019/20 who received an EM scholarship**, who will be referred to as "graduates" or "alumni" throughout the following chapters. Sample and subsample sizes for figures and tables, however, are still based on unweighted counts to present the actual number of graduates with whose responses each analysis is conducted. To ensure sufficient accuracy as well as anonymity of respondents, results are only displayed for subgroups of at least 30 graduates.
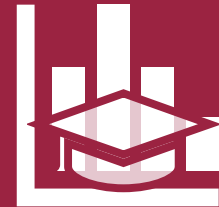
Most graduates originate from Latin America and non-EU Europe

One of the core features of the Erasmus Mundus Programmes is the international profile and inclusion of a global student body. The internationality is on the one hand achieved through a multi-institutional approach: each EMJMD programme requires to study in at least two different countries. Furthermore, the graduating students origin from all around the world, as Figure 3 shows. With EU citizens (13%) only being the fourth largest group, more graduates originate from Latin America (18%), non-EU European states (15%) and Africa (14%). However, some more graduates already lived within European, North American, or Oceanian countries for previous studies as the lower bar shows, although this is not a major phenomenon.

**Figure 3:   Graduates' region of origin (citizenship) and of previous studies before EM**
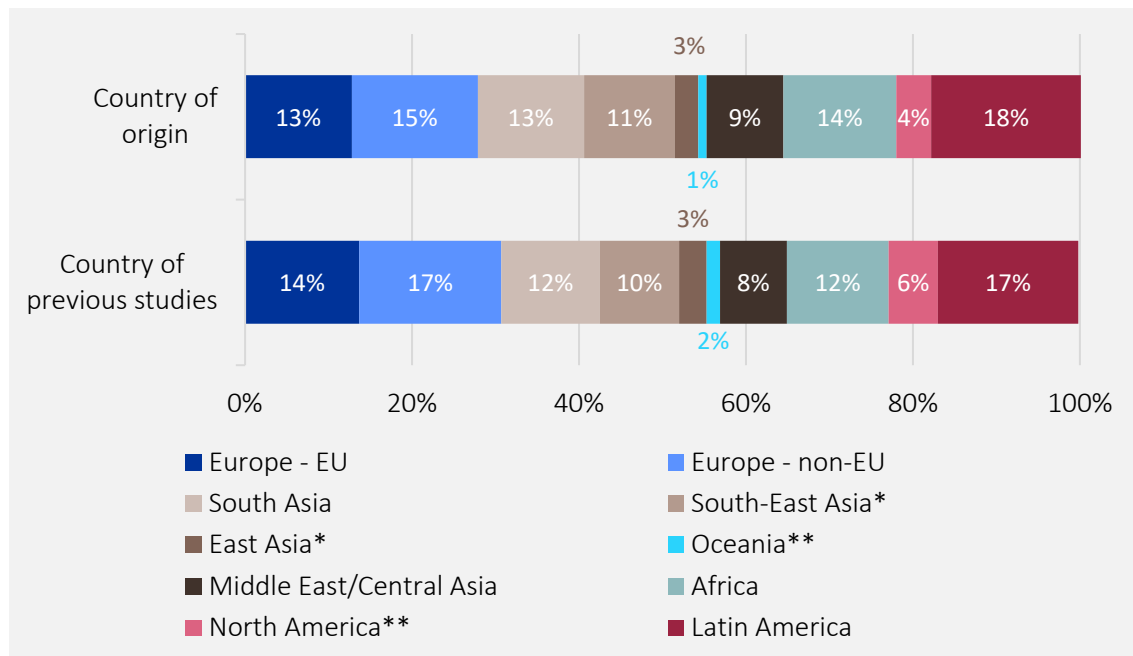
*East and South-East-Asia are summarized as one region throughout the following chapters to ensure sufficient case numbers.
** Oceania and North America are summarized as one region throughout the following chapters to ensure sufficient case numbers.
Source: EMJMD Graduate Impact Survey 2020/21, all surveyed graduates (n = 2015)

Fields of study: Very diverse in size and gender distribution

Figure 4 shows that the graduates are distributed very unequally among the eight official EMJMD fields of study. Every third graduate from the observed cohorts comes from the field of information and engineering sciences, every fourth from the environmental and geosciences. At the same time, the four smaller fields economics, mathematics, chemistry, and physics together account only for 12% of all graduates.

Figure 4:   Distribution of fields of study among surveyed graduates (weighted)
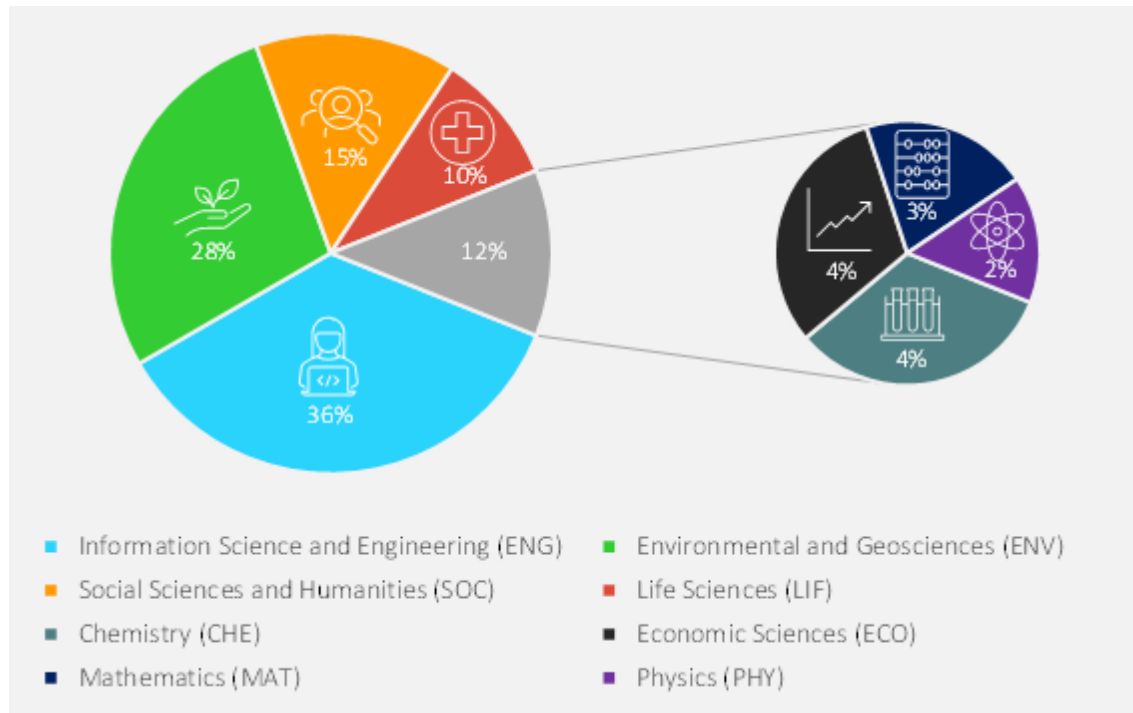
Source: EMJMD Graduate Impact Survey 2020/21, all surveyed graduates (n = 2015)

While the gender distribution in the overall population is almost equal between graduates registered as male (50,4%) and female (49,4%), the distribution varies greatly between the fields of study. Figure 5 shows that the life sciences are closest to an equal distribution, having 55% female graduates. Environmental and geosciences and social sciences show an even greater surplus of women compared to the overall average, while STEM fields and economics show a more than proportional share of male graduates in the observed cohorts. As the survey did not only ask for the sex graduates formally registered with for their EM, but also for gender including "Other/Diverse" and "Prefer not to answer", it is visible that the non-binary options were especially frequent in the environmental and geosciences, social sciences, economics, and information and engineering sciences. It must be acknowledged at this point that the representation of non-binary graduates is restricted by the data sources. Because universities only started to adapt non-binary options for student registration, it is very likely that some non-binary students have been registered as male or female and did (correctly) report so – although there was a third option available in the survey.

Figure 5:   Gender distribution and sex formally registered with by field
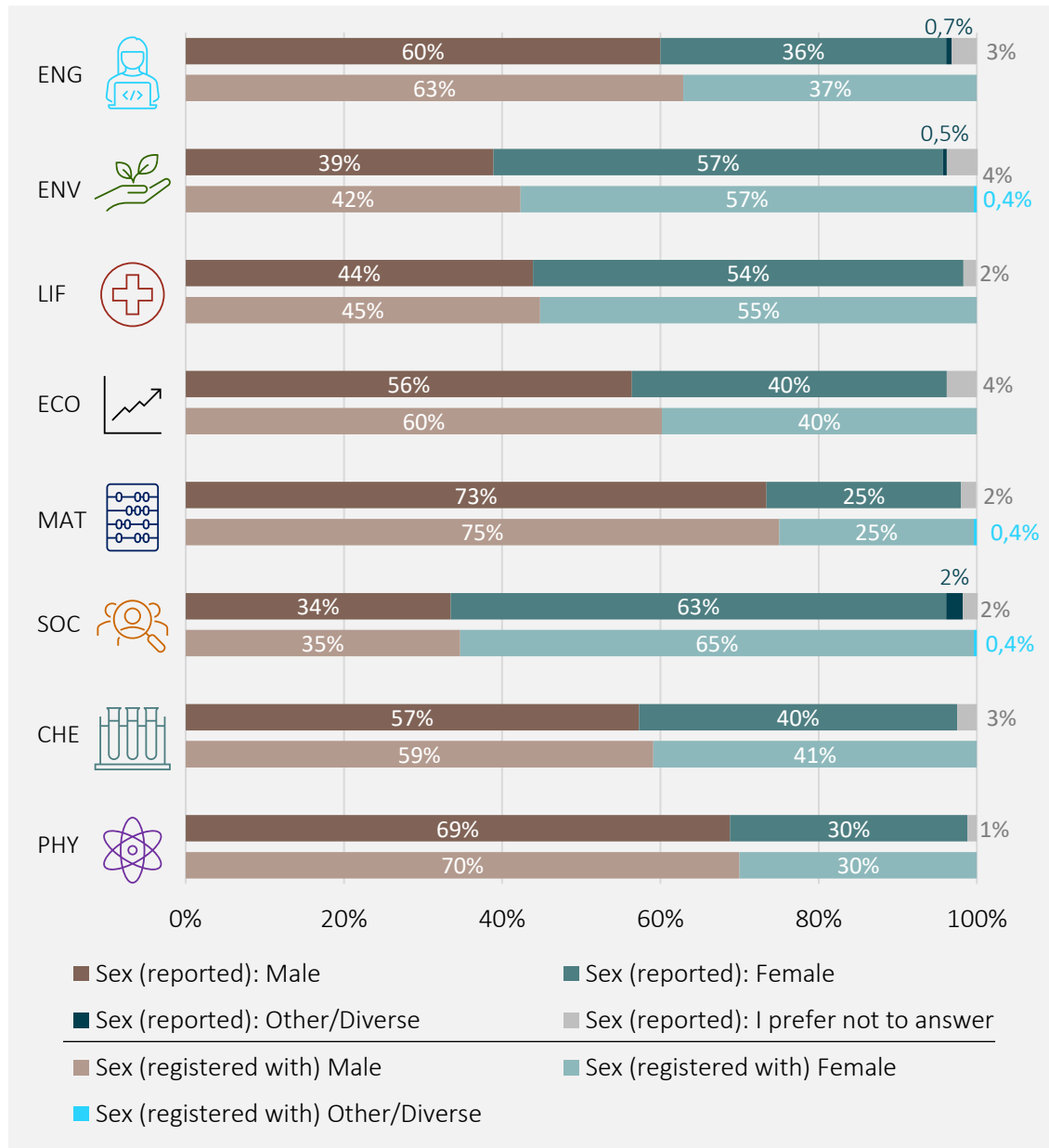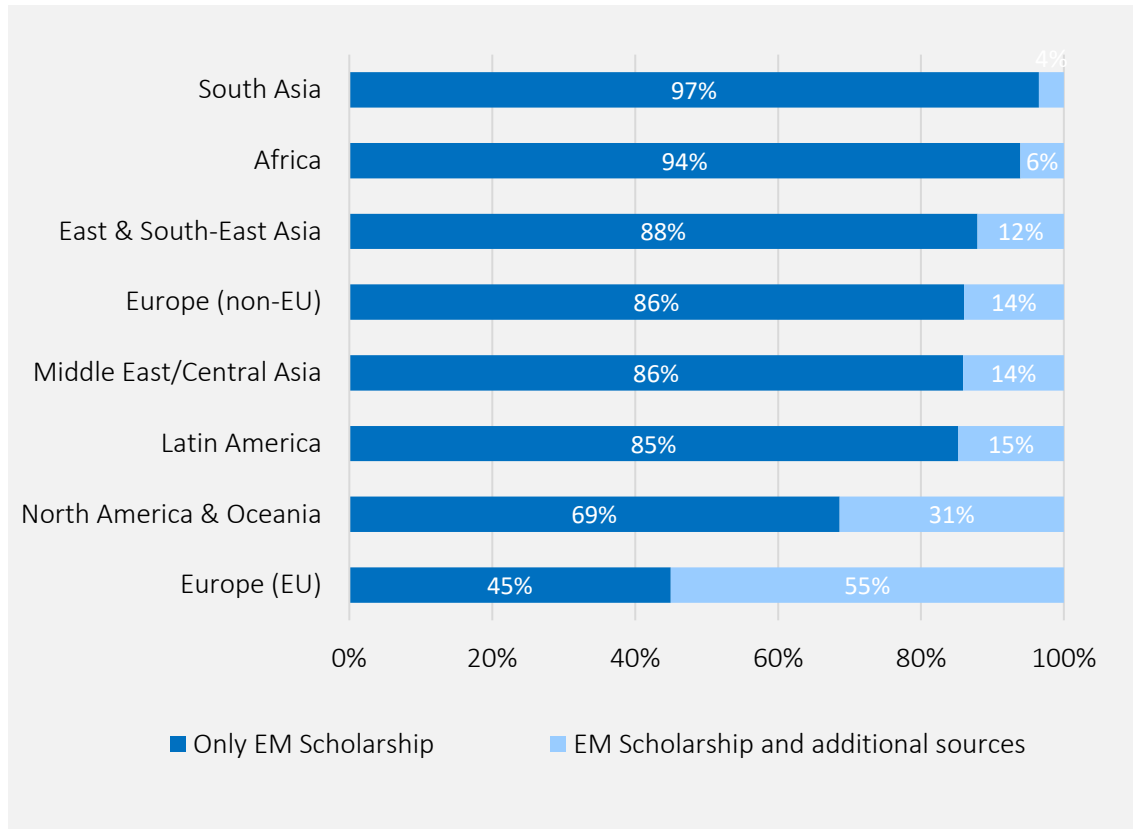

Source: EMJMD Graduate Impact Survey 2020/21, n = 2.015 graduates

Students from EU, Oceania and Americas rely on more income sources

The scholarship is a crucial advantage for those who pursue an EMJMD. Figure 6 shows that it is the only income source for a large majority of students. EU citizens are the only group that predominantly (55%) can utilize additional financial resources, followed by graduates from North America and Oceania with 31% having had access to additional finances during their EMJMD. Meanwhile, South Asia (3%) and Africa (6%) were most dependent on the scholarship.

Figure 6:   Financial sources of graduates during their EMJMD

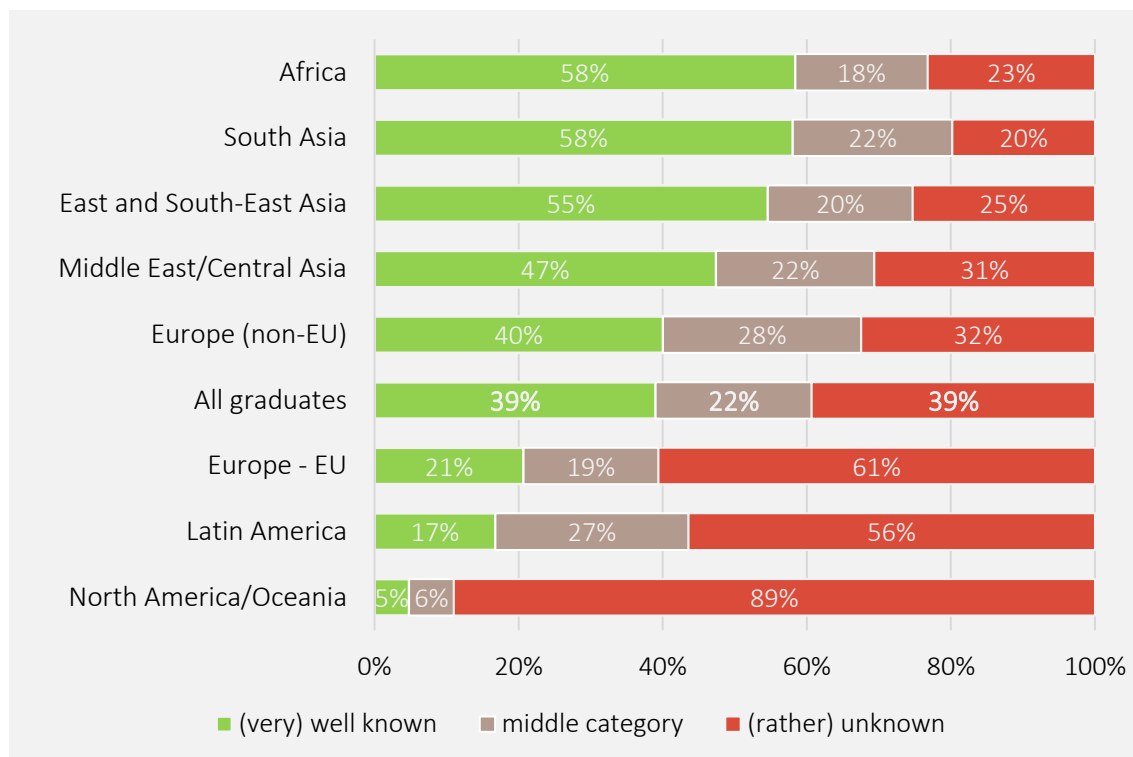Source: EMJMD Graduate Impact Survey 2020/21, n = 2.014 graduates

4.1   Public profile and access

Awareness of EMJMD varies greatly between regions of the world

The greatest differences in awareness of the EMJMD programmes can be seen between the different regions of origin of the graduates. As Figure 7 shows, the awareness of the programmes is above the average for alumni from Africa and Asia. On the other hand, they appear to be considerably less known in EU countries, America, and Oceania. One reason for this might be the wider range of scholarships and international study options in these regions. When asked about suggestions for improvement, European alumni mentioned the lack of differentiation between the EMJMD programmes and the overarching and widely known Erasmus+ framework. Graduates from North America particularly pointed out that the EMJMD programmes fade into the numerous other programmes that offer studying abroad.

Figure 7: Graduates' assessment of the awareness of EMJMD programmes in their home country by region


Source: EMJMD Graduate Impact Survey 2020/21, all surveyed graduates (n = 2.015)

Learning about Erasmus Mundus: Self-research, word of mouth and institutions

Before applying for a master programme, many students want to assess different options. When international studies are considered, the sheer number of possibilities often prohibits students from looking into all options thoroughly before making a decision. The elements of chance and noticeability are thus not negligible aspects in the promotion of study programmes aimed at an international audience. Figure 8 shows that in all cohorts, a relative majority of Erasmus Mundus Master students learned about the programme by conducting their own online research. Every second graduate of the 2015/16 cohort found the programme this way. The share of this information source declined in the 2019/20 cohort but is still higher than a decade before. It is worth mentioning that learning about EMJMDs via social media, which rarely ever was the case in the two older cohorts, accounted for over 5% of the 2019/20 graduates. Social media was also mentioned more often by students from regions with an above-average awareness of EMJMD.

Figure 8: Finding out about EMJMD – primary sources of information (5 most frequently mentioned) by cohort
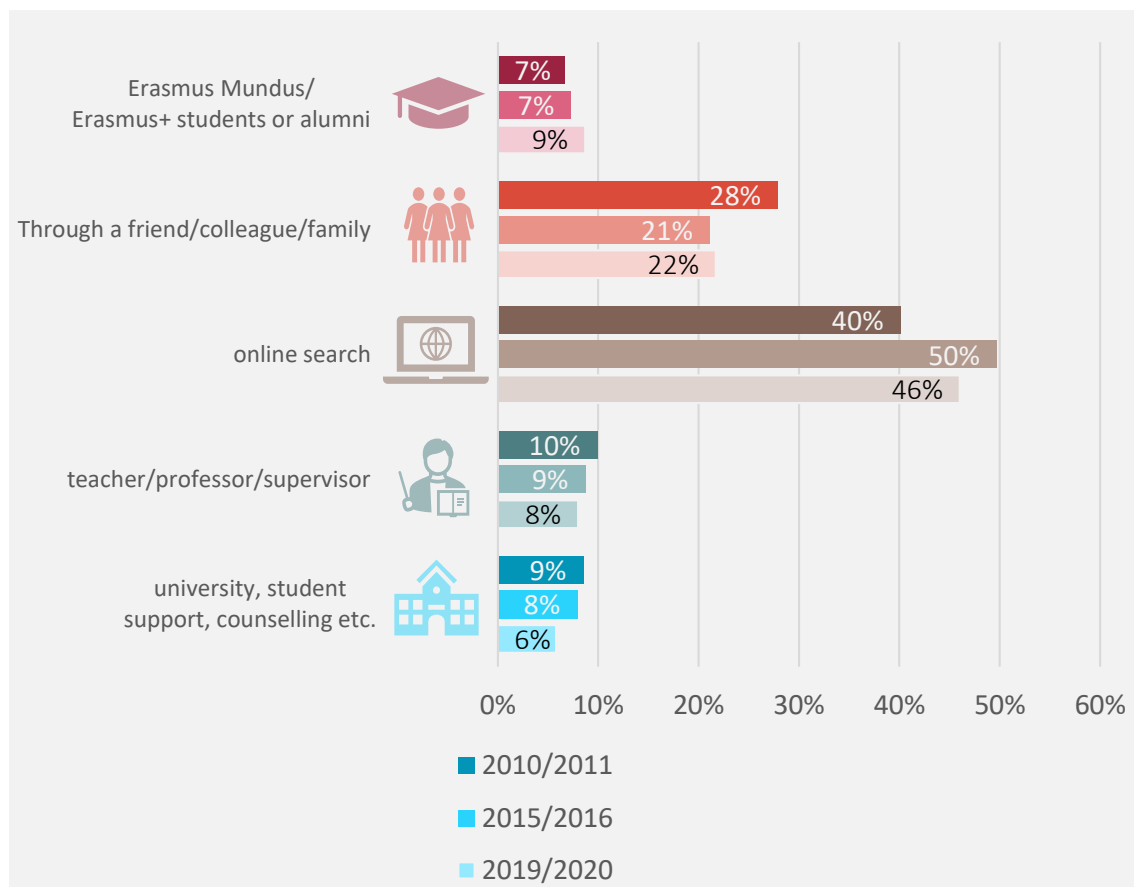
Question wording: How did you find out about the Erasmus Mundus programme? Please select your primary source of information.
Not displayed options (due to low - <1% - shares): Newspaper or magazine; social media; Higher education fair, conference, or other higher education event; Other sources
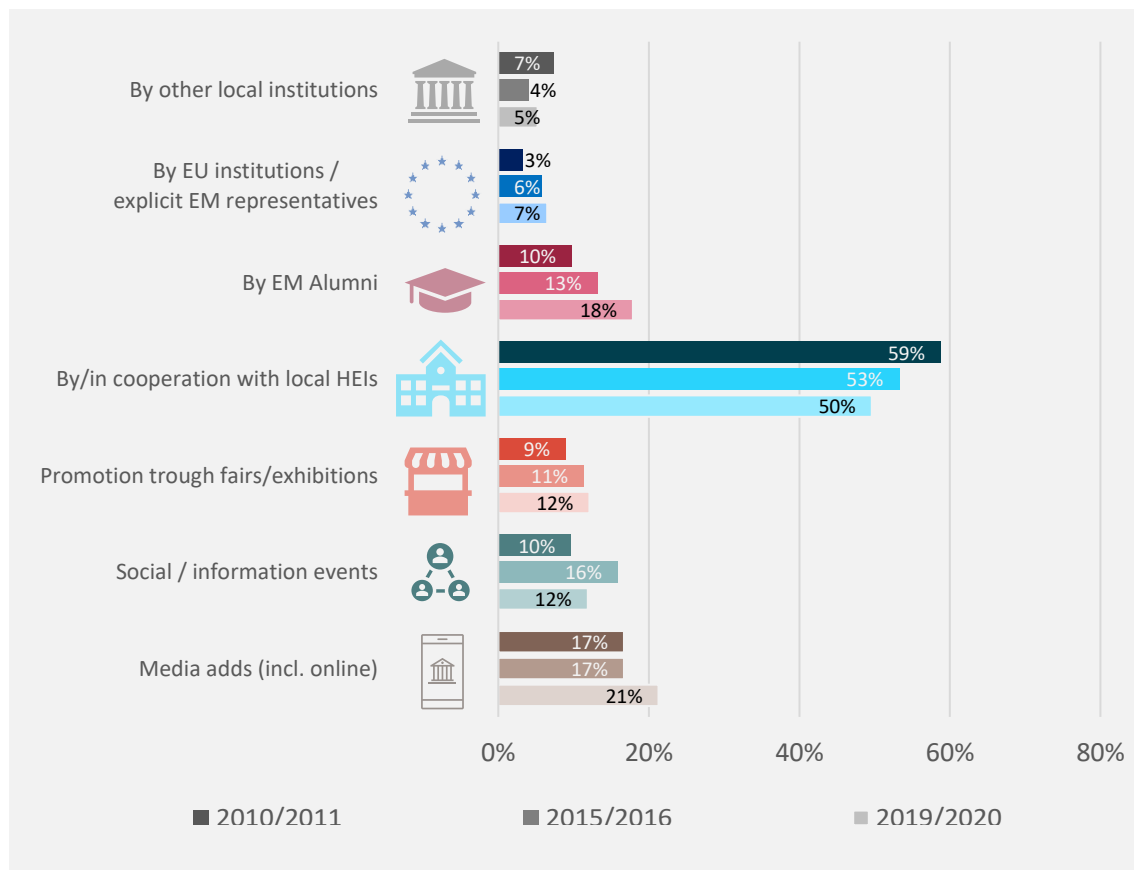Source: EMJMD Graduate Impact Survey 2020/21, n = 2.011

Word of mouth, either by relatives and peers (22% in the latest cohort) or Erasmus alumni (9%), accounts for almost another third of former EMJMD students. Promotion by former higher education institutions, either through counselling (6%) or the initiative of individual lecturers (8%) still contributes noticeably to the latest cohort but has declined. Print media, education fairs and other information sources account for less than 5% of the graduates' primary information sources.

Increasing awareness: Alumni call for first-hand information in local settings

To improve the awareness of the EMJMD programmes, graduates that deemed the programme (rather) unknown in their country were asked to make suggestions. A majority in each cohort suggested some form of promotion by or with higher education institutions (Figure 9).

Figure 9:   Share of selected[1] EMJMD awareness improvement suggestions by graduates considering the program (rather) unknown in their country of origin

Source: EMJMD Graduate Impact Survey 2020/21; only graduates who consider the EMJMD programmes (rather) unknown in their home country (n = 787).

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[1]   Graduates could give free text suggestions that were categorized for analysis. Chart only shows categories that are specific (excluding "increasing promotion in general") and were mentioned by at least 5% of graduates who saw the question.

However, the most recent cohort did not consider this option as often as the others. Personal, first-hand information is of increasing relevance: Promotion through EU or Erasmus representatives, Erasmus Mundus Alumni, as part of educational fairs or social and information events, is suggested more often by the more recent cohorts – and, likewise, by younger alumni. Media ads also seem to be more recognized by the 2019/20 cohort, but this suggestion is driven slightly more by older (37+) alumni.

☼ Policy impulse: Making Erasmus Mundus visible in the right places

Aimful promotion in the sea of institutions: Universities are still seen as the most practical place to advertise EM, but with declining importance both in practice (Figure 8) as well as in the perception of alumni (Figure 9). With a global target group, addressing the entirety of institutions appears inefficient. Furthermore, more alumni became aware of EM through lecturers than through counselling and international study offices at their universities. Promotion could instead draw on multiplier institutions like (a) the academic and professional networks of EMJMD programme heads, as many programmes cover specialized sub-fields and (b) regional contact points and information channels that offer information for master or international study aspirants.

Offering first-hand information: alumni increasingly suggest promotion by actors that are affiliated with the EM Programmes – either alumni, EU or Erasmus representatives, or fair promoters. Personal dialogue can quickly clear up practical and organizational concerns of studying internationally, which a part of the Alumni mentioned as a considerable obstacle. Regional EMA chapters could be suited to provide such first-hand advice. But promotion must also reach places and institutions where no EMA members happen to be active.

If online, then targeted: Individual online research by students looking for a master's programme, as well as social media, are becoming more important information sources. This field may seem like it offers only a small chance to stand out. However, online advertisement can allow for targeting specific groups. Therefore, it can be an instrument to address groups currently underrepresented in the EMJMD student and graduate population.

Deciding for Erasmus Mundus: Scholarship, internationality and academic profile are the main drivers

Eventually deciding for a Master programme is often driven by an interplay of various factors. In the GIS 2020/21, alumni could select one or more options out of 18 different motives. These have been summarized into 4 orientations[2] for clearer insight: career improvement, studying

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[2]   By applying Principal Component Analysis (PCA), 4 underlying categories were identified based on the answers of the responding graduates. PCA, in this case, calculates which motives for choosing an EMJMD are often selected simultaneously and thus can be assumed to result from a common general orientation.

internationally, subject- and field-related aspirations and the reputation and conditions of the EMJMD programmes (including the scholarship). Figure 10 shows the average occurrence of these orientations amongst graduates of the different fields of study. The internationality aspects of EMJMD programmes were of similarly high importance for graduates of all fields. Only among former students of physics related EMJMDs were motives concerning EMJMDs' reputation and conditions reported a bit more often than internationality aspects. Graduates in the life sciences most frequently stated professional reasons for choosing an EMJMD programme.

Figure 10: Average mention of orientations for choosing an EM degree programme on a scale of 0-to-5* by field of study


* The Scores of the Principal Component Analysis were normalized and transformed to a 0-5 scale; with a 5 indicating that a graduate selected every reason that represents the respective category.
Source: EMJMD Graduate Impact Survey 2020/21, all surveyed graduates (n = 2.015)

Orientations related to career improvement were most important for former students of economic programmes and least important to mathematics and physics alumni. However, compared to the other general orientations, it was the least important category of reasons for selecting an EMJMD programme in all fields of study.

When looking into particular motives for choosing EMJMD programmes, the accompanying scholarship stands out as the most important one. As Figure 11 shows, it was the primary motive for almost one third of all graduates, and one of several motives for 85%. The possibility to experience different countries and cultures follows second. Different kinds of academic motives (EM universities, aspirations, field knowledge) were the main motive for about a quarter of alumni in sum.

Figure 11: Proportion of all selected and primary motives for choosing an EMJMD programme
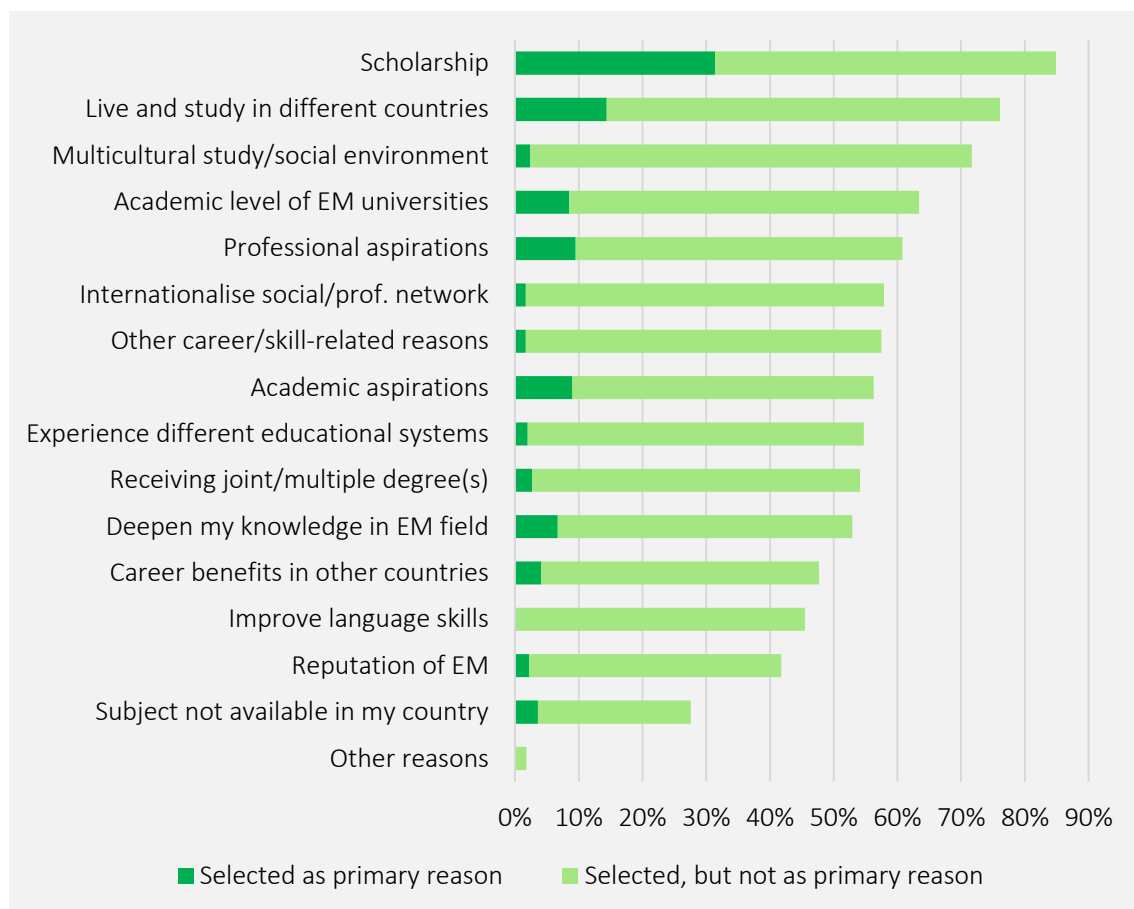
Source: EMJMD Graduate Impact Survey 2020/21, all surveyed graduates (n = 2.015)

Table 1 shows the three most selected primary motives for choosing and EMJMD programme within the fields of study. While most alumni in all fields of study were most motivated by the scholarship, graduates from four fields of study seem to be particularly attracted to the internationality of the programmes; it is the second most common motive for graduates of information and engineering sciences, environmental and geosciences, economics, and social sciences. The other fields have their second and third most chosen motives in the academic and professional areas.

Table 2 shows the same analysis by regions of origin. As the analysis of the financial sources (chapter 3) already implied, the scholarship is less often crucial for graduates from the most

economically advanced regions: the EU, North America, and Oceania. For most of them, the possibility to study internationally was the primary motive for an EMJMD programme. For South Asian and African graduates, this aspect is not in the Top 3; instead, they mention academic and/or professional motives.

Table 1:   3 most chosen motives for choosing an EMJMD programme of each field of study

ENG	ENV	LIF	ECO	MAT	SOC	CHE	PHY
Scholarship 34%	Scholarship 28%	Scholarship 29%	Scholarship 38%	Scholarship 39%	Scholarship 32%	Scholarship 17%	Scholarship 32%
Live/study internationally 15%	Live/study internationally 15%	Professional aspirations 13%	Live/study internationally 17%	Academic level of EM universities 13%	Live/study internationally 17%	My academic aspirations 16%	My academic aspirations 18%
Academic level of EM universities 10%	My academic aspirations 10%	My academic aspirations 11%	Academic level of EM universities 11%	My academic aspirations 11%	Professional aspirations 12%	Academic level of EM universities 13%	Academic level of EM universities 14%

Source: EMJMD Graduate Impact Survey 2020/21, all surveyed graduates (n = 2.015)

Table 2:   3 most chosen motives for choosing an EMJMD programme of each region of origin

Europe – EU	Europe – non-EU	South Asia	East & South-East Asia	North America & Oceania	Middle East/Central Asia	Africa	Latin America
Live/study internationally 25%	Scholarship 25%	Scholarship 34%	Scholarship 40%	Live/study internationally 37%	Scholarship 37%	Scholarship 37%	Scholarship 33%
Scholarship 15%	Live/study internationally 20%	Academic aspirations 16%	Live/study internationally 11%	Scholarship 34%	Live/study internationally 10%	Professional aspirations 15%	Live/study internationally 14%
Professional aspirations 14%	Academic level of EM universities 11%	Academic level of EM universities 10%	Academic level of EM universities 11%	Deepen my knowledge in EM field 9%	Career benefits in other countries 8%	Academic level of EM universities 10%	Professional aspirations 10%

Source: EMJMD Graduate Impact Survey 2020/21, all surveyed graduates (n = 2.015)

When it comes to transition time between a previous study and the EM programme, there are some differences by region of origin, as Figure 12 shows: European students most often transition

to their EM in a year or less after finishing the previous study programme. Among citizens of other regions of the world, the majority has a transition time of two years or more. This might indicate that a considerable share of graduates applies more than once for an EMJMD scholarship - if they are initially unsuccessful, they reapply, rather than starting (or continuing) another programme. Another explanation could be that those graduates in particular seek out further studies after their first labour market experiences.

Figure 12: Transition time between previous study and EM by region of origin
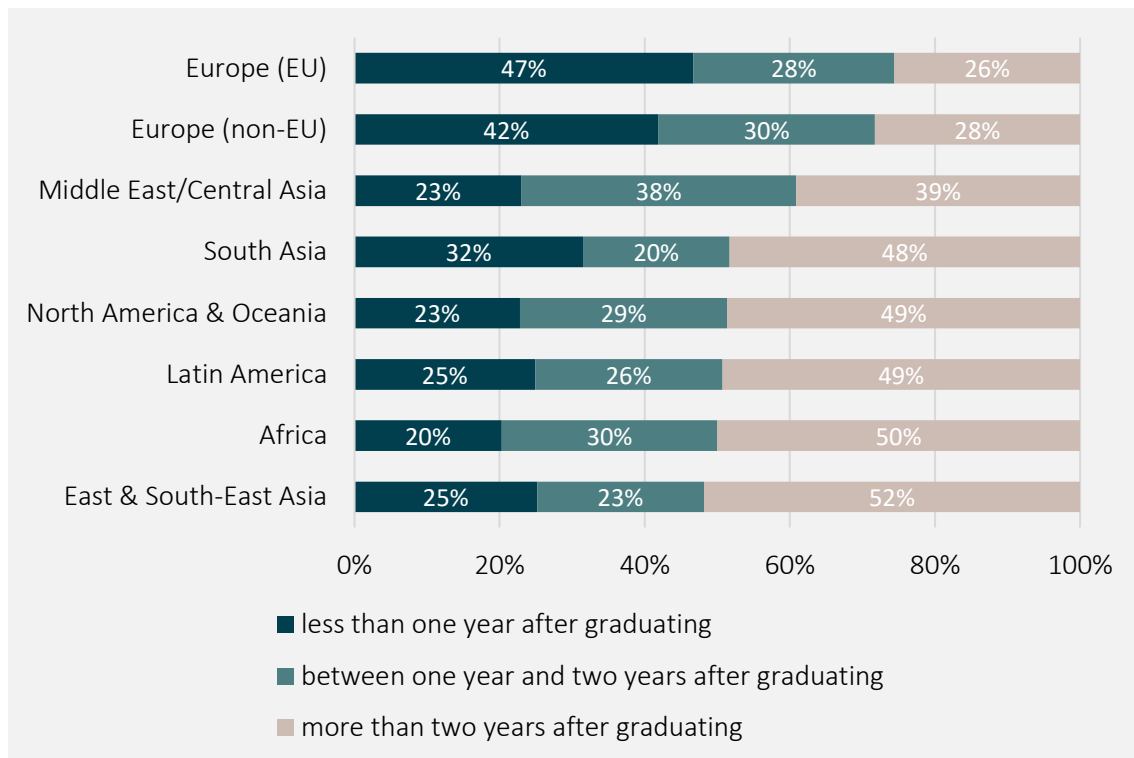
Source: EMJMD Graduate Impact Survey 2020/21, all surveyed graduates (n = 2015)

4.2   Programme satisfaction

Figure 13 shows how satisfied graduates of the different fields of study were with their EMJMD in general. While every field has at least 80% of graduates rating their EMJMD rather or highly satisfying, the proportion of rather not or not at all satisfying ratings varies: In the fields of physics and economics, not a single respondent gave such an assessment. The highest proportion of negative assessments comes from graduates in mathematics (8%) and social sciences (4%). Chemistry graduates were most likely to assess their programmes negatively or moderately, at 16%. Overall, although the vast majority of graduates rate their EMJMD as (very) good, about 10% of graduates did assess their EMJMD as not very satisfying, which can be projected to make up about 900 of all graduates from the target group cohorts. A possible warning signal is that the number of (rather) dissatisfied graduates has increased and is highest in the 2019/20 cohort.

Figure 13:   Overall satisfaction with EMJMD programme by field of study
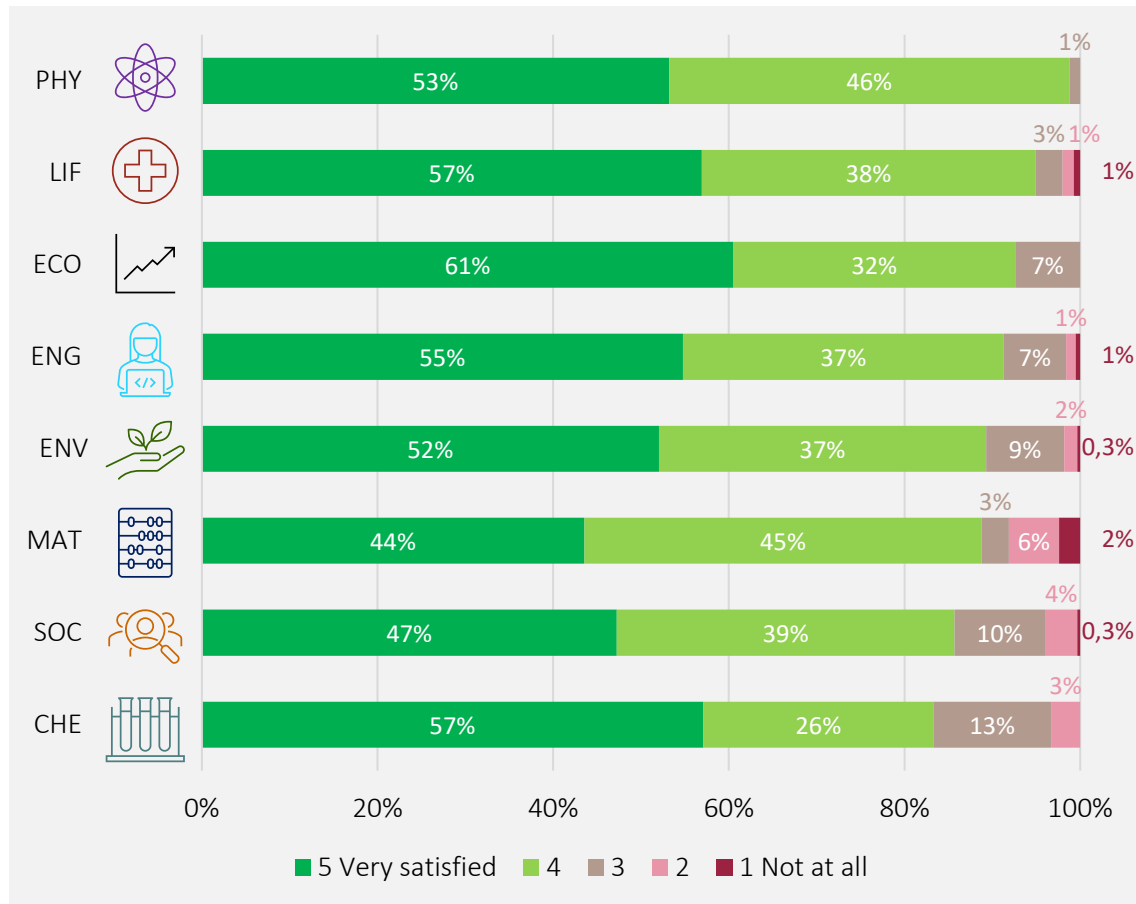
Source: EMJMD Graduate Impact Survey 2020/21, all surveyed graduates (n = 2.015)

Northern European Systems stand out regarding course quality

In addition to the overall rating, graduates were asked to report their satisfaction with the respective host institution. Although the sample is not large enough to assess universities, the assessment can be related to the host countries. Among the programme countries, institutions from western European countries are involved most often in EMJMD programmes, namely France (179 as a full programme partner), Spain (154), Italy (107) and Germany (96) (EACEA 2021). Figure 14 shows that host institution in Northern and Central European countries received the highest proportion of (rather) satisfying ratings, particularly Sweden, Norway, the Netherlands, Denmark, and Germany. Institutions from the United Kingdom were also among the highest rated. The countries with the most mixed assessments are much more geographically dispersed, including Greece, Slovenia, France, and Poland.

Figure 14:   Satisfaction with courses at host universities in EU countries and the UK

Country	5 Very satisfied	4	3	2	1 Not at all
Sweden	54%	33%	11%	2%	1%
Norway	53%	32%	10%	2%	2%
Netherlands	56%	29%	9%	5%	2%
Denmark	50%	33%	11%	4%	2%
United Kingdom	56%	27%	12%	4%	1%
Germany	49%	31%	13%	4%	2%
Finland	51%	29%	15%	4%	1%
Estonia	57%	22%	17%	3%	2%
Belgium	47%	30%	15%	6%	1%
Ireland	36%	40%	14%	6%	3%
Hungary	41%	34%	15%	8%	2%
EU-27	41%	33%	17%	6%	3%
Spain	36%	38%	17%	7%	2%
Portugal	38%	36%	20%	3%	3%
Austria	42%	32%	19%	6%	1%
Czech Republic	33%	40%	18%	9%	0%
Italy	39%	32%	18%	6%	5%
Poland	33%	35%	20%	8%	3%
France	31%	34%	22%	10%	4%
Slovenia	44%	17%	27%	7%	5%
Greece	29%	31%	19%	7%	14%

Source: EMJMD Graduate Impact Survey 2020/21, 4.804 ratings by 2.013 graduates (graduates were asked to give a separate rating for every host institution); only countries with a sufficient number of ratings (30 or more).

Mixed feedback for teaching and contents

Although the vast majority of EMJMD graduates are satisfied overall with their previous EMJMD programme, certain shortcomings are still widespread. For the majority of graduates, aspects encompassing teaching and subject content were not satisfactory throughout their whole EMJMD, as Figure 15 shows. For most graduates, there was a lack of staff, guidance, and teaching methods in at least some of their host institutions. Study infrastructure and attitudes towards

international students were more often satisfactory. Apart from extracurricular activities, there were few aspects that none of the host institutions fully satisfied. Less than 1% of respondents reported that more than half of the aspects in question were not fulfilled by any of their host universities.

**Figure 15:   Satisfaction with different aspects of study conditions at host universities**
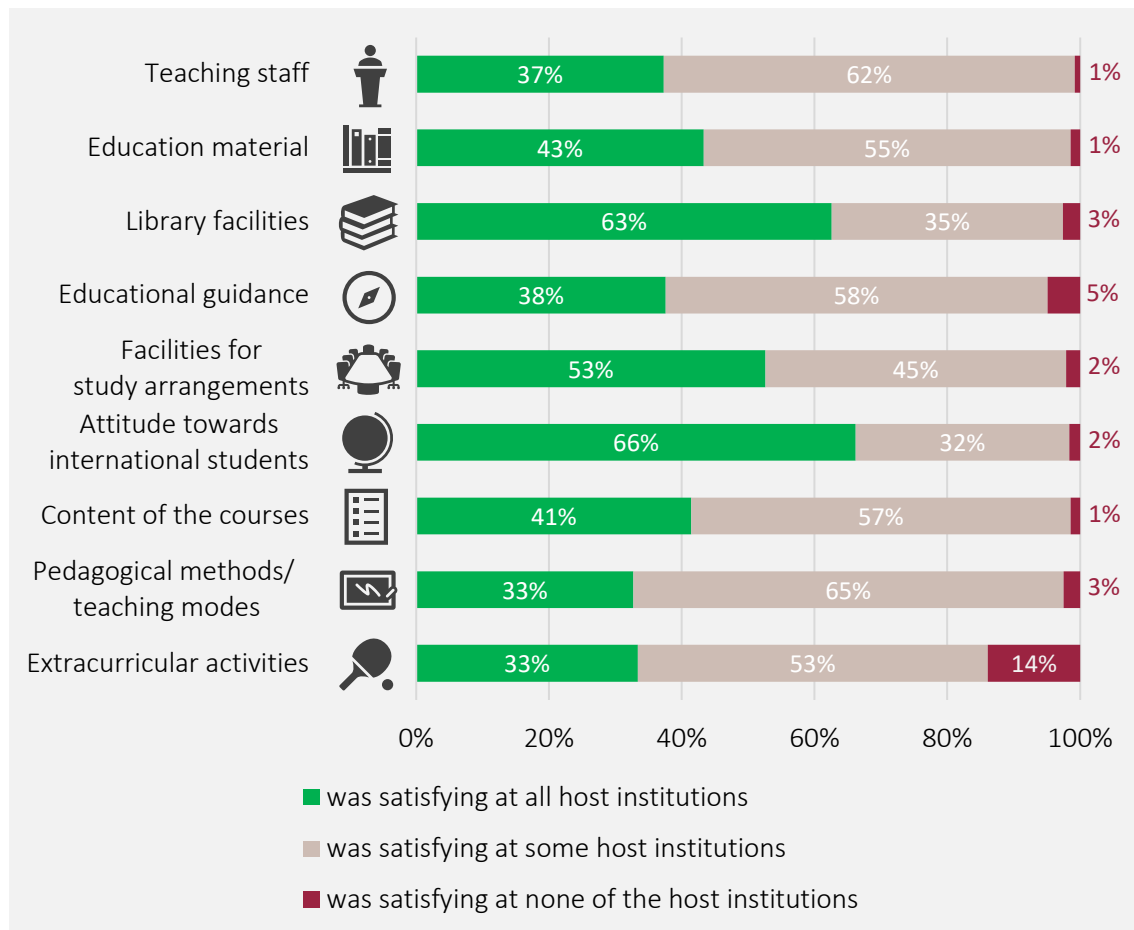
Source: EMJMD Graduate Impact Survey 2020/21, n = 2.013 graduates

Declining share of wholly satisfying study conditions

Notable differences in the satisfaction with study conditions can be observed between cohorts. The 2019/20 cohort reported significantly less satisfaction with all host institutions than the other cohorts. These specifically concern the aspects that are not constantly satisfying overall: namely teaching (-12 percentage points compared with the 2010/11 cohort), materials (-12), course contents (-13) and teaching modes (-14). While one might assume that Covid 19-related measures at institutions impacted the assessment of the latest cohort negatively, this is not the case. In fact, for all aspects, graduates of 2020 reported satisfying conditions at all host institutions equally or even more often than those who graduated in 2019, before the pandemic.

Figure 16:   Share of graduates reporting satisfying conditions in all host universities by aspect and cohort
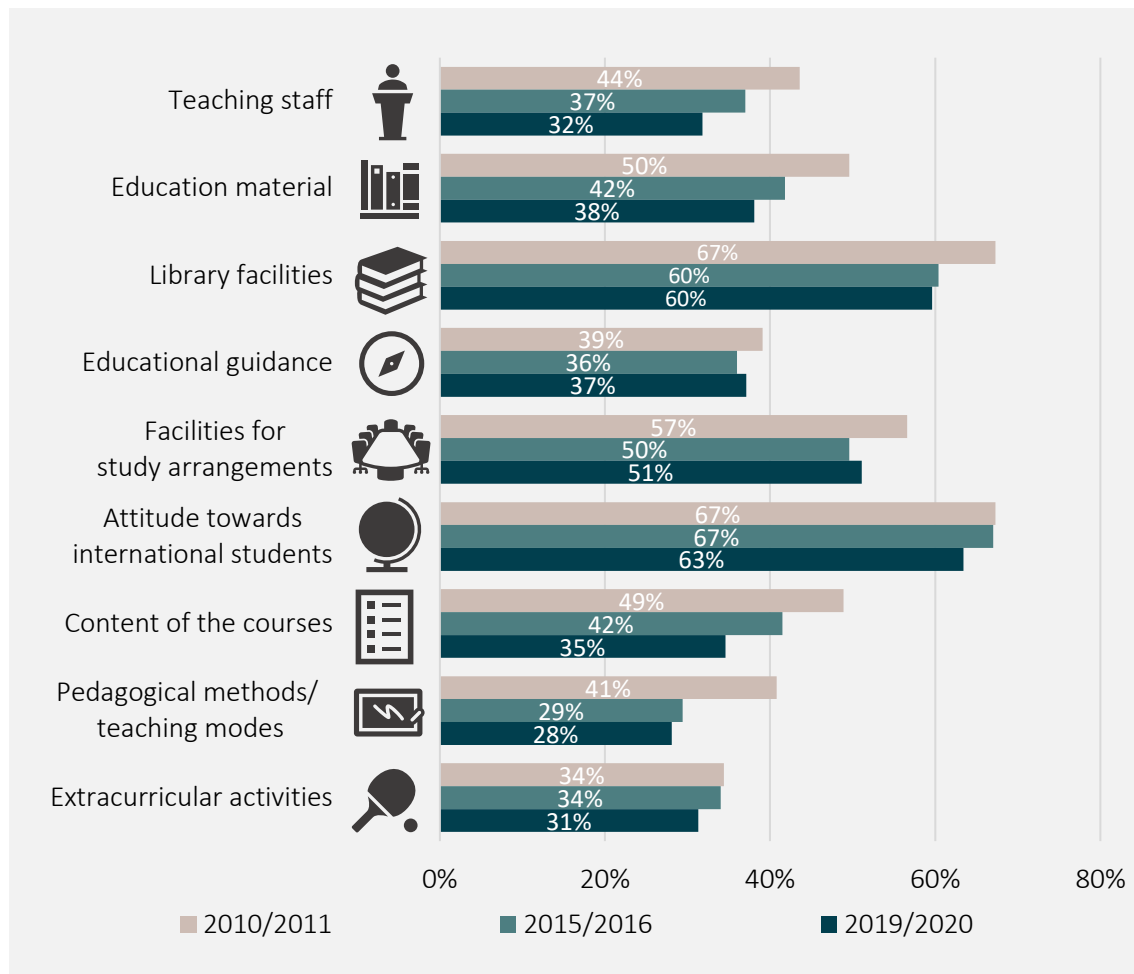
Source: EMJMD Graduate Impact Survey 2020/21, n = 2.013 graduates

More and more satisfying practical elements in EMJMD studies since 2010

As seen in the previous section, professional aspirations and networking are aspects that run close behind the most reported motives for choosing an EMJMD and belong to the most mentioned amongst graduates from certain regions of origin. Graduates were asked to report their satisfaction with three types of practical elements in their EMJMD studies: internships, exchanges with employers, and practical experience. Alternatively, it was possible to report that the respective element was not part of their EMJMD. Figure 17 shows that each of these elements has become more prevalent in EMJMD programmes since 2010. It also shows that the amount of satisfying experiences increased with each cohort, growing even more than the total share of graduates that had the respective element in their EMJMD. Internships and practical experiences are rated as (rather) satisfying by most of the graduates who had such an element. However, exchanges with potential employers were experienced as satisfying only for a minority of graduates. More possibilities to get in contact with companies and employers is also a much-requested improvement.

Figure 17:   Share of graduates with different practical and labour market related elements in their EMJMD by cohort and satisfaction
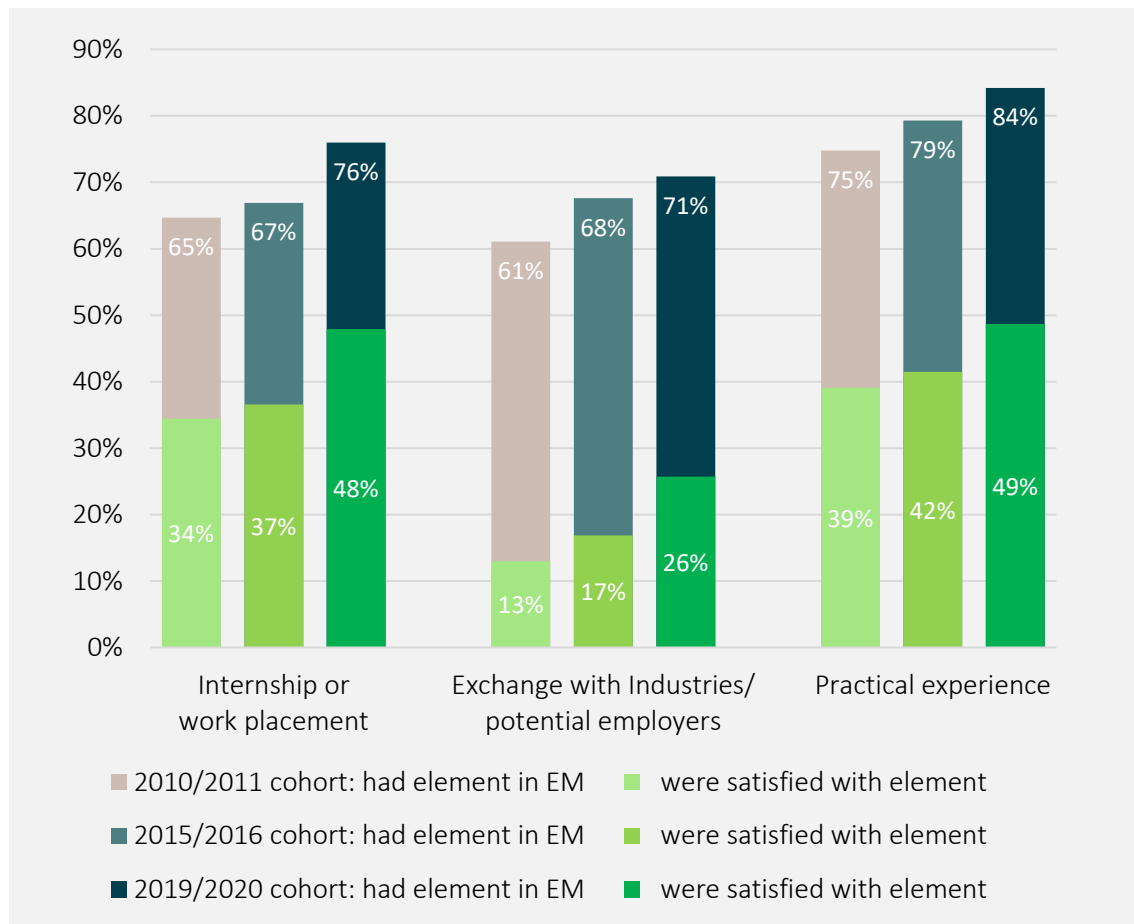
Source: EMJMD Graduate Impact Survey 2020/21, 2.013 graduates. Share of satisfied graduates: those who gave a rating of 4 or 5 on a 1 to 5 scale (1 = not satisfied at all, 5 = very satisfied).

☼ Policy impulse: Forging links between studying and practice

Practical elements as standard part of EMJMDs: Practical experience is requested by both EM alumni and many potential employers. It could therefore be worthwhile to further encourage incorporation of practice elements and internships in EMJMD programmes. To do so, the utilization of such elements could be included in the award criteria for EM projects.

Accounting for field-specific forms of practice: The many different EM fields and programmes set a wide variety of what "practice" might encompass, including e.g., office work, laboratory tasks, hands-on physical labour, medical training, or art performances. Any action towards more practical experience must consider the manifold shapes that it might assume.

4.3 Coordination and formal aspects

As all Joint Master Degrees are based on studying at multiple institutions, the coordination between them is a crucial tool to ensure programme quality. Graduates were asked whether all, some or none of their host institutions were well-coordinated regarding eight aspects. Figure 18 displays that organization coordination, like grade conversion and degree awarding, was entirely well-coordinated for a majority of graduates and seldomly an overall problem. The general degree of integration appears to be well-coordinated in most cases. However, 9% reporting that none of the host institutions were integrated well is not negligible, and when summarizing the answers, 22% do not assess any aspect as well-coordinated between all host institutions. The most inconsistent aspects, both overall and for the 9% reporting no integration between any institutions, are lacking integration of course catalogues and input of associate partners. Teaching methods and course contents are also areas that more often cause problems. Nonetheless, the whole picture is closer to entirely well-coordinated programmes: 14% of respondents assessed every aspect as well-coordinated between all host institutions, while less than 5% reported more than three aspects to be not well coordinated between any host institutions.

Figure 18:   Assessment of coordination and integration between host institutions
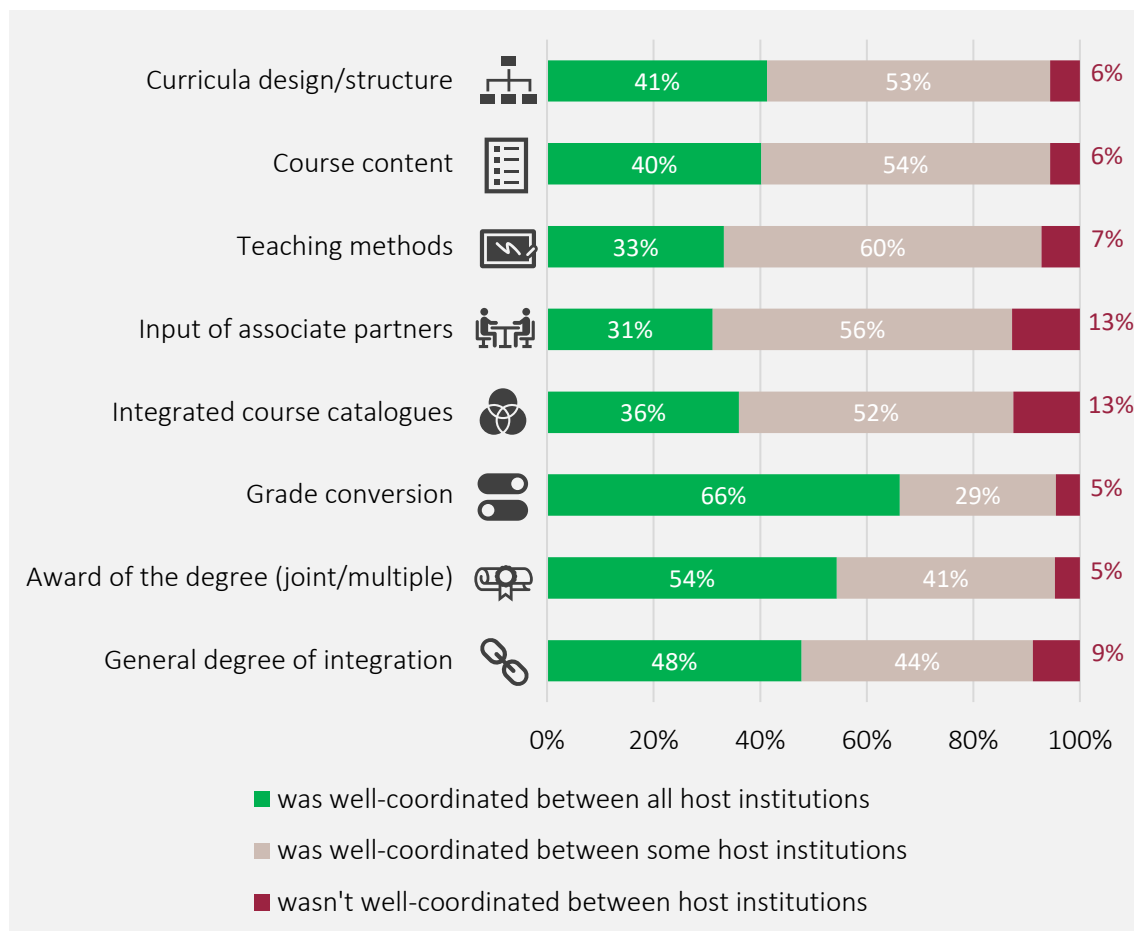
Source: EMJMD Graduate Impact Survey 2020/21, n = 2.013 graduates.

Again, the assessment differs quite noticeably between fields of study. To gain an overview, Figure 19 shows how many graduates of each field assessed the aspects as "well-coordinated between all host institutions". Leader lines do not carry any content in this case but serve to help keep track of the partly overlapping study field symbols. physics and chemistry seem especially well-coordinated in terms of teaching and curricular aspects, whereas life science programmes stand out in organizational aspects. Mathematics programmes are rated entirely well-coordinated the least in almost every category. A good overall integration is most often confirmed by chemistry graduates and least often by economics graduates.

Figure 19:   Share of graduates reporting aspects to be "well-coordinated between <u>all</u> host" universities by study field
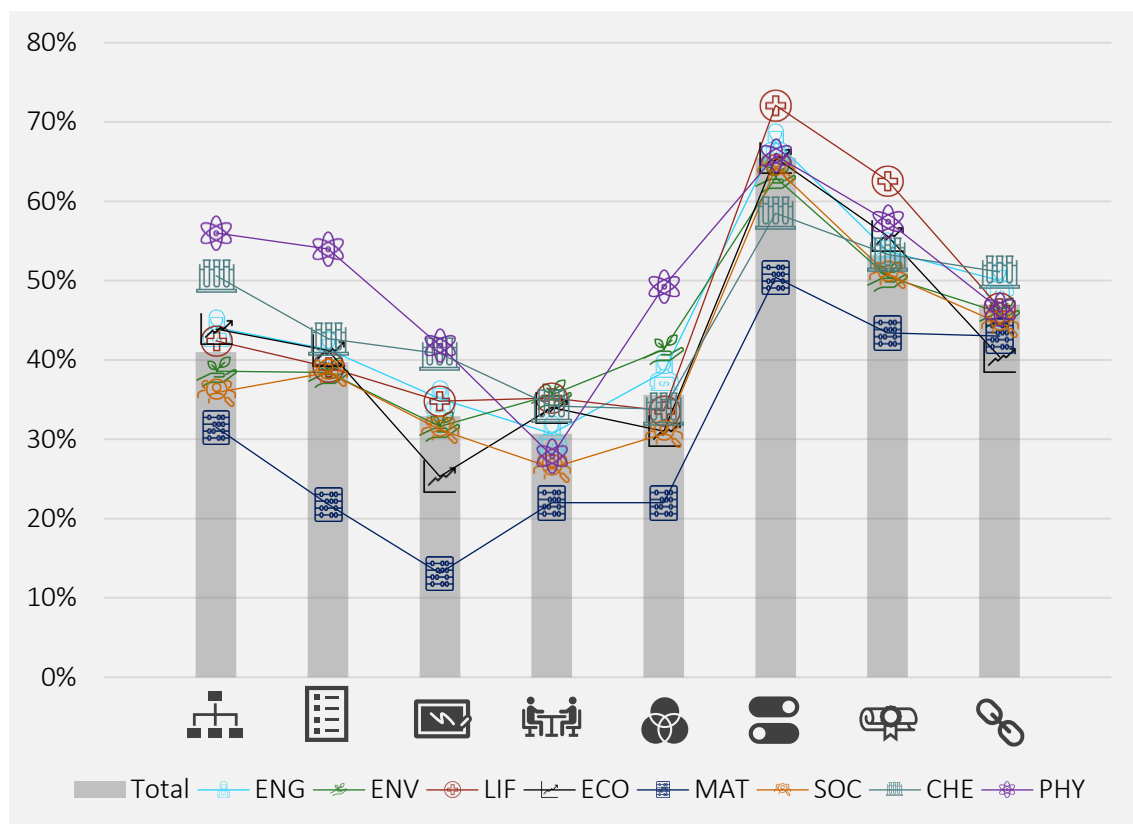
Source: EMJMD Graduate Impact Survey 2020/21, n = 2.013 graduates.

Lacking degree recognition: A matter of location rather than degree type

The GIS Round 2020 was the first to ask about the type of degrees that were awarded, as it depends on the programme whether graduating students receive one joint degree, separate degrees from the different host institutions, or a mixed form. On a programme level, it is most common to award separate diplomas, which is the case for 44% of programmes as of 2020, while only 23% of programmes conclude with one joint degree (EACEA 2020). As Figure 20 indicates, joint diplomas are nonetheless most common on an individual level among the surveyed graduates – especially the recent 2019/20 cohort reported receiving one joint degree more often (42%). Economic and social sciences happen to award such joint diplomas most often, whereas

mathematics as well as environmental and geosciences programmes more often hand out multiple diplomas per graduate.

Figure 20:   Type of degree awarded
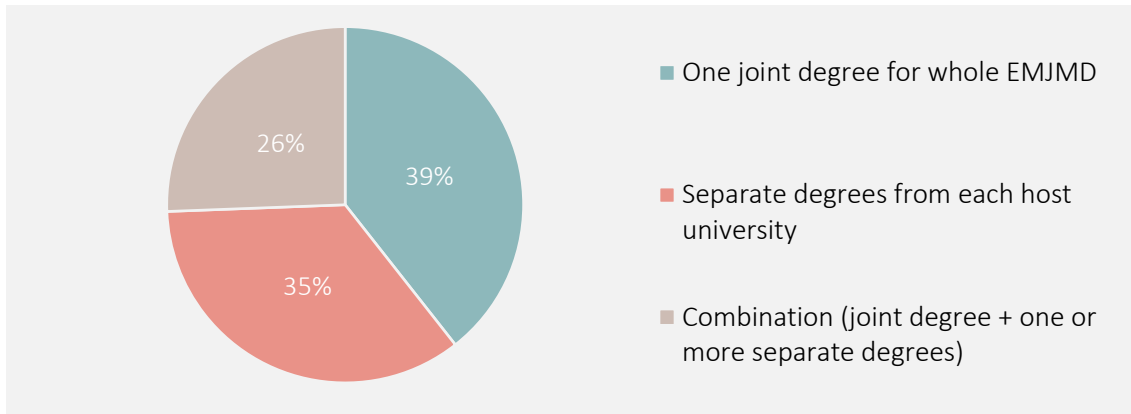
Source: EMJMD Graduate Impact Survey 2020/21, n = 2.013 graduates.

15% of alumni reported problems regarding the recognition of their EMJMD degree by public authorities, employers, or both. Regarding the type of diploma awarded, there are no observable differences: Graduates who received one joint degree for their EMJMD are just as often affected by such issues as those with separate institutional degrees, or both forms combined. Instead, differences emerge when comparing regions of residence: Over 20% of those graduates living in Asian and South American countries after their EMJMD report degree recognition problems, more than twice as much as in European countries. While most recognition problems (9% of all) are faced with public authorities, North America and Oceania are the only regions where problems with the degree recognition by employers occur more often.

Figure 21:   Problems with EMJMD diploma recognition by region of current residence
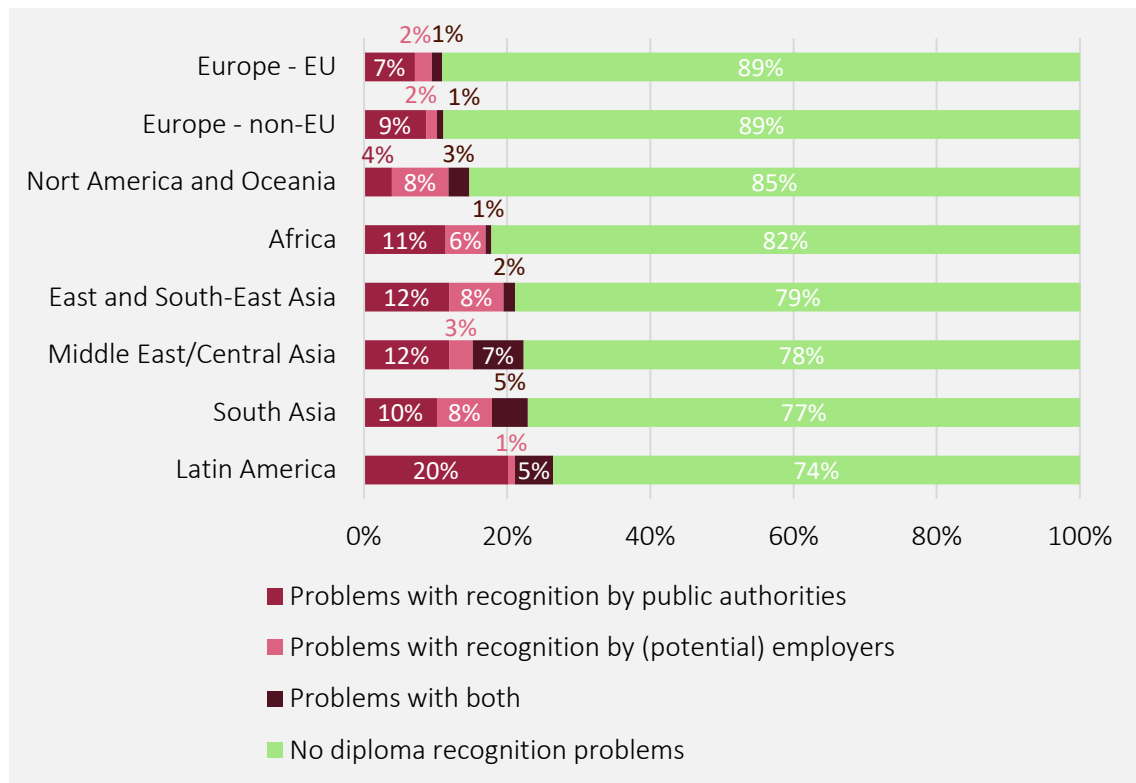
Source: EMJMD Graduate Impact Survey 2020/21, n = 2.013 graduates.

5 Personal Impact

5.1 Greatest area of impact (self-assessed)

Graduates were asked to select areas that were significantly impacted by studying in their EMJMD programme, as well as to name the most impacted one amongst them. Figure 22 shows that the most selected area is intercultural competencies, while career was most often reported as the greatest area of impact. 68% reported that their EM studies impacted their attitude towards Europe and the EU. 42% of the graduates said that their private life was impacted. This area will be analysed more thoroughly in section 5.2.

Figure 22: All Areas (multiple choice) and greatest area (single choice) of personal impact of Erasmus Mundus, self-assessed
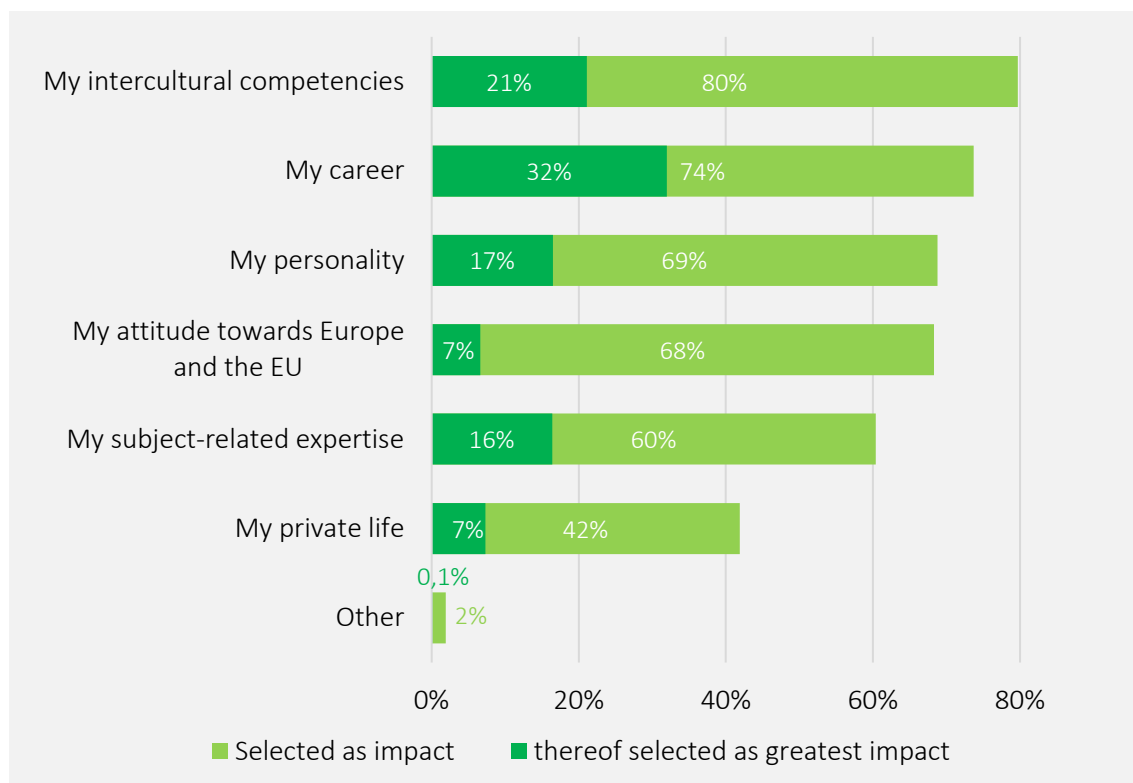
Attitudes towards Europe and the EU were impacted least for graduates from Europe: Only 53% (EU) resp. 54% (non-EU) selected this area to be impacted by their EM studies. As Figure 23 shows, for only 3% resp. 4% was it the main impact. This is likely due to more involvement with this topic before the EM studies, which comes less naturally in other regions. Most graduates from Africa and Latin America see the strongest impact on their career. Personality impact was especially often selected by students of non-EU European and Middle Eastern origin. Intercultural competencies were of higher significance for students from Latin America, East and South-East Asia, and North America and Oceania.

Figure 23:   Greatest area of impact by region of origin
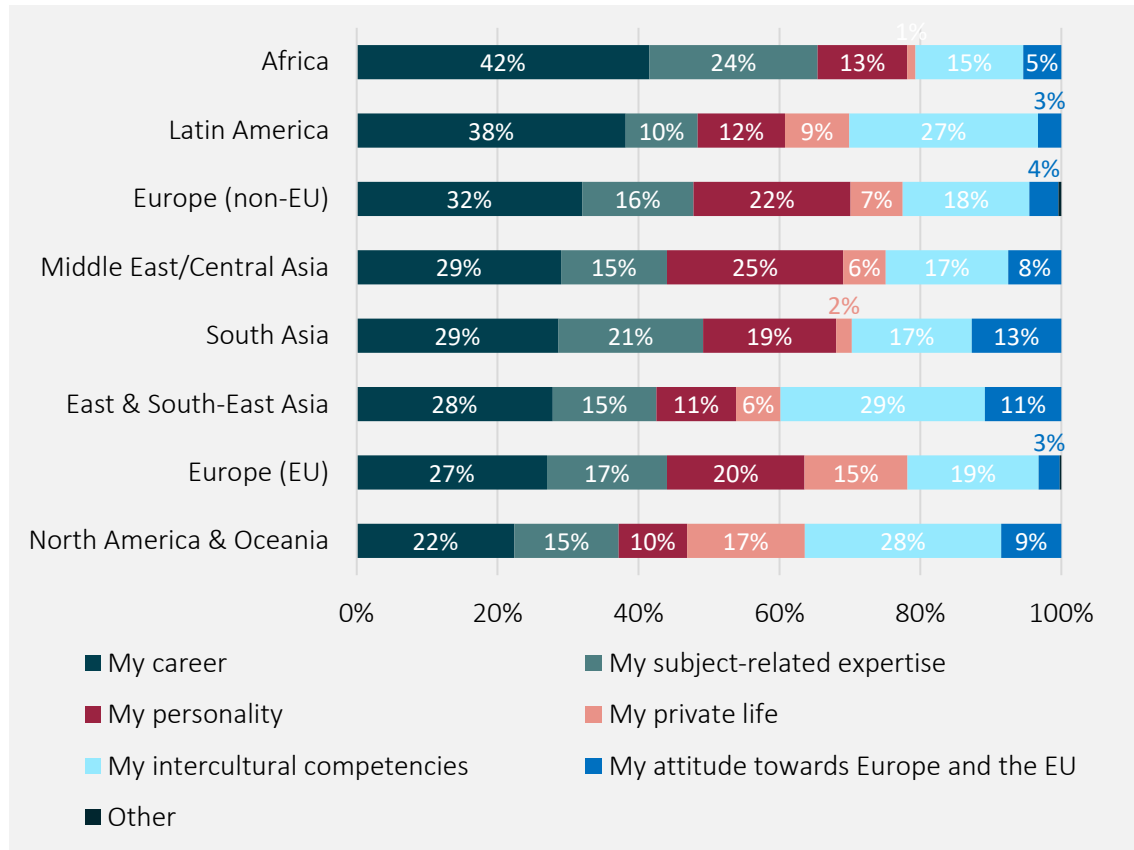
Source: EMJMD Graduate Impact Survey 2020/21, n = 2.013 graduates.

5.2   Impact on the further course of life

Part of the personal impact for graduates does not lie in the EMJMD programmes themselves, but in the fact that they connect EM students to new places. It is also a possibility to gain, if only temporarily, access to the European Union and it familiarizes students with the act of settling into a new environment. Therefore, this section will investigate the destinations of EMJMD graduates after graduation.

Life paths after the EM: 1 in 4 graduates live in a former host country…

26% of alumni lived in one of their EM host countries at the time of the survey, i.e., in spring 2021. As Figure 24 shows, the proportion is a little bit lower for EU citizens compared to non-EU graduates, although EU citizens often return to their home countries that simultaneously were one of their EM host countries. As another 27% of EU citizens and 29% of non-EU citizens reported living in a country that is neither their home country, nor one of their host countries, less than half of the alumni returned to their home country since graduating from their EMJMD. Of those who do live in a former host country, in about half of the cases (46%) those graduates chose to stay at (or return to) the last stop of their EMJMD journey.

Figure 24:   Place of residence at the time of the survey by EU or non-EU citizenship
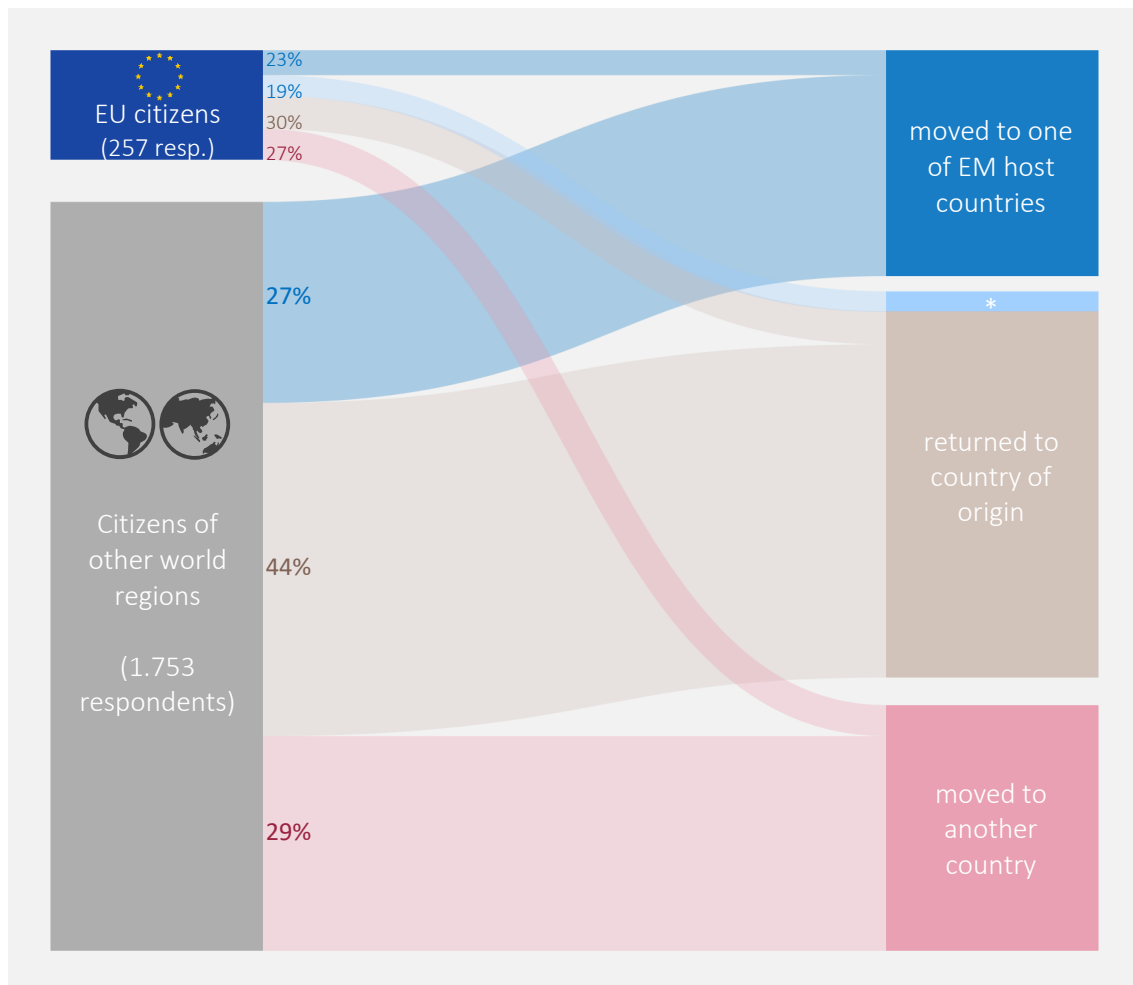
* Returned to country of origin which simultaneously was one of the respondents EM host countries
Source: EMJMD Graduate Impact Survey 2020/21, n = 2.003 graduates

… and another third would like to

Although the experience of an EMJMD brought a remarkable share of graduates to live in a former host country, even more would ideally want to do so. Figure 25 shows that those who returned, or had to return to, their home country would often prefer to live in a former EM host country (51%).

Figure 25:   Share of graduates who "would like to live in one of their host countries, but did not have the chance to yet"
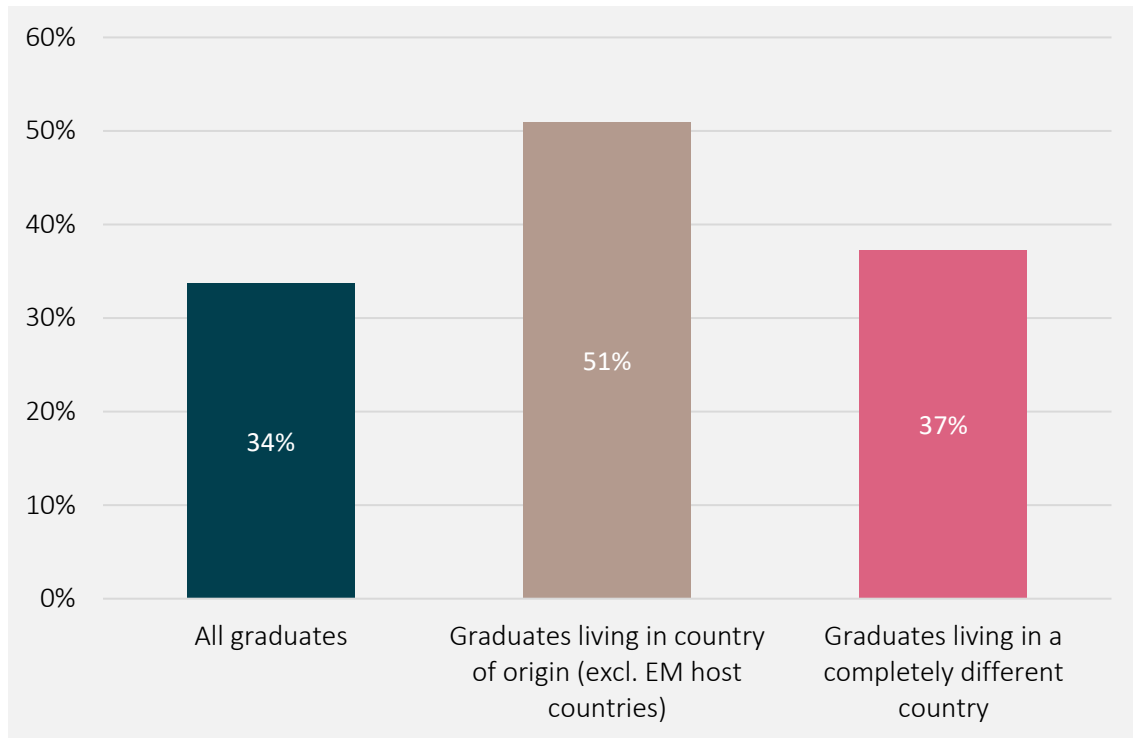
Source: EMJMD Graduate Impact Survey 2020/21, n = 2.003 graduates.

The longer the EM is over, the more returned to their countries of origin

When observing the different graduation years covered by the survey, it is emergent that there are a number of graduates who temporarily stay in or return to either an EM host country or another country. One year after graduation, alumni are often still in a host country (37%) or back at home (42%). Within 5 to 6 years, more graduates have moved to another country, but a decade after graduation, residence in their own country of origin is much more common again, while the share of graduates living in a host country or another country declines.[3] Not even half as many graduates that initially stay within their host country are still living there 10 years later.

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[3] Since the different time spans since graduation are based on the sampled cohort, other factors that have changed between cohorts graduating might contribute to the differences. For instance, changed visa regulations or Covid-19 related restrictions might pose other conditions to graduates from 2019/20 then experienced by graduates from 2010/11.

Figure 26:   Residence country of graduates without EU citizenship by years since graduation.
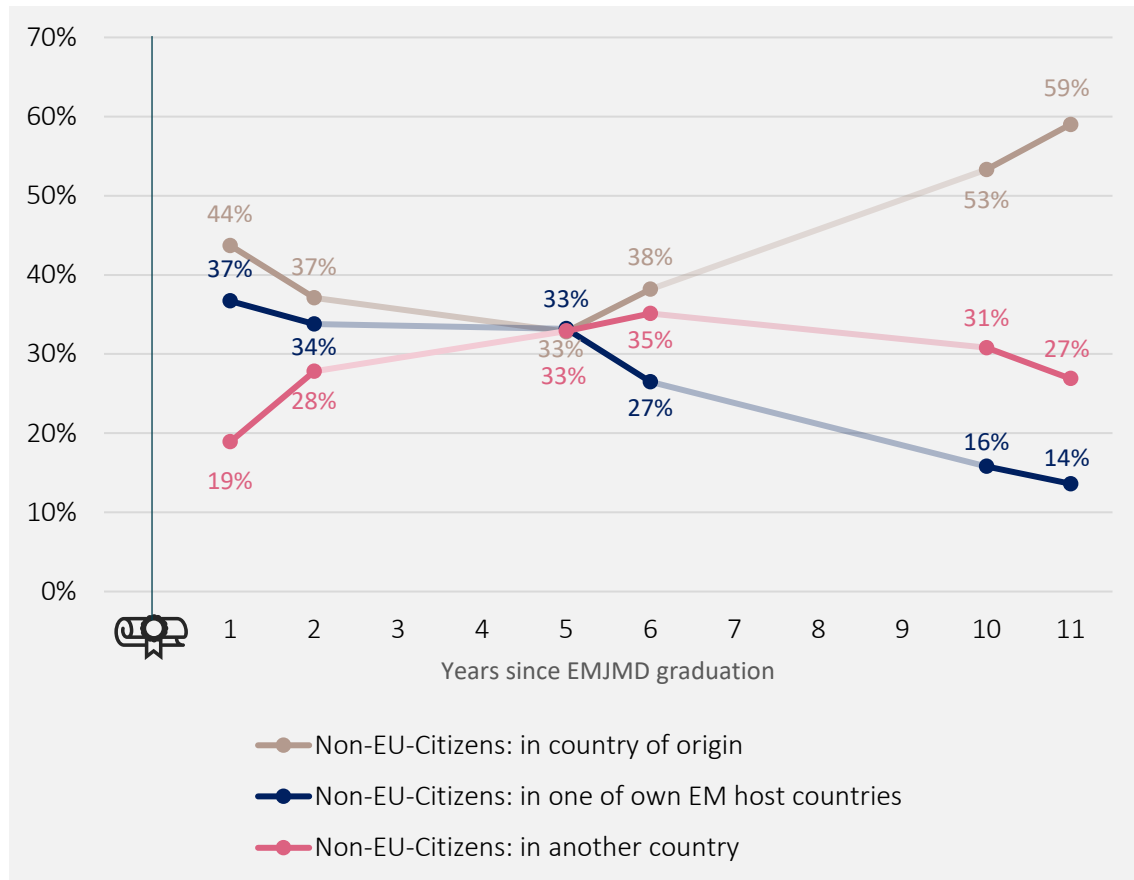
Pale Lines: No data available for time spans between sample cohorts – lines show long term tendency. Exact values for the actual cohorts in between might differ.
Source: EMJMD Graduate Impact Survey 2020/21, n = 1.735 graduates without EU citizenship.

Figure 27 might offer some explanations as to why graduates who would rather live in a former host country cannot do so. Graduates were asked for the reasons they chose their current place of residence (multiple answers possible). The bars represent the share of all graduates (dark bars) and graduates who would rather live in a(nother) former country (bright bars) who selected the respective reason. The latter reported visa issues, struggles to find a job elsewhere, living costs and language issues more often than the overall sample. This implies that formal and practical reasons often pushed some graduates to move to their home or another country rather involuntarily. On the other hand, family and private reasons, and "I grew up here" were also more frequently selected by this group. These reasons signal a voluntary return due to stronger ties than to the host countries. Lastly, work and living conditions such as career opportunities, work and living environment, and financial, political, and social stability were chosen less often by those who'd rather live in a(nother) former host country.

Figure 27:   Reasons for choice of current place of residence for all graduates and only graduates who would rather live in a(nother) former host country
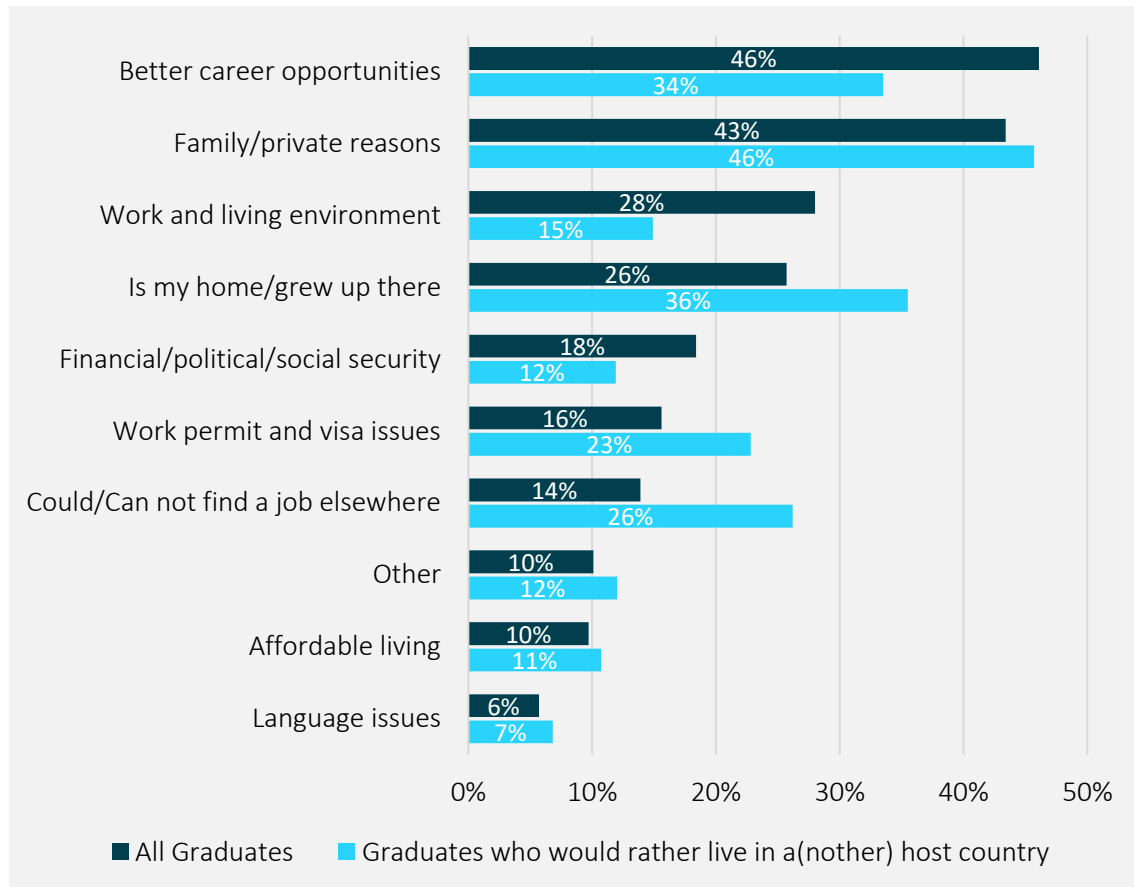
Source: EMJMD Graduate Impact Survey 2020/21, n = 2.015 graduates

5.3   Engagement with Europe and the European Union

For the first time, the GIS 2020/21 asked EM alumni questions about the ongoing interaction with places and persons from the context of their EM studies. The results are depicted in the following section.

Interaction with EM-related places and persons is higher in recent graduates

Three forms of ongoing interaction were surveyed in six questions. As already seen in the previous section, it was analysed whether graduates do or would want to live in a former host country. Doing so is most common shortly after graduation, as Figure 28 confirms again,[4] while the less recent cohorts have a lower share of alumni living in a former host country. However, the desire to live in a former host country is similar among all cohorts.

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[4] Deviations from the shares in section 5.2 result from different modes of analysis. For section 5.2, the current place of residence was directly compared to the reported host countries. In this section, the share of graduates who agreed to the statement "As a result of my EMJMD/EMMC, I now live in one of the countries I got to know during this time" is analyzed.

Further forms of ongoing interaction surveyed are contacts to former fellow students and lecturers, and the revisitation of EM host institution, for either professional or private reasons. While the latest cohort holds the most contact to former fellow students and lecturers, the older cohorts revisited their former institutions more often, especially when it comes to academic and professional appointments.

Figure 28:   Ongoing interaction with host countries and EM affiliates after graduation, by cohort
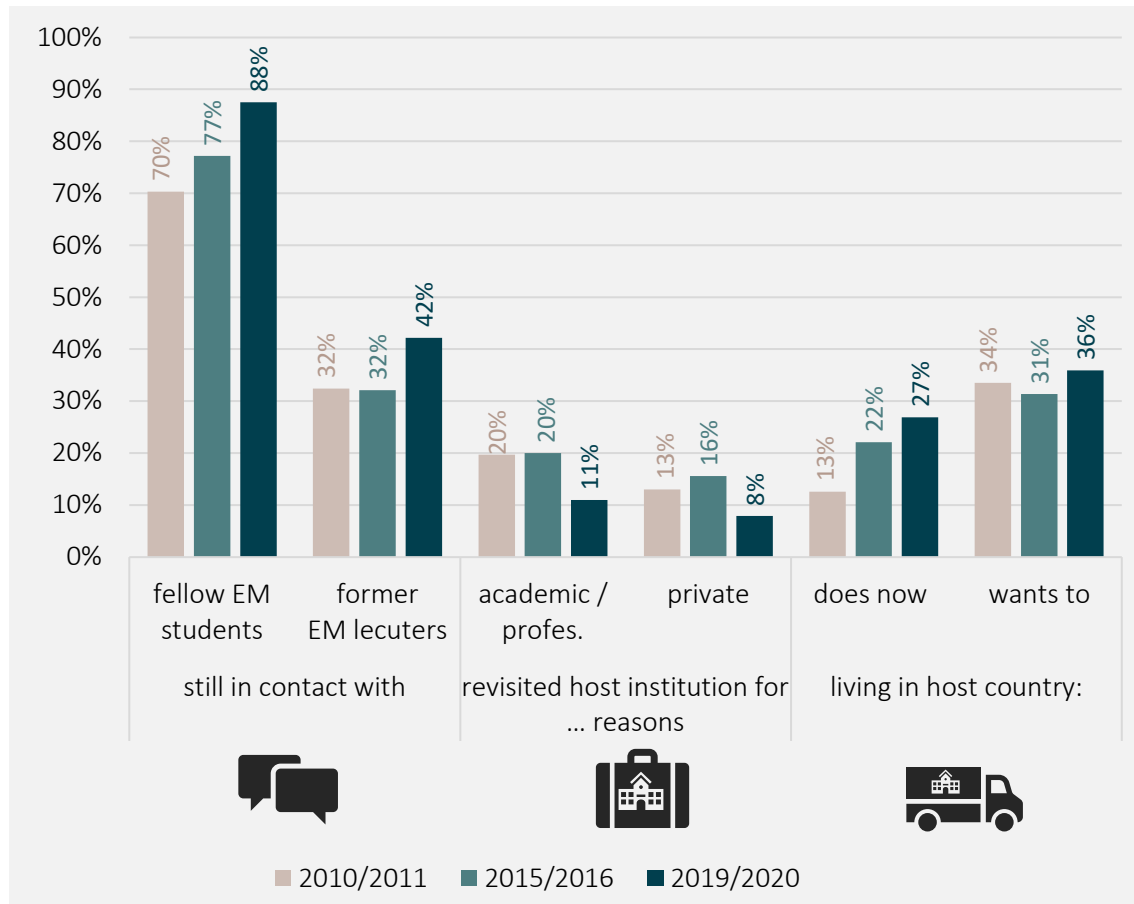
Source: EMJMD Graduate Impact Survey 2020/21, n = 2.015 graduates

Non-EU-Citizens more convinced of European conditions

A broader view regarding the interaction with Europe and the EU is offered by the statements depicted in Figure 29. While Non-EU citizens naturally had a bit more difficulties to fit in with people in their host countries, they agreed strongly more often that they would recommend studying in Europe and that more countries should cooperate in ways like the European Union does.

Figure 29:   Assessment of Europe and the EU as a study place by EU citizenship
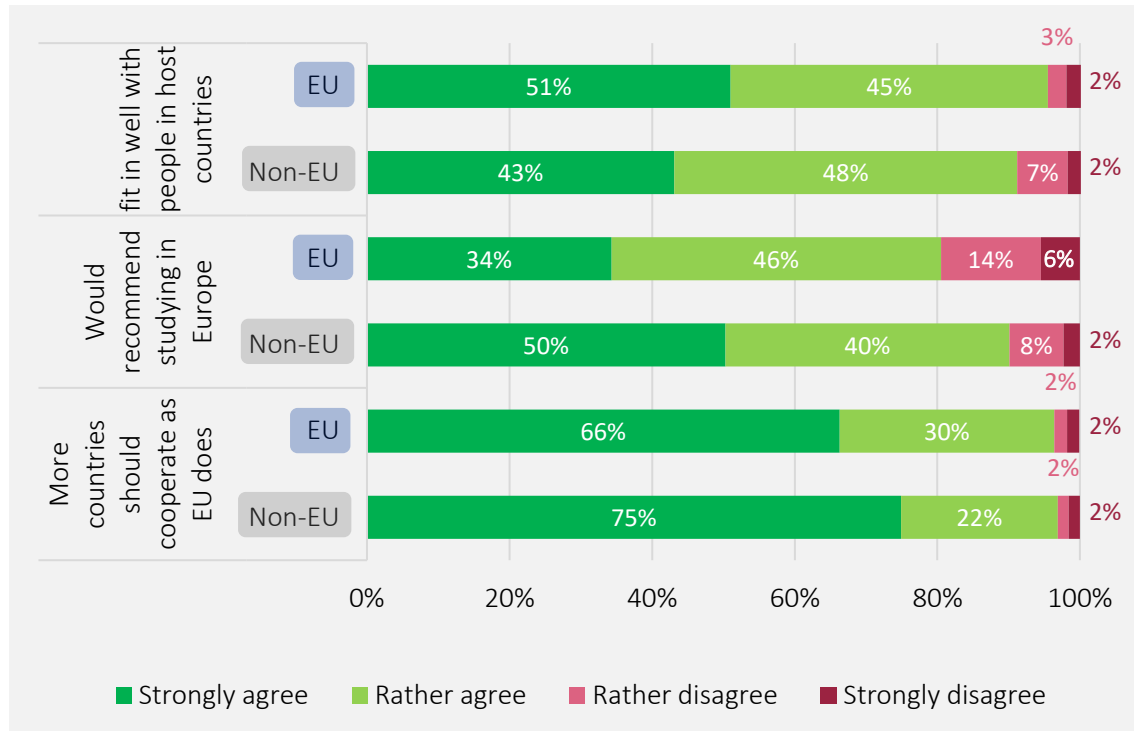
Source: EMJMD Graduate Impact Survey 2020/21, n = 2.012/ 2.002/2.007 graduates (in order of the three listed aspects)

5.4   Competences and personality development

Before moving to the career outcomes of EMJMD graduates, this section looks at the development of their competences and personalities. Figure 30 shows how alumni rated the improvement of various skills due to their EM studies. Two broader groups of skills had generally improved for most graduates: Communication-related skills (including language, reading, and writing), and skills encompassing cognition and knowledge (field-specific skills, problem solving, critical thinking). Interpersonal and organizational skills (teamwork, planning and organizing, and leadership) were assessed more differentiated to varying degrees, although a majority of graduates did report that they (rather) highly improved through their EM studies. This is not the case for innovative and entrepreneurial skills and advanced ICT skills, which are more related to specific subjects. Those skills were reported more often to have (rather) not improved than to have (rather) highly improved.

Figure 30:   Self-assessed improvement of various employment-relevant skills through EMJMD
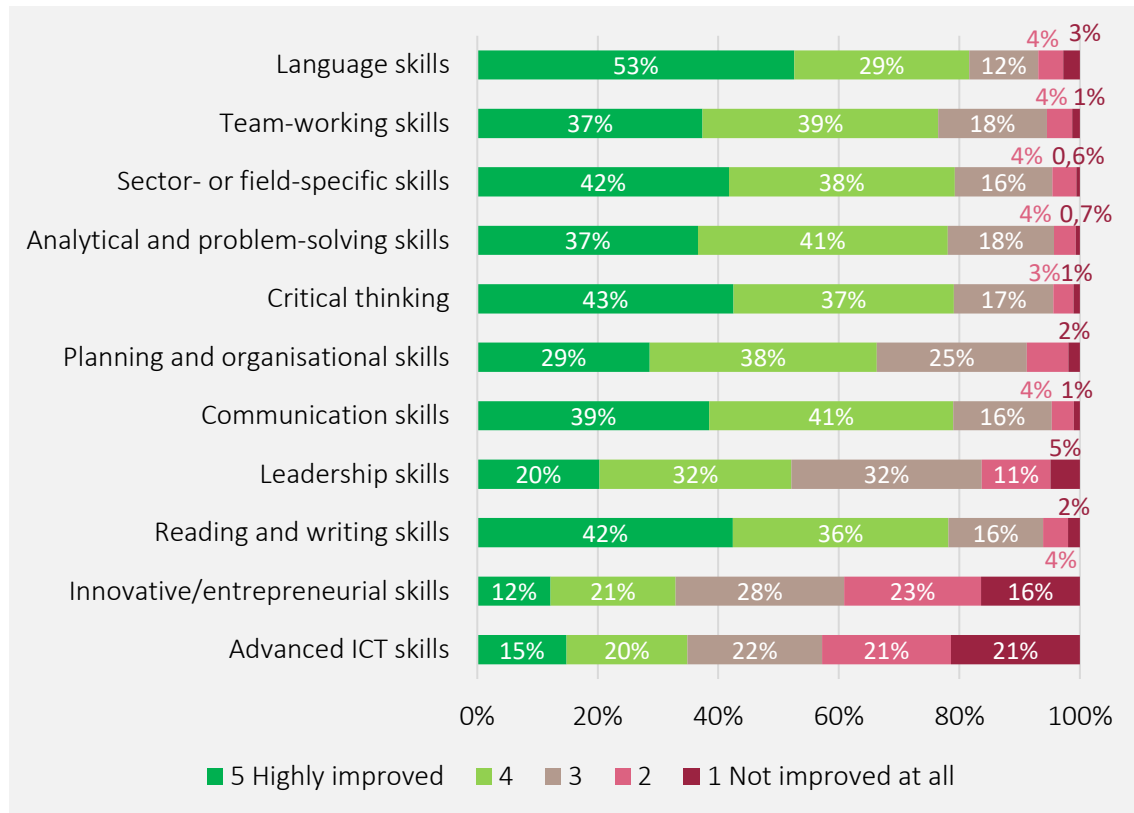
Source: EMJMD Graduate Impact Survey 2020/21, n = 1.518 graduates in employment

Figure 31 shows the same assessment for the impact of EM studies on graduates' personal and intercultural development. Almost all graduates reported some or high improvement in the areas of openness and of self-awareness. Social and political engagement are a bit more often assessed to have (rather) not improved due to the EMJMD, but overall, a majority of graduates reported improvements in these areas as well. While all fields of study report less improvement in these areas than for those related to openness and self-awareness, graduates from the fields of information and engineering sciences as well as mathematics report particularly low improvement in social and political engagement. Social science alumni on the other hand report improvement in this area particularly often.

Figure 31: Graduates' assessment of personal and intercultural development due to EMJMD
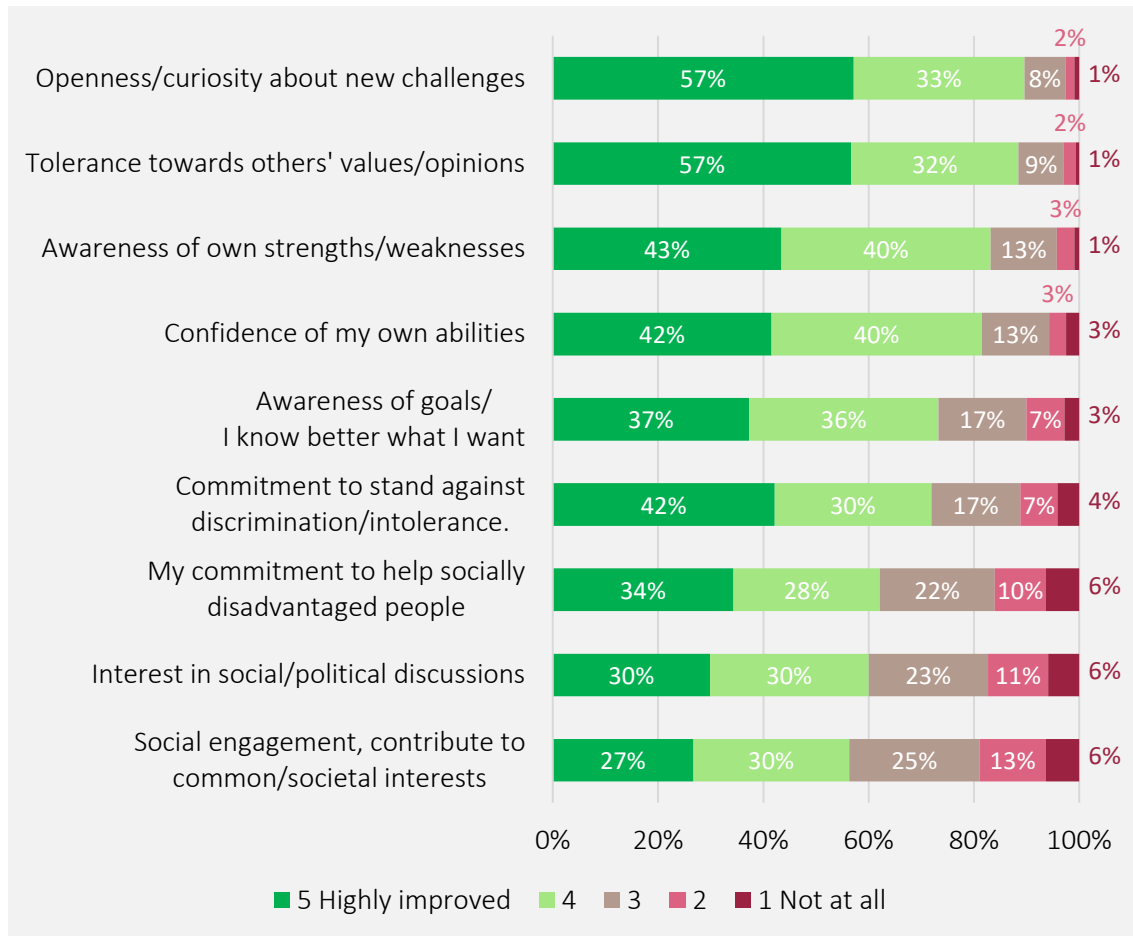
Source: EMJMD Graduate Impact Survey 2020/21

6   Employment and Career Impact

6.1   Career pathways after graduation

The first section of this chapter will investigate the first six months after graduation and display how many graduates went into further education (doctorate programmes, internships, trainings), employment, a longer-lasting job search, or entirely different pathways.

Figure 32:   Main activities[5] in the first 6 months after EM graduation by cohort
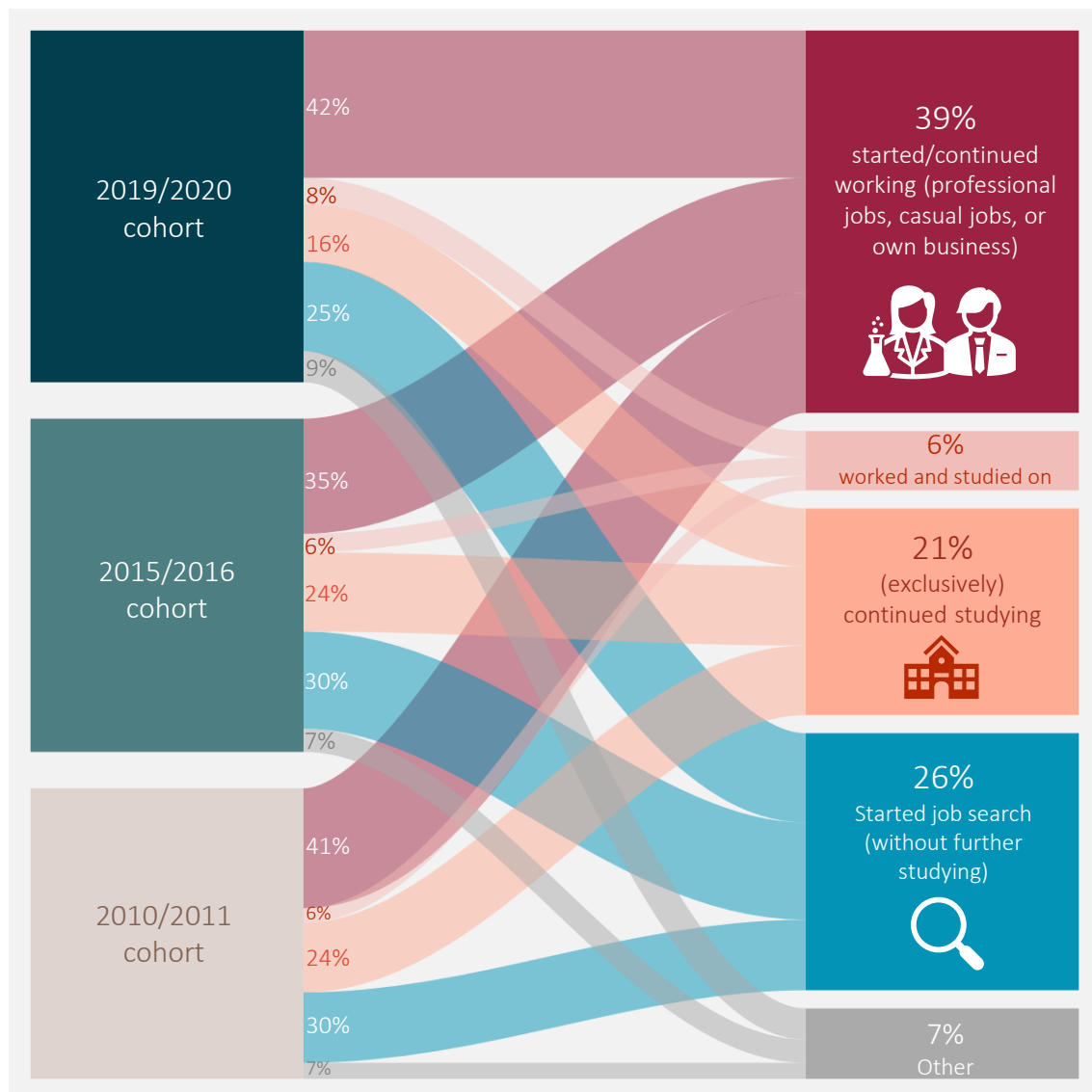
Source: EMJMD Graduate Impact Survey 2020/21, n = 2.012 graduates

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[5]   Graduates categorized as working and/or studying in the first 6 months may have additionally searched for (other) jobs, reported unemployment, or engaged in "other" activities. Graduates who reported job search in the first 6 months after graduation may have also reported "other" activities. Graduates categorized as "Other" reported neither employment, job search, nor further studying.

Recent cohorts were less likely to remain in higher education after EM

Looking at the activities in the first half year after graduation, a little less than half of graduates had already (found) a job by the time they had finished their EM studies. About 39% leave higher education and start or continue work, another 6% continue other studies while working, 21% study without working, 26% leave higher education and start a job search, and 7% do neither of these things (Figure 32).

Natural science alumni seek PhD, applied and social sciences enter jobs

The most considerable differences in the career paths immediately after graduation can be found between the fields of study (Figure 33): Every other social sciences graduate starts or continues working (5% while continuing to study), 17% - the lowest of all fields – exclusively continue to study, and another quarter leaves higher education and starts a job search. Numbers for environmental and geosciences are very similar, life sciences as well as engineering and information sciences had a slightly higher share of graduates who continued studying. On the other end of this spectrum, the majority of chemistry, math, and physics graduates continue studying, courtesy to the fact that a PhD is much more common and required in these fields.

Figure 33:   Main activity[6] in the first 6 months after EM graduation by cohort
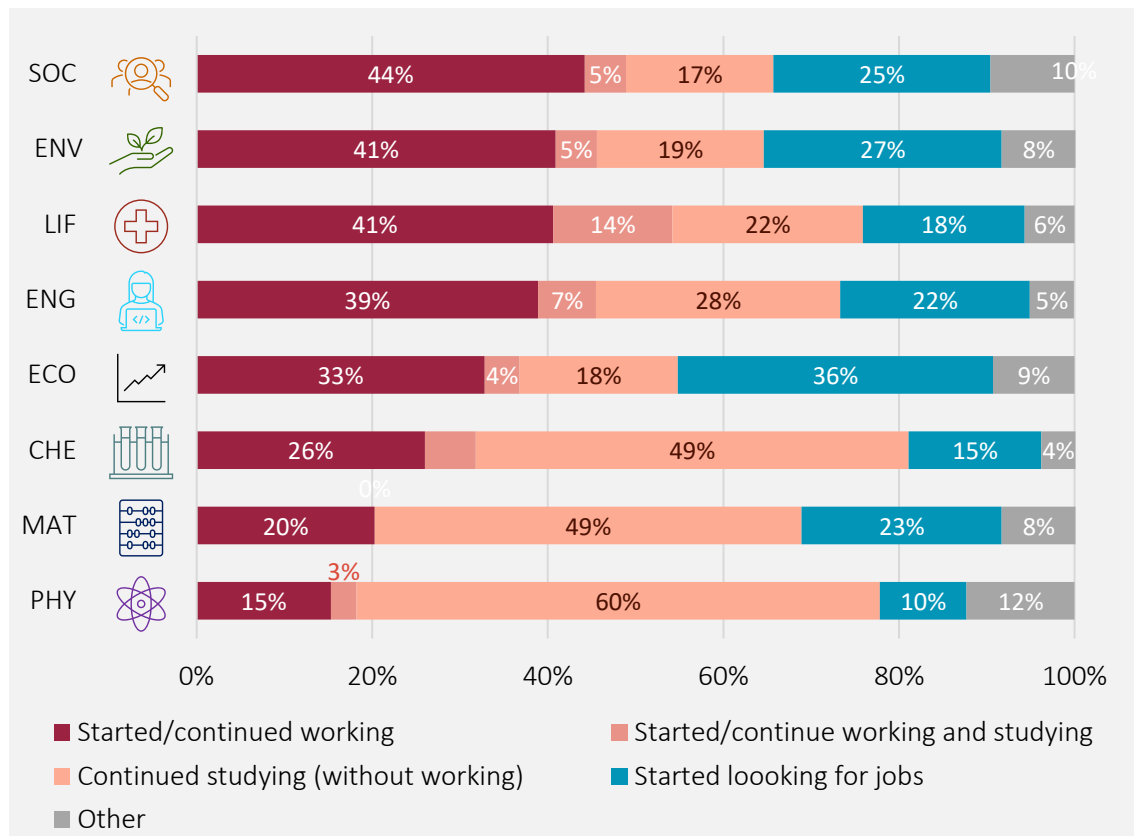
Source: EMJMD Graduate Impact Survey 2020/21, n = 2.012 graduates

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[6] The same cascade of activities categorization as for Figure 32 applies (see footnote 5)

Natural sciences and Engineering most successfully apply for PhD-Studies

When continuing to study, the most common constellation for EM graduates is to transition into a PhD programme. 716 (36%) of the surveyed graduates reported studying in or applying for further programmes after their EM graduation, and whether applications turned out successful. As Figure 34 shows, the fields are differently competitive, as not all graduates who attempt to start another programme (upper bar for each field) were accepted into a programme (lower bar for each field). Most of the engineering and information sciences, as well as natural sciences (math, chemistry, physics) graduates could successfully start a PhD study if they attempted to. About 90% of graduates from these fields who sought further studies applied successfully, over 80% by entering PhD programmes. Graduates from the environmental and geosciences and from the social sciences appear to face tougher competition when applying for PhD programmes that are not funded by the EU: every sixth application of those got rejected. The latter however have a relatively high acceptance rate in the prestigious Marie Sklodowska-Curie Action (MSCA) Joint Doctorates. Social science graduates also include the highest share of ongoing non-PhD-studies (i.e., additional Master or other studies). Engineering and information sciences graduates fall particularly short in the MSCA programmes, too – only 1 in 3 applications were accepted. Fields with a lower proportion of accepted applications are the same that show relatively few graduates who continue studying (as seen in Figure 33). This implies either a lack of open PhD positions, or that EM graduates in these fields are not as well-prepared to compete for the available positions as those from the STEM related fields.

Figure 34:   Intended and realized further studies by programme and study field
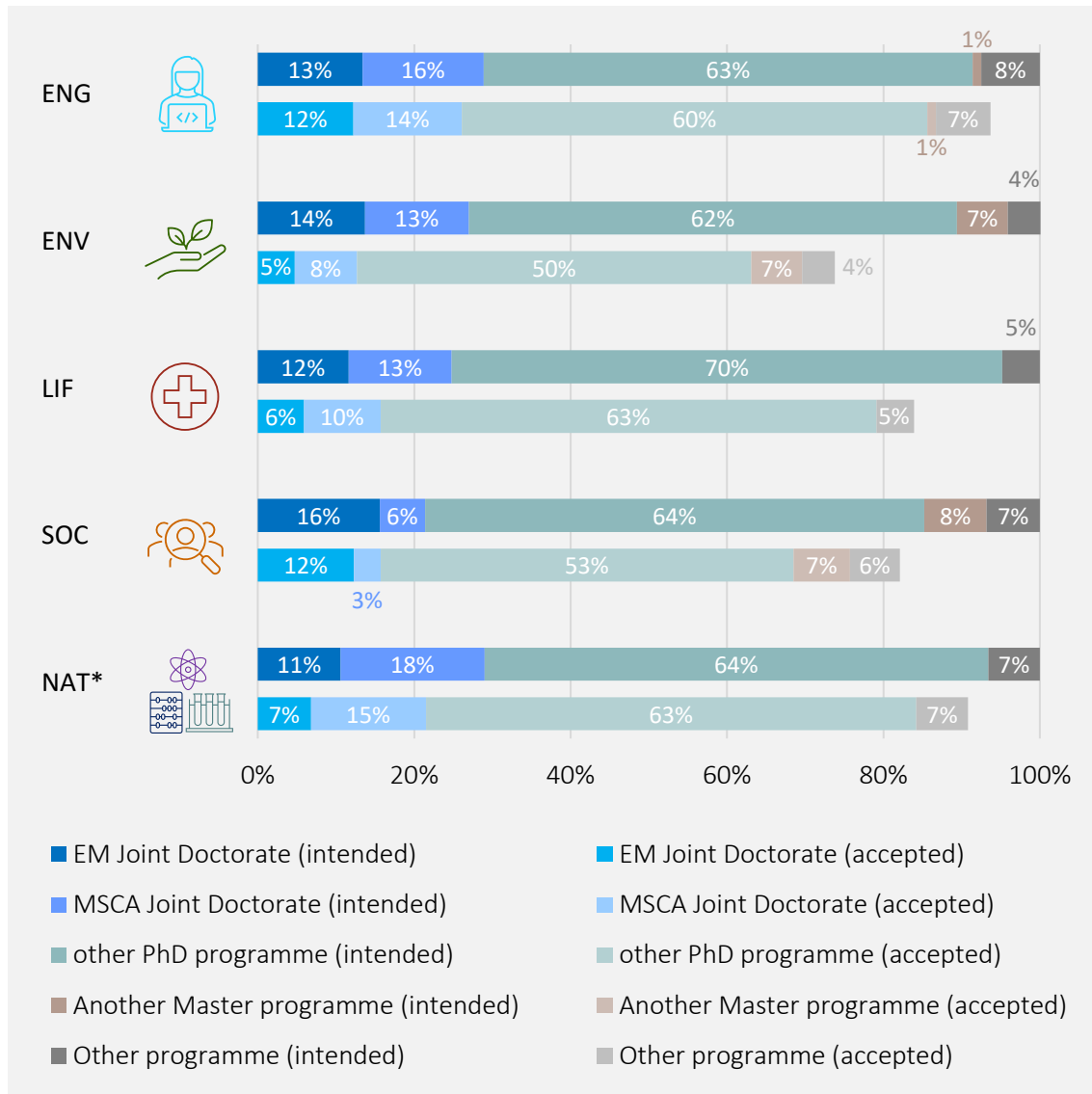
Source: EMJMD Graduate Impact Survey 2020/21, n = 716; *NAT: Aggregated shares for Graduates of maths, physics, and chemistry programmes (too few cases to display these fields separately); ECO (Economics) not displayed (too few cases).

Those who don't start working right away catch up later

The current labour market situation of students is dependent on the steps undertaken after graduation, as well. However, the differences in employment rates mainly even out during the first years after finishing the EMJMD and become more and more marginal over time. Figure 35 depicts the labour market status of three groups by the time passed since graduation: those who already had a job after graduation, those who continued studying without work, and those who started a job search. In spring 2021, 66% of the 2020 graduates who did not initially have a job after graduation were (self-)employed, and 25% of those who only studied directly after their EMJMD had started working. In the 2015/16 cohort, employment rates of those who started with a job and those who had to look for one first were identical, and those who carried on studying had drawn nearer with between 50% (2016 graduates) and 70% (2015 graduates) in employment.

A decade after graduation, all groups range within very similar (and comparatively high) employment rates.

Figure 35:   Proportion of graduates in (self-)employment at the time of the survey (spring 2021) by years since graduation and activities in the first six months
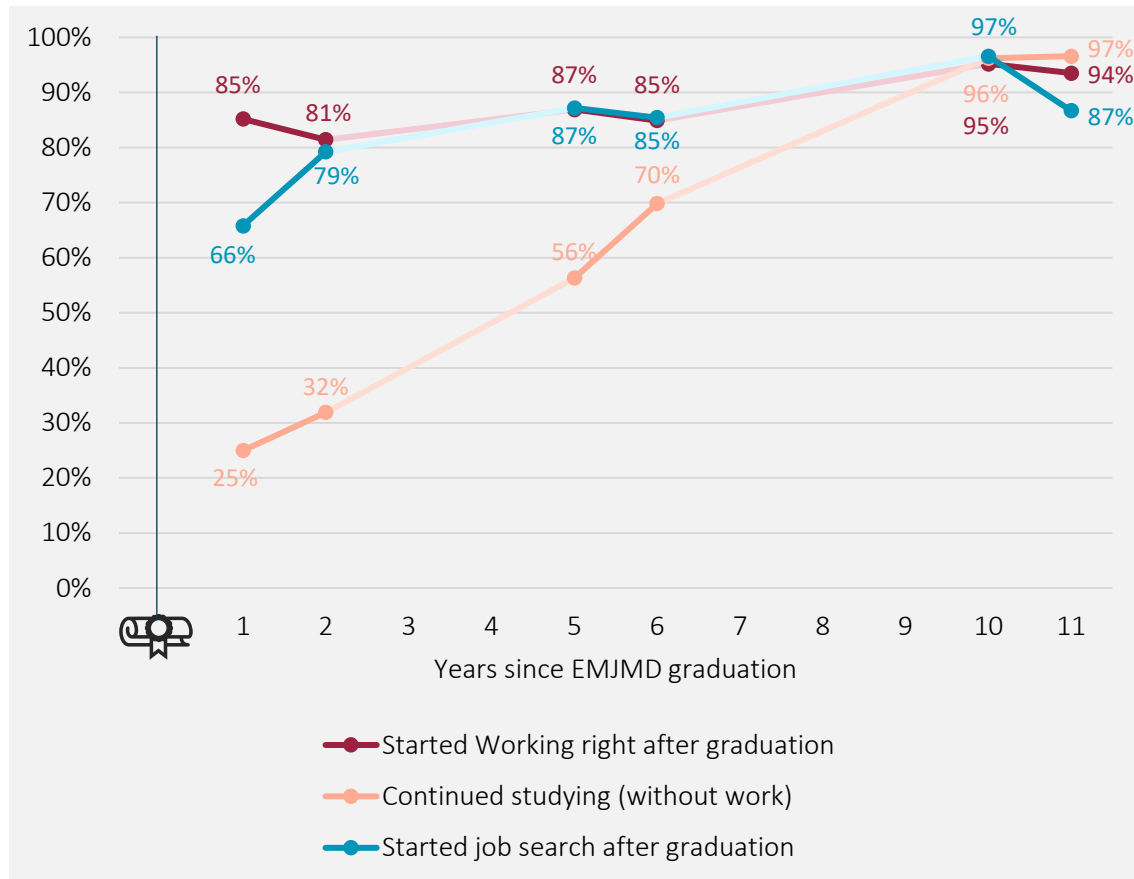
Pale Lines: No data available for time spans between sample cohorts – lines show long term tendency. Exact values for the actual cohorts in between might differ.
Source: EMJMD Graduate Impact Survey 2020/21, n = 2.012 graduates

6.2   Prospects and success of first job search

Job search: Longer and less likely to succeed in EU countries

Most graduates who neither continued studying nor had already started working after finishing their EMJMD began a job search. For 75% of all graduates who did so, this first job search (that is, a period of job search started within the first half year after graduating from the EMJMD) was successful. A majority of graduates considered EU countries during their main search,[7] 45% exclusively (Figure 36). Countries in Western Central Europe were mentioned most often, with Germany, the Netherlands, Belgium, and France being the most mentioned EU countries and the

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7   Graduates where asked to name up to three countries in which they mainly looked for jobs.

United Kingdom as the most mentioned non-EU country. However, searching in EU countries was less likely to be successful for graduates, and tended to last longer until a job was found.

Figure 36: Success and duration of first job search by regions of job search (only graduates who started job search within 6 months after graduation)
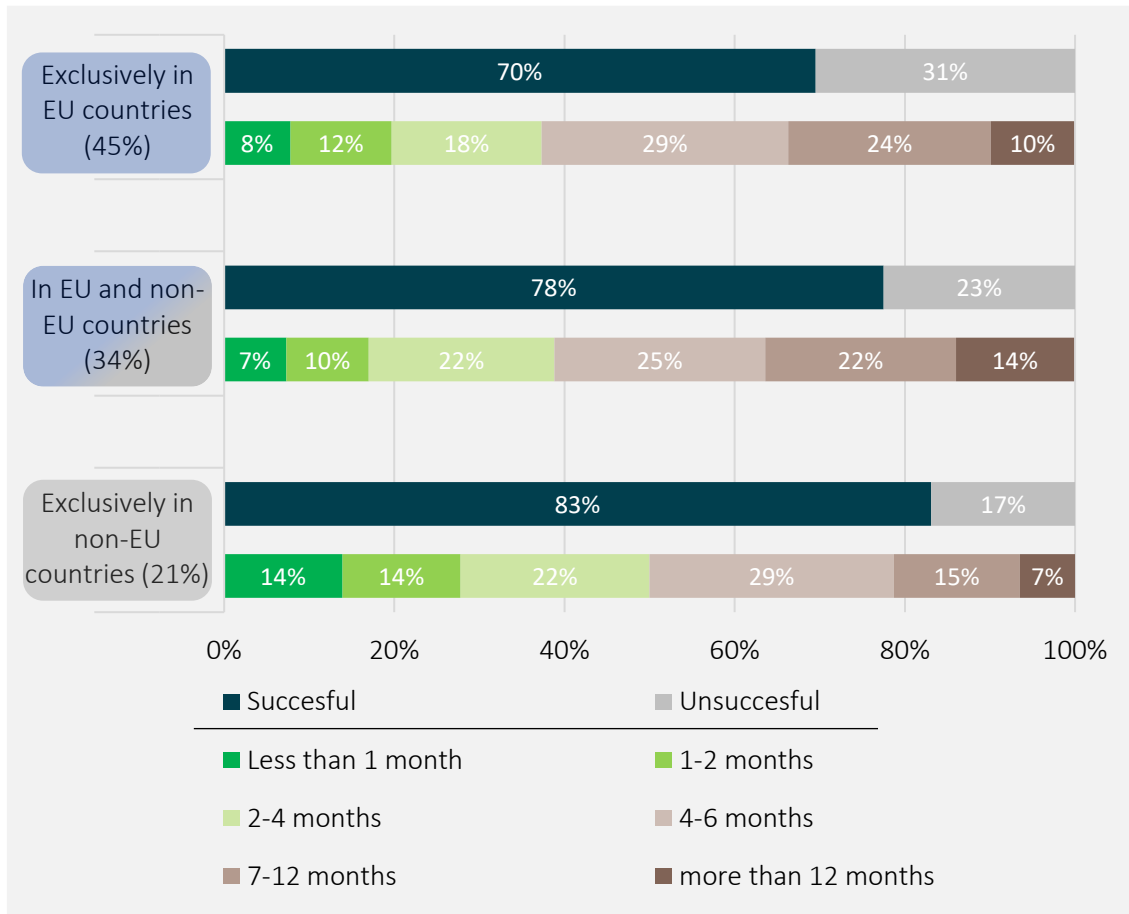
Non-EU countries: All countries of the world that are not member of the European Union.
Source: EMJMD Graduate Impact Survey 2020/21, n = 634 graduates searching for a job in the first six months after graduation, resp. 433 graduates who found a job (duration)

The most successful job searches were achieved by applications for advertised vacancies, although this is somewhat more common in EU countries than outside of the EU (Table 3). For graduates who searched exclusively outside of the EU, professional contacts were the second-most used source, while it was personal networks for persons searching (partly) in EU countries. When it comes to unsuccessful job searches, graduates who searched (partly) in EU countries report visa and work permit issues as the most common obstacle. The labour market situation is stated as a reason for unsuccessful job searches both in- and outside the EU. While in the EU competition seems to be another important obstacle, a lack of matching jobs and of graduates' practical experience are amongst the three most frequent reasons in non-EU countries.

Table 3:   Most mentioned information sources for successful job search and most mentioned reasons for unsuccessful job search by regions of job search

Searched	Exclusively in EU countries	In EU and non-EU countries	Exclusively in non-EU countries
Successful search: most mentioned information sources	Announced vacancy application 55%	Announced vacancy application 53%	Announced vacancy application 42%
	Through personal network (family, friends) 12%	Through personal network (family, friends) 14%	Through prof. contacts established before EM 22%
	Through prof. contacts established during EM 10%	Through prof. contacts established before EM 12%	Through personal network (family, friends) 19%
Unsuccessful search in the first 6 months: most mentioned reasons	Visa/work permit issues 26%	Visa/work permit issues 23%	Difficult labour market situation in countries considered 19%
	Too much competition 24%	Difficult labour market situation in countries considered 23%	I couldn't find a job matching my interests 12%
	Difficult labour market situation in countries considered 21%	Too much competition 15%	No practical experience after EM 9%

Non-EU countries: All countries of the world that are not member of the European Union.
Source: EMJMD Graduate Impact Survey 2020/21, n = 1.167

Less success for African and Middle Eastern alumni and youngest cohort

Alumni from the 2019/20 cohort who started searching for a job after graduation were much less likely than the previous cohorts observed to succeed. Only 66% had found a job from their initial search, as opposed to 78% in the 2010/11 cohort and 84% in the 2015/16 cohort. Part of this difference can be explained by the reduced time between graduation and survey, as only 9 months have passed between 2020 graduates finishing their EMJMD and the survey. But it can be assumed that a more difficult labour market entry due to the Covid-19 pandemic also accounts for some of the difference.

Two other groups that yielded considerably less success from the first job search were alumni of African (51%) and Middle Eastern (68%) origin. Alumni from Europe (EU and Non-EU), North America and Oceania were successful more often than average.

Tougher labour market entry for natural sciences alumni

Figure 37 enhances the observation of the first job search by those alumni who immediately started or continued working after their EM graduation. Life sciences graduates transition directly

into work the most often: 64% of graduates from this field (excluding those who pursued further studies) had a job right after graduation. The group of math, chemistry, and physics graduates face a tough labour market entry even with an EMJMD diploma: although most graduates from this field pursue further studies, 17% of the remaining ones still do not succeed in their first job search, and another 11% search for at least 6 months. Economics graduates, although having the lowest share of students directly transitioning into a job, mostly find work within half a year.

Figure 37:   Time until first professional job after EM graduation (only graduates who started job search or working and did not continue studying) by study field
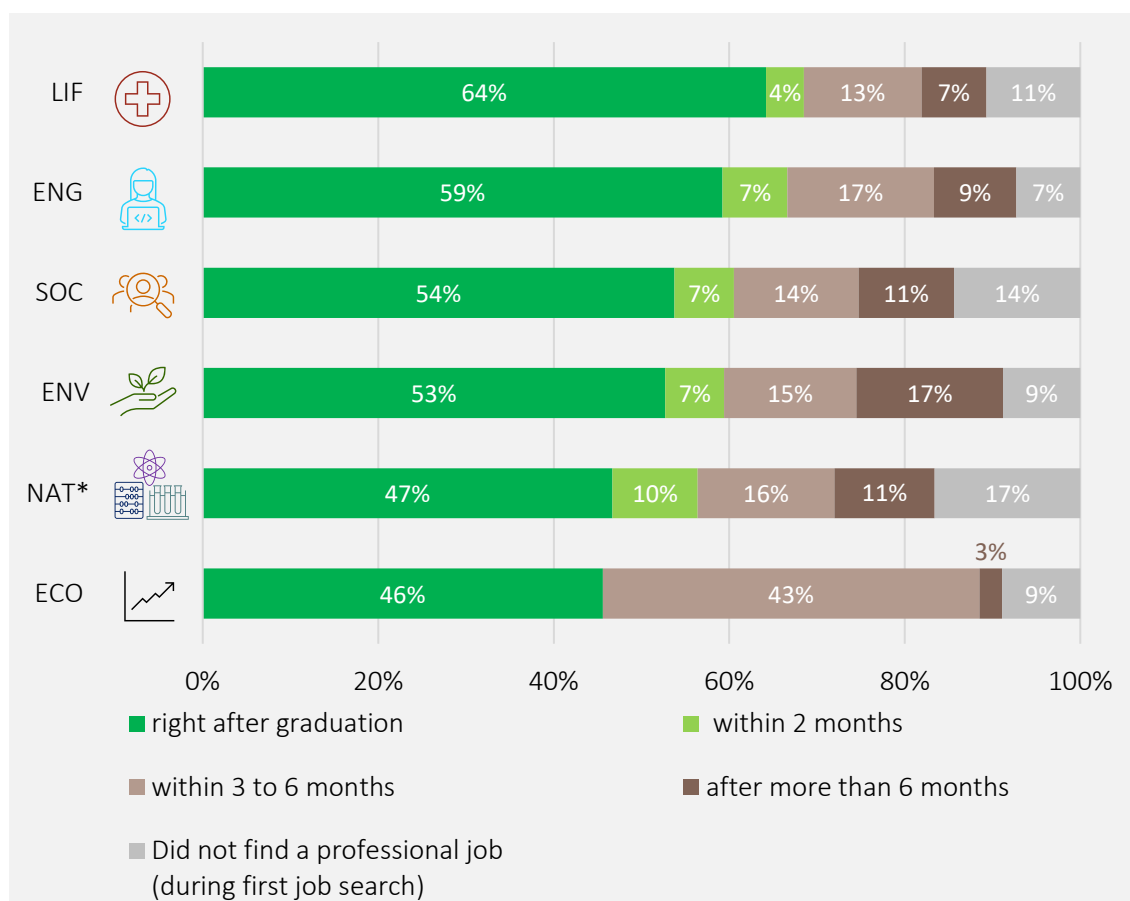
Source: EMJMD Graduate Impact Survey 2020/21, n = 1.167 graduates who reported to having worked or started a job search in the first six months after graduation and did not continue studying. *NAT: Aggregated shares for Graduates of math, physics, and chemistry programmes (too few cases to display these fields separately).

6.3   Current occupation

Employment rate rises with time since graduation – except for economics

As the previous sections showed, a relative majority of each cohort's graduates started or continued a job in the first months after graduation. Most of the remaining alumni continued studying or searching for jobs. Therefore, it is not surprising that the share of graduates in employment is higher the longer the EM graduation dates back, as further studies get finished

and job searches eventually yield employment. Figure 38 shows that by extending the focus from the first six months to the first two years after graduation (i.e., to the 2019/20 cohort), two thirds of graduates are already in employment – 58% exclusively, 9% alongside further studies. Nonetheless, one in ten graduates from this cohort were unemployed at the time of the survey. However, this proportion, as well as the proportion of graduates in further studies, is lower in the cohorts that have graduated longer ago, as more graduates are employed in those cohorts. The last bar for the 2010/11 cohort shows that 94% of graduates are employed 10 to 11 years after their EM graduation. Furthermore, female graduates from the 2010/11 cohort are less often only employed (84% vs. 91% in male graduates) and more often still studying alongside or unemployed. Graduates from the Middle East experience unemployment particularly often (12%; 7% among all graduates).

Figure 38:   Occupation at time of survey (spring 2021) by graduation cohort
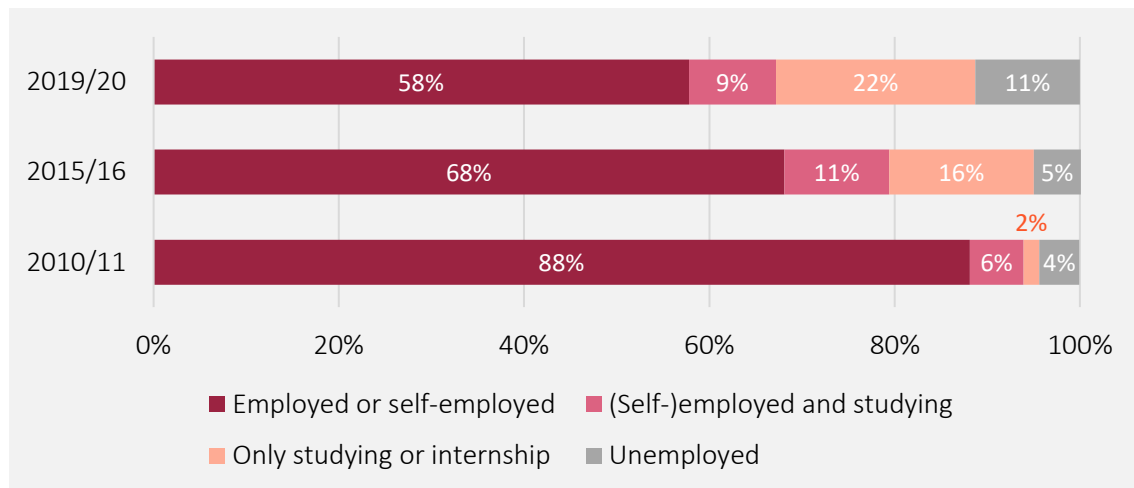
Source: EMJMD Graduate Impact Survey 2020/21, n = 1.997 graduates (2010/11: n = 368; 2015/16: n = 627; 2019/20: n = 984)

The convergence towards a high employment rate within one decade after EM graduation develops differently by field of study, as Figure 39 shows. While some fields like engineering and information sciences yield comparably high employment proportions in all cohorts, graduates of natural sciences (maths, chemistry, and physics) in particular and, to a lesser extent, of life sciences only catch up with the other fields ten years after graduation. One substantial reason for this is the higher importance of PhD degrees in these fields. Economics graduates are a considerable outlier of all fields, as the only group to show a lower share of employed graduates 10 to 11 years after EM graduation when compared to 4 to 5 years after.[8]

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[8] Due to low, yet sufficient, case numbers, the 10-percentage point decrease in this period as observed in Figure 39 could be an over- or underestimation and should be interpreted with care.

Figure 39:   Proportion of graduates in employment (incl. simultaneous employment and studies) by field and cohort (scale starts at 50%)

Source: EMJMD Graduate Impact Survey 2020/21, n = 1.997 graduates (2010/11: n = 368; 2015/16: n = 627; 2019/20: n = 984).
*NAT: Aggregated shares for Graduates of maths, physics, and chemistry programmes (too few cases to display these fields separately).
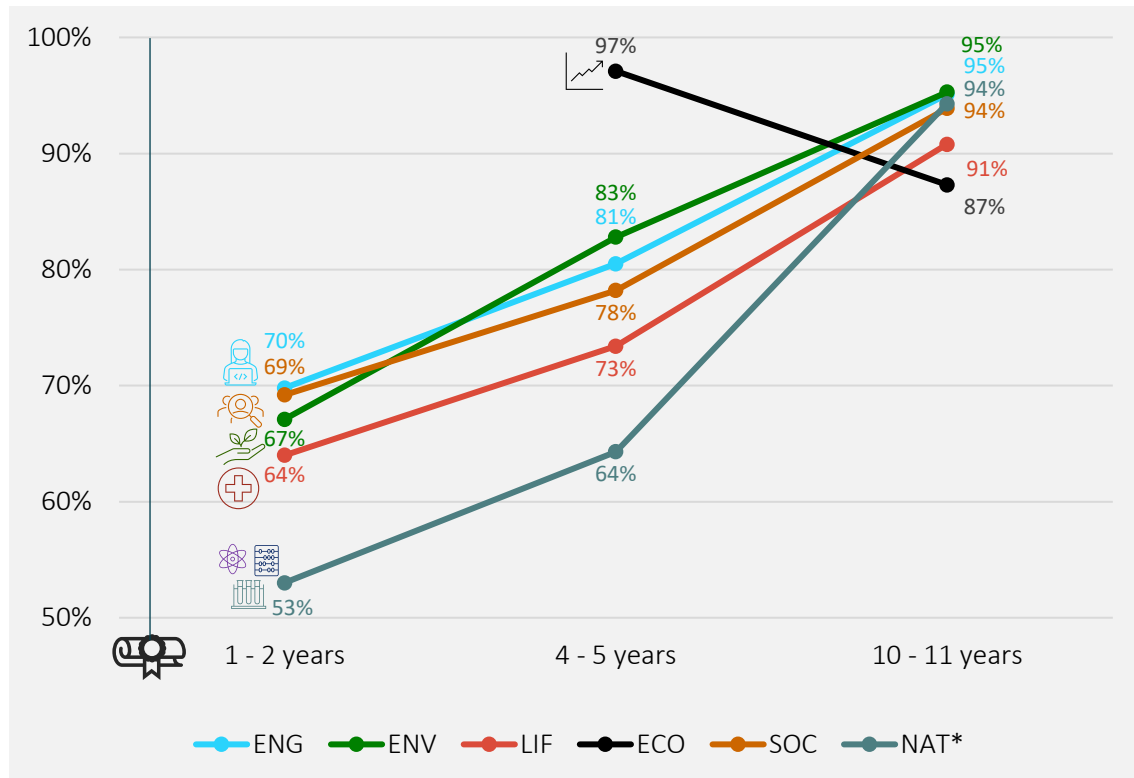
6.4   Education-employment match

When assessing how well an educational programme prepares its graduates for the labour market and career, many outcomes can be accounted for. Besides finding a job at all, the impact of the programme itself can be further revealed by evaluating whether its contents are useful to its graduates to yield success on the labour market. Whether a job matches a graduate's education can be assessed across two dimensions: by comparing the educational level (e.g., Bachelor-, Master-, or PhD-Level) with the most appropriate level for the current job (vertical match)[9] and by assessing whether the job requires knowledge of the thematical field studied (horizontal match). Thus, a job can fully (i.e., vertically and horizontally) match education, only match vertically, only match horizontally, or not match the education attained at all. Figure 40 shows this breakdown by field. Life sciences, economics and information and engineering sciences graduates are most often in fully matching employments. Physics graduates do so the

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[9] The approach used here is to restrict a vertical mismatch to cases in which a graduate is overqualified. Overqualification implies that graduates cannot exhaust their education in their job and, thus, neither the full associated benefits. Underqualification on the other hand implies a job above the expectation and can furthermore match later attained degree levels. It is therefore not considered vertical mismatch.

least often (70%), but in turn, none of them work in an entirely mismatched job. Mathematics and social sciences graduates work in entirely mismatched jobs most often (7% each). The former are most often overqualified (21% in total), while the latter work in fields unrelated to their studies most often (18% in total).

Figure 40: Education-employment-(mis)match by study field
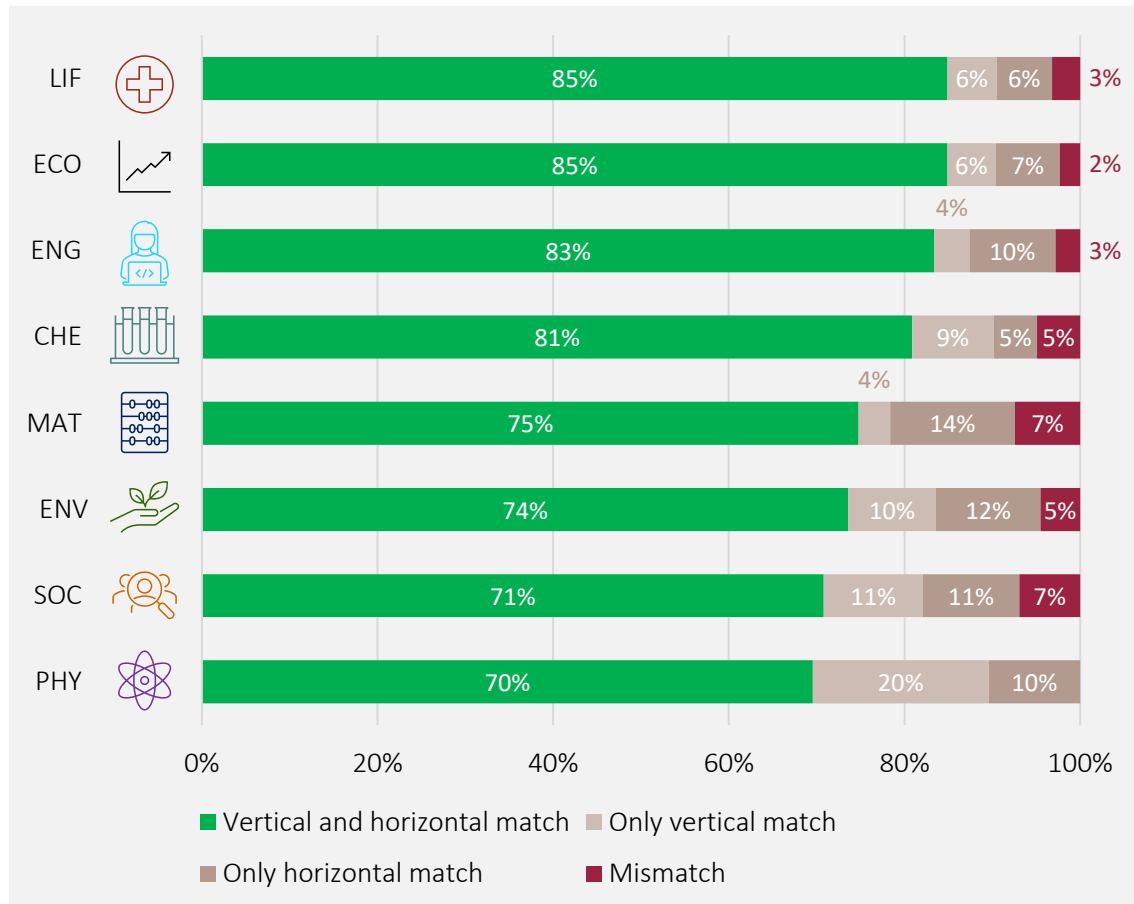
Source: EMJMD Graduate Impact Survey 2020/21, n = 1.502 graduates in employment

To put the education-employment match into perspective, the GIS 2020/21 data can be compared to a broader group of master students within Europe. Such data is provided by the EUROGRADUATE Pilot Survey conducted in 2018. It surveyed graduates 1 and 5 years after graduation in eight European countries, which is comparable to the 2019/20 and 2015/16 cohorts of the GIS 2020/21 in terms of time and study places. Figure 41 shows the share of graduates with fully matched, partly matched, and mismatched employment among EM graduates and the population of Master graduates in EUROGRADUATE pilot countries. Among the said graduation cohorts, the proportion of EM alumni with a double matching job is close to (1 – 2 years after graduation), or even higher than (5 – 6 years after graduation) the respective maxima from the master graduates surveyed in the EUROGRADUATE pilot survey. Because EUROGRADUATE reports this information per country rather than for the overall proportions, this means that EM graduates have a matching job about as often as the EUROGRADUATE countries doing best in this

regard. This implies that EM graduates are more likely to find a job matching their education than the average master graduate from European universities.

Figure 41: Comparison of education-employment match between EM graduates and master graduates in European countries* by cohort
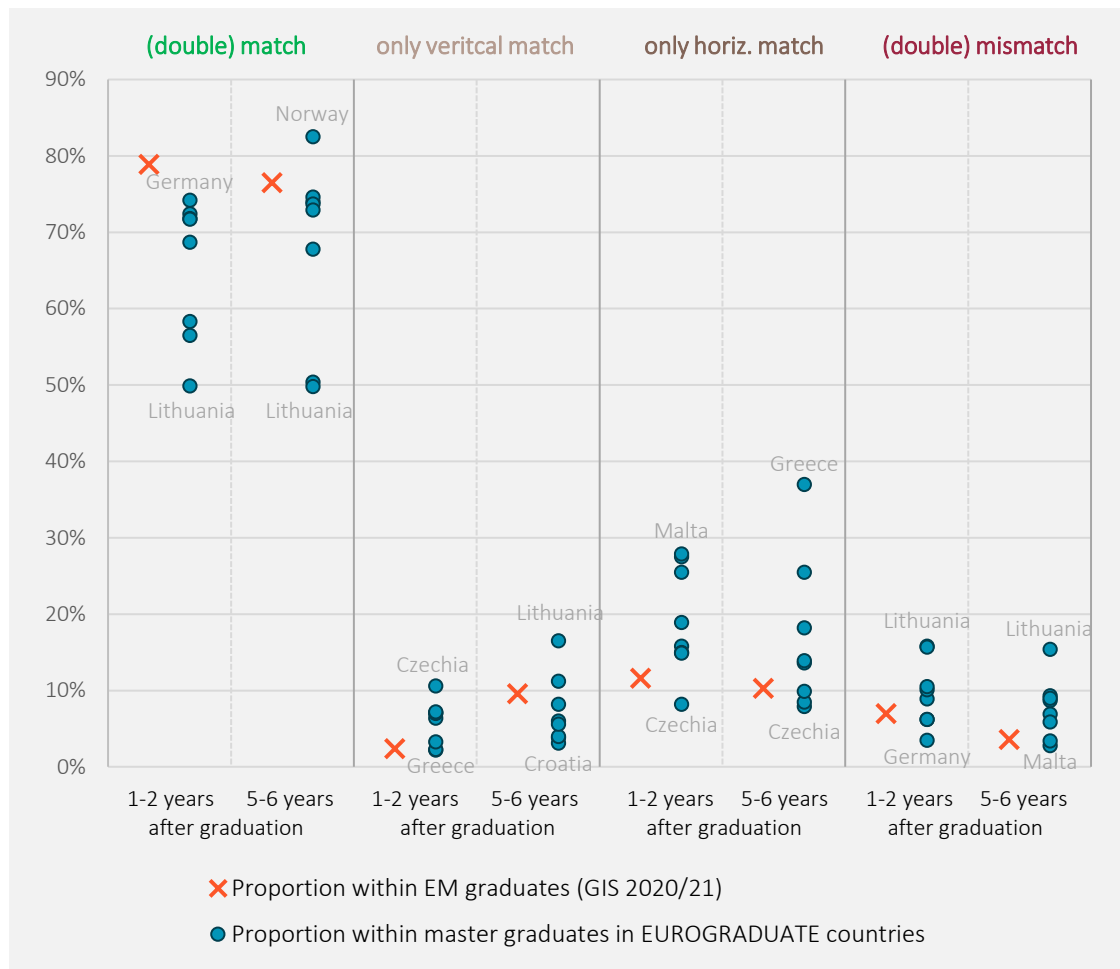
*Master graduates from EUROGRADUATE Pilot Survey countries (Austria, Czechia, Germany, Greece, Croatia, Lithuania, Malta, Norway); spans are based on the minimum and maximum country values (no average values of all countries due to methodological restrictions).
Source (EUROGRADUATE data): Meng et al. 2020.
Source (GIS data): EMJMD Graduate Impact Survey 2020/21, n = 1.502

Employment rate and employment match: a joint view

As seen, the proportion of graduates in employment and the match of employment with education are key features of a programme's career impact. To gain an overview of how well different groups observed in the GIS 2020/21 do in this regard, Figure 42 maps them by both measures combined. The horizontal axis shows the share of graduates in employment from each respective group (the further to the right, the more graduates were in employment in spring 2021). The vertical axis shows the proportion of employed graduates with a matching employment (the further to the top, the more employed graduates from the group have a job adequate to their study field and highest degree level).

Regarding the cohorts (displayed by crosses), the proportion of graduates in employment, as seen before, is higher the more time has passed since graduation. The education-employment match, however, does not increase with time and is between 75% and 80% for every cohort. Amongst the fields of study, economics graduates stand out with 90% in employment and 85% of the employed graduates in a matching job. However, as seen before, employment of economics graduates dropped in the 2010/11 cohort. Social science graduates in employment do work in matching employments the least often, but still 71% of times. Chemistry graduates are the least often employed at all (61%). There is also a gender gap visible both in employment rate and employment match: male graduates are more often employed and work in matching jobs more often.

Figure 42: Share of graduates in employment and of employed graduates in matching jobs by sex*, field and cohort at time of survey (spring 2021)
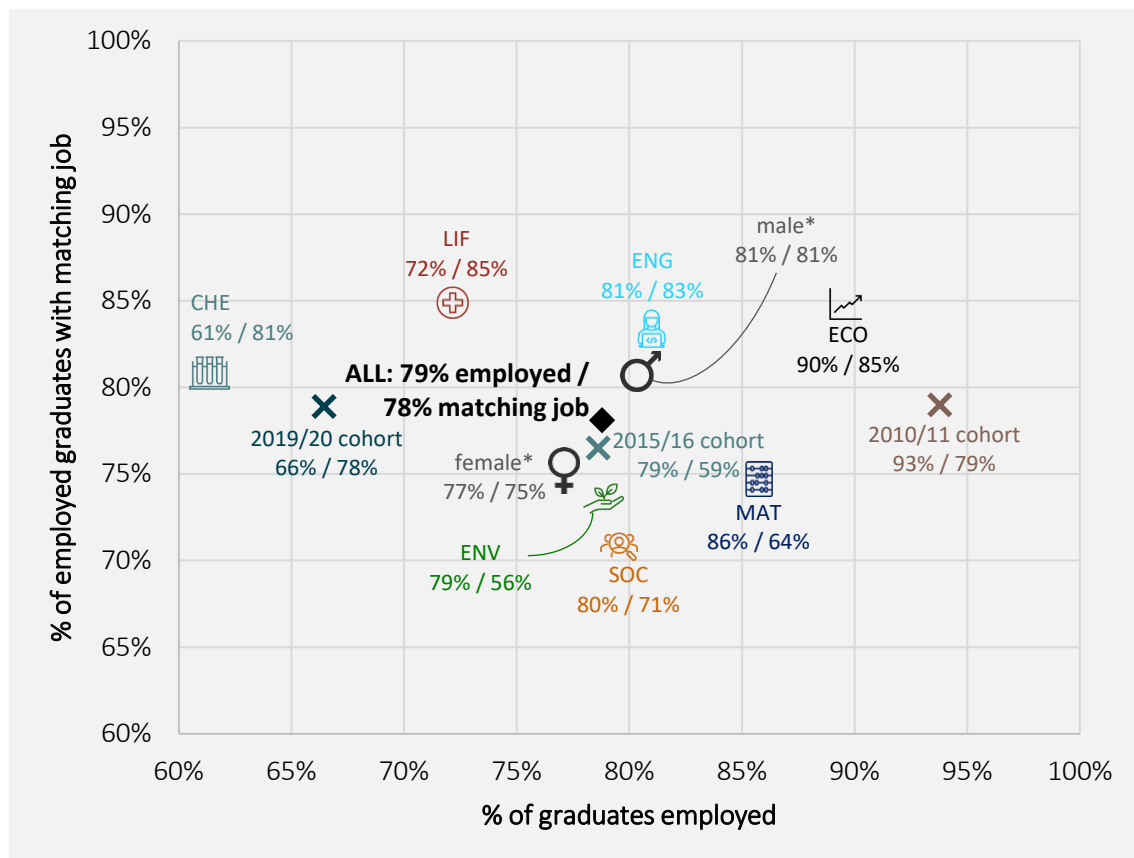
Employment-relevant skills: Language and learning skills most fitting

To have a more detailed look into how much graduate skills match their job, graduates rated their own skill level for nine types of skills and how much their current job requires them. Figure 43

shows, for each skill, what share of graduates rated their own level (much[10]) higher, the same, or (much) lower than their current job requires. The highest share of adequate or higher than required skill level was reported for foreign languages (86%) and learning skills (87%). The skills most often at a lower level than required are communication skills (24%) and planning and organization skills (27%).

Figure 43:   Graduates' assessment of their own skills levels and skill requirements of current job in comparison
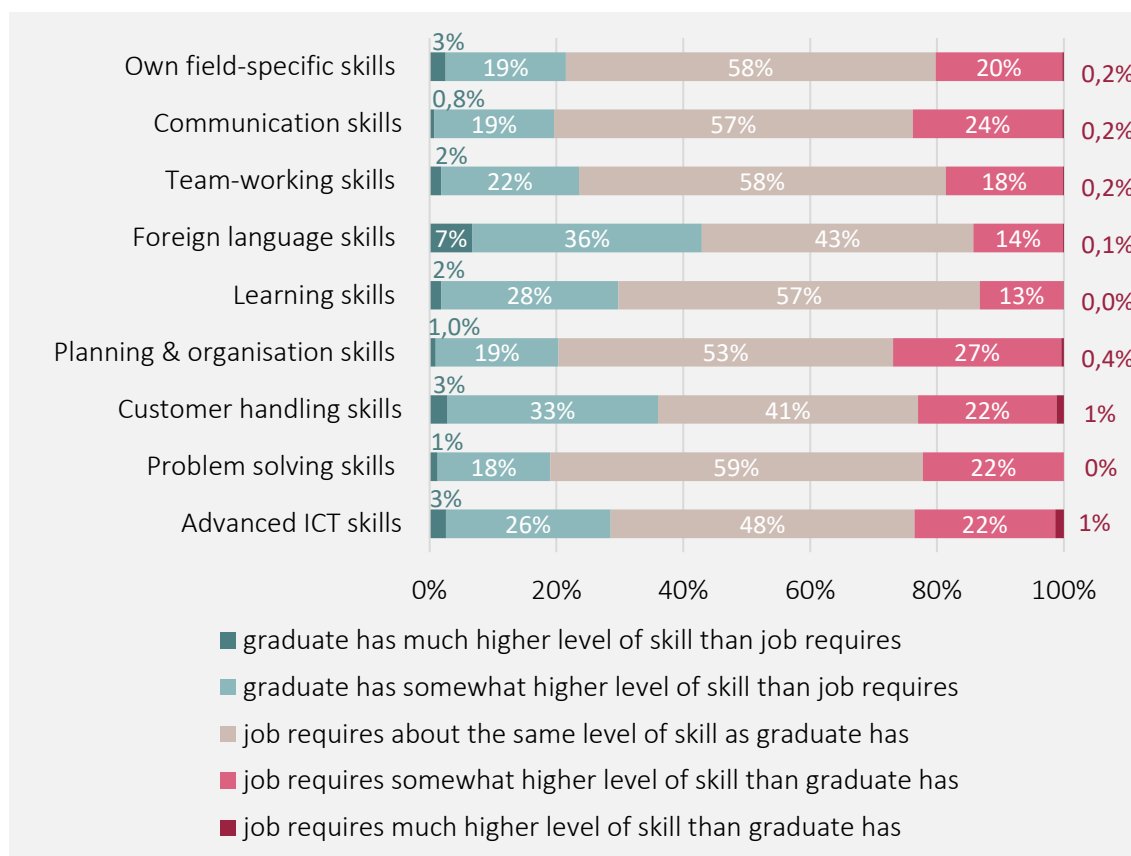
Source: EMJMD Graduate Impact Survey 2020/21, n = 1.502 graduates in employment.

By counting each graduates' number of skills fitting, on a higher level than the job requirements, and on a lower level than the job requirements, it can be assessed whether graduates are all in all rather over- or under-skilled for their job. This is done in Figure 44 for graduates of each field. It is important to note that this summarization can only offer a broad overview, as the surveyed skills are of different importance overall and for each field of study.

Chemistry and physics graduates most often reported either all skills corresponding to, or equal numbers of skills above and below, their current jobs' requirements. At the same time, those

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[10] Both their own skill level and the skill level required by the current job was rated on a 1 to 5 scale. "Much higher" means that their own skill level was rated 3 or 4 points higher than the required skill level, (somewhat) higher 1 or 2 points. Likewise, "much lower" comprises graduates that rated the respective skill 3 or 4 points lower for themselves than required by their job, (somewhat) lower those who rated their own skill 1 or 2 points lower than required.

groups reported least often more skills above than below their jobs' requirements. Simultaneously, physics graduates are most often severely under-skilled (14%), i.e., have at least 4 skills more that do not fulfil the job requirements than skills above the job requirements. Mathematics and economics graduates have an entirely fitting or balanced level of skills the least often. The former are most often over-skilled, while the latter have the second-highest share in under-skilled graduates.

Figure 44: Summarized discrepancy between graduates' skill levels and skill requirements of current job (difference between over- and under-fulfilled skills requirements) by field
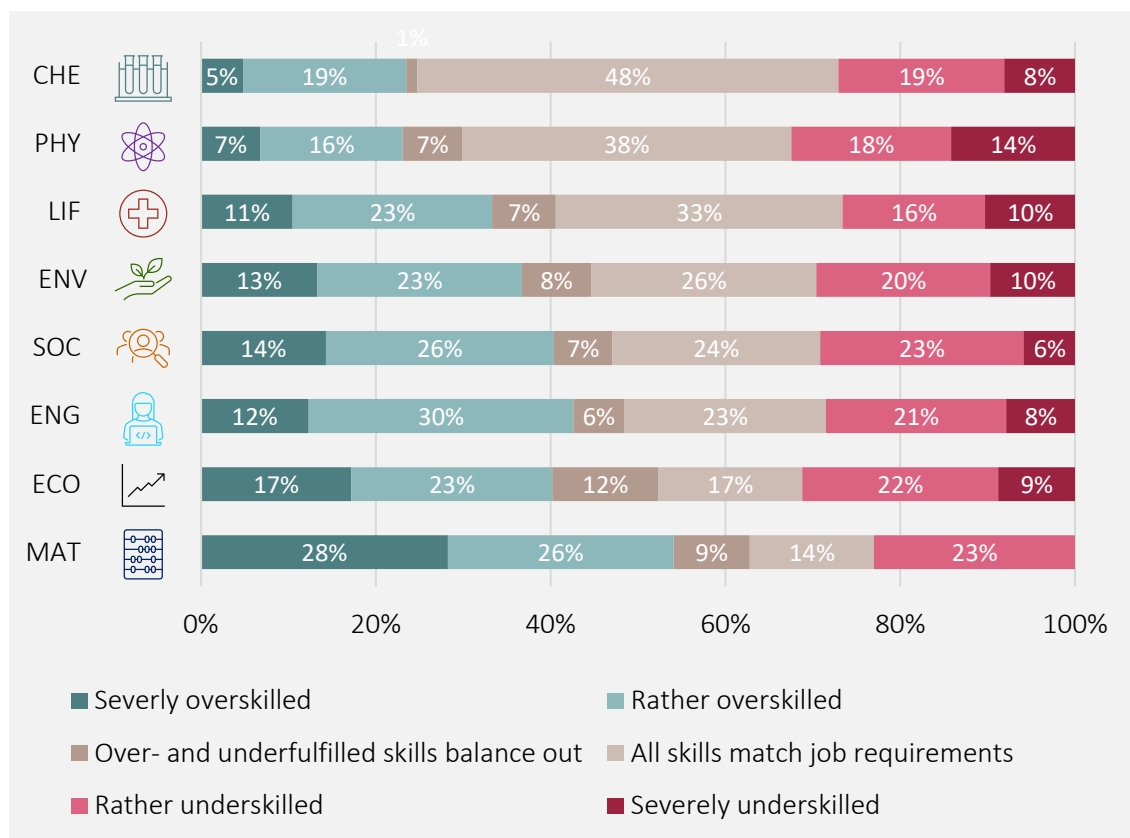
Source: EMJMD Graduate Impact Survey 2020/21, n = 1.502 graduates in employment. *Rather* over-skilled: Between 1 and 3 more over- than under-fulfilled particular skill requirements (see Figure 43). *Severely* over-skilled: At least 4 more over- than under-fulfilled skill requirements (vice versa for *rather* and *severely* under-skilled).

6.5   Satisfaction with current occupation

When it comes to overall satisfaction, Figure 45 shows that graduates exclusively studying or doing an internship are more often (very) satisfied than employed graduates.

Figure 45:   Satisfaction with current occupation by main occupation
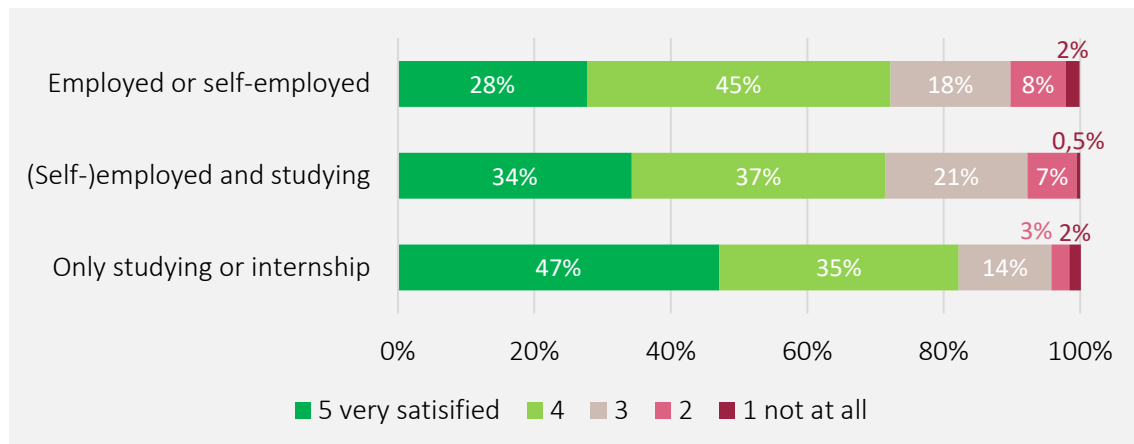
Source: EMJMD Graduate Impact Survey 2020/21, n = 1.864 graduates

However, employed graduates are more satisfied the more time has passed since graduation: while the share of graduates reporting to be (very) satisfied differs between these groups in the 2019/20 cohort (employed or self-employed: 63%, studying or internship: 80%), the share is almost identical in the 2010/11 cohort (80% / 81%).

Matching jobs yield higher satisfaction rates

A matching job, as it could be expected, is accompanied by higher satisfaction. As Figure 46 displays, graduates with a vertically and horizontally adequate job reported to be (very) satisfied with their current occupation the most often, compared to those with partly or not matching jobs. Likewise, graduates whose jobs neither correspond to their educational field nor level are dissatisfied much more often, with 43% reporting to be (rather) not satisfied. Those with a partly match seem to be satisfied similarly often, with a little more satisfaction amongst those who work in a job corresponding their level, but not field, than vice versa.

Figure 46:   Overall satisfaction with current occupation by education-employment match (graduates in employment)
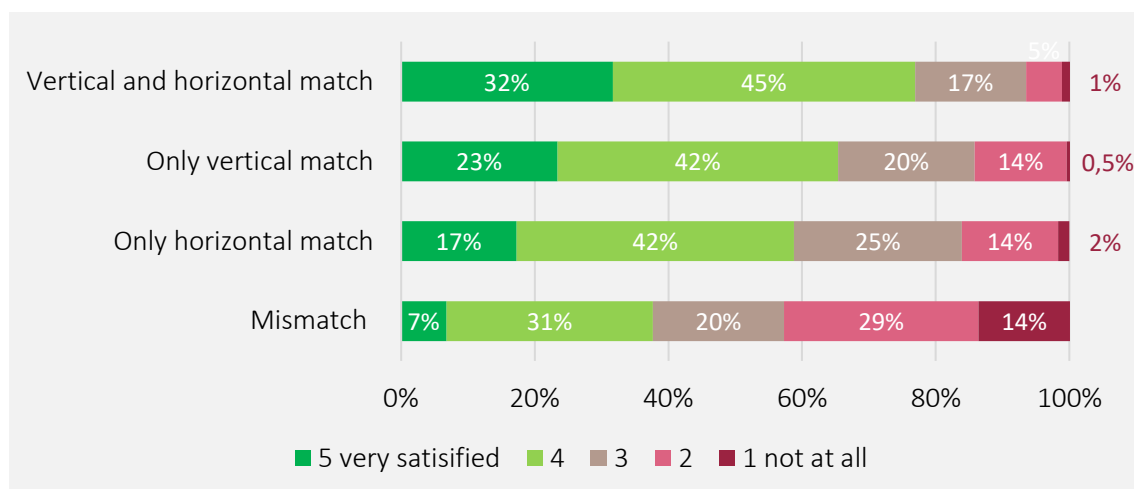
Source: EMJMD Graduate Impact Survey 2020/21, n = 1.502 graduates in employment.

Job characteristics: Payment, career prospects and work-life-balance lack most

The typical job filled by EM graduates might be described as autonomous, meaningful, yet demanding. Figure 47 shows nine different job characteristics. Respondents reported how important these are to them personally, and how much they apply to their current job. All of these characteristics were rated to apply to the current job at least partially by a majority of graduates. For work autonomy, opportunity to learn, new challenges, and "do something useful for society", more than 2 in 3 graduates report that these characteristics apply mostly or fully to their job. These aspects can be seen as traits of meaningful jobs that appeal to graduates' interests in a broader sense. On the other hand, characteristics that represent the frame conditions of employment received rather mixed assessments: of the graduates that value high earnings, a majority of 46% reported this not or not sufficiently applying to their job. A proper work-life-balance is assessed as not largely available in their job by 41%, good career prospects by 41% as well, and job security by 39%. All these aspects are important to most of the graduates who assessed them as suboptimal.

Figure 47:   Importance and fulfilment of job characteristics
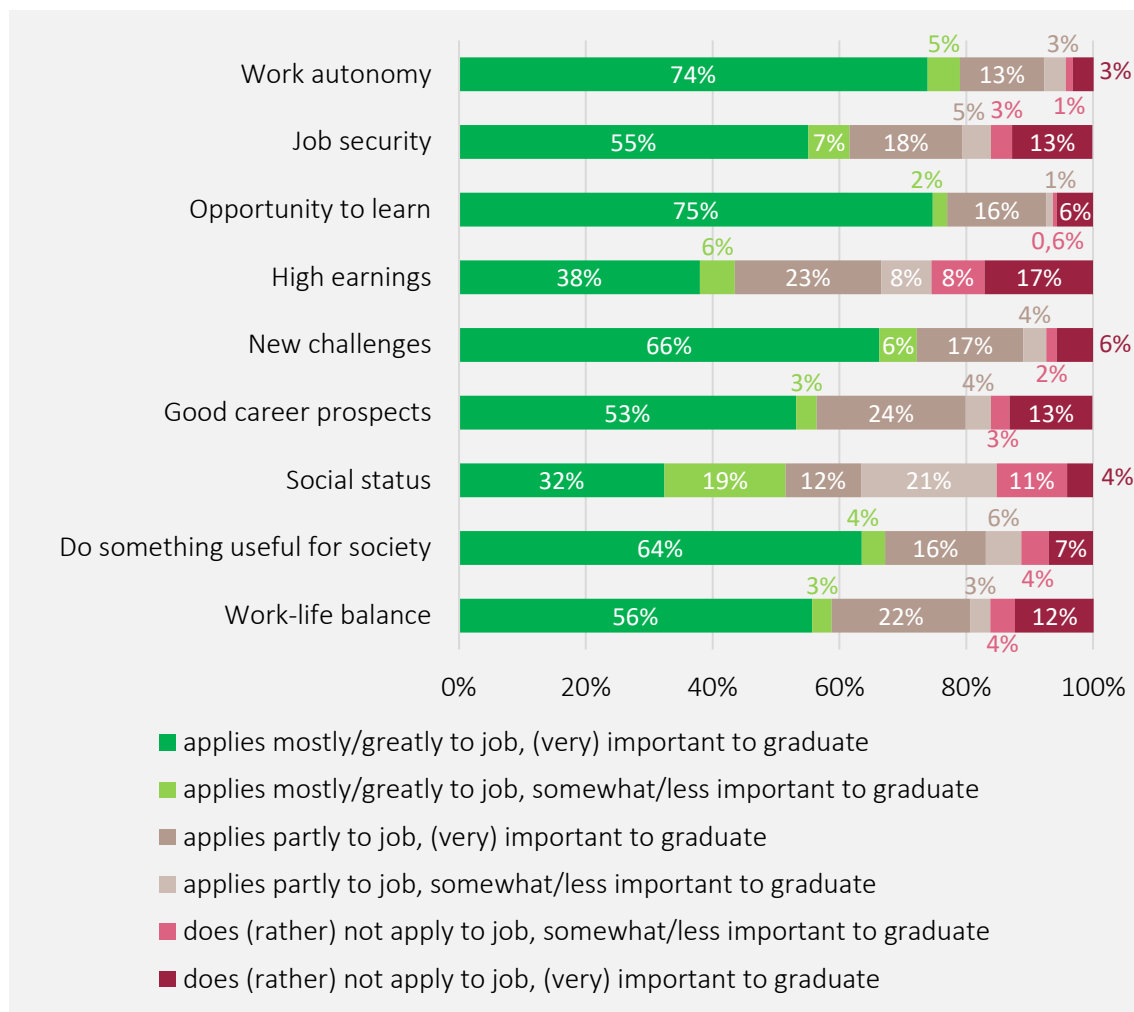
Source: EMJMD Graduate Impact Survey 2020/21, n = 1.502 graduates in employment.

The Erasmus Mundus Association (EMA) is the official student and alumni organisation for the Erasmus Mundus Joint Master Degrees. It was founded in 2006 and counts about 12.000 members at the time of this report (EMA official website). The GIS 2020/21 featured questions on the awareness about the EMA, membership, and advantages of being an EMA member, which will be presented in the upcoming section.

More members in older cohorts, more active ones amongst the most recent

55% of the survey participants reported being a member of the EMA. This share might be higher than the actual share of graduates from the target group, as EMA supported the survey by advertising it through social media. Thus, it is likely that EMA members were more aware of the survey than other alumni. However, this corresponds to EMA itself stating that 12.000 out of about 24.000 EMJMD participants are members (EMA official website). 8% of all graduates assigned themselves to the group of "active members".

Figure 48 shows that the 2010/11 cohort has the highest proportion of EMA members with 63%, followed by the 2015/16 cohort with 54% and the 2019/20 cohort with 49%. One explanation for this could be that some more alumni join the association only after a longer time past graduation. Still, the proportion of EM graduates reporting that they had never heard of EMA at all is also at its highest in the 2019/20 cohort, implying that EMAs presence amongst students and graduates has decreased a bit. However, the latest cohort also includes the highest proportion (and absolute number) of EMA members that would categorize themselves as active members.

Figure 48:   EMA membership and awareness by cohort
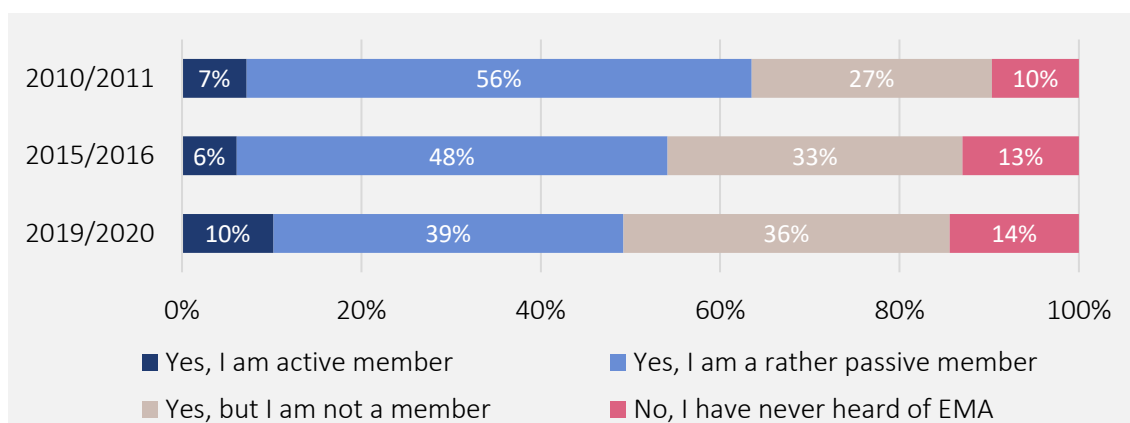
Source: EMJMD Graduate Impact Survey 2020/21, n = 2.015 Graduates

Higher proportion of active members where EMJMD programmes are well known

The group of EMA members has other demographic characteristics than the general population of graduates. Firstly, male graduates report more often to be EMA members (60%) and active

ones as well (11%) than female alumni (51% / 5%). Secondly, older age groups participate more in the organization, with graduates 37 years old or older showing the highest share in members (61%) as well as active members (9%). And thirdly, participation in the EMA varies considerably between regions of origin, as Figure 49 shows. South Asian (19%) and African (15%) graduates report active memberships much more than average. Graduates from those regions also reported an above-average awareness of the EMJMD programmes in their home countries (Figure 7). Regions where the EMJMD programmes are least known are in turn also the regions with the lowest shares in (active) EMA members: the EU, the Americas and Oceania. Enhanced activity in these regions might increase both the awareness of Erasmus Mundus and attractiveness to actively participate in the association.

Figure 49:   EMA membership and awareness by region of origin
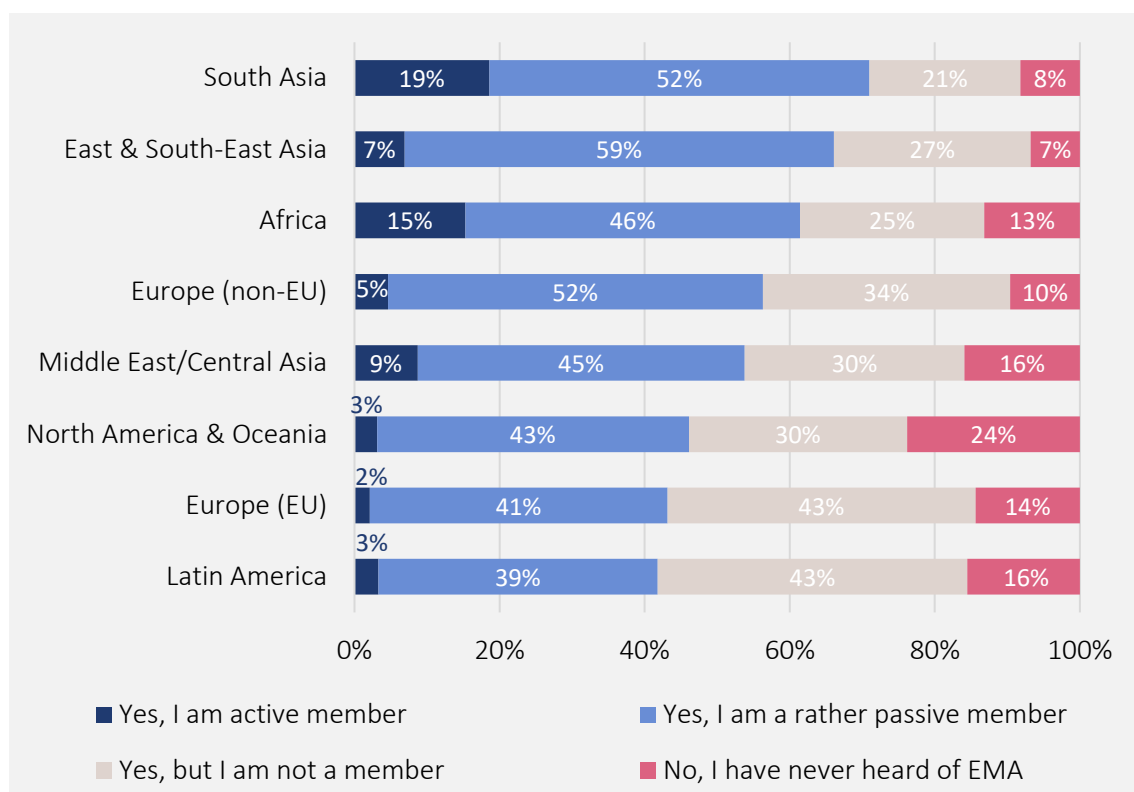
Source: EMJMD Graduate Impact Survey 2020/21, n = 2.015 Graduates

Active membership: much more beneficial for networking

Being part of an alumni association can be a networking opportunity – something that has been requested to be a more central part of EMJMD studies by graduates' open feedback. However, this opportunity is strongly tied to the ways in which graduates utilize their membership. Figure 50 shows that 66% of active members assessed their membership as (very) advantageous for building social and professional networks, while only 18% of the rather passive members did so. 34% of passive members did not find their membership helpful at all for this purpose. This is not necessarily caused by a lack of offers for EMA members but comes along with the passivity itself. Two lessons can be taken from this insight: Firstly, active participation in the EMA enables

possibilities for members and could therefore be advertised. Additionally, it could be worthwhile to assess how less active members can be reached and benefit from EMA activities more.

Figure 50:   Assessment of EMA membership being advantageous in regard to social and professional networks by membership activity
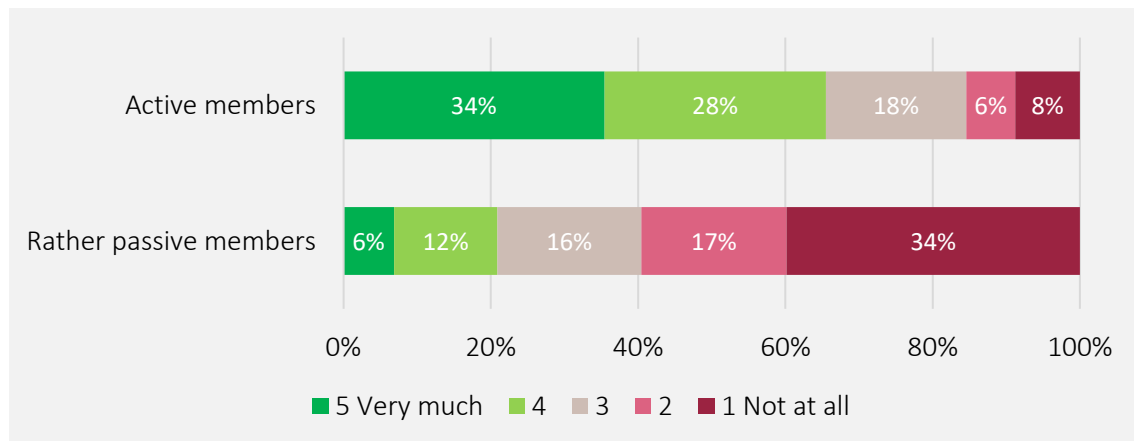
Source: EMJMD Graduate Impact Survey 2020/21, n = 884 Graduates with EMA membership who gave an assessment (166 "I don't know")

Policy impulse: Broadening EMA visibility and membership

Focus on support during study period: The area in which EMA can offer the broadest and most exclusive support to (potential) members is student support. No other organisation has nearly as much expertise regarding the specific EMJMD related matters as EMA. Supporting possible members during their EMJMD studies, when they are most attentive to the programme and related aspects, yields the best chances of being positively visible.

Offer versatile advantages: As this report shows, different subgroups of EM Alumni are prone to different experiences and needs. Origin, field of study and post-study ambitions and activities imply varying needs. While EMA strongly advertises networking and international communication prospects, some students and alumni are more attractable by different perks.

Low thresholds for participation opportunities: Existing networking dynamics are mostly recognized by the more active EMA members. While this could advertise active participation, it is less advantageous to invite students and alumni to become EMA members in the first place. Events and actions with low participation thresholds for members who are less active yet, or interested non-members, could appeal to a broader target group.

8 Appendix of Tables

Table 4: Citizenship in 8 regions (missing values imputed with country of birth)

		Total n	Europe - EU	Europe - non-EU	South Asia	East and South-East Asia	North America and Oceania	Middle East/Central Asia	Africa	Latin America
Age	< 30 years	638	17%	19%	12%	12%	5%	12%	9%	14%
	30 - 33 years	645	20%	19%	9%	13%	5%	8%	10%	16%
	34 - 36 years	330	11%	16%	16%	16%	6%	8%	11%	16%
	37 years or older	402	6%	10%	13%	14%	5%	9%	21%	23%
Sex	Male	1.013	12%	11%	17%	9%	4%	10%	19%	17%
	Female	994	14%	19%	8%	18%	6%	8%	8%	19%
	Other/Diverse	8	16%	16%	31%	0%	5%	6%	10%	16%
	Prefer not to answer	0	0%	0%	0%	0%	0%	0%	0%	0%
Field of study	ENG	697	12%	14%	17%	12%	4%	13%	10%	19%
	ENV	341	15%	13%	11%	17%	5%	8%	17%	15%
	LIF	172	10%	12%	16%	15%	8%	6%	20%	14%
	ECO	67	13%	16%	12%	18%	2%	15%	11%	13%
	MAT	39	16%	19%	11%	15%	5%	6%	18%	10%
	SOC	569	13%	18%	7%	13%	7%	6%	14%	23%
	CHE	93	10%	14%	7%	19%	2%	10%	20%	17%
	PHY	37	18%	17%	34%	11%	3%	9%	7%	1%
Cohort	2019/2020	997	11%	12%	12%	13%	5%	13%	14%	21%
	2015/2016	631	23%	21%	11%	11%	4%	8%	10%	12%
	2010/2011	387	4%	12%	15%	17%	7%	7%	17%	21%
	Total	**2.015**	**13%**	**15%**	**13%**	**14%**	**5%**	**9%**	**14%**	**18%**

EMJMD Graduate Impact Survey 2020/21, n = 2.015 graduates

Table 5:   Gender reported and sex officially registered with during EMJMD

		Total n	Gender (self-reported*)				Sex (registered with*)		
			Female	Male	Other/Diverse	I prefer not to answer	Male	Female	Other/Diverse
Age	< 30 years	638	55%	42%	1%	3%	44%	56%	0%
	30 - 33 years	645	50%	46%	1%	4%	49%	51%	0%
	34 - 36 years	330	46%	50%	2%	2%	52%	47%	0%
	37 years or older	402	44%	53%	1%	3%	54%	46%	0%
Field of study	ENG	697	36%	60%	1%	3%	42%	57%	0%
	ENV	341	57%	39%	1%	4%	45%	55%	0%
	LIF	172	54%	44%	0%	2%	60%	40%	0%
	ECO	67	40%	56%	0%	4%	75%	25%	0%
	MAT	39	25%	73%	0%	2%	35%	65%	0%
	SOC	569	63%	34%	2%	2%	59%	41%	0%
	CHE	93	40%	57%	0%	3%	70%	30%	0%
	PHY	37	30%	69%	0%	1%	50%	49%	0%
Region of origin (citizenship)	Europe (EU)	270	54%	43%	1%	3%	37%	63%	0%
	Europe (non-EU)	302	62%	36%	0%	2%	69%	31%	0%
	South Asia	232	30%	65%	1%	4%	34%	66%	0%
	East & South-East Asia	246	64%	32%	1%	3%	43%	57%	0%
	North America & Oceania	100	51%	42%	5%	3%	57%	43%	0%
	Middle East/Central Asia	186	43%	54%	1%	3%	71%	29%	0%
	Africa	240	29%	67%	1%	3%	49%	51%	0%
	Latin America	439	50%	47%	1%	2%	50%	49%	0%
Cohort	2019/2020	997	52%	44%	1%	3%	46%	53%	0%
	2015/2016	631	50%	46%	1%	3%	49%	51%	0%
	2010/2011	387	42%	56%	1%	2%	57%	43%	0%
	Total	**2.015**	**48%**	**48%**	**1%**	3%	**50%**	**49%**	0%

* Graduates were first asked to select female, male, other/diverse or prefer not to answer. If other/diverse or prefer not to answer was reported, it was asked with which sex graduates were registered during their EMJMD.
EMJMD Graduate Impact Survey 2020/21, n = 2.015 graduates

Table 6:   Field of study

		Total n	Information science and engineering	Environmental and geosciences (ENV)	Life sciences (LIF)	Economic sciences (ECO)	Mathematics (MAT)	Social sciences and humanities (SOC)	Chemistry (CHE)	Physics (PHY)
Age	< 30 years	638	35%	14%	12%	2%	4%	26%	6%	2%
	30 - 33 years	645	37%	17%	9%	5%	2%	24%	4%	2%
	34 - 36 years	330	39%	16%	6%	3%	5%	25%	3%	3%
	37 years or older	402	32%	12%	12%	4%	1%	35%	4%	1%
Sex	Male	1.013	44%	12%	9%	5%	4%	19%	5%	3%
	Female	994	27%	17%	11%	3%	1%	37%	3%	1%
Region of origin (citizenship)	Europe (EU)	302	34%	12%	8%	4%	3%	34%	4%	2%
	Europe (non-EU)	232	48%	12%	12%	4%	2%	15%	2%	5%
	South Asia	246	31%	18%	11%	5%	3%	26%	6%	2%
	East & South-East Asia	100	27%	15%	14%	1%	2%	39%	2%	1%
	North America & Oceania	186	48%	13%	6%	6%	2%	18%	5%	2%
	Middle East/Central Asia	240	26%	18%	15%	3%	3%	28%	6%	1%
	Africa	439	37%	13%	8%	3%	1%	35%	4%	0%
	Latin America	2.015	36%	15%	10%	4%	3%	28%	4%	2%
Cohort	2019/2020	997	32%	16%	12%	2%	2%	30%	5%	2%
	2015/2016	631	39%	17%	9%	5%	2%	23%	4%	2%
	2010/2011	387	36%	11%	8%	5%	4%	31%	3%	2%
	Total	**2.015**	**36%**	**15%**	**10%**	**4%**	**3%**	**28%**	**4%**	**2%**

EMJMD Graduate Impact Survey 2020/21, n = 2.015 graduates

Table 7:   Additional financial sources aside from EM scholarship

| | | Financial sources | | | If _not_ only scholarship: other sources | | | | | | |
		Total n	Only EM Scholarship	EM Scholarship + other sources	only other sources	Total n	Other scholarship	Job income	Savings	Family support	Student loan	Other
Age	< 30 years	638	86%	14%	0%	82	8%	22%	44%	49%	3%	5%
	30 - 33 years	645	76%	24%	0%	146	11%	12%	50%	54%	3%	4%
	34 - 36 years	329	79%	21%	0%	69	8%	15%	58%	37%	7%	5%
	37 years or older	402	88%	12%	0%	51	7%	31%	63%	42%	8%	5%
Sex	Male	1.013	83%	17%	0%	182	10%	17%	59%	39%	6%	5%
	Female	993	82%	18%	0%	164	8%	21%	50%	53%	4%	5%
Field of study	ENG	697	83%	17%	0%	119	9%	20%	56%	40%	6%	4%
	ENV	341	82%	18%	0%	62	4%	7%	56%	62%	6%	6%
	LIF	172	84%	16%	0%	27	_n.a._	_n.a._	_n.a._	_n.a._	_n.a._	_n.a._
	ECO	67	87%	13%	0%	9	_n.a._	_n.a._	_n.a._	_n.a._	_n.a._	_n.a._
	MAT	39	76%	24%	0%	9	_n.a._	_n.a._	_n.a._	_n.a._	_n.a._	_n.a._
	SOC	568	81%	19%	0%	103	11%	28%	53%	40%	5%	4%
	CHE	93	85%	13%	2%	13	_n.a._	_n.a._	_n.a._	_n.a._	_n.a._	_n.a._
	PHY	37	85%	15%	0%	6	_n.a._	_n.a._	_n.a._	_n.a._	_n.a._	_n.a._
Region of origin (citizenship)	Europe (EU)	270	45%	55%	0%	139	9%	15%	47%	57%	5%	6%
	Europe (non-EU)	302	86%	14%	0%	43	12%	34%	45%	47%	5%	5%
	South Asia	232	97%	4%	0%	7	_n.a._	_n.a._	_n.a._	_n.a._	_n.a._	_n.a._
	East & South-East Asia	246	88%	12%	0%	28	_n.a._	_n.a._	_n.a._	_n.a._	_n.a._	_n.a._
	North America & Oceania	100	69%	31%	0%	29	_n.a._	_n.a._	_n.a._	_n.a._	_n.a._	_n.a._
	Middle East/Central Asia	185	86%	14%	0%	25	_n.a._	_n.a._	_n.a._	_n.a._	_n.a._	_n.a._
	Africa	240	94%	6%	0%	13	_n.a._	_n.a._	_n.a._	_n.a._	_n.a._	_n.a._
	Latin America	439	85%	14%	0%	64	12%	16%	63%	35%	11%	1%
Cohort	2019/2020	996	85%	15%	0%	137	5%	17%	64%	37%	4%	4%
	2015/2016	631	74%	26%	0%	165	12%	15%	48%	55%	4%	4%
	2010/2011	387	89%	11%	0%	46	7%	30%	55%	37%	9%	7%
	Total	2.014	82%	18%	0%	348	9%	19%	54%	46%	5%	5%

EMJMD Graduate Impact Survey 2020/21, n = 2.015 graduates

Table 8:   Primary reason for choosing an EMJMD programme (categorized by factor analysis main factor)

		Total n	Career/skill improvement	Studying internationally	Subject/field-related reasons	EM Conditions/ reputation
Age	< 30 years	638	10%	46%	20%	24%
	30 - 33 years	645	11%	47%	21%	21%
	34 - 36 years	330	7%	48%	17%	28%
	37 years or older	402	14%	35%	21%	30%
Sex	Male	1.013	10%	38%	22%	30%
	Female	994	12%	48%	18%	22%
Field of study	ENG	697	9%	43%	20%	29%
	ENV	341	14%	43%	16%	27%
	LIF	172	16%	34%	27%	22%
	ECO	67	19%	46%	13%	22%
	MAT	39	3%	48%	32%	17%
	SOC	569	10%	45%	20%	24%
	CHE	93	13%	48%	16%	23%
	PHY	37	2%	39%	10%	48%
Region of origin (citizenship)	Europe (EU)	270	12%	51%	23%	14%
	Europe (non-EU)	302	11%	46%	24%	19%
	South Asia	232	12%	32%	14%	41%
	East & South-East Asia	246	13%	52%	12%	23%
	North America & Oceania	100	1%	63%	25%	12%
	Middle East/Central Asia	186	9%	32%	19%	40%
	Africa	240	17%	30%	23%	31%
	Latin America	439	9%	45%	20%	26%
Cohort	2019/2020	997	12%	40%	22%	26%
	2015/2016	631	9%	49%	18%	24%
	2010/2011	387	12%	40%	19%	29%
	Total	**2.015**	**11%**	**43%**	**20%**	**26%**

EMJMD Graduate Impact Survey 2020/21, n = 2.015 graduates

Table 9: Overall satisfaction with EMJMD programme

		Total n	1 Not at all	2	3	4	5 Very satisfied
Age	< 30 years	615	1%	3%	8%	40%	49%
	30 - 33 years	616	0%	3%	8%	37%	52%
	34 - 36 years	321	0%	2%	7%	40%	51%
	37 years or older	388	0%	1%	8%	34%	56%
Sex	Male	972	0%	1%	6%	38%	55%
	Female	960	1%	3%	10%	37%	50%
Field of study	ENG	675	1%	1%	7%	37%	55%
	ENV	325	0,3%	2%	9%	37%	52%
	LIF	169	1%	1%	3%	38%	57%
	ECO	63	0%	0%	7%	32%	61%
	MAT	39	2%	6%	3%	45%	44%
	SOC	543	0,3%	4%	10%	39%	47%
	CHE	90	0%	3%	13%	26%	57%
	PHY	36	0%	0%	1%	46%	53%
Region of origin (citizenship)	Europe (EU)	262	1%	2%	10%	43%	44%
	Europe (non-EU)	289	0%	3%	8%	36%	52%
	South Asia	224	1%	1%	5%	36%	57%
	East & South-East Asia	234	0%	1%	9%	36%	54%
	North America & Oceania	100	1%	6%	9%	46%	38%
	Middle East/Central Asia	179	0%	2%	14%	31%	53%
	Africa	227	0%	0%	6%	36%	57%
	Latin America	425	0,3%	3%	5%	36%	56%
Cohort	2019/2020	956	1%	3%	8%	37%	51%
	2015/2016	610	0,1%	2%	8%	40%	50%
	2010/2011	374	0,4%	1%	7%	33%	58%
	Total	**1.940**	**0%**	**2%**	**8%**	**37%**	**53%**

EMJMD Graduate Impact Survey 2020/21, n = 1.940 graduates

Table 10:   Interinstitutional coordination: Proportion of graduates reporting good coordination between all host universities in particular aspects

		Total n	Curricula design/structure	Course content	Teaching methods	Input of associate partners	Integrated course catalogues	Grade conversion	Award of degree (joint/multiple)	General degree integration
Age	< 30 years	638	33%	33%	28%	31%	34%	64%	49%	46%
	30 - 33 years	645	39%	40%	30%	28%	36%	63%	51%	46%
	34 - 36 years	330	38%	34%	28%	26%	27%	65%	53%	49%
	37 years or older	402	49%	47%	42%	36%	42%	69%	57%	47%
Sex	Male	1.013	45%	41%	37%	33%	37%	68%	54%	49%
	Female	994	37%	38%	29%	28%	34%	63%	53%	45%
Field of study	ENG	697	44%	41%	35%	31%	39%	68%	54%	50%
	ENV	341	39%	38%	32%	36%	41%	63%	51%	46%
	LIF	172	42%	39%	35%	35%	34%	72%	63%	47%
	ECO	67	44%	41%	25%	34%	31%	66%	56%	40%
	MAT	39	32%	22%	13%	22%	22%	50%	43%	43%
	SOC	569	36%	38%	31%	26%	31%	64%	51%	45%
	CHE	93	51%	43%	41%	34%	34%	59%	53%	51%
	PHY	37	56%	54%	42%	28%	49%	66%	58%	46%
Region of origin (citizenship)	Europe (EU)	270	32%	32%	24%	21%	29%	61%	44%	46%
	Europe (non-EU)	302	38%	36%	31%	30%	35%	69%	54%	47%
	South Asia	232	49%	47%	37%	32%	40%	67%	54%	43%
	East & South-East Asia	246	41%	39%	35%	33%	42%	65%	56%	46%
	North America & Oceania	100	27%	31%	17%	16%	19%	54%	34%	36%
	Middle East/Central Asia	186	40%	40%	39%	32%	35%	60%	52%	50%
	Africa	240	47%	47%	46%	39%	42%	69%	60%	50%
	Latin America	439	44%	40%	28%	32%	33%	68%	57%	51%
Cohort	2019/2020	997	35%	36%	30%	34%	36%	64%	52%	47%
	2015/2016	631	41%	40%	32%	29%	37%	65%	53%	50%
	2010/2011	387	48%	44%	37%	29%	34%	68%	54%	44%
	Total	**2.015**	**41%**	**40%**	**33%**	**31%**	**36%**	**66%**	**53%**	**47%**

EMJMD Graduate Impact Survey 2020/21, n = 2.015 graduates

Table 11: Greatest personal impact of EMJMD studies

		Total n	My career	My subject-related expertise	My personality	My private life	My intercultural competencies	My attitude towards Europe and the EU	Other
Age	< 30 years	637	33%	13%	20%	9%	19%	5%	0,2%
	30 - 33 years	644	32%	14%	18%	8%	22%	6%	0%
	34 - 36 years	330	30%	15%	17%	7%	23%	8%	0,3%
	37 years or older	400	33%	21%	13%	6%	20%	7%	0%
Sex	Male	1.010	35%	17%	16%	7%	18%	8%	0,1%
	Female	993	29%	16%	17%	8%	24%	5%	0,1%
Field of study	ENG	695	37%	13%	17%	7%	18%	8%	0,3%
	ENV	341	27%	17%	18%	9%	23%	5%	0%
	LIF	172	35%	20%	11%	7%	20%	9%	0%
	ECO	67	35%	11%	18%	7%	24%	4%	0%
	MAT	39	26%	19%	25%	4%	15%	11%	0%
	SOC	567	27%	18%	16%	8%	26%	5%	0%
	CHE	93	41%	23%	18%	3%	10%	5%	0%
	PHY	37	27%	28%	12%	8%	22%	4%	0%
Region of origin (citizenship)	Europe (EU)	270	27%	17%	20%	15%	19%	3%	0,2%
	Europe (non-EU)	302	32%	16%	22%	7%	18%	4%	0,4%
	South Asia	230	29%	21%	19%	2%	17%	13%	0%
	East & South-East Asia	246	28%	15%	11%	6%	29%	11%	0%
	North America & Oceania	100	22%	15%	10%	17%	28%	9%	0%
	Middle East/Central Asia	185	29%	15%	25%	6%	17%	8%	0%
	Africa	240	42%	24%	13%	1%	15%	5%	0%
	Latin America	438	38%	10%	12%	9%	27%	3%	0%
Cohort	2019/2020	994	32%	16%	19%	7%	20%	6%	0,1%
	2015/2016	631	30%	17%	17%	10%	19%	6%	0,2%
	2010/2011	386	35%	16%	12%	5%	25%	7%	0%
	Total	2.011	32%	16%	17%	7%	21%	7%	0%

Source: EMJMD Graduate Impact Survey 2020/21, n = 2.011 graduates

Table 12:   Country of residence (EM host country, country of origin, other)

		Total n	moved to EM host country	returned to h country of origin that was an EM host country*	returned to country of origin*	moved to another country
Age	< 30 years	633	40%	2%	32%	26%
	30 - 33 years	641	30%	4%	35%	31%
	34 - 36 years	329	23%	3%	42%	32%
	37 years or older	400	18%	1%	55%	26%
Sex	Male	1.010	26%	2%	43%	29%
	Female	985	27%	3%	42%	28%
Field of study	ENG	695	31%	2%	34%	33%
	ENV	339	19%	4%	47%	29%
	LIF	171	21%	1%	47%	30%
	ECO	66	22%	2%	49%	27%
	MAT	39	30%	0%	39%	31%
	SOC	563	25%	3%	50%	21%
	CHE	93	32%	1%	40%	27%
	PHY	37	19%	4%	34%	43%
Region of origin (citizenship)	Europe (EU)	268	23%	19%	30%	28%
	Europe (non-EU)	298	36%	0%	34%	30%
	South Asia	231	20%	0%	53%	28%
	East & South-East Asia	245	22%	0%	51%	27%
	North America & Oceania	100	19%	0%	57%	24%
	Middle East/Central Asia	185	36%	0%	30%	34%
	Africa	239	22%	0%	49%	29%
	Latin America	437	29%	1%	43%	28%
	European Union	268	23%	19%	30%	28%
	Non-EU countries	1.735	27%	0%	44%	29%
Cohort	2019/2020	990	34%	2%	40%	24%
	2015/2016	628	28%	5%	34%	34%
	2010/2011	385	15%	1%	56%	28%
	Total	**2.003**	**26%**	**3%**	**43%**	**29%**

*The second column refers to graduates that live in the country corresponding their citizenship, which was also one of their host countries during EM. The third column refers to graduates that live in their country of origin if this country was not one of their host countries during EM.
 Source: EMJMD Graduate Impact Survey 2020/21, n = 2.003 graduates

Table 13:   Main activity in the first six months after graduating from EMJMD

		Total n	Started/continued working	Started/continue working and studying	Continued studying (without working)	Started looking for jobs	Other
Age	< 30 years	637	34%	9%	27%	21%	9%
	30 - 33 years	645	35%	6%	27%	24%	9%
	34 - 36 years	328	34%	6%	28%	25%	7%
	37 years or older	402	49%	6%	19%	21%	5%
Sex	Male	1.011	41%	7%	29%	18%	5%
	Female	993	37%	5%	20%	29%	9%
Field of study	ENG	696	39%	7%	28%	22%	5%
	ENV	341	41%	5%	19%	27%	8%
	LIF	172	41%	14%	22%	18%	6%
	ECO	67	33%	4%	18%	36%	9%
	MAT	39	20%	0%	49%	23%	8%
	SOC	568	44%	5%	17%	25%	10%
	CHE	92	26%	6%	49%	15%	4%
	PHY	37	15%	3%	60%	10%	12%
Region of origin (citizenship)	Europe (EU)	270	37%	6%	26%	26%	6%
	Europe (non-EU)	301	38%	6%	23%	25%	9%
	South Asia	232	41%	6%	28%	19%	6%
	East & South-East Asia	246	40%	5%	26%	22%	8%
	North America & Oceania	100	36%	9%	14%	29%	12%
	Middle East/Central Asia	186	29%	4%	30%	28%	9%
	Africa	239	46%	7%	25%	17%	5%
	Latin America	438	42%	8%	21%	23%	7%
Cohort	2019/2020	996	42%	8%	20%	22%	9%
	2015/2016	630	35%	6%	26%	27%	7%
	2010/2011	386	41%	5%	28%	20%	6%
	Total	**2.012**	**39%**	**6%**	**25%**	**23%**	**7%**

Main activity: The main activity is derived from all activities that graduates reported (multiple answer were possible). Working and/or studying overruled all other activities; "started looking for jobs" was assigned to graduates that reported starting job search and did neither work nor study. "Other" was assigned to graduates that did neither work, study, nor look for jobs, but reported other activities.
Source: EMJMD Graduate Impact Survey 2020/21, n = 2.012 graduates

Table 14:   Occupation at time of survey (Spring 2021; multiple answers possible)

		Total n	Employed full-time	Employed (un-known extend)	Employed part-time (≤30h/week)	Self-employed	Studying	Intern/traineeship	Not employed, seeking a job	Not employed, not seeking a job
Age	< 30 years	350	57%	0%	6%	4%	37%	3%	8%	1%
	30 - 33 years	554	66%	0%	7%	5%	24%	2%	5%	1%
	34 - 36 years	428	70%	0%	7%	7%	15%	1%	6%	1%
	37 years or older	663	73%	1%	7%	9%	15%	0%	5%	2%
Sex	Male	1.007	71%	0%	5%	6%	22%	1%	5%	1%
	Female	984	64%	0%	8%	7%	21%	2%	7%	2%
Field of study	ENG	711	73%	0%	5%	5%	22%	1%	4%	0%
	ENV	292	66%	1%	7%	7%	19%	2%	7%	2%
	LIF	191	66%	0%	7%	3%	34%	0%	5%	0%
	ECO	75	86%	0%	1%	3%	12%	0%	6%	0%
	MAT	49	79%	0%	3%	7%	14%	0%	7%	0%
	SOC	558	61%	0%	11%	10%	18%	2%	7%	4%
	CHE	81	57%	1%	5%	4%	40%	4%	5%	0%
	PHY	38	58%	0%	1%	13%	25%	0%	15%	0%
Region of origin (citizenship)	Europe (EU)	255	69%	0%	10%	8%	21%	1%	4%	1%
	Europe (non-EU)	302	70%	0%	5%	8%	24%	2%	5%	1%
	South Asia	250	64%	0%	6%	6%	22%	1%	7%	0%
	East & South-East Asia	275	72%	0%	6%	4%	16%	2%	4%	4%
	North America & Oceania	102	73%	0%	9%	5%	16%	2%	4%	1%
	Middle East/Central Asia	183	60%	1%	6%	4%	22%	1%	11%	1%
	Africa	269	68%	1%	3%	4%	25%	2%	8%	1%
	Latin America	358	66%	0%	9%	11%	24%	1%	4%	2%
Cohort	2019/2020	715	56%	1%	7%	6%	29%	3%	10%	2%
	2015/2016	680	67%	0%	7%	6%	27%	0%	4%	1%
	2010/2011	599	82%	0%	6%	9%	7%	1%	3%	2%
	Total	**1.995**	**68%**	**0%**	**7%**	**7%**	**22%**	**1%**	**6%**	**1%**

Source: EMJMD Graduate Impact Survey 2020/21, n = 1.995 graduates

Table 15:   Education-employment match

		Total n	double match	Only vertical match	Only horizontal match	double mismatch
Age	< 30 years	414	78%	4%	12%	6%
	30 - 33 years	481	76%	9%	11%	5%
	34 - 36 years	265	73%	7%	15%	5%
	37 years or older	342	83%	9%	6%	3%
Sex	Male	774	81%	7%	9%	3%
	Female	723	75%	8%	11%	6%
Field of study	ENG	548	83%	4%	10%	3%
	ENV	247	74%	10%	12%	5%
	LIF	112	85%	6%	6%	3%
	ECO	59	85%	6%	7%	2%
	MAT	31	75%	4%	14%	7%
	SOC	437	71%	11%	11%	7%
	CHE	47	81%	9%	5%	5%
	PHY	21	*n.a.*	*n.a.*	*n.a.*	*n.a.*
Region of origin (citizenship)	Europe (EU)	216	77%	9%	10%	5%
	Europe (non-EU)	233	76%	10%	9%	5%
	South Asia	160	84%	8%	6%	2%
	East & South-East Asia	187	74%	8%	13%	5%
	North America & Oceania	82	55%	10%	21%	14%
	Middle East/Central Asia	123	79%	5%	14%	2%
	Africa	157	84%	7%	6%	3%
	Latin America	344	83%	5%	8%	4%
Cohort	2019/2020	653	79%	2%	12%	7%
	2015/2016	490	77%	10%	10%	4%
	2010/2011	359	79%	10%	8%	3%
Main activity first 6 months	Started/continued working	662	80%	8%	8%	4%
	Start./cont. working and studying	90	89%	3%	5%	4%
	Continued studying (not working)	283	81%	5%	10%	3%
	Started looking for jobs	366	70%	10%	15%	6%
	Other	99	77%	7%	9%	7%
	Total	**1.502**	**78%**	**8%**	**10%**	**4%**

Source: EMJMD Graduate Impact Survey 2020/21, n = 1.502 graduates in employment at the time of the survey.

Table 16:   Satisfaction with current occupation

		Total n	1 Not at all	2	3	4	5 Very satisfied
Age	< 30 years	419	4%	8%	14%	44%	30%
	30 - 33 years	487	2%	8%	21%	44%	26%
	34 - 36 years	265	1%	9%	18%	45%	28%
	37 years or older	349	2%	8%	17%	43%	31%
Sex	Male	787	1%	8%	17%	43%	31%
	Female	728	2%	9%	19%	44%	26%
Field of study	ENG	547	1%	6%	16%	44%	33%
	ENV	253	3%	11%	22%	40%	24%
	LIF	116	1%	8%	16%	44%	31%
	ECO	60	1%	3%	17%	44%	34%
	MAT	31	5%	15%	8%	43%	28%
	SOC	444	3%	10%	20%	45%	23%
	CHE	48	3%	12%	19%	38%	28%
	PHY	21	*n.a.*	*n.a.*	*n.a.*	*n.a.*	*n.a.*
Region of origin (citizenship)	Europe (EU)	216	2%	8%	18%	44%	29%
	Europe (non-EU)	234	2%	7%	17%	47%	28%
	South Asia	163	1%	6%	18%	43%	32%
	East & South-East Asia	188	2%	10%	21%	49%	19%
	North America & Oceania	80	3%	5%	13%	57%	22%
	Middle East/Central Asia	126	0%	7%	17%	45%	31%
	Africa	167	3%	11%	20%	36%	30%
	Latin America	346	2%	9%	18%	38%	34%
Cohort	2019/2020	665	4%	10%	22%	40%	25%
	2015/2016	495	0%	9%	18%	45%	27%
	2010/2011	360	1%	6%	15%	46%	33%
education-empl. match	Double match	1.168	1%	5%	17%	45%	32%
	Only vertical match	104	1%	14%	20%	42%	23%
	Only horizontal match	154	2%	14%	25%	42%	17%
	Double mismatch	70	14%	29%	20%	31%	7%
	Total	**1.520**	**2%**	**8%**	**18%**	**44%**	**29%**

Source: EMJMD Graduate Impact Survey 2020/21, n = 1.520 graduates in employment at the time of the survey.

9 Glossary and Definitions

Alumni and **graduates** are terms used synonymously in this report. Both, in this report, refer to persons who successfully completed an Erasmus Mundus Joint Master Degree in one of the years 2010, 2011, 2015, 2016, 2019 or 2020 and received the Erasmus Mundus Scholarship during their studies.

Education-employment match indicates whether a graduates' field and level of education is adequate for their current job. Survey respondents in employment were asked whether their EMJMD programme was in a field relevant for their current job. Respondents were also asked to assess what level of education (Bachelor, Master, PhD) would be most appropriate for their current job. This information was compared to the respondents' highest educational level. Thereby, 4 main categories can be differentiated:

- **(full) match** when a graduate works in a job that requires both his/her own educational level and training in the field studied
- **(only) horizontal match** (and vertical mismatch) when a graduate is overqualified in terms of educational level (e.g., Bachelor/Master/PhD level), but works in a job that requires training in the field studied
- **(only) vertical match** (and horizontal mismatch) when a graduate works in a job requiring their level of education (e.g., Bachelor/Master/PhD level), but no training in the field studied (or requires no particular field)
- **(double/full) mismatch** when a graduate works in a job he/she is overqualified for and that does not require training in the field studied (or requires no particular field)

Jobs that do not require a particular field at all indicate a horizontal mismatch. Jobs that would require a *higher* level of education/training do *not* indicate a vertical mismatch.

Over-skilled/Under-skilled (skill discrepancy) describes the summarized difference between graduates' skills and the requirements of their current job. Each graduate in employment was asked to rate his/her own level for 9 employment-related skills on a 1-to-5-scale. For the same skills, respondents were asked to rate on a 1-to-5-scale the level required in their current job. Skills for which the graduates' own level was assessed higher than the required level were counted as over-fulfilled skill requirements, skills for which the graduates' level was assessed lower than the required level were counted as under-fulfilled skill requirements. The number of over- and under-fulfilled skill requirements was compared and categorized as follows:

- **Severely over-skilled:** Graduate's number of over-fulfilled skill requirements exceeds number of under-fulfilled skill requirements by 4 or more.
- **Rather over-skilled:** Graduate's number of over-fulfilled skill requirements exceeds number of under-fulfilled skill requirements by up to 3.
- **Number of over- and under-fulfilled skills balance out**: Graduates reported as many over- as under-fulfilled skill requirements.

- **All skills match job requirements:** Graduate assessed their own and the required level for each skill as the same.
- **Rather under-skilled:** Graduate's number of under-fulfilled skill requirements exceeds number of over-fulfilled skill requirements by up to 3.
- **Severely under-skilled:** Graduate's number of under-fulfilled skill requirements exceeds number of over-fulfilled skill requirements by 4 or more.

Region/country of origin is determined based on the self-reported first citizenship of graduates. Countries were categorized into 8 global regions based on geographic, socioeconomical and cultural closeness. For 44 graduates who did not report their citizenship, the country of birth was used for categorization instead. This approach assumes that the citizenship reflects best which region influences graduates' backgrounds.

Fields of study refer to the 8 official disciplinary fields to one of which every EMJMD programme is assigned. Programmes that may apply to multiple fields are assigned to their main field. Abbreviations and icons are used to refer to the fields throughout most of the report figures:

ENG – Engineering and information sciences

ENV – Environmental and geosciences

LIF – Life sciences

ECO – Economic sciences

MAT – Mathematics

SOC – Social sciences and humanities

CHE – Chemistry

PHY – Physics

10   List of Figures and Tables

11   Bibliography

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