



Working Paper  
2023:13

# Norwegian experiences with EuroGraduate 2022

Implementation and adaptation

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Elisabeth Hovdhaugen, Vegard Sjurseike Wiborg and Tora Kjærnes Knutsen

**NIFU**



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# Preface

The aim of this working paper is to give a description of how the Norwegian EuroGraduate team handled the implementation of EuroGraduate 2022 in Norway and to give a constructive evaluation of what worked well and less well in implementation and participation in the EuroGraduate survey 2022. The survey is an initiative to get a European graduate tracking mechanism initiated by the European Commission. Hence, this working paper focuses on presenting challenges experienced during the full-scale pilot-round of EuroGraduate, and providing suggestions for how these challenges can be overcome or dealt with in the next round.

The working paper is written by research professor Elisabeth Hovdhaugen, project leader for EuroGraduate 2022 in Norway; senior researcher Vegard S. Wiborg, who served as sampling manager for EuroGraduate 2022 in Norway; and senior researcher Tora K. Knutsen, who is part of the team implementing EuroGraduate 2022 in Norway.

The project is funded by the Norwegian Ministry of Education and Research. A fixed sum grant from the European Commission, given to all participating countries (upon formal application), has partly co-funded the project. An earlier version of this report has been read and commented upon by the current and former project leader of the Norwegian national graduate survey, Dr. Jannecke Wiers-Jenssen and Dr. Siv-Elisabeth Skjelbred, respectively. The final version has had English proofing by Joy Gabriella Davidsen, NIFU, and has been read by representatives for the Ministry of Education and Research and Norwegian Directorate for Higher Education and Skills.

Oslo, November 2023

Jannecke Wiers-Jenssen  
Head of Research, Higher Education



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# 1 Introduction

The EuroGraduate survey is an initiative from the European Commission to collect data on recent graduates from higher education (HE). A recommendation from the the Council of the European Union in 2017 stated that there were “concerns that higher education is not providing graduates with the knowledge, skills and competences that they need to thrive in a rapidly evolving educational and employment environment” (The Council of the European Union 2017). To get more insights into this potential discrepancy, there was a need to collect information about the transition from education to work as well as the labour market relevance of education, across the European Union. Following this, there was an initiative to collect information about the transition from education to work for higher education graduates, as well as the labour market relevance of higher education.

Consequently, a pilot survey, involving eight countries was launched in 2018, and a larger pilot survey, covering 17 countries, was launched in 2022. In both cases the running of the implementation was set out as a tender, and a consortium, led by the German Centre for Higher Education Research and Science Studies (DZHW), won the bid to run the survey.

As the research environment with the longest experience in running graduate surveys (as NIFU has run the National Graduate Survey since 1972), NIFU was assigned the responsibility to implement the EuroGraduate 2022 survey in Norway. One of the premises for Norwegian participation given by Norwegian Ministry of Education and Research was that participation should not interfere with the existing national survey, as keeping the current national time series was important. The option to keep national surveys was also important to the European Commission. At the same time, international comparison can provide countries with a benchmark to compare against and help explain differences and similarities across countries. This is one of the main reasons why the Norwegian Ministry of Education and Research decided that Norway would participate both in the first pilot in 2018, and in the second, larger pilot round in 2022.



## 1.1 The target populations in EuroGraduate

When conducting graduate surveys, one of the key tasks is to define the target population. Here, two key parameters are important for the definition: the number of years since graduation and the education level of those included. In EuroGraduate, it has been determined that graduates who had completed a bachelor's degree (ISCED level 6) and graduates who had completed a master's degree (ISCED level 7), or equivalent types of degrees, should be part of the survey. This is different from the Norwegian Graduate Survey which typically targets only master's degrees, and only occasionally includes graduates from bachelor's degrees. One of the main reasons why Norway traditionally does not include bachelor's degrees in the national graduate survey is that, within many fields of study, bachelor's graduates continue directly onto a master's degree. A study of the labour market outcomes of bachelor's graduates may therefore have limited value. However, within some fields of study it is more common to enter the labour market with this level of qualification, and a graduate survey within these fields could be valuable.

Existing graduate surveys across European countries differ in target populations with respect to the number of years after graduation. The European Commission decided that the target population should be graduates one year after and five years after degree completion (European Commission 2020). Hence, in the 2022 survey those who graduated in the 2016/2017 and 2020/2021 cohorts were part of the target population. This is different from the Norwegian graduate survey which typically targets graduates six months after and occasionally three years after graduation.

In sum, the decisions made on target populations for the EuroGraduate survey resulted in four target populations: bachelor's and master's cohorts of 2020/2021 and 2016/2017. Since a premise for the implementation of EuroGraduate in Norway was that it should not interfere with the implementation of the Norwegian graduate survey, which is run biennially (covering the cohort graduating in the spring semester of 2021), we did not invite master's graduates from 2020/2021. Instead, our plan was to adapt the Norwegian graduate survey with registry data to cover the objectives of the EuroGraduate survey afterwards. This process was difficult for several reasons, explained in section 3, and resulted in the 2021 master's cohort not being included in our data delivery to the consortium.

Table 1 displays which cohorts belonged to which group and when the different samples were surveyed.

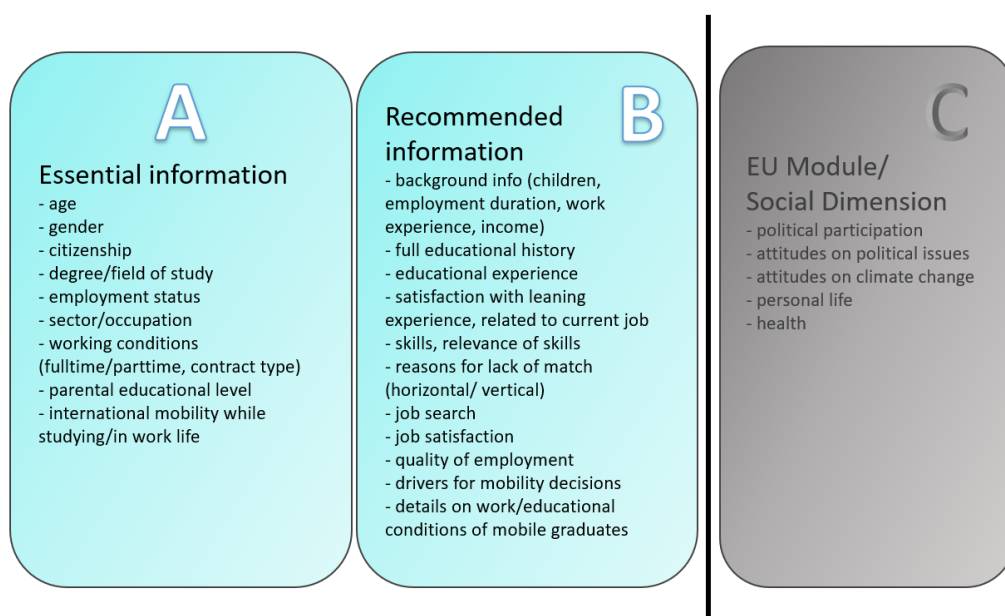
**Table 1: Overview of data collection**

Cohort	Undergraduate (ISCED 6)	Graduate (ISCED 7)
1 year after	BA 2020/21 (A2022)	MA S2021(A2021+ registry data)
5 years after	BA 2016/17 (A2022)	MA 2016/17 (A2022)

*Note: S= Spring semester, A= Autumn semester*

## 1.2 Survey content in EuroGraduate 2022

The content of the EuroGraduate survey can be divided into three parts, A, B, and C. As indicated in Figure 1, part A comprises key-information needed to be able to analyse the data (such as degree and field of study, as well as employment status, type of contract, if the job is fulltime or not, and various demographic background variables). Part B contains more in-depth information on education and employment, as well as skills and job satisfaction. The last part, C, focuses on the social dimension, covering issues not directly related to employment or education. The Ministry of Education and Research made the decision that Norway only should participate in part A and part B of the questionnaire (marked with colour in figure 1).



**Figure 1: Content of the three parts of the questionnaire**

*Source: Author's own adaptation of information from Recommendations of the expert group, Oct2018 – Oct2020, (European Commission 2020)*

## 1.3 Consortia linked to EuroGraduate 2022

When starting the process to implement the EuroGraduate 2022 survey, the European Commission launched a call for two types of consortia linked to the survey. One would be the consortium running the survey, the “implementation-consortium” (hereafter “I-consortium”), while the other consortium would be in charge of dissemination and information about the European Graduate Tracking Initiative in general. This latter consortium will, in this report, be labelled “dissemination-consortium”, hereafter “D-consortium”.

The I-consortium was appointed in early February 2022, after an EU-tender process. The I-consortium is led by Dr. Kai Mueleck, DZHW, and partners in the I-consortium are from DZHW in Hannover (Germany), Institute for Advanced Studies in Vienna (Austria), Research Center for Education and Labour Market (ROA) in Maastricht, (Netherlands) and cApStAn Linguistic Quality Control in Brussels, (Belgium).

The I-consortium is in charge of the practical parts related to the survey, such as the design of questionnaire, sampling plan, instructions/help with translating and adapting the questionnaire to the national language, and how to prepare the data for delivery to the common data storage in Germany. The I-consortium provided a handbook, covering stratification and implementation of the survey, and held monthly webinars to help countries progress in the project. All in all, the I-consortium provided an extensive support service throughout the project period.

The bid for D-consortium was won by a group headed by ICF, a policy consultancy firm. Their role is to support the Network of Graduate Tracking, a network created by the European Commission to support EU/EEA-countries with the implementation of the Council Recommendation on Tracking Graduates, adopted November 20<sup>th</sup>, 2017 (The Council of the European Union 2017). To support countries participating in EuroGraduate, they organise webinars with the objective of peer-learning and providing information about Eurograduate to more countries. The network also has a yearly annual meeting, where various topics concerning graduate tracking are discussed and where EuroGraduate progress is presented. At these meetings there are representatives for the 17 countries that participate in EuroGraduate 2022<sup>1</sup>, as well as countries that are not participating in this round.

On the one hand, having a forum for countries that are interested in the project, but are not currently participating can be beneficial for several reasons. The forum provides an arena for the dissemination of experiences from the EuroGraduate survey beyond the participating countries. Sharing experiences regarding national graduate tracking may also be beneficial for national graduate tracking. Moreover, due to the organisation of the consortiums in two separate entities, a country can decide to withdraw from the EuroGraduate survey, but not necessarily completely from the Graduate Tracking Initiative. The initiative can still serve as a valuable platform for exchanging experiences and knowledge regarding graduate tracking surveys among countries, through the D-consortium, as there always will be learning opportunities in international collaboration. As there still are substantial cross-country differences in the experience with running national graduate

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<sup>1</sup> Participating countries in the EuroGraduate 2022 survey are Austria, Bulgaria, Croatia, Cyprus, Czech Republic, Estonia, Germany, Greece, Hungary, Italy, Latvia, Malta, Norway, Portugal, Romania, Slovakia and Slovenia.

surveys, the D-consortium provide a valuable discussion arena for European countries.

On the other hand, from the point of view of a participating country as well as an active research environment with longstanding experience in conducting graduate surveys, there are several limitations to having two consortia, instead of one. Having one channel for communication and information provision could improve the mutual benefits of, and coherence between, discussions concerning the EuroGraduate survey as well as graduate tracking in general. As of now, meetings in the D-consortium often duplicate topics already covered in the webinars from the I-consortium.

Additionally, with the two consortia it is unclear which of them have responsibility to try to recruit more countries to join, or if this is a responsibility that lies with the European Commission. In EuroGraduate 2022 there are now missing several countries with long standing experience in running graduate survey, who participated in REFLEX: The Netherlands, Sweden, Spain, France, Finland, Estonia and Belgium (for more information on countries with graduate surveys and research done on these, see Allen and van der Velden 2011).

## **1.4 The structure of this working paper**

In this working paper, we document and discuss the implementation of EuroGraduate 2022 and point to how improvements can be made for future rounds of the survey. This is primarily addressed in section 3. We will also discuss how adaptations to accommodate both the Norwegian National Graduate Survey (from now on referred to as NGS) and EuroGraduate can be done. Thus, this working paper has two audiences, as general feedback to the Norwegian Ministry of Education and Research on the project, and as overall feedback to the European Commission and the consortium running the survey on what worked well and what should be considered changed for the next round of the survey.

## 2 Set-up and implementation of EuroGraduate 2022 in Norway

In this chapter, we will first describe the “regular” implementation of the survey, which was done according to the instructions from the I-consortium. Thereafter, we describe how data was collected for the MA-cohort graduating in 2020/21 as we had to make adjustments in order for EuroGraduate not to interfere with the implementation of the Norwegian National Graduate Survey (NGS).

Combined, these two separate data collections cover the four focus-cohorts in EuroGraduate: BA+1year, BA+5 years, MA+1year and MA+5 years.

### 2.1 Field of study groupings used in the surveys

All of the graduate surveys have to use a field of study classification. As these differ somewhat between the two surveys used, the NGS and EuroGraduate, these two classifications will be presented here.

Table 2 displays an overview of the fields of study normally used in NGS run by NIFU and how these match fields of study used by Statistics Norway (which follows the ISCED-fields classification, ISCED-F 2013).

**Table 2: Overview of fields of study usage**

Fields of study used by Statistics Norway (similar to/overlap with ISCED-fields)	Fields of study used in national graduate survey (NIFU)
Humanities and aesthetics	Humanities and aesthetics
Teacher education/pedagogy	Teacher education/pedagogy
Social science and law	Social science
	Law
Business and administration/economics	Business and administration/economics
Science and technology	Science
	Technology/engineering
Health, social and sports subjects	Health and social work
	Sports
Agriculture, forestry, fishery	Agriculture, forestry, fishery
Transportation and safety	Transportation and safety

The Statistics Norway overview has eight fields of study, while there are eleven fields of study in the NGS. The reason for some fields of study being divided into

more specific categories is that there are quite many students/graduates in these fields, and previous research has shown that they have somewhat different labour markets (Skjelbred & Nesje 2023).

The field of study-division used in EuroGraduate 2022 consists of 20 categories, listed in Table 3 below (see also Table 4 for sampling using the EuroGraduate 2022 field of study-division). This division is more specific than the one used in NGS, as well as the regular ISCED-fields of study. Hence, this may open up for challenges with small groups, an issue which is addresses in the next chapter, under 3.3.

**Table 3: Field of study used in EuroGraduate 2022, and common classification used in Norway (including number of graduates to illustrate importance of certain fields**

Fields of study used in EG22		Graduates in Norway 2020 - 21		
			BA-level	MA-level
0	Generic/unknown	0 Generic	111	0
1	Educational science	2 Teaching & Edu science	5794	2339
2	Teacher training			
3	Arts			
4	Humanities	1 Humanities	3100	1582
5	Languages			
6	Social sciences, journalism and information	3 Social science & Law	3975	2917
7	Psychology			
8	Business and administration	4 Business	6631	3493
9	Law			
10	Natural sciences, maths and statistics	5 Science & technology	5875	4831
11	ICT			
12	Engineering, manufact. and construction	- of which is Engineering	2877	2567
13	Architecture and town planning			
14	Agriculture/forestry/fishery/veterinary	7 Agri/forestry/fish/vet	233	139
15	Medicine/dental			
16	Health	6 Health & welfare	9155	2829
17	Pharmacy	- of which is Nursing	4153	
18	Welfare	- of which is Med/Dentistry		640
19	Services	8 Services	1245	309
		Total (N=54558)		

## 2.2 Implementation of the EuroGraduate 2022-survey in Norway

The implementation of EuroGraduate 2022, covering the three cohorts not overlapping with the cohort for the NGS (BA+1year, BA+5 years, and MA+5 years), started right after the project formally commenced in February 2022. This was around 9 months before the estimated start of the data collection, according to the original plan in the project.

The timeline of the process was as follows. When the project started in February 2022, no final decision had been made on the content of the questionnaire (Q). The Q was based on earlier used questionnaires (e.g. the one used in the pilot in 2018). Final decisions about the Q were made by the I-consortium. The first

version of the core Q was sent to the participating countries on April 13<sup>th</sup>, 2022, and a webinar was organized to present the Q on April 26<sup>th</sup> 2022. At the webinar, the structure of the Q was presented and there was some discussion, but with only limited opportunities for countries to discuss how different phrasings would work in their country. Additionally, when the Q was sent out to participating countries, it was expressed that “there is often very little leeway to change the wording of specific questions or items because they come from a certain source” (Email from Kai Muehleck, 13.04.2022). Hence, the opportunities for participating countries to influence the Q was quite limited.

Countries who had feedback were advised to provide written comments beforehand if they had any. As part of the NGS, Norway piloted some of the questions about work orientation and skills and thus delivered feedback on these items, as well as suggestions for an alternative item on skills prior to the meeting. This feedback was partly also presented at the webinar, in a shortened version. Only the items on work orientation were removed, while alternative items on skills were not considered. Hence, there were only limited possibilities for countries to influence what the Q should cover and how the questions were phrased.

The final version of the Q was sent to the participating countries on May 24<sup>th</sup>, with an adjoining webinar explaining the process of adaptation and translation. The countries were given about a week to make national adaptations concerning questions that would need to change with regards to the local schooling system, such as ISCED levels, the grading system, and the requirements for access to HE. Adaptions were then returned to the I-consortium for approval (deadline June 1<sup>st</sup> 2022). Simultaneously, the translation process started, and the translation was done in cooperation with cApStAn (who provided linguistic quality control).

In the final version of the Q, two questions on health had been added (which were originally the C-part in the Q, which Norway had decided not to be a part of). As we foresaw that this could cause problems in project approval, we decided that Norway would opt out on including these questions, as they were not part of the original set up of part A and B in the themes the Q should cover. After translating the other questions in the A and B section of the Q, we delivered the final version on June 29<sup>th</sup>, 2022. We received final confirmation that our translation was approved by cApStAn on August 1<sup>st</sup>, and then the programming of the survey started.

We programmed the survey in our survey software, SurveyXact, a process which was finished in October. Norway was originally planning to conduct the data collection according to the overall progress plan, starting in October 2022. However, the startup of data collection was delayed until December 18<sup>th</sup>, 2022. The reason for this was linked to information provided from the I-consortium on how data should be stored and processed once delivered to the database operated by DZHW. In the first version of the Handbook, sent out to participating countries on

September 9<sup>th</sup>, 2022, there was no mentioning of data storage. However, this was mentioned in an updated version, received September 21<sup>st</sup>, 2022. Thus, this had to be incorporated in the Norwegian data approval application quite late in the project. The three-way communication between the Norwegian Agency for Shared Services in Education and Research (SIKT), NIFU and the I-consortium resulted in a relatively long approval process with SIKT. This had implications for the approval from HE-institutions, with respect to retrieving the graduates' contact data. We will elaborate on these issues in chapter 3. The data collection period lasted for nine weeks, until February 12<sup>th</sup>, 2023.

### **2.2.1 Sampling and data processing**

How the sampling should be done in the survey was prescribed by the I-consortium, and countries received extensive information on how to do this well in advance. Countries could either use the cohort populations (census) or draw samples among eligible graduates. For Norway, we drew random samples from three of the populations: BA+1year, BA+5years and MA+5years. The sampling was stratified with respect to gender and field of study, following a stratification plan delivered by the I-consortium. We computed the sizes of the samples based on an expected response rate of 20 per cent. This is illustrated in Table 4 below. The implications of this way of sampling will be further commented on in section 3.

Each sample was invited to participate in the survey, and the survey was open from December 18<sup>th</sup>, 2022, to February 12<sup>th</sup>, 2023. In this period, four reminders were sent, in the following order: 1) email reminder, 2) text message reminder, 3) email reminder, and 4) email informing about the closing date of the survey. Overall, approximately 21 per cent of the invited graduates completed the survey (reached the last page), while about an additional 14 per cent provided answers to parts of the survey. There is clear advice that electronic questionnaires should not take longer than 30 minutes to complete (Brancato et al 2006:50, for more examples of a similar time-estimate, see Haraldsen 1999, Dillman 2007). Among the respondents who completed the survey in one session, the average completion time was 27.5 minutes (standard deviation of 21 minutes). This implies that quite a large group of respondents spent more than 30 minutes on the questionnaire.

Since the closing of the survey, data has been processed to align the Norwegian version of the dataset with the survey data from other countries. The processing was performed by each country individually based on a common template provided by the I-consortium. This entailed redefinition of variables, identifying missing values, testing the plausibility of responses, and weighting based on the population, which was a very time-consuming process. The first processed version of the dataset was sent to the consortium on June 11<sup>th</sup>, 2023.



**Table 4: Sampling plan, size of cohort and size of sample, example cohort completing a degree in 2016/2017**

Field of study	Overall number of cases		Proportion in sampling	
	BA	MA	BA	MA
Generic/unknown	170	0	170	0
Educational science	451	878	451	567
Teacher training	2434	561	800	400
Arts	1107	519	400	400
Humanities	776	459	400	400
Languages	445	203	445	203
Social sciences, journalism and information	2200	2366	400	400
Psychology	484	392	484	392
Business and administration	3673	1426	400	400
Law	357	1169	357	400
Natural sciences, mathematics and statistics	1001	983	400	400
ICT	1460	657	607	541
Engineering, manufacturing and construction	2813	2204	800	400
Architecture and town planning	51	217	51	217
Agriculture, forestry, fisheries and veterinary	203	198	203	198
Medicine/dental	86	716	86	400
Health	5586	983	800	527
Pharmacy	82	117	82	117
Welfare	1421	169	610	169
Services	1823	390	400	390

## 2.3 Implementation of the National Graduate Survey (MA+1)

A key challenge in Norway's participation in Eurograduate 2022 was that those who graduated with a master's degree in the spring of 2020 were part of the target population both for the national graduate survey and for the EuroGraduate survey. Since it is important for the Norwegian Ministry of Education and research that EuroGraduate does not interfere with the NSG, an important objective of the project was to find a way to accommodate EuroGraduate, while not interfering with the time-series of the NGS. The Norwegian EuroGraduate-team had to be creative in finding a solution for how data could be collected to serve the purpose of EuroGraduate's needs, at the same time as the NGS's needs were preserved. The solution was to incorporate questions from the EuroGraduate survey into the NGS. Moreover, as the NGS is conducted at an earlier point in time than the EuroGraduate survey, information about the education and labour market status, one year after graduation, should be retrieved from register data.

The data collection for the national survey was due in November-December 2021. As the Q for the EuroGraduate was not complete until spring 2022 it was not possible to implement the new Q. The intention was that the Q used in the Eurograduate 2022 would be very similar to the Eurograduate 2018-pilot. Therefore, we used this survey as the point of departure.

The EuroGraduate-team first conducted a comparison of overlapping questions in the NGS (consists of about 80-90 items), with the Q used in the EuroGraduate pilot (part A & B, as these were the two relevant parts for EuroGraduate 2022, about 300 items). After making this comparison, questions or items that were not covered in the NGS but were on the list of topics which should be covered by the European Commission, were included. This made the survey a bit longer than a regular graduate survey.

The survey was sent to all graduates who had completed a degree at ISCED level 7 (master's degree or integrated master's degree, as well as long professional degrees such as medicine/physician and theology/priest). Hence, the population used was the census of students completing a degree in the spring semester of 2021. The full population consisted of 11 302 graduates. The survey was sent to graduates at 27 HE institutions, and the response rate was 39 per cent (Eide et al 2022). This is a little lower than the response rate has been in earlier data collections of the NGS, which ranged mainly from 48 to 51 per cent (Støren 2018), apart from in 2019 when the response rate was 41 per cent (Eide et al 2022). What was common for all NGS- was that they had a shorter Q.

Data was collected using an online survey tool, SurveyXact, and data collection was conducted in the period November 25<sup>th</sup>, 2021, to January 15<sup>th</sup>, 2022.

The survey was sent to 11 291 respondents and 50.25 per cent of these opened the survey. However, not all responses were complete, and the analysis file consist of 4396 responses, which corresponds to a response rate of 39 per cent. Moreover, a randomized experiment showed that the opportunity to win a gift card had only a limited impact on the response rate (Eide et al 2022, p. 17).

### **2.3.1 Sampling and data processing**

To get contact data and some other background information on students, we obtained approval from the HE-institutions, and were given the following data from UNIT (the central system for student information used at institutions): Contact data, some background variables and study information. The contact data consisted of name, email address and phone number, and was at all times kept separate from the survey. This information was only used to get in contact with the graduates and was deleted upon closing the survey. The background variables consisted only of gender and year of birth, while the study information contained

more variables. Some of these variables were mainly describing the programme as such: name of programme, field of study coding of the programme, institution, and number of credits the programme consisted of. Other variables in this category described the student in the programme, such as year and month of degree completion, grades from upper secondary education (given that the student had applied through the central admissions system) and if the student had had a stay abroad during their studies. The reason for requesting this additional information was two-fold: being able to assess representativeness of the sample obtained relative to the population, but also making the Q shorter for the respondents.

One challenge of integrating the NGS was that information pertaining to the labour market as of November 2021 might have become obsolete by the time the Eurograduate was conducted in 2022. To address this issue and provide more comprehensive insights into educational and labour market outcomes relevant to the Eurograduate 2022, we sought to incorporate register data from Statistics Norway covering the individual's status per the autumn of 2022. However, for legal reasons described in section 3, this turned out not to be a possible solution for delivering data covering the MA + 1 year-cohort. Other efforts must, therefore, be done in the future, if it is desirable to conduct both the national survey and the EuroGraduate survey for this target population.

All the directly person-identifying data was deleted once data collection was completed in January 2022 (Eide et al 2022, p. 16-17). It requires explicit consent, given when the survey is conducted, to store directly person-identifying data such as name and email address, beyond the data collection period. This is not commonly asked for in Norwegian surveys, as it is seen as a violation of privacy regulations to keep person-identifying data longer than strictly needed. Hence, due to GDPR-regulations in Norway, it may be difficult to keep these data when the data collection is no longer ongoing. Additionally, as the wish to store directly person-identifying data beyond the data collection period was not stated until after the EuroGraduate 2022-project had started (September 2022), we did not have this condition in the information letter when the survey was sent out. Therefore, due to national interpretation of existing GDPR-rules, the European Commission's (or expert group's) suggestion that contact data from the degree completion+1year-cohort data should be kept for the next round of data collection is not a solution which is viable in Norway.

## 3 Challenges

This section will address issues and challenges which have occurred during the implementation of EuroGraduate 2022, or which are a result of the structure of the 2022-round of EuroGraduate. The main aim of the chapter is to draw attention to possible improvements for the next round. Therefore, we will mainly address issues which were not optimally solved this time around in the EuroGraduate project.

We will start the discussion by pointing to factors related to the actual survey, complications related to the preparation and implementation of the survey, and, finally, the processing of data. We will then move on to general challenges linked to EuroGraduate from a Norwegian perspective, such as the timing of the survey and which cohorts/groups it focuses on.

### Fixed framework conditions in international studies

There are some framework conditions which were fixed in the EuroGraduate 2022 survey, as it would be in any international comparative study. The EuroGraduate survey is developed and managed at a central level, through the I-consortium, while NIFU has been responsible for translating and conducting the national survey as well as cleaning the survey data for delivery to a EuroGraduate database. Some of this work could have been organised at a central level but was done locally this time around.

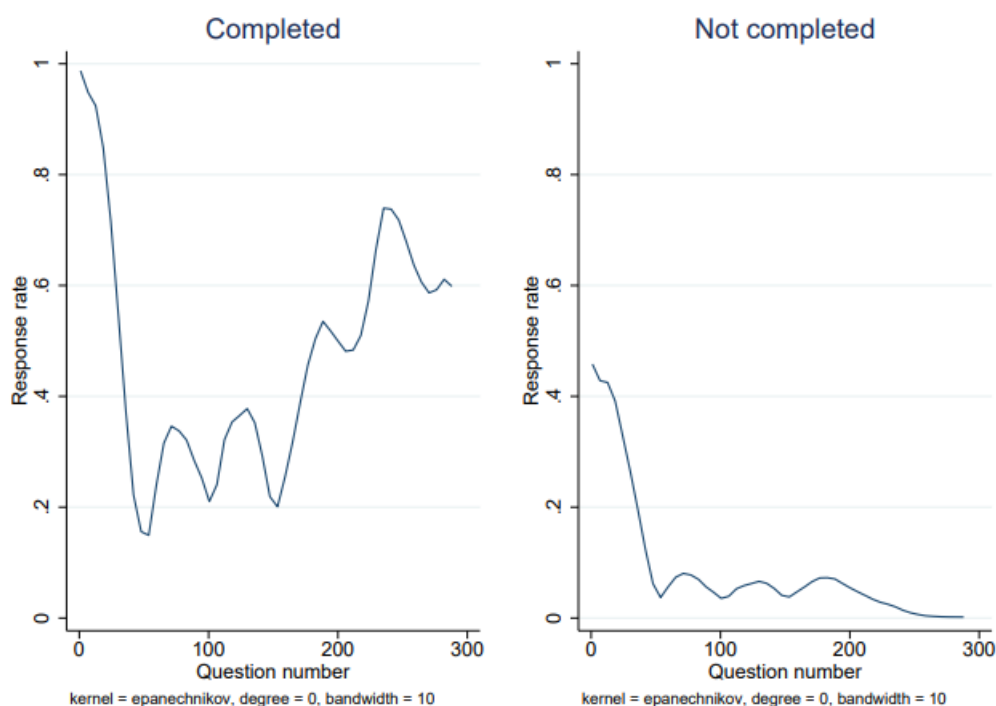
For the greater part, the support from the I-consortium to implement the study has worked well, despite the short time frame set from the European Commission due to late announcement of the tender. The survey's rapid development has allowed for little opportunity for feedback and discussion of the questionnaire with the I-consortium during this process. This led to some frustration among several participating countries, and there is room for improvement in how the process is handled in the next round. In our opinion, the European Commission should start the process of implementing the EuroGraduate 2026 survey at least two years ahead of data collection.

### 3.1 Long and complicated questionnaire

The questionnaire used in the EuroGraduate-survey is extensive and covers many topics. Countries that chose to do two (A+B) or three parts (A+B+C) all ended up with a lengthy questionnaire. Research suggests that expected length of a survey may have implications for initial willingness to participate, and there are indications that response quality deteriorates throughout the survey (Galeki and Bosnjak, 2009). Hence, the length of the Eurograduate survey may, in itself, have hindered participation in the survey, rendering low response rates.

The EuroGraduate questionnaire consisted of over 300 items (A+B). In comparison the Norwegian graduate survey usually consists of 80-90 items. In general, NIFU considers the EuroGraduate survey overly long and complex, which is evident from both the feedback provided by respondents upon completion of the survey, and the high drop-out rate (partial missing) observed (around 15 percentage points) among those who started the survey.

Figure 2 gives an illustration of the dropout rate of respondents during the survey. It shows the share of non-missing values for each variable in the dataset in chronological order. The right graph concerns the respondent who did not complete the survey and, for reference, the left one uses data on respondent who did complete it. For presentational purposes, the lines are smoothed and, thus, do not represent the response rate on *each* individual variable – that is, spikes and drops are averaged out.



**Figure 2: Share of non-missing values on all variables, by completion status.**

The left panel shows a dip in the share of valid values between variable 50 and 150. This is primarily due to routing. Routing means that the answer to question 1 determines whether you get question 2. Hence, many provide answers early in the survey that render later questions irrelevant. Questions between 50 and 150 were only asked to people who either had had an international mobility experience or had taken a vocational degree prior to starting HE.

The same pattern is present in the right panel, displaying a dip in the share of non-missing values around question 60. However, unlike the left panel, the share of non-missing values does not increase and, while it stays somewhat constant until variable 200, it plummets afterwards. This suggests that respondents who may have been willing to complete a shorter and less intricate survey became discouraged the further they filled out the questionnaire.

The extensive length of the questionnaire may also have affected its structure. It is worth noting, that as respondents reach the later stages of the survey, they tend to discontinue their participation. This leads to a lack of responses concerning background variables, which were positioned towards the end of the questionnaire. On one hand, this poses challenges for the quality of the endline data, as the background variables play an important role in ensuring the validity of our observations and facilitating subsequent analyses. On the other hand, if these questions were placed in the beginning of the survey, the potential for partial missing (by

lack of information) about educational history and employment may increase, as these are the first questions in the core questionnaire used in EuroGraduate 2022.

In conclusion, we suggest that reducing the questionnaire's length should be a clear priority in future rounds of EuroGraduate. One effective approach to achieving this is by narrowing down the survey's primary objectives. Instead of aiming to map the entire educational history from upper secondary education until the job at present, one should work on defining a specific set of objectives for the EuroGraduate data collection which points to a narrower scope than the one posted by the expert group. This would result in a more focused questionnaire and potentially a shorter one. Another effective approach would be to ask questions in a less detailed way. Currently, quite a few sections in the core questionnaire are very comprehensive (for example on wages five years ago, or how many hours a week you worked five years ago), which then in turn places a heavy burden on the respondent. Additionally, there may be benefits to relocating the section on background characteristics to an earlier spot in the questionnaire to ensure valid responses to these important questions. This adjustment would help maintain the usefulness of answers coming from respondents who drop out later in the survey.

## 3.2 Data processing

The coordination of data processing within the I-consortium has been highly effective, with precise information consistently provided. Nonetheless, there is a potential to enhance resource efficiency, for the project as a whole, through a more centralised approach to processing certain data components. Naturally, such a centralisation might also require more resources centrally.

The I-consortium supplied data processing guidelines shortly after the data collection phase was completed. These guidelines included written instructions for data processing, Excel files detailing each target variable (i.e., the intended structure of the dataset), and syntaxes for the statistical software SPSS. The actual data processing phase went smoothly. However, a minor challenge arose because the provided statistical software syntax did not align with the software used by our team at NIFU (Stata). This difference in software usage also concerned other countries. Consequently, we adopted a dual approach, initially processing the data using one software (Stata) and later incorporating the I-consortium's provided syntax (in SPSS) to finalize the dataset.

In addition to the software compatibility issue, there are additional compelling reasons to consider centralizing at least certain aspects of the entire process of data processing after data collection. Firstly, it would likely result in reduced overall project costs by eliminating duplication of effort. For instance, it would prevent situations where Country A and Country B independently develop the same code.

Secondly, despite the I-consortium's provision of highly detailed data processing guidelines, there may still be variations in interpretation and application across different countries. For instance, determining the validity of observations may leave room for individual data processors to exercise some discretion which may result in variations across countries. In turn, such discretion may affect the comparability data. In the EuroGraduate 2018-pilot data collection and cleaning was centralised and, thus, all decisions on how to treat validity of observation were done centrally.

Naturally, there were national adaptations, and various countries utilised different survey software platforms. Consequently, achieving full centralisation of the process from beginning to end might be challenging. One viable approach to address this challenge would be that each country handles the initial processing of data to ensure uniformity across all participating nations. Following this, the consortium could collectively process the data at an earlier stage than in this round, with input from each country regarding nation-specific considerations.

### **3.3 Stratification into small groups by field of study**

In terms of the quality of the data and national useability of the results, we would like to address the chosen field of study-division (grouping of graduates into 20 different groups according to field of study, see table 3) used in EuroGraduate 2022. When processing the data after data collection we realised that this particular field of study-division may have some disadvantages in a Norwegian context.

As mentioned, the field of study-division used in EuroGraduate 2022 consists of 20 categories, which is quite many categories compared to other commonly used classifications (for example broad ISCED-fields 2013). Additionally, to ensure an adequate number of respondents for the subgroup analysis, EuroGraduate 2022 mandated sampling by field of study, gender, degree level and cohort. From a Norwegian perspective, grouping of fields of study separately for bachelor and master levels presented several issues. Firstly, the grouping of fields of study used in EuroGraduate 2022 did not align well with the Norwegian education system. This discrepancy was particularly noticeable in cases where certain degrees, such as medicine and architecture, only exist at the master level, while others, like nursing, has a limited number of master graduates (see table 2). Still, the two were stratified both at the master and bachelor level. Consequently, the categorization of fields of study within the Norwegian context became less adequate.

Secondly, certain groups were very small, particularly long professional degrees such as architecture, medicine/dentistry, and pharmacy. Given the relatively small population of Norway, some field of study strata comprised fewer than 100 individuals (as shown in table 2). Considering the relatively low response rate, at



around 20 per cent, some fields were at risk of having fewer than 20 respondents based on the recommended sampling plan.

Furthermore, the subgrouping of fields of study in EuroGraduate did not adhere to any international standard for the classification of fields of study. This may pose challenges when attempting cross-survey comparisons. It is worth noting that EuroGraduate utilized 20 groups of fields of study, whereas the internationally recognized ISCED classification for organizing education programs employs only 10 groups. The field of study classification used in EuroGraduate was primarily based on the German system, potentially limiting its applicability in a broader European context. Additionally, dividing the data into many categories does not work well for small countries with fewer respondents in total (in actual numbers). Among the 17 countries participating in EuroGraduate 2022, Norway is a “mid-sized country”, as there are quite many small countries participating. This is, therefore, likely relevant for other countries too.

While there have been some challenges related to the categorisation of fields of study in the Norwegian case, common definitions are important for comparability of data across countries. One way forward could be to simply use the traditional, broad ISCED fields of study to gain more general validity at the cost of the level of detail.

### **3.4 The use of administrative data**

The objective of integrating administrative data into the European Graduate Tracking Initiative, as proposed by the Council of the European Union (2017), can be a promising way of alleviating survey burden on graduates, and potentially shortening the EuroGraduate survey. As detailed in Chapter 2, NIFU originally planned to use register data as part of the delivery for MA+1, however, there were a number of obstacles preventing this solution.

There is a pressing need for an increased understanding of data protection legislation (GDPR) across the countries participating in the Eurograduate project. Primarily, this understanding is crucial to map out the next Eurograduate survey in due time. It is essential to clarify the objectives concerning the information the European Graduate Tracking Initiative aims to collect about graduates and the capacity to provide it. Resolving these issues ahead of the next project cycle will enhance predictability, and potential for countries to participate with registry data.

Sharing of registry data across country borders, particularly in the form of microdata, has always been difficult. This has not become easier with the implementation of GDPR across Europe. In this regard it is important to note that the Council of the European Union (2017) recommendation to use administrative microdata pre-dates the implementation of GDPR. Consequently, the legal boundaries for

sharing of data should be investigated more thoroughly before the next round of EuroGraduate. There are limited benefits of discussing the usage of registry data if the storage format, as a common microdata file, actively prevents this, which at least is the case for Norway. Therefore, this issue is a challenge which needs to be solved at a higher level than the European Graduate Tracking Initiative. Given the existing GDPR-regulations, the Norwegian interpretation of the rules (from SIKT, the data protection services) suggests that there will not be extensive amounts of register data in “raw format” and, in particular, if individuals have not given consent to that type of data sharing. If the format instead had been indicators (aggregated data), administrative data could be used.

Based on our experiences at NIFU, the most feasible approach currently would be to deliver aggregated microdata in tables. While such tables may limit the flexibility for detailed conditional analyses, like regression analysis, and impose constraints on empirical analyses not originally envisioned, they can prove highly valuable for predefined objectives. These objectives might include analysing means and variances among different subgroups within each country and conducting cross-country comparisons. Additionally, by using tables instead of requiring countries to deliver microdata to a common database, countries which already have a NGS may be more willing to participate.

### **3.5 Privacy policy**

The European Graduate Tracking Initiative and the EuroGraduate 2022 survey would have benefited greatly from a more comprehensive coordination regarding the use of administrative data. Additionally, the lack of prior determination regarding the handling and storage of data after data collection (in a common file stored in Germany, at DZHW) had repercussions for the data protection evaluation process. Moreover, the purpose of the 10-year storage after project-completion was not clear at first.

A significant challenge concerning the evaluation of the project in the context of GDPR was the transfer and storage of data, which led to a somewhat longer data protection evaluation period compared to what is common for national projects. The I-consortium provided an initial assessment of GDPR-compliance in the project handbook, along with details about data storage, usage, and anonymisation, which proved to be greatly beneficial during the evaluation process. While all this information was necessary, additional information requirements arose as the process unfolded, particularly linked to the 10-year storage of data in Germany after completion of the project. Although all parties contributed information, the coordination of the information flow between the I-consortium, SIKT, and NIFU proved to be time-consuming.

In conclusion, a more extensive provision of information concerning data usage, transfer, and storage could have expedited the process. Additionally, this information should have been available earlier on in the project, preferably at, or even before the start. As previously mentioned, early communication about these matters is essential if it should be possible to integrate data from NGSs conducted before the EuroGraduate survey. That being said, experiences from the EuroGraduate 2022 should provide individual countries and the consortium with a better foundation for understanding information needs in future rounds.

### **3.6 Organisation of the project**

As earlier mentioned, the European Commission appointed two different consortia to handle EuroGraduate, the I-consortium to handle implementation (run by DZHW) and the D-consortium to handle communication and dissemination. As a participating country in EuroGraduate 2022, we feel that the use of two separate consortia with overlapping, but slightly different, missions is somewhat inefficient. The I-consortium has a clear mission and have handled support of the implementation of the survey well for participating countries. They have maintained the momentum of the project, which really was needed, considering the short period from preparation to implementation. However, the mission of the D-consortium is less clear and, in their meetings, a lot of the information communicated has already been received by participating countries (from the I-consortium). This means that a lot of the information is repeated. Therefore, for the future it may be wise for the European Commission to have one large consortium running the implementation as well as handling dissemination and general information on the project, as this would give a more efficient project organisation.

### **3.7 Conflicts between The EuroGraduate and the National Graduate Survey**

To participate in the Eurograduate survey, it was a prerequisite for Norway that it would not interfere with the NGS. As explained in section 1.1 and 2.2, a key challenge for Norway's participation in Eurograduate 2022 was that those who graduated with a master's degree in the spring of 2021 were part of the target population, both for the NGS and for the EuroGraduate survey. Because the NGS is conducted biennially and the intention is to conduct EuroGraduate every fourth year, this challenge will reoccur every time EuroGraduate is conducted.

While several participating countries in Eurograduate 2022 did not have a history of conducting graduate surveys prior to joining, Norway has longstanding experience with conducting a graduate survey targeting master's students six

months after graduation. The survey runs on the cohort graduating with a master's degree in the spring of uneven years (2017, 2019, 2021 etc), and it is distributed in November/December the year of graduation.

Accommodating the needs of both surveys simultaneously proved to be difficult. This was mainly due to decisions regarding EuroGraduate 2022, such as content of the questionnaire, its length and format of data storage, and particularly the timing of these decisions, which were made after data collection for the NGS. Primarily, when planning the EuroGraduate 2022-questionnaire, taking the EuroGraduate-pilot 2018 as a point of departure was not sufficient to ensure that the necessary data was collected. Secondly, the lack of information on data processing resulted in Norway not having asked for proper consent, and data for that cohort can thus not be delivered. This eventually led to data on the 2021 cohort of master's graduates being excluded from the EuroGraduate data.

Based on the decision that we would not survey the master's graduates again in the EuroGraduate survey of 2022 (to not generate survey-fatigue), our initial goal was to adapt the Norwegian Graduate Survey 2021 in such a way that we could, at least, provide some data on this cohort. There are, primarily, three reasons as to why we were not able to do so. Firstly, the questionnaire used in the Eurograduate survey was not ready and available in the autumn of 2021. This meant that parts of the design of the NGS was based on the questionnaire for the pilot survey of Eurograduate from 2018. However, in the end, as changes were made, this did not match the 2022 version of the EuroGraduate questionnaire. Secondly, we would not have been able to provide the consortium with information about these graduates' labour market outcomes in the fall of 2022. We did merge the NGS with registry data on outcomes from Statistics Norway, but due to GDPR and national statistics regulations<sup>2</sup>, we were not allowed to export these data outside of Norway. Thirdly, specific information about how data from the EuroGraduate survey of 2022 would be used, processed, transferred, and delivered, was not available in 2021. This posed a challenge for the privacy policy evaluation of the NGS, and the consent asked for does not cover storage of data in a common database for 10 years after project completion.

To address these issues in future surveys, we suggest dividing the group of overlapping graduates and administer the EuroGraduate survey to one group while conducting the Norwegian Graduate Survey with the other. Using the Norwegian Graduate Survey of 2021 as an example, this would entail only inviting a random sample of master's graduates to participate in the survey (half of the cohort), while the other half would have been surveyed in the fall of 2022, along with

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<sup>2</sup> National statistics regulations state that administrative data, from registries, only are on loan for a limited time period, and it is not allowed to transfer microdata out of the country (Statistikkloven §14).

the other three cohorts in focus in EuroGraduate. On one hand, the disadvantage of this approach is that we do not get a census of graduates, which the last six surveys have had since 2013, but, on the other hand, the population of master's graduates is now so large, it will still render large enough groups to conduct most field of study specific analyses. It will only be a problem in small programmes such as Architecture, Pharmacy and Agriculture/Forestry/Fishery, and these groups are rarely analysed separately in the current NGS.

## 4 Lessons learned and ways forward

The EuroGraduate survey has the potential to improve our understanding of HE and labour market outcomes for HE-graduates within the European Economic Area through the opportunity to benchmark and conduct comparative analyses of graduate outcomes. However, the effectiveness of these efforts relies on consistent and high-quality data. When doing surveys, getting high quality data is essential, particularly high response rates, as pointed out in the methods literature, for example by Dillman (2007) in his *'Total Design Method'*.

In total EuroGraduate 2022 only had an average response rate of 20 per cent. The Norwegian data collection of the core questionnaire also rendered a response rate of 20 per cent, which is less than half than the response rate commonly obtained in the Norwegian NGS. In order for the EuroGraduate to approach comparative quality as the NGS, response rates need to be significantly improved.

There are several ways to achieve better response rates. One way would be to reduce the number and complexity of questions. Making questions less complex, for example by asking for “main activity in a week” rather than letting all activities count (as an individual can be working and studying at the same time, but their identity is either as a student or as an employee) and ask about all of them. The first approach would drastically reduce the response burden of the respondent. Additionally, the questionnaire can be shortened by cutting some topics and questions. However, this would probably require either the European Commission or a new expert group to agree on what should be prioritised and what can be cut out. Countries currently participating in EuroGraduate could probably also contribute constructively to this, as they have experience in working with the current data. Moreover, it is important, when choosing items/questions, to reflect on the fact that many respondents answer via their phone (particularly if text messages are used for reminders) and the questionnaire setup has to work as well on a small screen as it does on a large screen. This may have implications for the inclusion of questions originally designed to be asked in a paper questionnaire. These types of questions may be rendered obsolete due to technological developments.

The EuroGraduate currently has 17 participating countries, but more countries usually attend the meetings organised by the D-consortium. Hence, there may be

a potential for extending the survey to more countries, which is also the aim of the whole project (see European Commission (2020:21), stating that the aim of the next round of the survey should be to cover 80 per cent of countries in the European Education Area). Each country's governments makes the decision on country participation. Making the EuroGraduate an attractive project is thus important. One of the aims of suggesting possible improvements which can be done to the survey is to help ensure that more countries will want to participate, and that current participants will want to continue.

There are also possible points of improvement in the running of the survey, based on the experiences we have had so far in EuroGraduate 2022. A longer preparation phase is needed. Less than one year, the preparation time for this round of EuroGraduate, was not sufficient and it should be extended to at least two years. A longer project period would also open up for more country engagement in working on the questionnaire, which can also contribute to getting countries more engaged and invested in the survey. While we did have one meeting where countries could provide feedback on the proposed questionnaire to the I-consortium, the late project start, and thus tight timeframe limited the opportunity for extensive revisions.

High predictability is also vital for other aspects of the project. Firstly, it allows for the development of a survey that effectively serves its purpose and remains relevant for all participating countries. According to Brancato et al (2006:28) "designing the questionnaire before defining the concrete aims and setting up the total survey design is to be avoided: it will result in high response burden for respondents, long data checking and less valid and reliable data". Hence, it is important that the aims of the survey are well defined and specified beforehand, as this contributes to a better survey. Secondly, time is of the essence when it comes to reviewing the privacy policy implications of the project, and this should possibly be done by legal professionals. This aspect is significant, not only for the data collection itself, but also because data transfer between countries can become complex, and poor or insufficient handling of privacy issues may effectively hinder data sharing.

It is of the essence that all framework conditions surrounding the survey (questionnaire, sampling and privacy policy considerations) are established before project start, so they can be clearly communicated at project start. This is particularly critical for countries conducting their own national surveys, as they would require guidance on how to align their survey with the EuroGraduate survey. It would, for instance, be important for planning purposes if Norway were to participate in the next round and then choose to go for the alternative of surveying half of the master's graduates from 2024/25 in the autumn of 2025 (national survey) and the other half in 2026 (as a EuroGraduate-sample). In that case, having early

information about the sampling procedures intended for 2026 would be very valuable. While this may not necessarily impact the NGS in 2025, which must operate independently, it does allow for potential adjustments if needed.

In conclusion, we suggest the following main points for improvements:

- A longer preparation phase is needed, at least two years before survey is due to be collected.
- Major framework decisions in the project, such as questionnaire, sampling and data storage after completion must be stated at project start, so countries know what they have signed up for, and can plan accordingly.
- Work to improve response rates has to be prioritised, as response rates have been low in the pilot-surveys.
  - A shorter questionnaire is probably the quickest and best way to better response rates.

The EuroGraduate-project has the potential to generate very interesting comparative data, which can inform policy, both at a national and a European level. However, in order to achieve this, the survey has to be focused on high quality comparable data, with reliable response rates. This type of focus in the project would also contribute to making the project attractive for countries who have not yet signed up to participate.



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