



## **PNN PhD Survey**

# **Asking the relevant questions**

## **PhD arrangements, Graduate Schools and Reasons for doing a PhD**

**Promovendi Netwerk Nederland**

[www.hetpnn.nl](http://www.hetpnn.nl)

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## Contents

Summary .....	2
PhD arrangements.....	2
Graduate schools.....	2
Reasons to pursue a PhD.....	3
Recommendations .....	4
Samenvatting .....	5
Typen promotietrajecten .....	5
Graduate schools.....	5
Redenen om te promoveren .....	6
Aanbevelingen .....	7
Introduction .....	8
Methodology.....	8
General variables.....	8
Type of institution .....	8
Type of PhD arrangement .....	8
Discipline.....	9
PhD Phase.....	9
PhD Arrangements.....	10
Types of PhD arrangements .....	10
Universities.....	10
University Medical Centers.....	12
Project duration.....	13
Types of institutions.....	14
Type of PhD arrangement .....	15
Formal hours per week .....	15
Type of institution .....	16
Type of PhD arrangement .....	17
Dubious contracts .....	17
Tasks during the PhD trajectory .....	19
Type of institution .....	19
Type of PhD arrangement .....	20
Source of funding.....	21
Type of institution .....	21
Discipline.....	22
Graduate schools .....	24
Graduate school registration .....	24
Following courses .....	25
Satisfaction with courses .....	26
Training and supervision plan .....	27
Go/no-go assessment.....	29
Conference funding.....	30
Who pays for conferences.....	32
Reasons to pursue a PhD .....	34
Gender differences .....	34
Type of PhD arrangement.....	35
Discipline .....	36

## Summary

### PhD arrangements

- 72.4% of the PhDs in the survey are employee PhDs. The share of employee PhDs is in our survey larger in University Medical Centers (UMCs) (84.6%) than at universities (70%) or other types of institutions (52.6%).
- 17.5% of the PhD at universities in our survey are scholarship PhDs. 5.5%-point of them are university-funded, and 12%-point are externally funded. In the survey, scholarship PhDs are relatively more often found at universities (17.6%)
- Only 4.9% of the PhDs at universities did not end up in the right PhD category when following the decision tree designed by the Association of Universities in the Netherlands (VSNU). When using the decision tree, employee PhDs relatively often incorrectly classify themselves as university employees doing a PhD (in Dutch: *promoverende medewerker*).
- The most common type of job titles for PhDs at UMCs are physician-researcher (25.9%) and researcher in training (oio, 51.4%). 5.2% of PhDs who are medical doctors are unjustly hired as researcher in training.
- The most common project duration of PhD projects is 4 years (72.6%). Project durations shorter than 4 years are relatively more common at UMCs (25.6%).
- The mean number of hours PhDs should formally work per week is 35.9. 69.1% of the PhDs work 36 hours per week or more, 17.6% of the PhDs work less than 36 hours per week. 12.2% of the PhDs indicate that they have no formal number of hours per week they are required to work on their PhD project.
- 40-hour work-weeks are most common at universities, while 36-37-hour work-weeks are most common at UMCs. Scholarship PhDs and external PhDs most often do not have a formal number of hours per week they need to work on their project (44.1% and 62% respectively).
- The results in this survey imply that 16.7% of the employee PhDs at universities have a dubious contract: a contract shorter than four years, or a contract of four years for less than 36 hours per week. Though the share of dubious contracts decreased from 20% to 16% between 2016 and 2017, this decrease has slowed down since, as 14.7% of the PhDs of the 2019 cohort still have dubious contracts.
- The main tasks of PhDs are doing research (99.5%), taking courses (80.9%) and teaching (61.6%). External PhDs less often indicate that they have to take courses or teach than employee PhDs and scholarship PhDs.
- Most PhD projects in the survey are funded from the second flow of funding (40.6%), followed by the first flow of funding (26.9%) and third flow of funding (13.4%). Projects funded from more than one type of funding are less common.
- There are large differences between disciplines in the source of the funding of PhD projects. PhD projects in Law are most often funded from the first flow of funding, while PhD projects in Humanities are most often funded from the second flow of funding. Projects in Medical and Health sciences are relatively more often funded from the third flow of funding.

### Graduate schools

- 7% of PhDs in this survey is not registered in a Graduate School, another 8.2% does not know whether they are registered in a Graduate School. External PhDs and 'other' types of PhDs (not employee PhDs or scholarship PhDs) are relatively more often not registered in a Graduate School (8.9% and 11.7%). PhDs doing their PhDs at other types of

institutions (not universities or UMCs) are also more likely to not be registered, as well as PhDs in Economics and Business.

- Only 1.8% of the PhDs in this survey are not allowed to follow courses. This is relatively more often the case for PhDs outside universities or UMCs, external PhDs, and PhDs in Economics and Business.
- On a scale of 1 (very dissatisfied) to 5 (very satisfied), PhDs rate their satisfaction with the courses offered by their Graduate Schools a 3.54. 57.6% of the PhDs indicate that they are satisfied or very satisfied with the courses. PhDs from Agricultural sciences are most satisfied with the courses, PhDs from Law are least satisfied with the courses.
- 85.6% of the PhDs prepared a training and supervision plan, while 11.6% had not. 88.5% of the PhDs who are registered in a Graduate School had prepared a training and supervision plan, compared to 63.1% of the PhDs who are not registered in a Graduate School. External PhDs relatively often did not prepare a training and supervision plan, as well as PhDs in Law.
- 77.9% of the PhDs have had or will have a go/no-go assessment. Go/no-go assessments are least common among external PhDs and 'other' types of PhDs, and PhDs in Medical and Health Sciences.
- 76% of the PhDs is able to get funding to go to conferences. External PhDs most often indicate that they cannot get funding to go to conferences (30.4%). If PhDs can get funding, the institution itself most often pays for the conferences (64.8%).

### **Reasons to pursue a PhD**

- The most common reasons for doing a PhDs are
  - Because they like doing research (76.2%)
  - Personal development (63.8%)
  - Because they were interested in the subject of the PhD project (56.8%)
- 42.6% of the MD PhDs indicate that they are doing a PhD to get into a specialisation track, while 24.6% of all PhDs indicate that they do a PhD to get into academia.
- Men relatively more often indicate to pursue a PhD for personal development, to improve their career prospect or to get into academia. Women more often indicate to be interested in the subject of the project or, for MDs, to get into a specialisation track.
- PhDs in Law relatively more often indicate to do a PhDs to get into academia, while PhDs in Agricultural science relatively often indicate they want to contribute to solving a specific problem.

## Recommendations

- Universities should dissuade the provision of dubious contracts by enforcing the collective labour agreement. The results in this survey show that the number of PhDs working under contract terms that go against the collective labour agreement for universities is effectively even higher than research has found before. This asks for strong commitment from central university HR departments in order to track down departments that might be offering dubious PhD contracts and to urge them to keep themselves to the agreements in the collective labour agreement.
- A negative deviation from (the equivalent of) a four-year fulltime contract should only be allowed in exceptional cases and under very strict conditions. A shorter trajectory is only realistic if:
  - It lasts for a minimum of 3 years.
  - The (research) master's thesis was written at the same institution.
  - The PhD thesis is written under the supervision of the supervisor who also supervised the (research) master's thesis.
  - The thesis builds on the subject of the (research) master's thesis.

If any of these criteria is not met, any deviation from the standard PhD contract duration is likely to disadvantage the PhD.

- Ensure that quality assurance mechanisms for PhD's are in place. This means that all PhDs should:
  - Be registered properly in Graduate Schools, regardless of type of PhD arrangement.
  - Have a training and supervision plan, to be made at the start of the PhD trajectory.
  - Be allowed to follow courses offered by the Graduate School, without having to pay extra for these courses.
  - Be able to get funding to go to conferences.
- As not all PhDs aim to pursue a career in academia, there should be more attention for alternative career options during the PhD trajectory. PNN recommends all Graduate Schools to implement proper PhD career training courses that also prepare for careers outside academia.

## Samenvatting

### Typen promotietrajecten

- 72,4% van de promovendi in de survey zijn werknemerpromovendi. Het aandeel werknemerpromovendi is in deze survey hoger in UMC's (84,6%) dan aan universiteiten (70%) of andere typen instellingen (52,6%).
- 17,5% van de promovendi aan universiteiten in onze survey zijn beurspromovendi. 5,5% daarvan is gefinancierd door de universiteit zelf en 12% is extern gefinancierd. In deze survey komen beurspromovendi relatief vaak voor aan universiteiten (17,6%).
- Slechts 4,9% van de promovendi aan universiteiten is niet in de juiste promotie categorie terechtgekomen volgens de beslisboom voor typen promovendi van de Vereniging van Nederlandse Universiteiten (VSNU). Werknemerpromovendi classificeren zichzelf relatief vaak ten onrechte als promoverende medewerkers.
- De meest voorkomende functietitels voor promovendi in UMC's zijn arts-onderzoeker (25,9%) en onderzoeker in opleiding (oio, 51,4%). 5,2% van de promovendi die arts zijn, zijn ten onrechte aangesteld als onderzoeker in opleiding.
- De meest voorkomende duur van promotietrajecten is 4 jaar (72,6%). Een aanstelling korter dan 4 jaar komt relatief vaker voor in UMC's en bij overige soorten promotietrajecten (25,6%).
- Het gemiddelde aantal uren dat promovendi formeel per week moeten werken is 35,9. 69,1% van de promovendi werkt 36 uur per week of meer, 17,6% van de promovendi werkt minder dan 36 uur per week. 12,2% van de promovendi geeft aan dat ze geen formeel aantal uren per week moeten werken aan hun promotietraject.
- Werkweken van 40 uur komen het meest voor op universiteiten, terwijl werkweken van 36-37 uur het meest voor komen op UMC's. Beurspromovendi en buitenpromovendi hebben meestal geen formeel aantal uren per week dat ze aan hun project moeten werken.
- De resultaten van deze survey wijzen erop dat 16,7% van de promovendi aan universiteiten een dubieus contract heeft: een contract van minder dan vier jaar, of een contract van vier jaar voor minder dan 36 uur per week. Hoewel het aandeel dubieuze contracten tussen 2016 en 2017 is afgenomen, is deze afname de laatste jaren vertraagd: nog steeds heeft 14,7% van de promovendi van cohort 2019 een dubieus contract.
- De belangrijkste taken van promovendi zijn het doen van onderzoek (99,5%), het volgen van cursussen (80,9%) en het geven van onderwijs (61,6%). Buitenpromovendi geven minder vaak aan dat zij cursussen moeten volgen of les moeten geven dan promovendi in loondienst en beurspromovendi.
- De meeste promotietrajecten in de survey worden gefinancierd uit de tweede geldstroom (40,6%), gevolgd door de eerste geldstroom (26,9%) en de derde geldstroom (13,4%). Projecten die uit meer dan één soort financiering worden gefinancierd, komen minder vaak voor.
- Er zijn grote verschillen tussen de disciplines in de financieringsbron van promotietrajecten. Promotietrajecten in de rechtswetenschappen worden meestal gefinancierd uit de eerste geldstroom, terwijl promotietrajecten in de geesteswetenschappen meestal worden gefinancierd uit de tweede geldstroom. Projecten in de Medische en Gezondheidswetenschappen worden relatief vaak gefinancierd uit de derde geldstroom.

### Graduate schools

- 7% van de promovendi in dit onderzoek is niet geregistreerd bij een Graduate School, nog eens 8,2% weet niet of ze wel geregistreerd zijn bij een Graduate School. Buitenpromovendi en overige soorten promovendi zijn relatief vaak niet geregistreerd bij

een Graduate School. Promovendi die aan een ander type instelling promoveren (niet universiteit of UMC) worden ook vaker niet geregistreerd, evenals promovendi bij Economie en Bedrijfskunde.

- Slechts 1,8% van de promovendi in dit onderzoek mogen geen cursussen volgen. Dit is relatief vaker het geval voor promovendi buiten universiteiten of UMC's, buitenpromovendi en promovendi in Economie en Bedrijfskunde.
- Op een schaal van 1 (zeer ontevreden) tot 5 (zeer tevreden) beoordelen promovendi hun tevredenheid over de door hun Graduate Schools aangeboden cursussen met een 3,54. 57,6% van de promovendi geeft aan tevreden te zijn over het cursusaanbod. Promovendi in Landbouwwetenschappen zijn het meest tevreden met de cursussen, promovendi in Rechtswetenschappen zijn het minst tevreden met de cursussen.
- 85,6% van de promovendi heeft een opleidings- en begeleidingsplan opgesteld, terwijl 11,6% er geen heeft. 88,5% van de promovendi die bij een Graduate School zijn ingeschreven, had een opleidings- en begeleidingsplan opgesteld, tegenover 63,1% van de promovendi die niet bij een Graduate School zijn ingeschreven. Buitenpromovendi hebben relatief vaak geen opleidings- en begeleidingsplan opgesteld, evenals promovendi in Rechtswetenschappen.
- 77,9% van de promovendi heeft een go/no-go-beoordeling gehad of zal die nog krijgen. Go/no-go-momenten komen het minst vaak voor bij buitenpromovendi en overige soorten promovendi, evenals bij promovendi in de Medische en Gezondheidswetenschappen.
- 76% van de promovendi is in staat om financiering te krijgen om naar conferenties te gaan. Buitenpromovendi geven meestal aan dat ze geen financiering kunnen krijgen om naar conferenties te gaan (30,4%). Als promovendi wel financiering kunnen krijgen, krijgen ze die meestal van hun instelling zelf (64,8%).

### **Redenen om te promoveren**

- De meest voorkomende redenen om te promoveren zijn
  - Omdat respondenten graag onderzoek doen (76,2%)
  - Persoonlijke ontwikkeling (63,8%)
  - Omdat ze geïnteresseerd waren in het onderwerp van het promotietraject (56,8%)
- 42,6% van de promoverende artsen geeft aan te promoveren om in een specialisatietraject te komen, terwijl 24,6% van alle promovendi aangeeft te promoveren om in de academische wereld te komen.
- Mannen geven relatief vaker aan te promoveren voor persoonlijke ontwikkeling, om hun carrièreperspectief te verbeteren of om in de academische wereld te komen. Vrouwen geven vaker aan geïnteresseerd te zijn in het onderwerp van het project of, in het geval van artsen, om kans te maken op een specialisatieplek.
- Promovendi in Rechtswetenschappen geven relatief vaker aan te promoveren om in de academische wereld te komen, terwijl promovendi in Landbouwwetenschappen relatief vaak aangeven een bijdrage te willen leveren aan het oplossen van een specifiek probleem.



## Aanbevelingen

- Universiteiten zouden het gebruik van dubieuze contracten voor promovendi moeten ontmoedigen door de cao af te dwingen. De resultaten van de survey laten zien dat het aandeel promovendi dat onder voorwaarden werkt die afwijken van de cao nog hoger is dan eerder onderzoek aangaf. Dit vraagt een sterke inzet van HR-afdelingen om te achterhalen welke afdelingen dubieuze contracten aanbieden en hen aan te sporen zich te houden aan de afspraken uit de cao.
- Een negatieve afwijking van (het equivalent van) een vierjarig fulltime contract zou alleen bij hoge uitzondering moeten worden toegestaan, onder zeer strikte voorwaarden. Een korter promotietraject is alleen realistisch als:
  - Het traject minstens drie jaar duurt.
  - De (onderzoeks-)masterthesis aan dezelfde instelling is geschreven.
  - Het proefschrift begeleid wordt door dezelfde persoon die ook de (onderzoeks-)masterthesis heeft begeleid.
  - Het proefschrift voortbouwt op het onderwerp van de (onderzoeks-)masterthesis.

Als aan één van deze criteria niet wordt voldaan, zal een negatieve afwijking van de standaard promotieduur van vier jaar de promovendus zeer waarschijnlijk benadelen.

- Zorg ervoor dat alle kwaliteitswaarborgen voor promovendi worden toegepast. Dat betekent dat alle promovendi:
  - Goed worden geregistreerd bij een Graduate School, ongeacht het type promotietraject
  - Een opleidings- en begeleidingsplan opstellen aan het begin van hun promotietraject
  - Cursussen kunnen volgen bij hun Graduate School, zonder dat ze daarvoor moeten bijbetalen
  - Financiering kunnen krijgen om naar congressen te gaan.
- Aangezien niet alle promovendi streven naar een carrière in de wetenschap, zou er meer aandacht moeten zijn voor alternatieve carrières tijdens het promotietraject. PNN beveelt alle Graduate Schools aan om goede carrière trainingen voor promovendi op te zetten die ook voorbereiden op carrières buiten de wetenschap.



## Introduction

Starting a PhD is a big step in an academic career. However, not all PhDs write their dissertations under the same conditions. First of all, large variation exists between the various types of PhD arrangements, offering some PhDs relatively good employment conditions while others have to write their dissertations without a formal employment contract or in their free time. Furthermore, the integration of PhDs into Graduate schools and the engagement of Graduate Schools in PhD trajectories may differ both between and within academic institutions, resulting in some PhDs getting more guidance than others. Finally, PhDs differ in the reasons why they are pursuing a PhD in the first place: for some, it is a crucial step to advance in academia, others consider it to be a form of personal development.

This report presents the results of the PNN PhD survey regarding the characteristics of the PhD arrangements, PhDs' integration within Graduate Schools, and the reasons why PhDs chose to do a PhD.

## Methodology

In all analyses, we will only present results for the respondents who have completed the survey with having less than six central questions missing (n=1,601). More information about this criterion can be found in the [PNN Survey report on Survey information, demographics and COVID-19](#).

### General variables

#### *Type of institution*

The respondents were asked at what kind of institution they were doing their PhD. The respondents could choose between University, University Medical Center, non-University Medical Center, Research institutes connected to Universities, Independent research institutes, Universities of Applied Sciences and Other. For those who answered "Other, namely..." and provided an open answer (n=22), we analysed the answers to see whether their institution could be categorized into one of the existing categories. This was the case for 9 respondents.

Due to the small numbers the categories other than University and UMC, we will use a 3-group classification of type of institution when discussing other survey results. In this classification, we combine the categories university and research institution affiliated to a university into one category, keep a separate category for University Medical Centers, and combine the independent research institutes, non-University Medical Centers, Universities of Applied Sciences and other into one category, labelled 'Other'.

#### *Type of PhD arrangement*

The type of PhD arrangements was measured using a complex procedure which allowed to capture the large variation in PhD arrangements that exist in the Dutch academic system. For this purpose, different classification questions were used for different types of institutions. These institution-specific typologies were subsequently combined into one overall typology of PhD arrangements. A detailed account of this procedure can be found in the PNN Survey report on Survey information, demographics and COVID-19.

We use several PhD typologies in this report. The central PhD typology used is the overall PhD typology that distinguishes between "Employee PhDs", "Scholarship PhDs", "External PhDs" and "Other" types of PhDs. When the results focus on PhDs from Universities (from the three-group classification of type of institution), we will present results from the original university typology, that consists of the categories "Employee PhD", "Employee pursuing a PhD", "University funded Scholarship PhD", "Externally funded scholarship PhD", "Externally funded PhD" and "External PhD". When the results focus on University Medical Centers, we will use the UMC typology of no less than 16 categories. A detailed account of this typology can be found in the PNN Survey report on Survey information, demographics and COVID-19.

### ***Discipline***

We asked all PhDs in which discipline they are doing their PhDs. We used the HOOP-classification of disciplines. A significant share of the PhDs chose the option ‘Other, namely’ (6.4%). We analysed the responses to this item, and though some disciplines were indeed hard to classify (35%), many could be easily classified in one of the eight categories. We therefore manually assigned these PhDs to the matching discipline.<sup>1</sup> We only present the results for the PhDs who were classified in the eight categories, the results for PhDs in the categories “Other” and “Prefer not to say” are omitted.

### ***PhD Phase***

We have asked the PhDs in which year and in which month they started with their PhD projects. For the sake of calculating the duration of the PhD trajectory so far, we assumed that the project started on the first day of that month. We calculated the duration of the project by subtracting the start date from the date on which the PhD filled in the survey. These results were subsequently categorised into year groups. Those who were in their sixth or more year were combined into one category.

The methodologies concerning subject-specific variables will be elaborated in the results section.

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<sup>1</sup> An overview of which types of fields have been classified manually can be requested from the authors.

## PhD Arrangements

### Types of PhD arrangements

To get a grasp of the types of PhD arrangements in the Dutch academic system, we use the overall typology of PhD types and present these results for all PhDs together, as well as separately per type of institution (figure 1.1). The results show that 72.4% of the PhDs in our survey indicate to be employee PhDs. The second largest group are the scholarship PhDs, with 14.2%, with the Other types of PhDs coming in third, with 8.2%. Least represented in our survey are the External PhDs (4.9%).

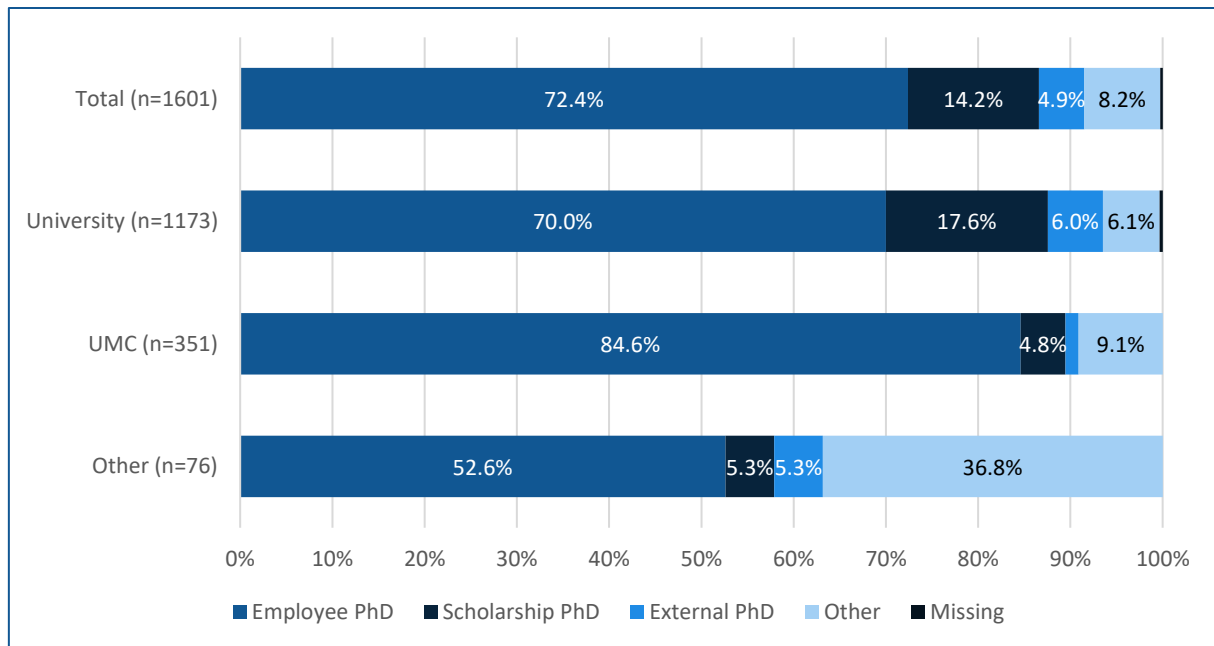


Figure 1.1: Types of PhD arrangements, total and per type of institution. % External PhDs at UMCs: 1.4%

There also exist quite some differences between the types of institutions in the type of PhDs that have responded to the survey. For instance, 84.6% of the PhDs from UMCs are employee PhDs, compared to 70.0% at universities and 52.6% at other types of institutions. At universities, we observe relatively a lot of scholarship PhDs, while other types of PhDs are much more common at other types of institutions, indicating that the less traditional types of institutions are often also accompanied by the less traditional types of PhD arrangements.

### Universities

As the largest number of PhDs in our survey do their PhD trajectory at a university, we zoom in more on the types of PhD arrangements that can be found in universities. These are depicted in figure 1.2. As we had already seen, the largest group of PhDs are employee PhDs (70.0%). The second largest group are the PhDs with an external scholarship (12%). The third group are the external PhDs (6.4%), followed by the university scholarship PhDs (5.5%). Less frequently encountered in our survey are externally financed PhDs (3.4%) and employees doing a PhD (2.3%). In total, 72.3% of PhDs at universities are employed by the university.

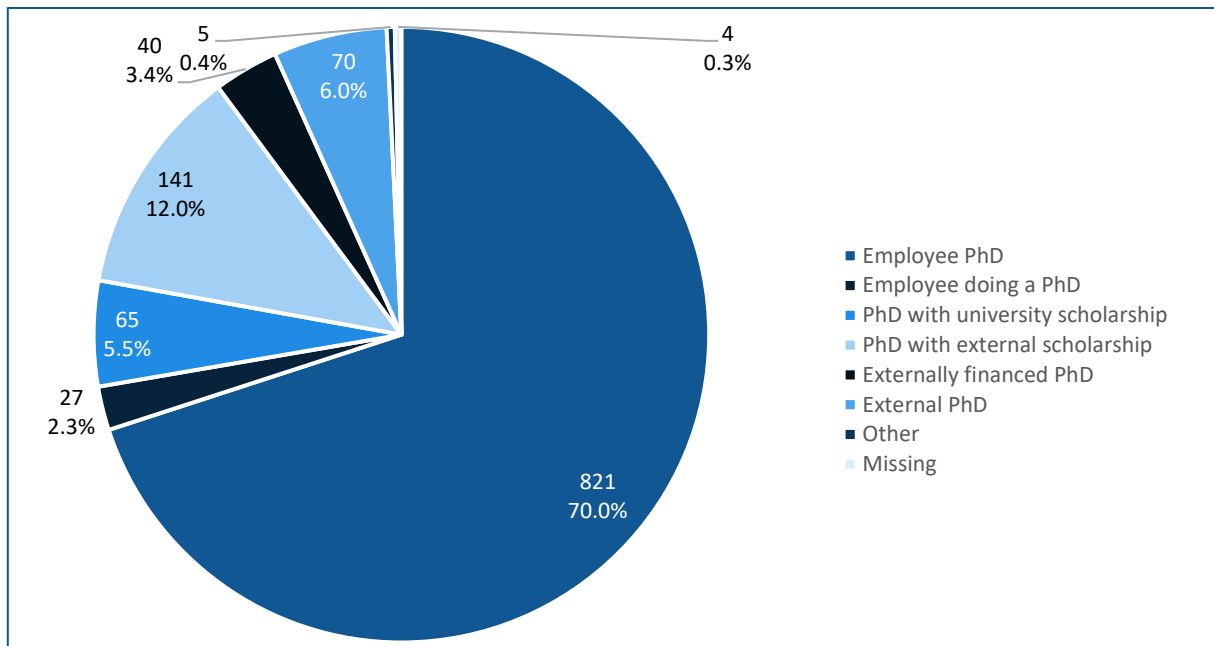


Figure 1.2: Types of PhD arrangements in universities (n=1,165).

### How well does the VSNU typology of university PhD arrangements work?

The university PhDs were classified using questions from a decision tree developed by the VSNU that allows for classifying PhDs into the six categories. After the respondents answered these questions, we showed them a short description of the PhD type they were classified in, and asked them to indicate whether they recognised themselves in that description. Here, we present the outcomes of all PhDs that were asked that question, regardless of whether they finished the survey.

Of the 1,319 respondents who were asked whether they recognized themselves in the classification, 6.1% indicated that they did not. These respondents were asked to select their PhD arrangement themselves. For this 6.1%, we compared the PhD arrangement they were classified in to the PhD arrangement they classified themselves in (Table 1).

**Table 1: Comparison of PhD arrangement classified in according to VSNU decision tree and PhD arrangement classified by respondents themselves (n=81).**

		Respondents' own classification							Total
		Employee	Employee doing a PhD	University scholarship	External scholarship	Externally financed	External	Other	
VSNU classification	Employee	5	2	1	9	2	0	0	19
	Employee doing a PhD	19	4	0	2	1	1	2	29
	University scholarship	1	0	2	1	0	0	1	5
	External scholarship	2	0	0	3	0	0	0	5
	Externally financed	3	1	0	2	0	1	0	7
	External	2	3	2	2	3	3	1	16
	Total	32	10	5	19	6	5	4	81

On the diagonal, we observe that some who indicated to be wrongly classified, chose the same PhD arrangement when allowed to choose themselves (n=17). Excluding them, 4.9% of the PhDs was thus wrongly classified by the typology. In general, those originally classified as Employee doing a PhD indicate that this classification is wrong most often. The most common correction is the change from Employee doing a PhD to Employee PhD. An explanation for this may be that PhDs are not sure whether their UFO-profile is PhD candidate or not. When

answering “No” to that question out of insecurity, they are classified as Employees doing a PhD. Another common correction is the change from Employee PhD to External PhD. Given that PhDs have to work through the entire decision tree to be classified as employee, while the classification as external PhD can be made after answering “no” to the first question in the decision tree, this is a more surprising correction.

### University Medical Centers

In University Medical Centers, there is much more variety in the number of possible PhD arrangements, rendering the VSNU typology practically of no use in this context. We therefore created our own typology of possible UMC PhD arrangements. Figure 1.3 shows the variation in types of PhD arrangements that we observe in our survey. We have combined all types of residencies into one group to make the graph more readable.

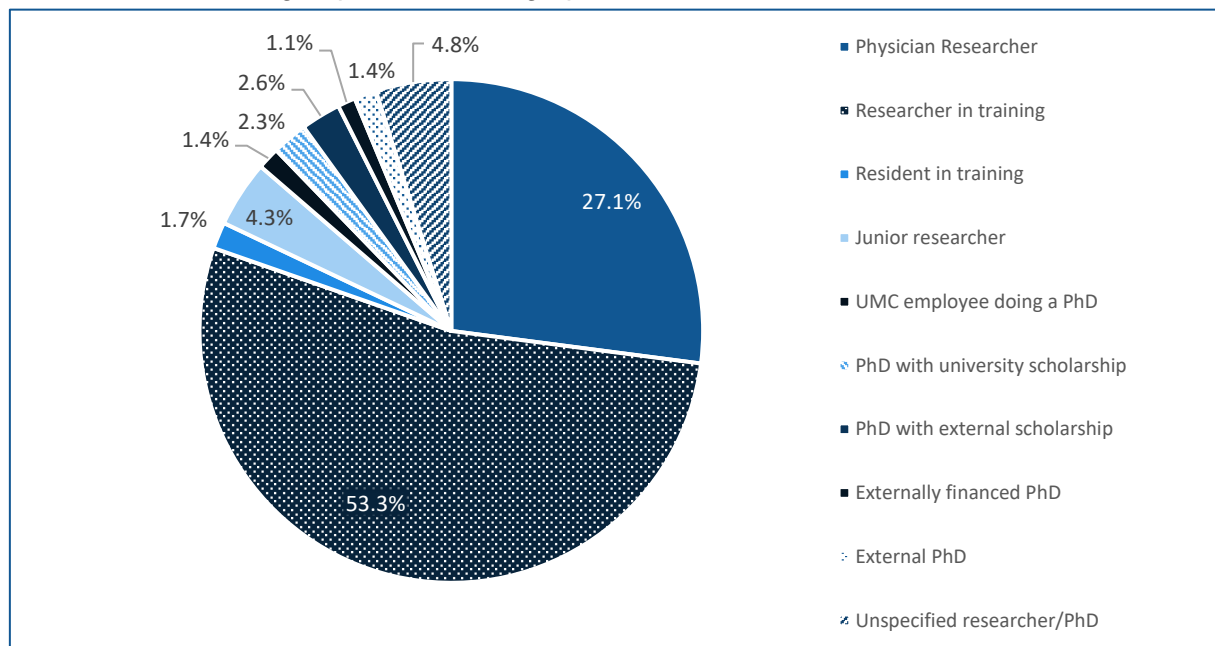


Figure 1.3: Types of PhD arrangements at UMCs (n=351).

Most PhDs at UMC’s in our survey are Researcher in Training (53.3%), followed at a large distance by Physician researcher (27.1%) The remaining quarter of PhDs have a large variety of arrangements, the most common one being Junior researcher. Three types of our original UMC typology do not occur in the data: Residents not in training (ANIOS), junior lecturers and student-assistants. For the last two types, this is a good sign, as PhDs should not be hired on these arrangements.

Though this gives a general image of all types of PhD arrangements in UMCs, there should be difference in PhD arrangements between PhDs who are Medical Doctors, and PhDs who are not. Figure 1.4 shows the PhD arrangements for Medical Doctors and not Medical Doctors separately.

For Medical Doctors, the collective labour agreement states that they should not be hired as researchers in training, but as Physician researchers<sup>2</sup>. As the results show, a large majority is also hired as such. However, 5.2% is hired as a Researcher in training, an arrangement that should not be used for Medical Doctors. The rest again is a largely mixed group.

<sup>2</sup> CAO universitair medische centra 2018-2020, article 17.1, section 2.  
[https://www.nfu.nl/img/pdf/19.9945\\_Umcs\\_Cao\\_umc\\_2018-2020\\_per\\_1-1-2020\\_v8.pdf](https://www.nfu.nl/img/pdf/19.9945_Umcs_Cao_umc_2018-2020_per_1-1-2020_v8.pdf)

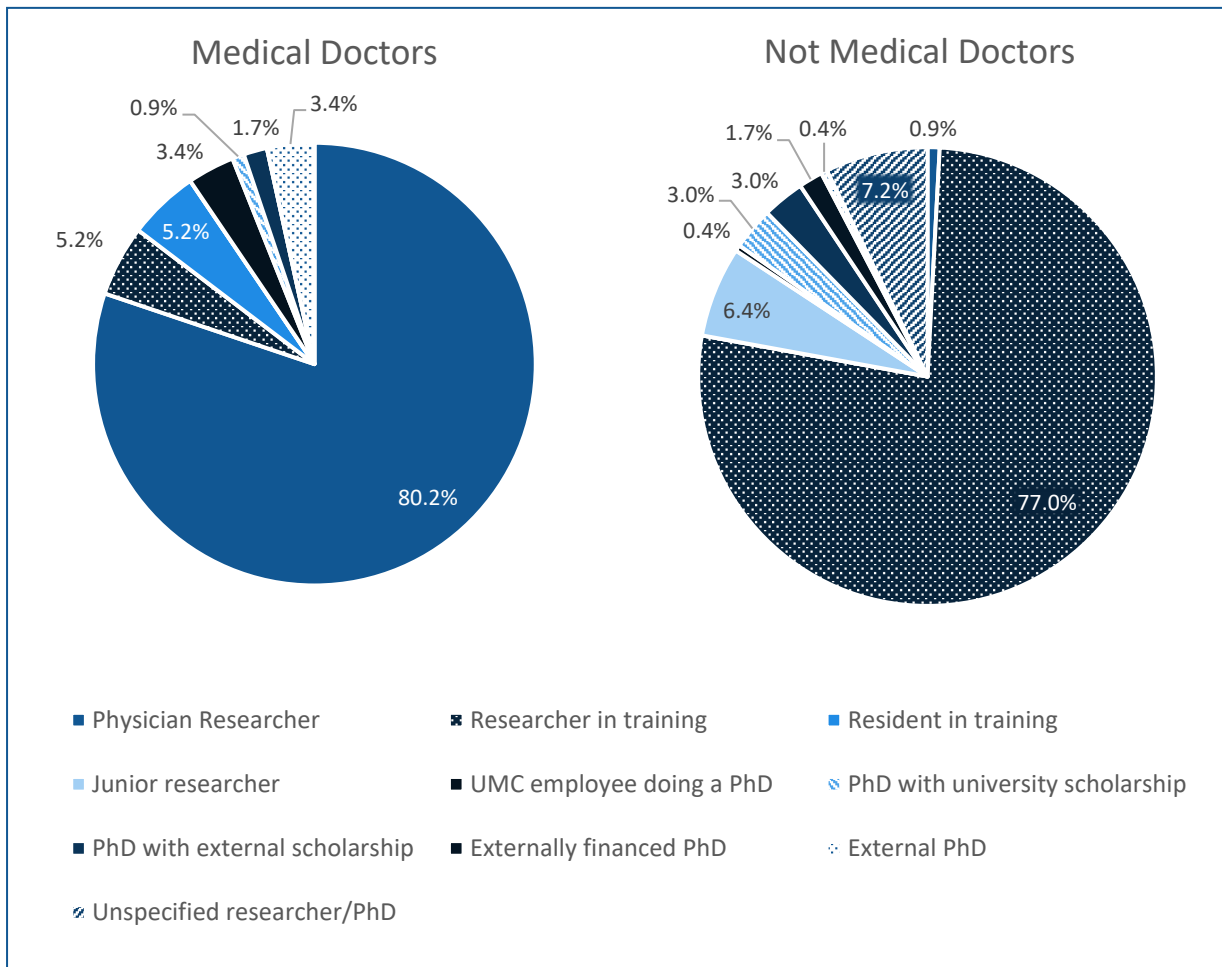


Figure 1.4: Types of PhD arrangements at UMCs, separately for Medical Doctors (n=116) and not Medical Doctors (n=235).

For PhDs who are not Medical Doctors, we see that the large majority is hired as Researcher in Training. At a very large distance, the second largest group is hired as a junior researcher. Relatively a lot of PhDs also indicate to be an unspecified category of PhD or researcher. Only two PhDs indicate to be hired as Physician Researchers, while such positions normally require being a MD.

### Project duration

According to the collective labour agreements of Universities, as well as the collective labour agreement of Research institutes, the default project duration of a PhD trajectory is four years. Even though four years should be the default, there is large variation in the duration of PhD projects. In the survey, the respondents were asked to indicate the official duration of their PhD project in months. These answers were recoded into duration in years and categorized per year.

The overall distribution of project durations can be found in figure 1.5. The majority of PhDs indeed has a project duration of 4 years. However, there is also a significant share of PhDs who indicate a shorter duration. 1.8% have a project duration between three and four years, 8.4% indicate to have a project duration of only three years, and another 2.7% indicate to have a project duration of less than three years. 12.9% of PhDs thus need to finish the project in less than four years. Next to this, 5.2% of the PhDs indicate that they have no set duration of their project.

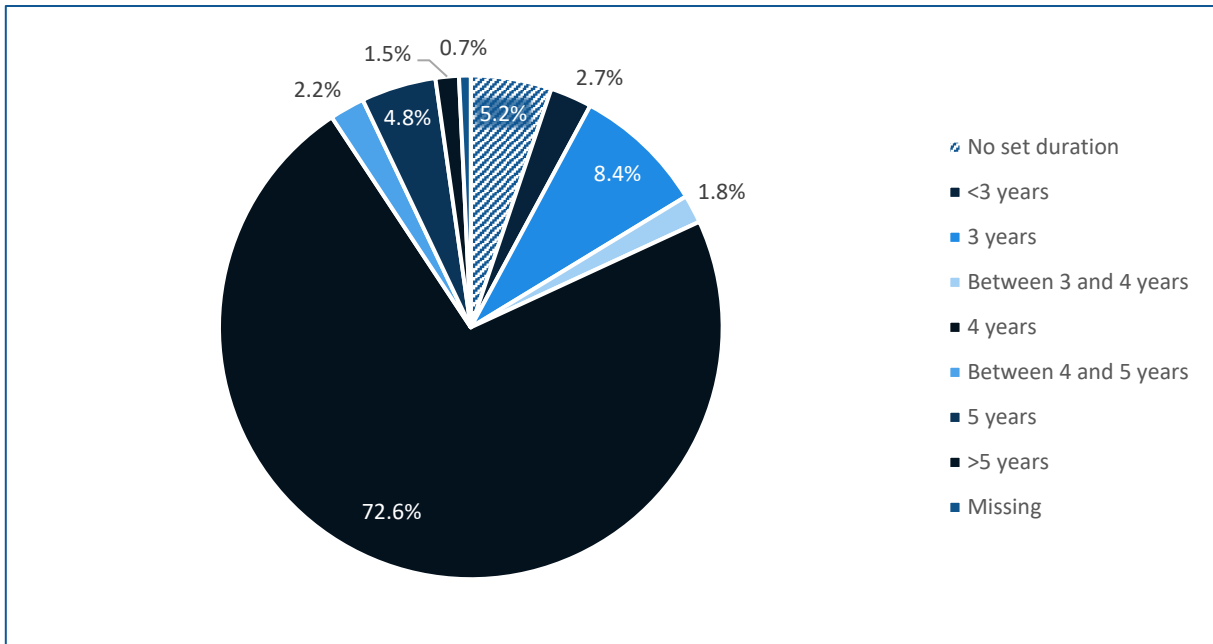


Figure 1.5: Responses to the question: “What is the official duration of your PhD project, in months?”, converted to project duration in years (n=1,601).

### Types of institutions

The project duration varies per type of institutions as well (figure 1.6). Though at all institutions the four-year project is most common, there are more of them at universities. At University Medical Centers, there are relatively a lot of three-year projects (16%), while at other types of institutions, both the projects without a set duration as well as projects with a duration of five years are relatively more common. At universities and other types of institutions, respectively 9.3% and 10.5% of the PhD projects have duration shorter than four years. At University Medical Centers, this percentage is much higher, at 25.6%. This is likely due to the fact that the four-year duration is not formalized in the collective labour agreement of UMCs.

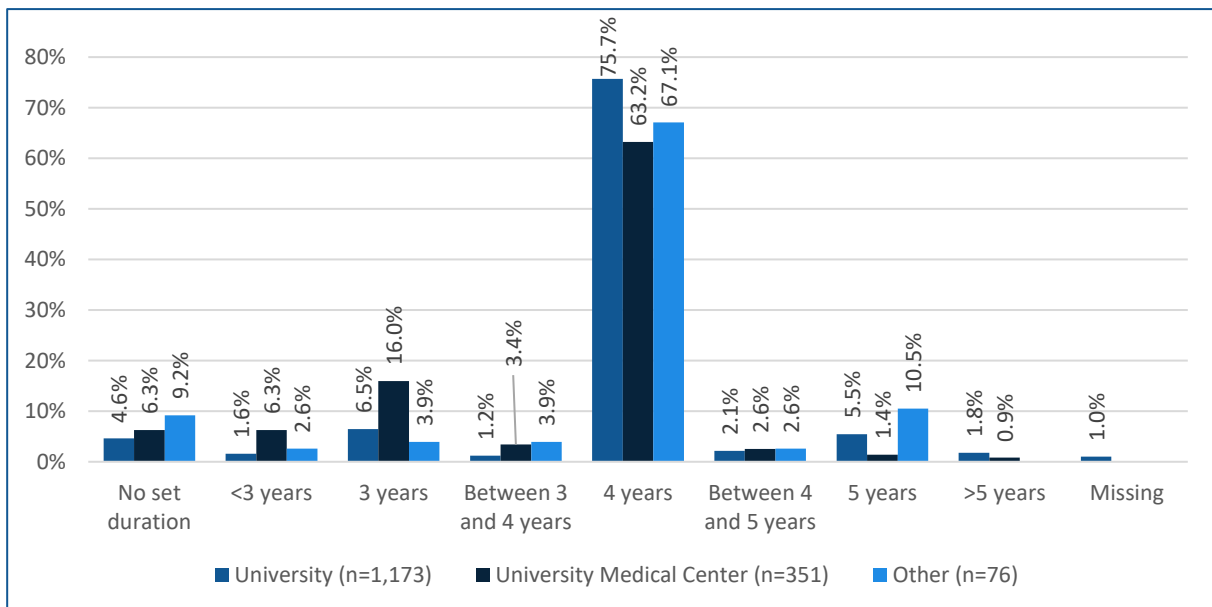


Figure 1.6: Project duration in years, per type of institution.



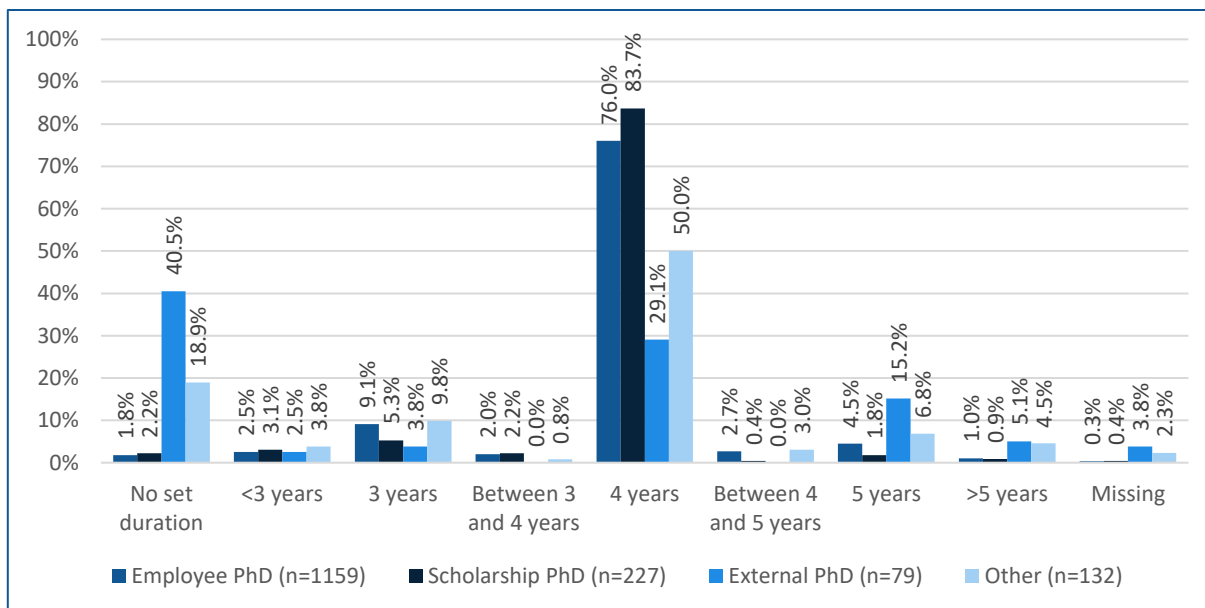


Figure 1.7: Project duration in years, per type of PhD arrangement.

### Type of PhD arrangement

Large differences in project duration can also be found between the types of PhD arrangements (figure 1.7). Where many employee PhDs and scholarship PhDs have projects with a four-year duration, this is much less common amongst external PhDs. Here, the largest group has no fixed duration of their project. As external PhDs do their projects in their own time, this is not surprising. Amongst external PhDs, we also see a relatively large share of projects lasting five years or even more than that. For other types of PhDs, most have a four-year project, but also there it is common to not have a set duration of the project.

Focusing on projects that are explicitly shorter than four years, this is most common for other types of PhDs (14.4%), followed by employee PhDs (13.6%), scholarship PhDs (10.6%), with it least frequently occurring for external PhDs (6.3%), but that is mostly due to the common absence of project durations.

### Formal hours per week

Next to the duration of the project, we also asked the respondents how many hours per week they should work on their project according to their agreement. A lot less work can be done in four years if the PhD does not work fulltime. Therefore, projects should be extended proportionally when PhDs work less than fulltime. PhDs who did not have a formal number of hours they had to work weekly were asked to fill in 0.<sup>3</sup> For the visualisation, the responses to this question were recoded into categories.

The mean number of hours that PhDs should formally work on their project weekly (excluding PhDs who do not have such a requirement) was 35.9, with a standard deviation of 6.86, with a mode of 40. The distribution of the hours per week can be found in figure 1.8. Half of PhDs indicate to have to work 38 to 40 hours per week, of which 35.7-point indicate exactly 40 hours. Another 19.2% indicate to have to work 36-37 hours per week and 7.2% indicate to have to work exactly 32 hours. Defining part-time as working less than 36 hours per week, 17.6% of the PhDs work part-time. 12.2% of the PhDs furthermore indicate that they do not have a formal number of hours they should weekly work on their PhD projects.

<sup>3</sup> Some individuals filled in a decimal number using a comma instead of a point as decimal separator. These were not recognized as decimal numbers by the survey programme, resulting in formal weekly working hours per week often exceeding the total number of hours in a week. These were recoded to the assumed right decimal number (e.g.: 288 was recoded to 28.8, as 28.8 was also an answer provided by other respondents who did use a point as decimal separator).

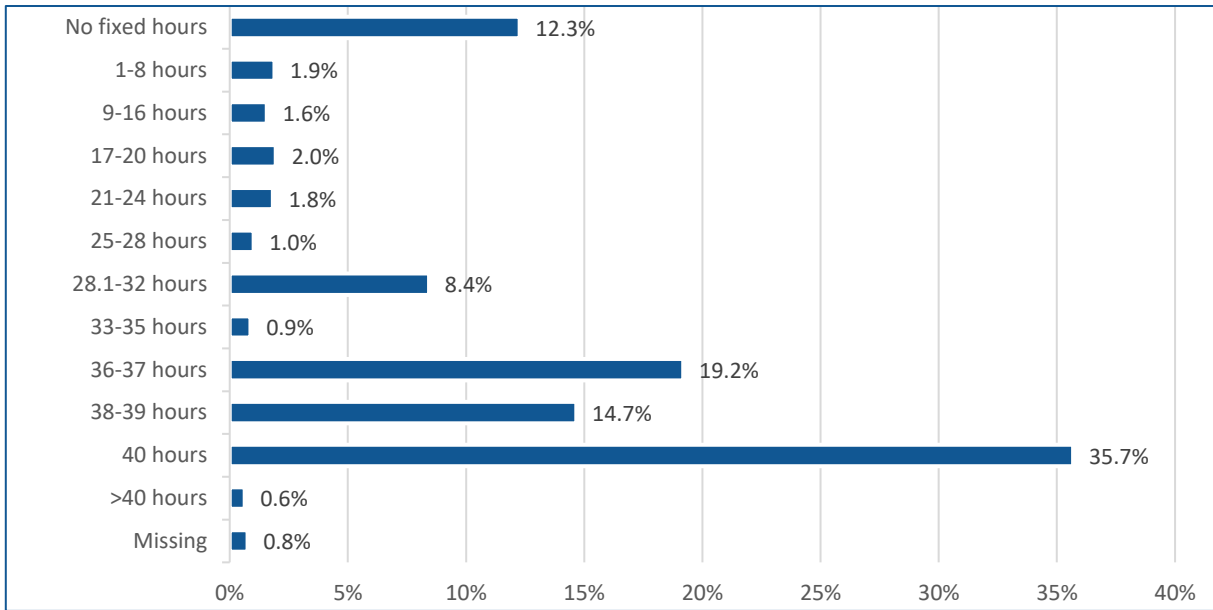


Figure 1.8: Responses to the question: “How many hours per week should you work on your PhD project, according to your PhD agreement? This includes all PhD related activities, such as meetings and possibly also teaching”, measuring formal working hours per week (n=1,601).

### Type of institution

The formal hours per week that PhDs need to work on their project also very much depends on their type of institution (figure 1.9). The most striking difference is that PhDs within UMCs very often indicate to have to work 36-37 hours per week, while university PhDs most often state to have to work 40 hours or 38-39 hours. For PhDs at other types of institutions, the distribution of formal working hours is more diverse, with agreements with a lower number of weekly hours being more represented here. For instance, the share of PhDs who work 21-24 hours per week is much larger at other types of institutions than at universities or UMCs. However, PhDs at other types of institutions still work 38 hours or more per week more often than PhDs at UMCs. In general, PhDs at UMCs most often work full-time (79.5%) compared to universities (68.5%) and other types of institutions (52.6%).

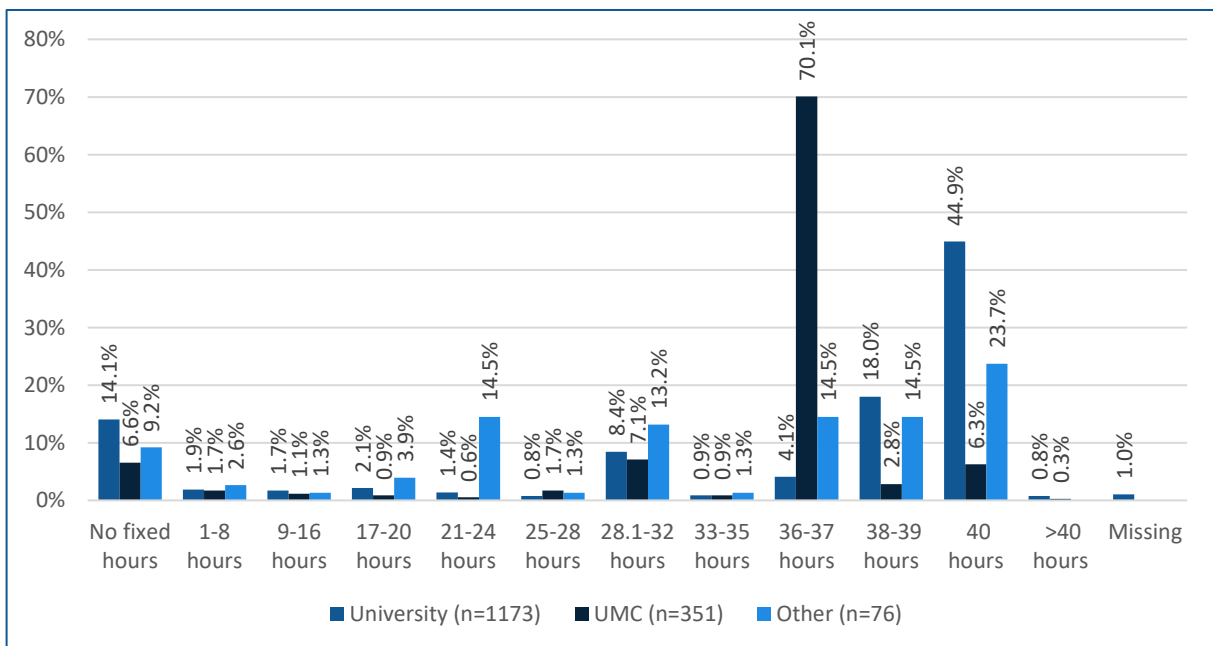


Figure 1.9: Formal working hours per week, per type of institution.

## Type of PhD arrangement

Of course, the formal hours worked per week also depend on the type of PhD (figure 1.10). The main difference that pops out is that scholarship PhDs and external PhDs most often indicate that they have no fixed hours per week (44.1% and 62% respectively). For employee PhDs, this percentage is only 2.2%. Employee PhDs in large majority (82.7%) work full-time (36 hours or more).

Though scholarship PhDs and external PhDs most often indicate to have no fixed working hours (44.1% and 62%), the rest of the distribution of working hours still differs quite a lot. Scholarship PhDs also often work fulltime (46%), while external PhDs more often work part-time, often less than 20 hours per week (18.8%). For other types of PhDs, all categories of working hours are quite evenly represented, but 65.7% of these PhDs work less than 36 hours per week on their PhD projects.

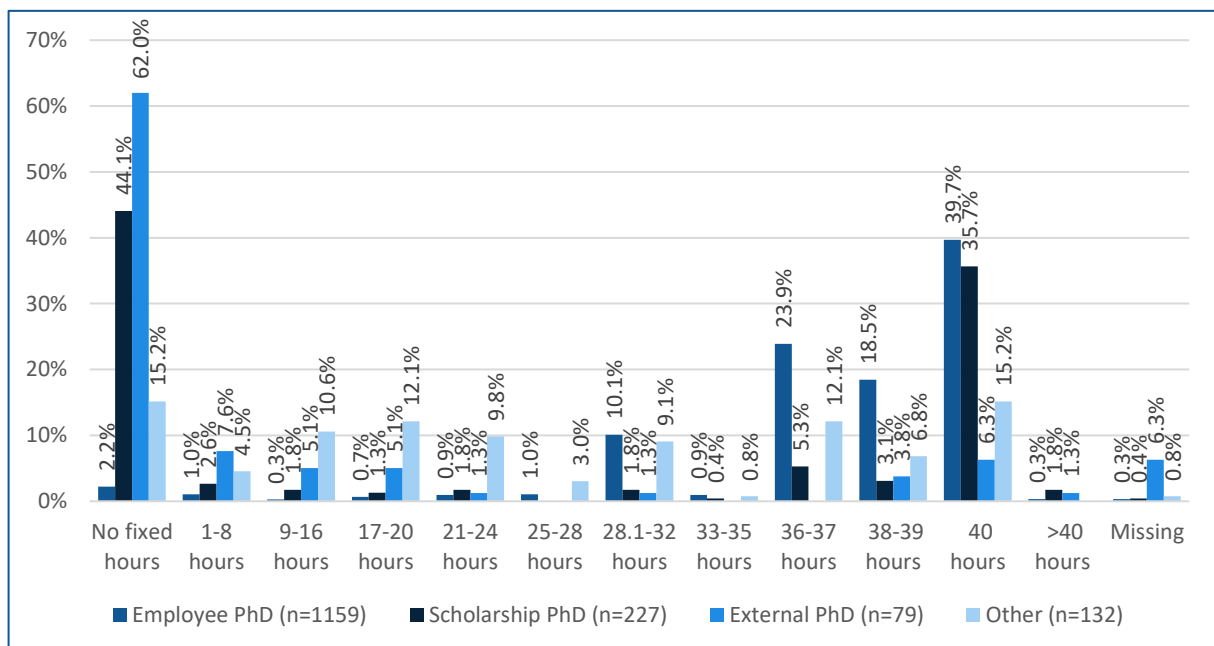


Figure 1.10: Formal working hours per week, per type of PhD arrangement.

## Dubious contracts

In the [PNN Employment Conditions Monitor](#), PNN calculates the number of ‘dubious’ contracts based on vacancy data. A dubious contract is defined by its downward deviation from the standard PhD contract of four years full-time, resulting in effectively less time to complete the PhD trajectory. In practice, dubious contracts are PhD contracts with a duration shorter than four years, or with a duration of four years, but with formal working hours less than full-time (36 hours).

A problem with vacancy data is that not all PhDs can be captured, as many positions are filled without a vacancy preceding them. This is likely to be even more often the case for these dubious PhD positions. These survey data therefore give a more comprehensive view of the share of dubious contracts for PhDs in Dutch academia.

For these results, we will focus on employee PhDs at universities only, as the collective labour agreement of Dutch universities explicitly specifies the duration of PhD trajectories to be, in principle, four years. The collective labour agreement of UMCs does not specify a fixed duration, and as discussed in the previous section, shorter contracts are much more common there. We distinguish between three categories: “Not dubious”, meaning that the contract has a duration of, or is equivalent of, at least four years full-time (so five years at 32 hours is considered not dubious); “Dubious”, meaning that the contract is shorter than four years full-time or, at a duration of four years, has less than 36 formal working hours per week; “Dubious

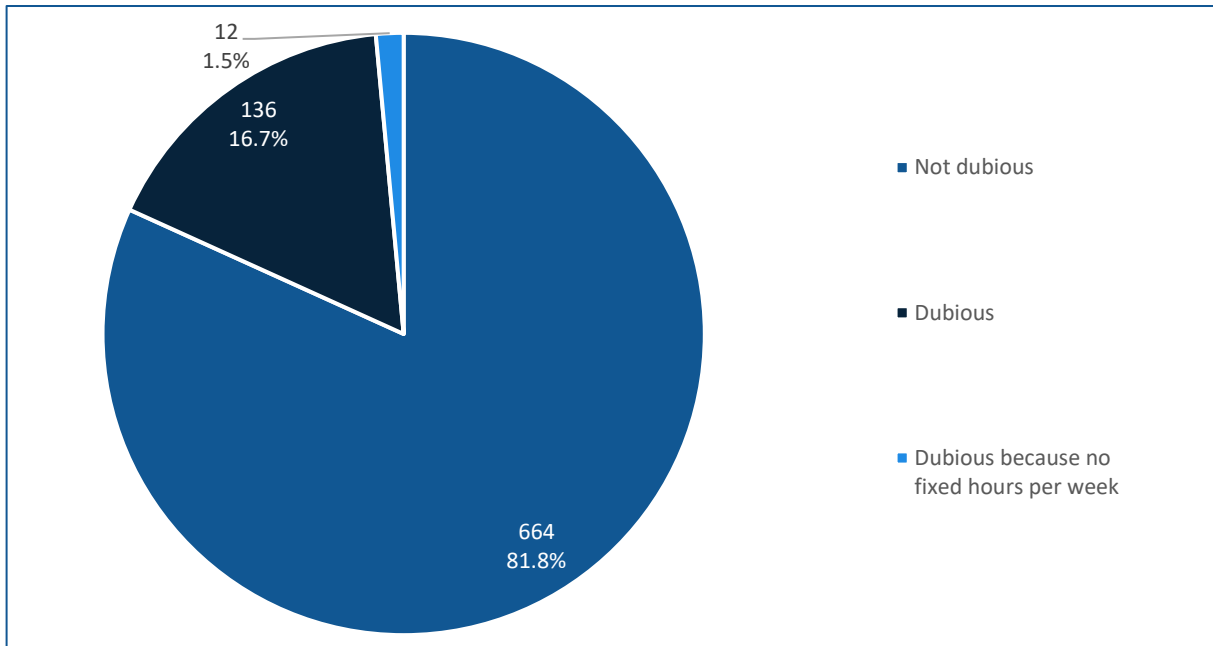


Figure 1.11: Share of dubious PhD arrangements for employee PhDs at universities (n=812). Dubious PhD arrangements have a duration of less than four years, or a duration of four years with less than 36 formal working hours per week.

due to unspecified working hours”, which are contracts with a duration of four years, but with no fixed working hours, making it difficult to determine whether these are dubious or not.

Figure 1.11 shows that 16.7% of the PhD arrangements of employee PhDs at universities can be classified as dubious. This is mostly due to project having a duration of only three years instead of four. This percentage of dubious contracts is higher than any of the previous findings of the PNN Employment Conditions Monitors. This indicates that vacancies indeed do not give a complete image of the employment conditions of PhDs. Another 1.5% of the PhD arrangements does not specify the working hours per week, making it unclear whether the contract is dubious or not. 81.8% of the PhD arrangements is not dubious.

The four year duration of PhD contracts has been in the collective labour agreement since 2018. Therefore, we might expect a change over time in the share of dubious contracts.

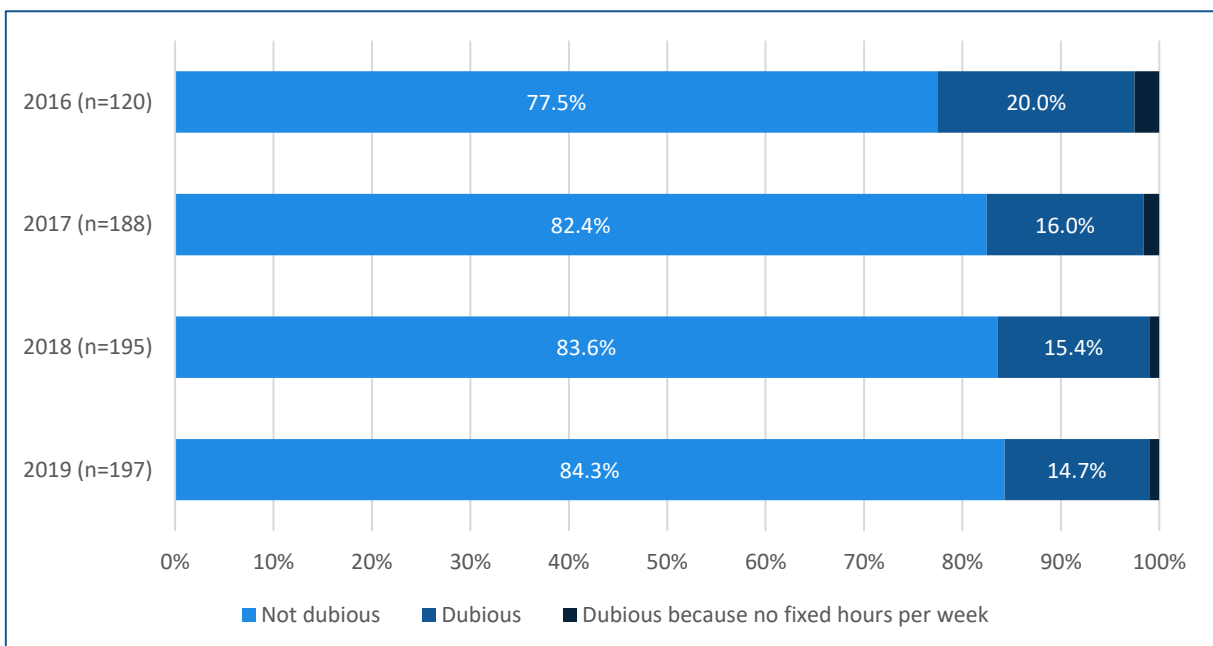


Figure 1.12: Share of dubious PhD arrangements for employee PhDs at universities, per PhD cohort.

Therefore, we have looked at the share of dubious contracts per cohort. These results are shown in figure 1.12. Between the cohort of 2016 and 2017, there has been a decrease in the number of dubious contracts from 20% to 16%. However, after this, the decrease has slowed down, as still 14.7% of the contracts of the 2019 cohort can be classified as dubious. There thus has been some progress, but still a significant share of university employee PhDs does not get the default amount of time to write their dissertations.

### Tasks during the PhD trajectory

As not every PhD project is the same, we wanted to know which types of tasks PhDs do as a part of their PhD project. We asked them this question, allowing them to choose multiple options from the following: research, teaching, project management, management tasks, take courses and other, namely. For MD PhDs, we also added the option of clinical tasks.

The results can be found in figure 1.13. Naturally, practically all PhDs indicated that they needed to do research as a part of their PhD project (99.5%). 80.9% of the PhDs is also required to take courses, while 61.6% has to teach themselves too. Half of the PhDs are also involved in project management, and 22.5% also have management tasks. Of the MD PhDs, 41% also has to do clinical work next to their PhD project.

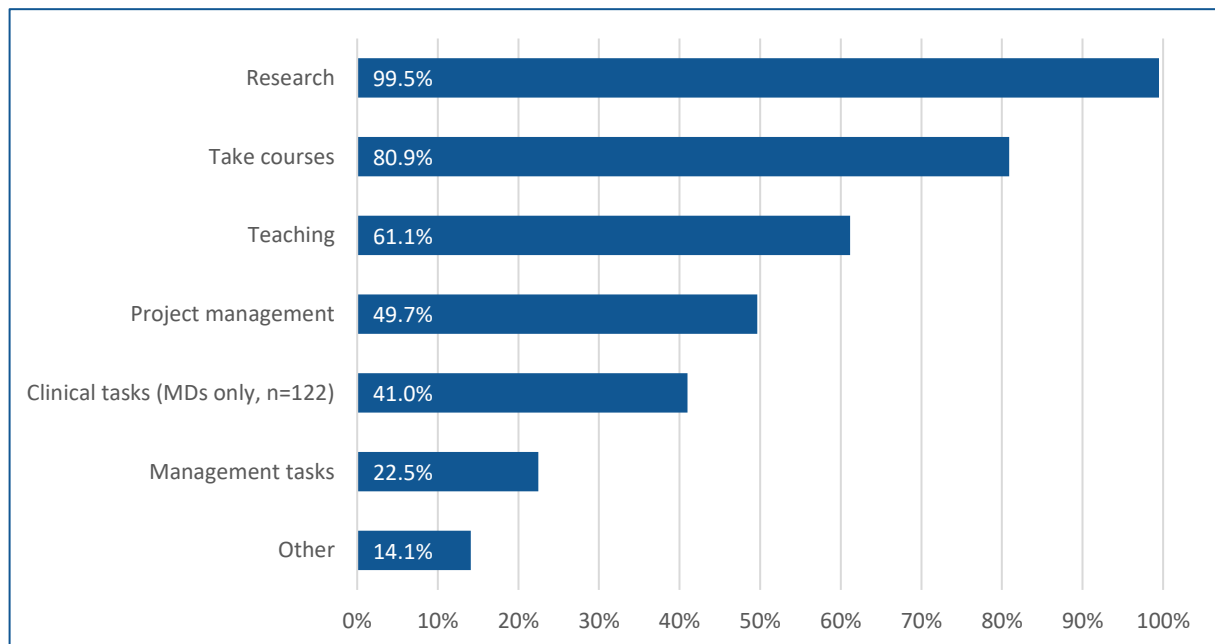


Figure 1.13: Responses to the question: “Which types of tasks do you do as part of your PhD project?” (n=1,601).

### Type of institution

There are also some variations in the types of tasks PhDs have to do per type of institutions (figure 1.14). Due to the low number of MD PhDs outside UMCs, we refrain from presenting results for clinical tasks for subgroups. At all types of institutions, practically all PhDs indicate to have to do research. Taking courses is relatively more common at UMCs, but is second most important at all types of institutions. Teaching is much less common at other types of institutions than at universities or UMCs, in contrast to project management, which is more important at UMCs and other types of institutions than at universities. Management tasks are relatively equally common at all types of institutions, and other types of institutions are also more often accompanied with other types of tasks.

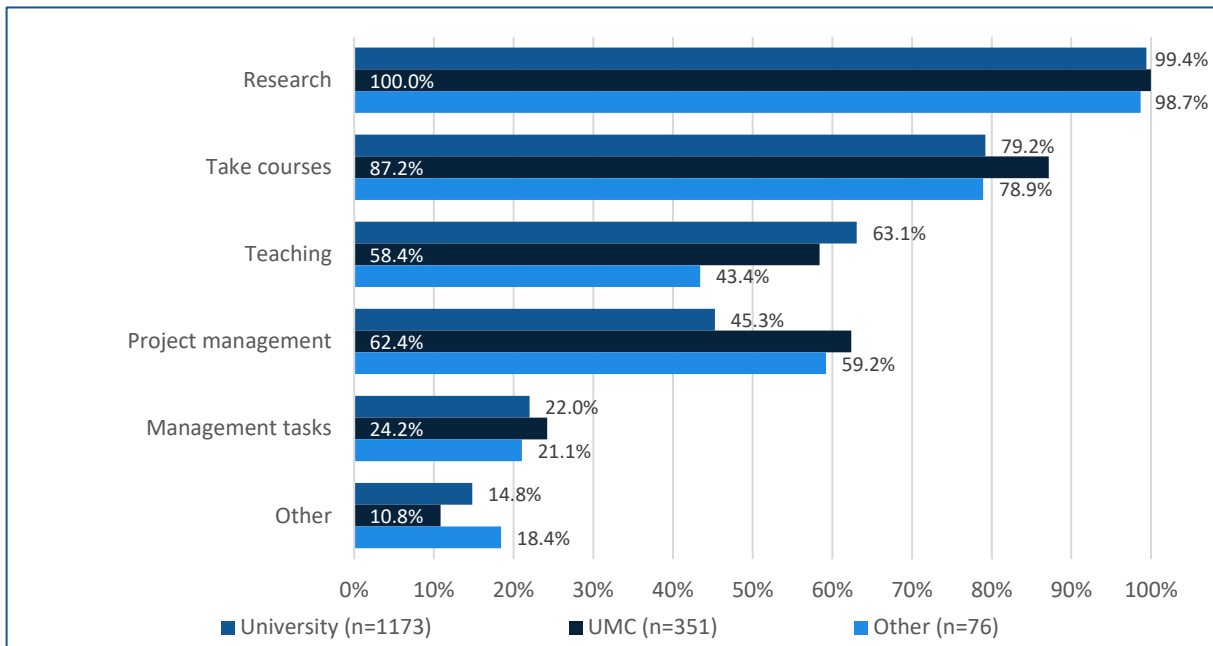


Figure 1.14: Responses to the question: “Which types of tasks do you do as part of your PhD project?” per type of institution.

### Type of PhD arrangement

The types of tasks related to the PhD project also differ per type of PhD arrangement (figure 1.15). Due to the low number of MD PhDs amongst other groups than employee PhDs, we refrain from presenting results for clinical tasks for subgroups. Again, practically all PhDs of all types of PhD arrangements indicate to have to do research. Taking courses is equally common for employee PhDs and scholarship PhDs, slightly less common for other types of PhDs, but most striking is that less than half of the external PhDs indicate that they have to take courses. Teaching is most common amongst employee PhDs, but also one third of the scholarship PhDs indicate that they have to teach.<sup>4</sup> External PhDs are least likely to have to teach. Project

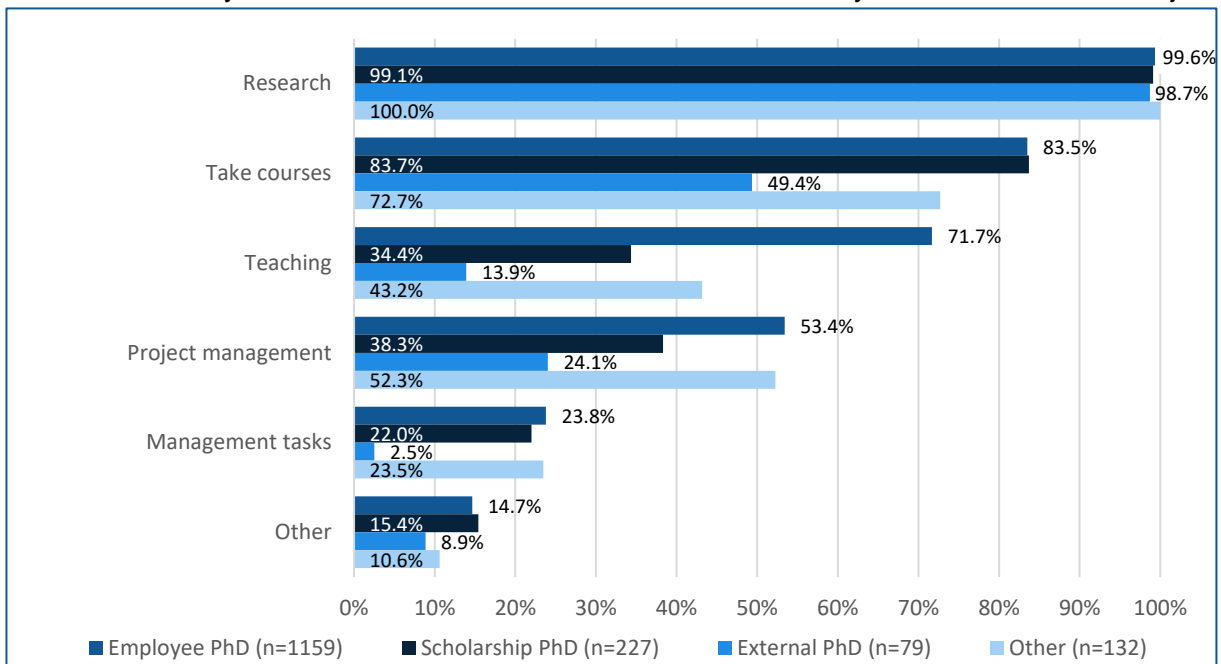


Figure 1.15: Responses to the question: “Which types of tasks do you do as part of your PhD project?”, per type of PhD arrangement.

<sup>4</sup> Technically, it is not allowed to teach without an employment contract. However, this topic will be discussed in greater detail in the PNN Survey Report on Teaching.

management is most common amongst employee PhDs and other types of PhDs, while it is much less common amongst scholarship PhDs and external PhDs. Management tasks are equally common amongst all types of PhDs, except from external PhDs, who seldomly have any management tasks.

### Source of funding

Finally, we were interested in the source of funding of the PhD projects. As the source of funding is to some extent related to the type of PhD arrangement, we only asked employee PhDs about the source of funding for their PhD projects. They could choose multiple of four options: “Your institution” (first flow of funding), “Funding organisation” (second flow of funding), “External organisation” (third flow of funding), or “Other, namely...” (fourth flow of funding). We then combined the answers in such a way that we can distinguish the projects funded by one source from the projects funded from multiple sources. The smallest categories have been combined into one category “other”.

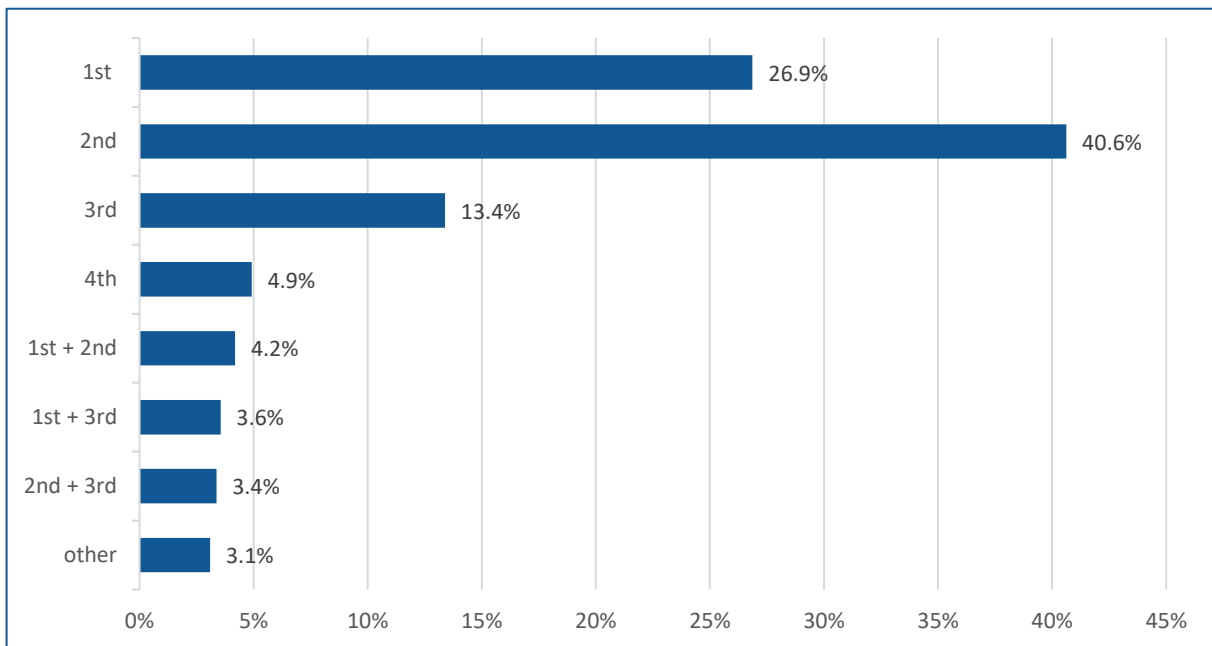


Figure 1.16: Responses to the question: “Who funds your PhD project?”, for employee PhDs (n=1,098).

The results are depicted in figure 1.16. Here we see that 40.6% of the PhD projects is solely funded by the second flow of funding, and 26.9% solely by the first flow of funding. 13.4% of the projects is funded by the third flow of funding, and 4.9% of the projects has some other type of funding. Only 14.2% of the projects has more than one source of funding, with a combination of the first and second flow of funding being the most common combination.

### Type of institution

We also observe variation in the source of funding per type of institution (figure 1.17). Projects funded solely from the second flow of funding are most common at all types of institutions, but are relatively more common at universities compared to UMCs and other types of institutions. At UMCs, projects are also relatively commonly funded from the third flow of funding, while projects at other types of institutions are also relatively often funded from the first flow of funding. We also see that at UMCs and other types of institutions, combining sources of funding is relatively more common than at universities.



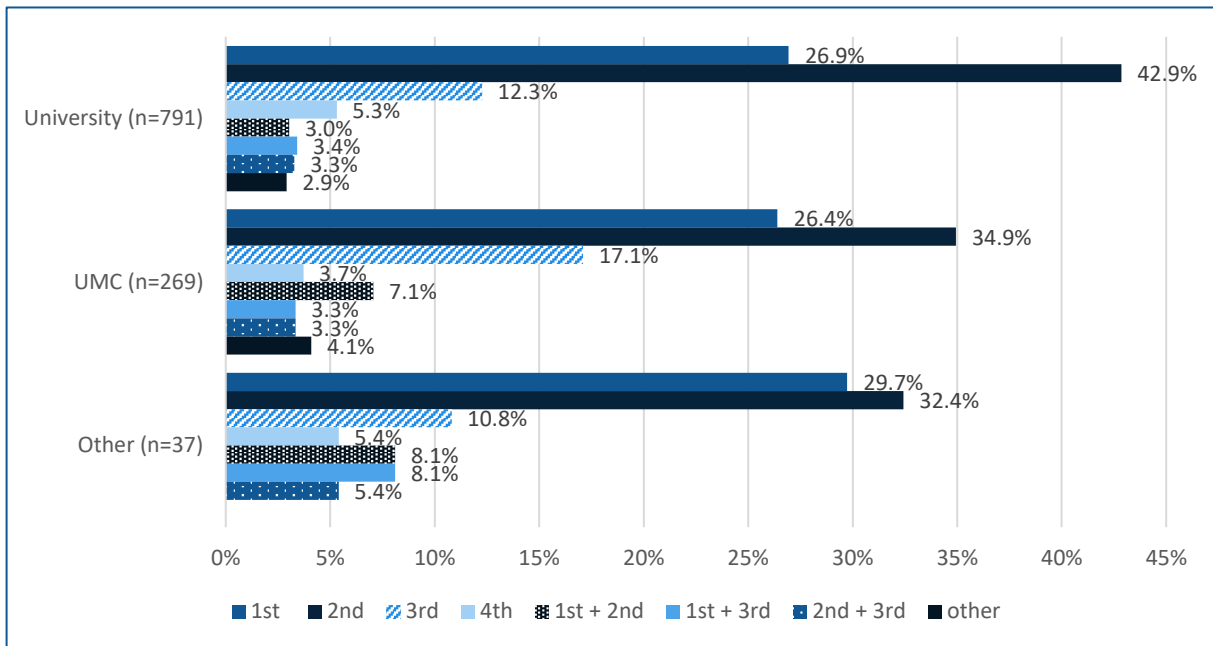


Figure 1.17: Responses to the question: "Who funds your PhD project?", for employee PhDs, per type of institution.

### Discipline

There are also big differences between disciplines in the source of the funding (figure 1.18, see next page). Projects funded from the first flow of funds are most common at Law and Economics and Business, while they are quite rare in Natural Sciences and Agricultural sciences. Moreover, Law and Economics and Business are the only disciplines where more projects are funded from the first flow of funding than the other flows. At other disciplines, funding from the second flow of funding is most common. Projects funded from the third flow of funding are relatively common in Medical and Health sciences and Technical Sciences and Engineering. In these disciplines, and also in Economics and Business, relatively a lot of projects are also funded by more than one source.

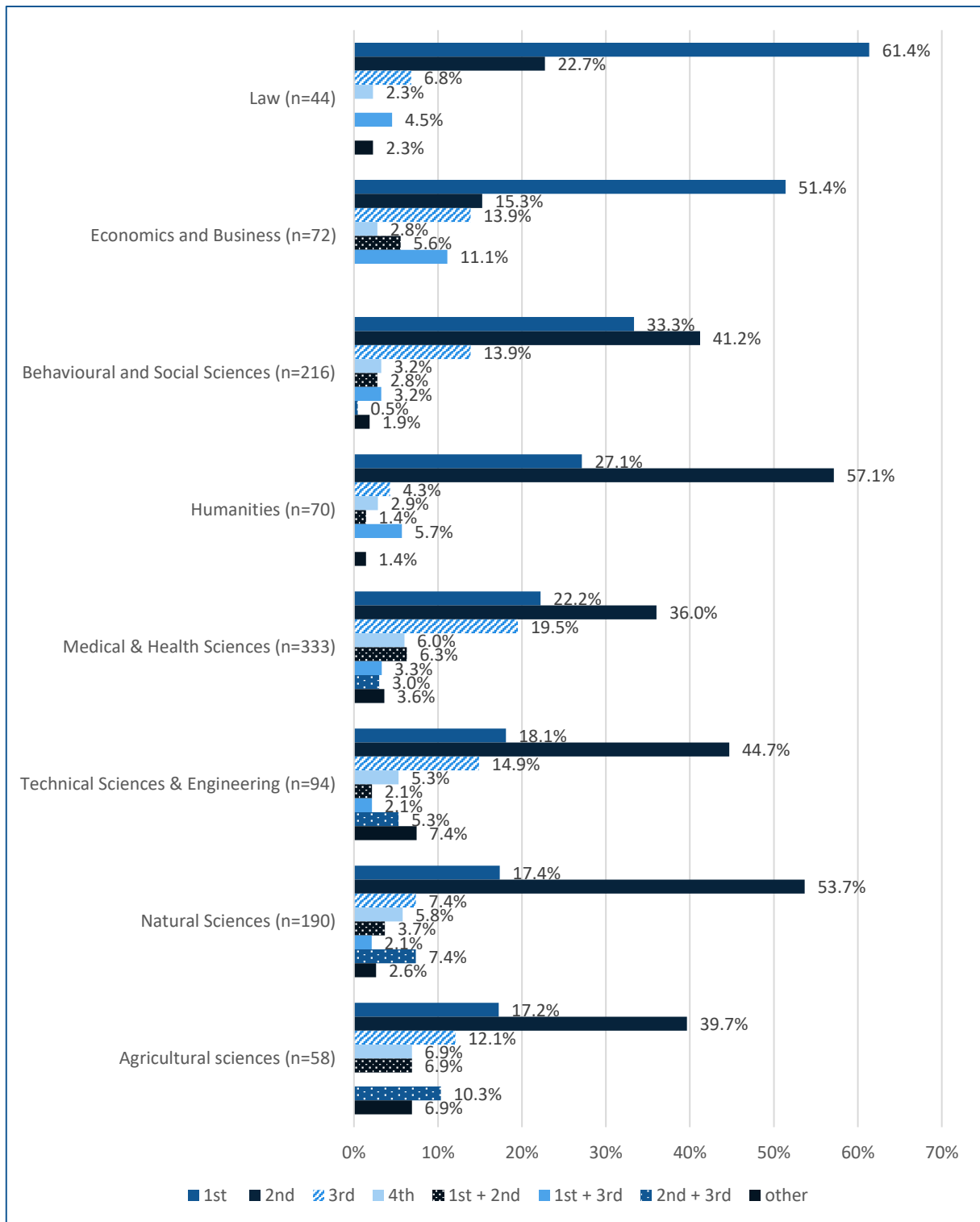


Figure 1.18: Responses to the question: "Who funds your PhD project?", for employee PhDs, per discipline.

## Graduate schools

### Graduate school registration

As Graduate Schools are central in monitoring and facilitating the progress of PhDs, it is important that all PhDs are registered in a Graduate School and can make use of the services they provide. We therefore asked the respondents of our survey whether they are registered in a Graduate School (figure 2.1). 84.8% of the PhDs is registered in a Graduate School, 7% is not, and another 8.2% does not know whether they are registered in a Graduate School or not.

Looking at the registration of PhD per type of institution (figure 2.1), we see that universities and UMCs practically score the same, with 85.6% and 85.2% of their PhDs being registered in Graduate Schools. At other types of institutions, only 70.7% of PhDs are registered in Graduate Schools, with 13.3% indicating that they are not registered at all, and 16% not being sure about being registered.

Figure 2.1 also shows the registration in the Graduate Schools per type of PhD. Here, we see clearly that the registration of external PhDs and other types of PhDs lags behind the employee PhDs and scholarship PhDs: respectively 74.7% and 74.2% of external and other types of PhDs indicate to be registered in a Graduate School, while this is the case for 85.8% of employee PhDs and 88.9% of scholarship PhDs. External PhDs generally more often do not know whether they are registered in a Graduate School, while other types of PhDs relatively more often also indicate that they are not registered in a Graduate School.

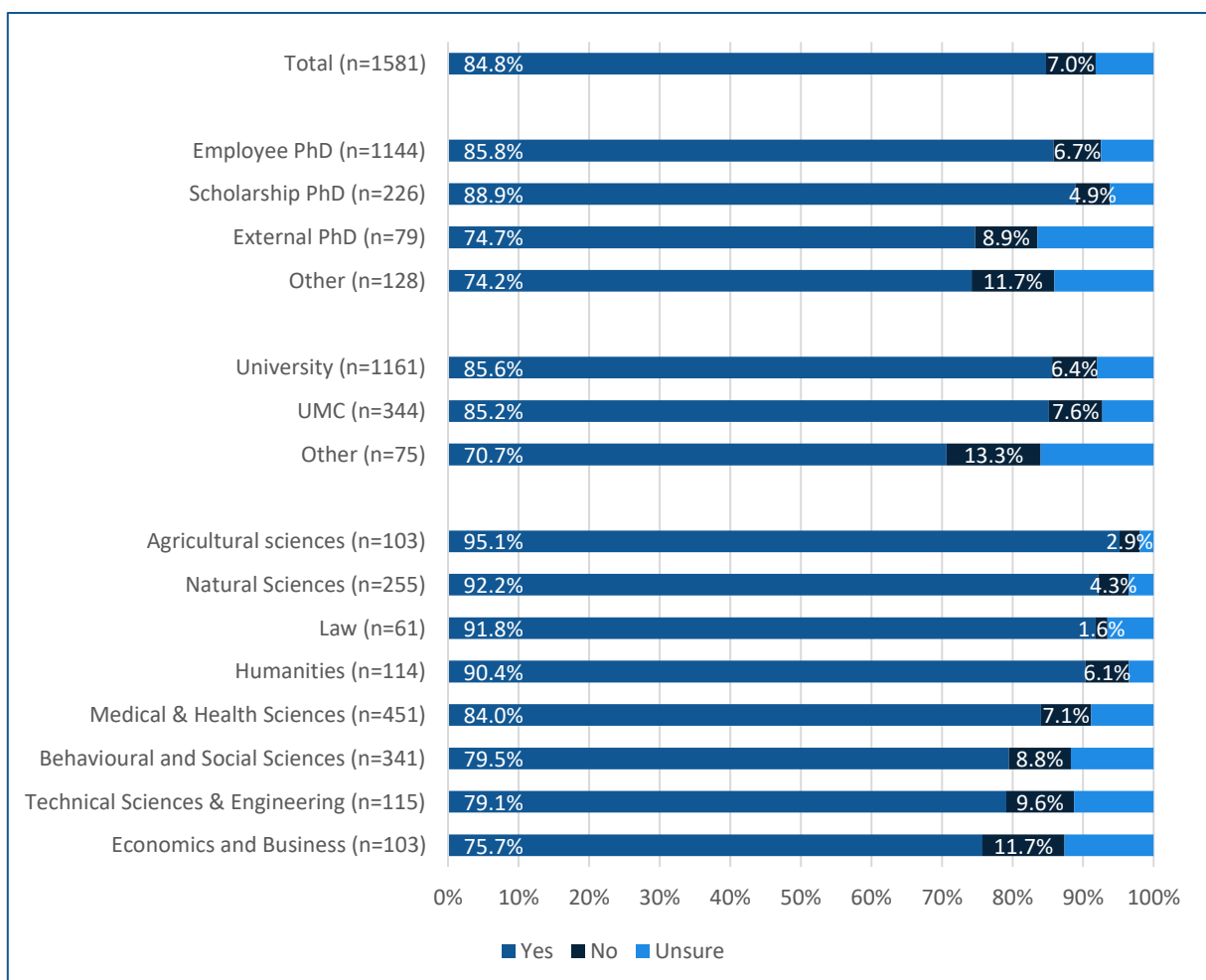


Figure 2.1: Responses to the question “Are you registered in a Graduate School?”, in total and per type of institution, type of PhD arrangement and discipline.

There is also large variation between disciplines in the extent to which PhDs are registered in Graduate Schools. In Agricultural sciences, 95.1% of the PhDs are registered in a Graduate School. The same high numbers are found in Natural sciences, Law and Humanities, where more than 90% of PhDs are properly registered in Graduate Schools. In the other disciplines, it goes downhill quite fast, with only 84% of the PhDs in Medical and Health sciences registered in a Graduate School, to less than 80% in Behavioural and Social sciences and Technical sciences and engineering, ending with only 75.7% of the PhDs properly registered in Graduate Schools in Economics and Business.

**Following courses**

The PhDs who are registered in a Graduate School or did not know for sure whether they were registered in a Graduate School were asked whether they were allowed to follow courses (figure 2.2). This is the case for the large majority of PhDs, 98.2%.

Between types of institutions, there are not too many differences in whether PhDs are allowed to follow courses. Only at other types of institutions, relatively more PhDs indicate that they are not allowed to follow courses (6.2%).

Whether PhDs are allowed to follow courses also depends to some extent on the type of PhD arrangement, with external PhDs being relatively most likely not to be allowed to follow courses (8.5%) while practically all scholarship PhDs and employee PhDs are allowed to follow courses.

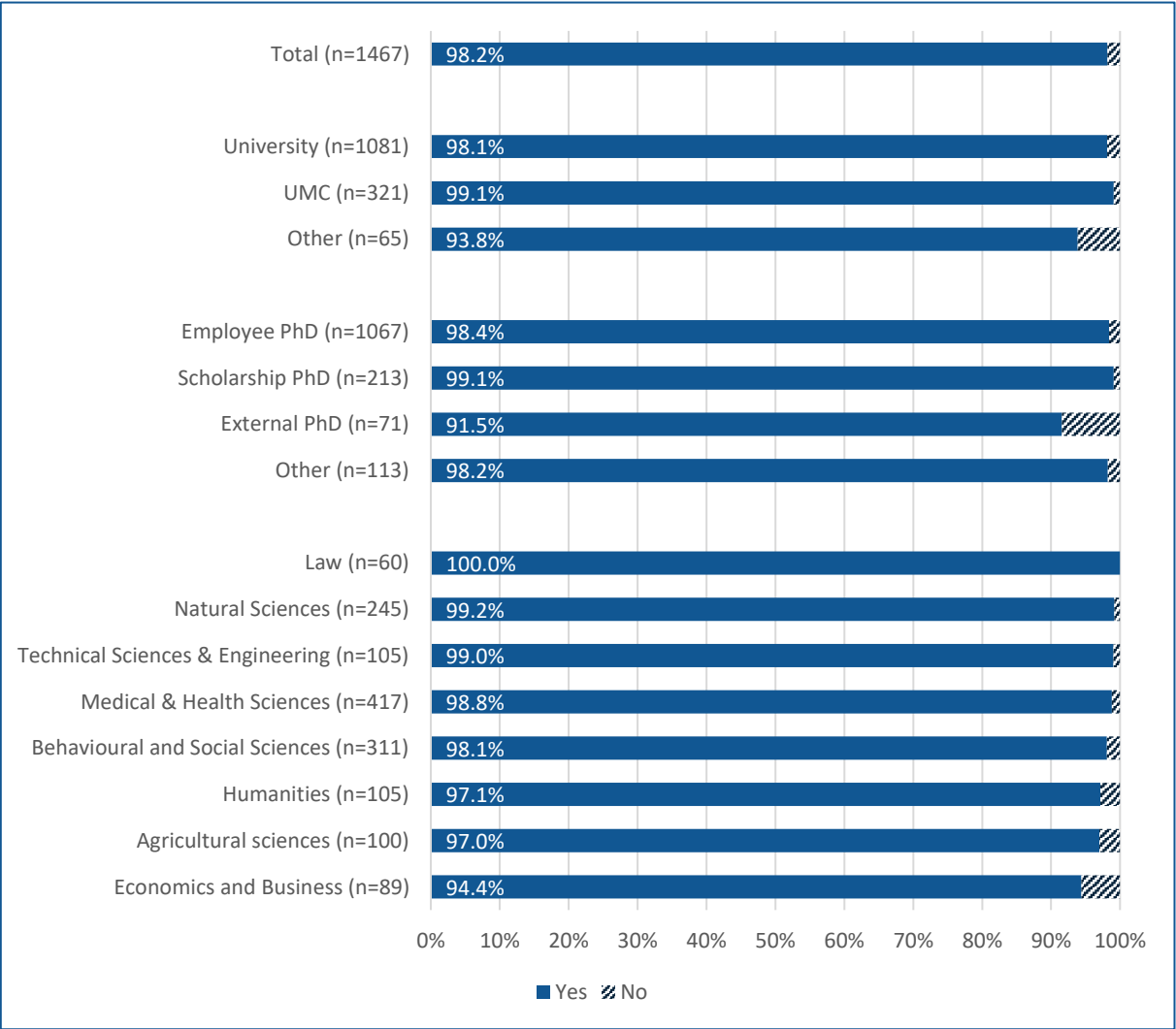


Figure 2.2: Responses to the question: "Are you allowed to follow courses?", in total and per type of institution, type of PhD arrangement and discipline.

Finally, there are also quite some differences between disciplines. All PhDs in Law in our survey indicated that they were allowed to follow courses, followed by Natural sciences (0.8%) and Technical sciences and engineering (1%). In Economics and Business and Agricultural sciences, PhDs relatively often indicate to not be allowed to follow courses (5.6% and 3% respectively).

### Satisfaction with courses

All PhDs who were allowed to follow courses, were asked to indicate how satisfied they are with the courses that their Graduate School offers them, on a 5-point scale ranging from “Very satisfied” to “Very dissatisfied”. For the analysis, the scale was converted so that higher scores indicate higher satisfaction.

The results (figure 2.3) show that 57.6% of the PhDs are at least satisfied with the courses their Graduate Schools offer, of which 10.7%-point indicate to be very satisfied. 30.5% are neutral about the courses, and only 11.9% are dissatisfied or very dissatisfied with the courses offered by the Graduate Schools. On average, the PhDs rate the courses of their Graduate Schools a 3.54 out of 5, with a standard deviation of 0.89.

Figure 2.4 shows how the scores for the courses offered by the Graduate Schools vary per type of institution, PhD agreement and discipline as well. In general, PhDs at UMCs are significantly more satisfied with the courses offered than PhDs at universities or other types of institutions, but in absolute terms, the difference is relatively small.

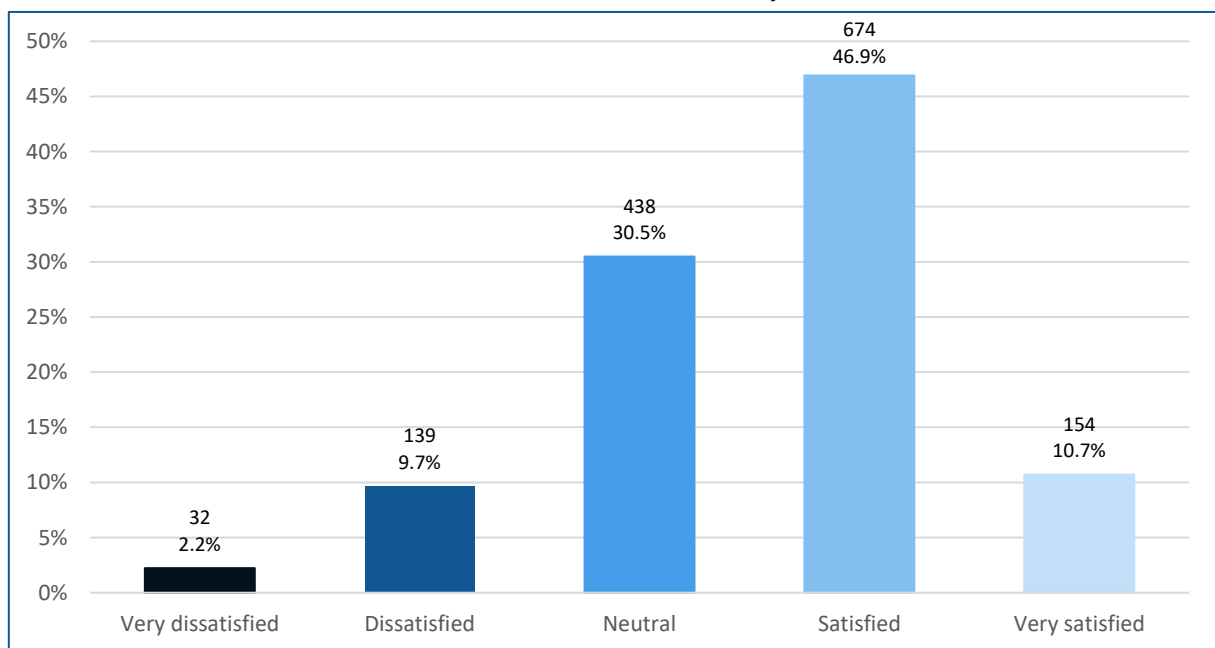


Figure 2.3: Responses to the question "How satisfied are you with the courses offered by your Graduate School?" (n=1,473).

The differences between types of PhD arrangements in their assessment of the courses offered by their Graduate Schools are relatively small. The only significant difference in satisfaction can be found between external PhDs and employee PhDs, with external PhDs being significantly more satisfied with the courses offered. This is interesting, as they are relatively less likely to be allowed to follow courses in the first place.

There is also quite some variation between disciplines in the satisfaction with the courses offered by the Graduate Schools. PhDs from Agricultural sciences are most satisfied with their courses, followed by Medical and Health sciences and Economics and Business. All other disciplines score significantly lower than Agricultural sciences in terms of satisfaction. PhDs from Law are least satisfied with the courses offered, followed by Humanities and Technical sciences and engineering. All other disciplines are significantly more satisfied with the courses offered than Law.

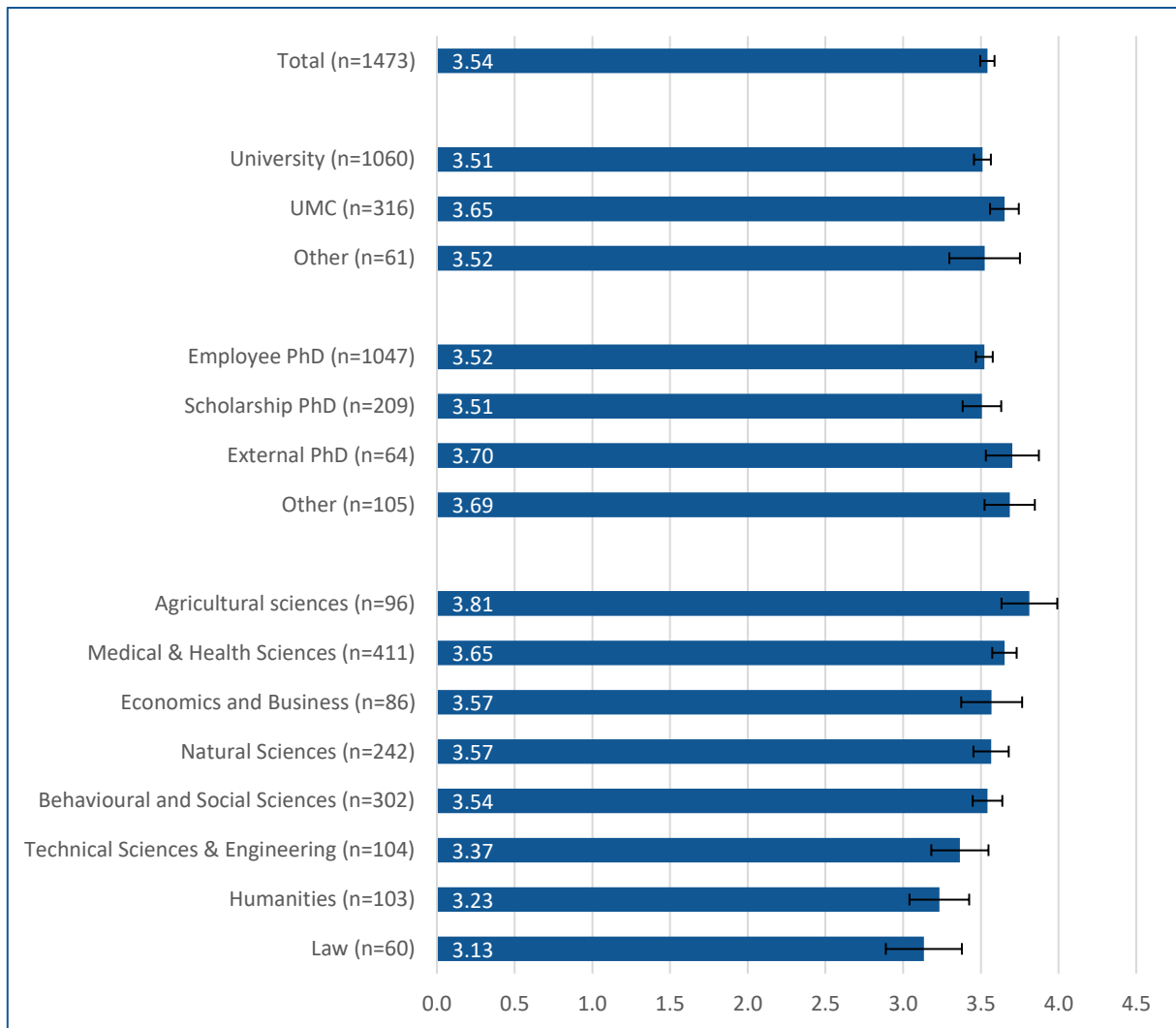


Figure 2.4: Responses to the question "How satisfied are you with the courses offered by your Graduate School?", in total and per type of institution, per type of PhD arrangement and discipline.

### Training and supervision plan

An education and training plan helps PhDs to create structure in their PhD trajectories in terms of which courses to follow and formalizes agreements with the supervisors about the frequency of supervision. We therefore asked all PhDs whether they had prepared a training and supervision plan (figure 2.5). 85.6% of PhDs had prepared such a plan. 11.6% stated they had not, and 2.8% was not sure whether they had done so.

Of course, whether a training and supervision plan has been prepared, depends largely on whether the PhD is registered in a Graduate School. Of the PhDs who are registered in a Graduate School, 88.5% has prepared a training and supervision plan, while this is only 63.1% for PhDs who are not registered in a Graduate School, and 73.8% for those who are unsure about whether they are registered in a Graduate School.

Training and supervision plans are also relatively new, meaning that they might not have been implemented everywhere for a very long time. Therefore, we also look at the differences in the preparation of a training and supervision plan for PhDs in different phases of their trajectories. Here we see that going from year 4 to year 2, there was an increase in the share of PhDs who had prepared a training and supervision plan, but the most recent cohort of PhDs however stops that trend, with 12.6% not having prepared a training and supervision plan. If we exclude PhDs who are still in the first six months of their PhD trajectory and might not have had the opportunity to write such a plan yet from the analysis, these numbers practically do not change, and still 12.4% of the first year PhDs have not prepared a training and supervision plan.

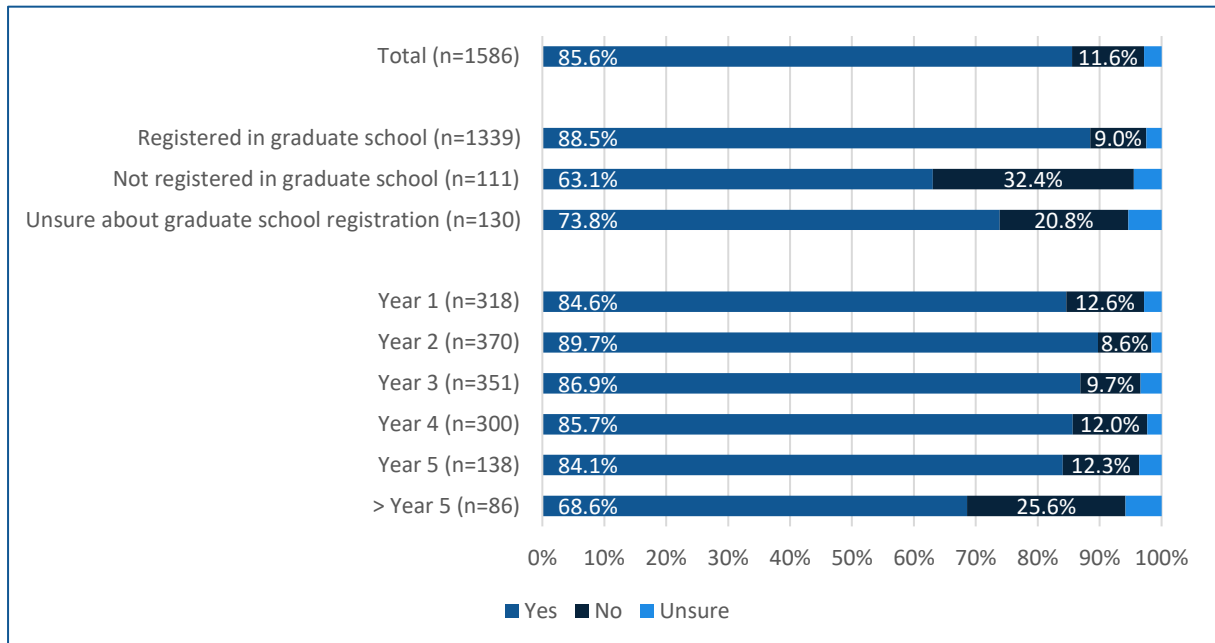


Figure 2.5: Responses to the question "Did you prepare a training and supervision plan?" in total, and per registration in Graduate School and PhD phase.

Of course, there are also differences between types of institutions, PhD arrangements and disciplines in the extent to which training and supervision plans are prepared (figure 2.6). Again, other types of institutions score worst on this indicator, as only 76% of the PhDs have prepared a training and supervision plan, compared to 86.1% at both universities and UMCs. External PhDs also very often do not prepare a training and supervision plan (31.6%) compared to employee PhDs (9.9%) and scholarship PhDs (11.5%). Finally, PhDs at Natural sciences, Technical sciences and engineering and Agricultural sciences most often prepare training and supervision plan (over 90%) while it is least common in Law (77%), Behavioural and Social sciences (80.4%) and Economics and Business (80.6%).



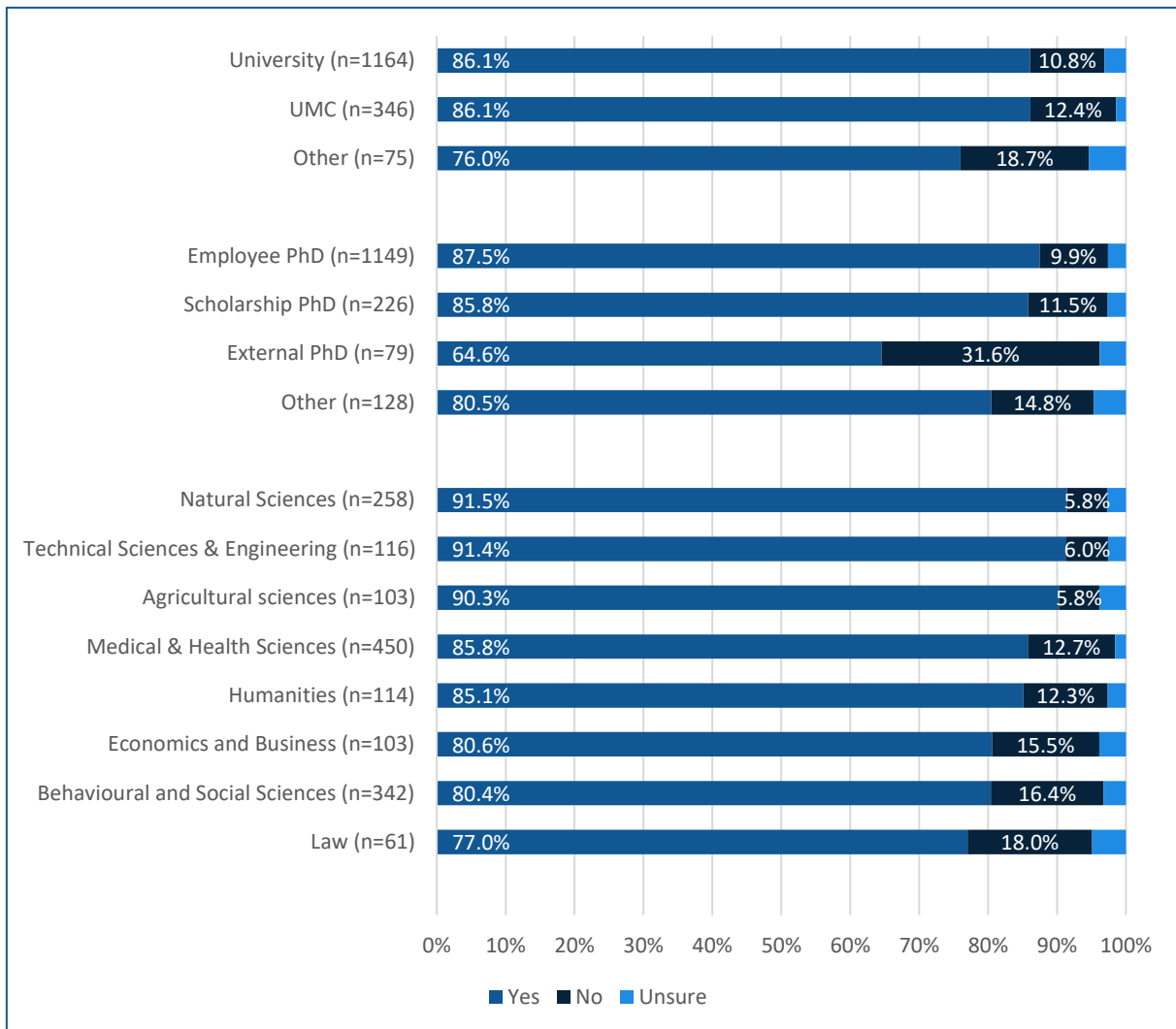


Figure 2.6: Responses to the question "Did you prepare a training and supervision plan?", per type of institution, type of PhD arrangement and discipline.

### Go/no-go assessment

In a similar fashion, go/no-go assessments are built into many PhD trajectories somewhere during the first year of the PhD trajectory to assess whether the PhD is on track and is likely to be able to complete the PhD trajectory successfully. We also asked the respondents to our survey whether they have had or will have a go/no-go assessment. Figure 2.7 shows the results, also separately per type of institution, PhD arrangement, discipline and PhD phase. 77.9% of the PhDs have had or will have a go/no-go assessment at some point, and another 9.3% is not sure about this.

Again, there are big differences between certain subgroups of PhDs. The go/no-go assessment is most common at universities, while only 58.1% of PhDs in UMCs have a go/no-go assessment. At UMCs, relatively many PhDs indicate that they are not sure whether they will have such an assessment (15.3%), and also many indicate that they will not have this assessment (26.6%).

Of all types of PhDs, external PhDs are least likely to have a go/no-go assessment, with 22.8% indicating that they do not have one. They however also relatively often indicate that they do not know whether they have had or will have such an assessment. Other types of PhDs also often indicate that they do not have a go/no-go assessment, but less often doubt about this than external PhDs. Scholarship PhDs most often have a go/no-go assessment (84.4%), followed by employee PhDs (78.9%).

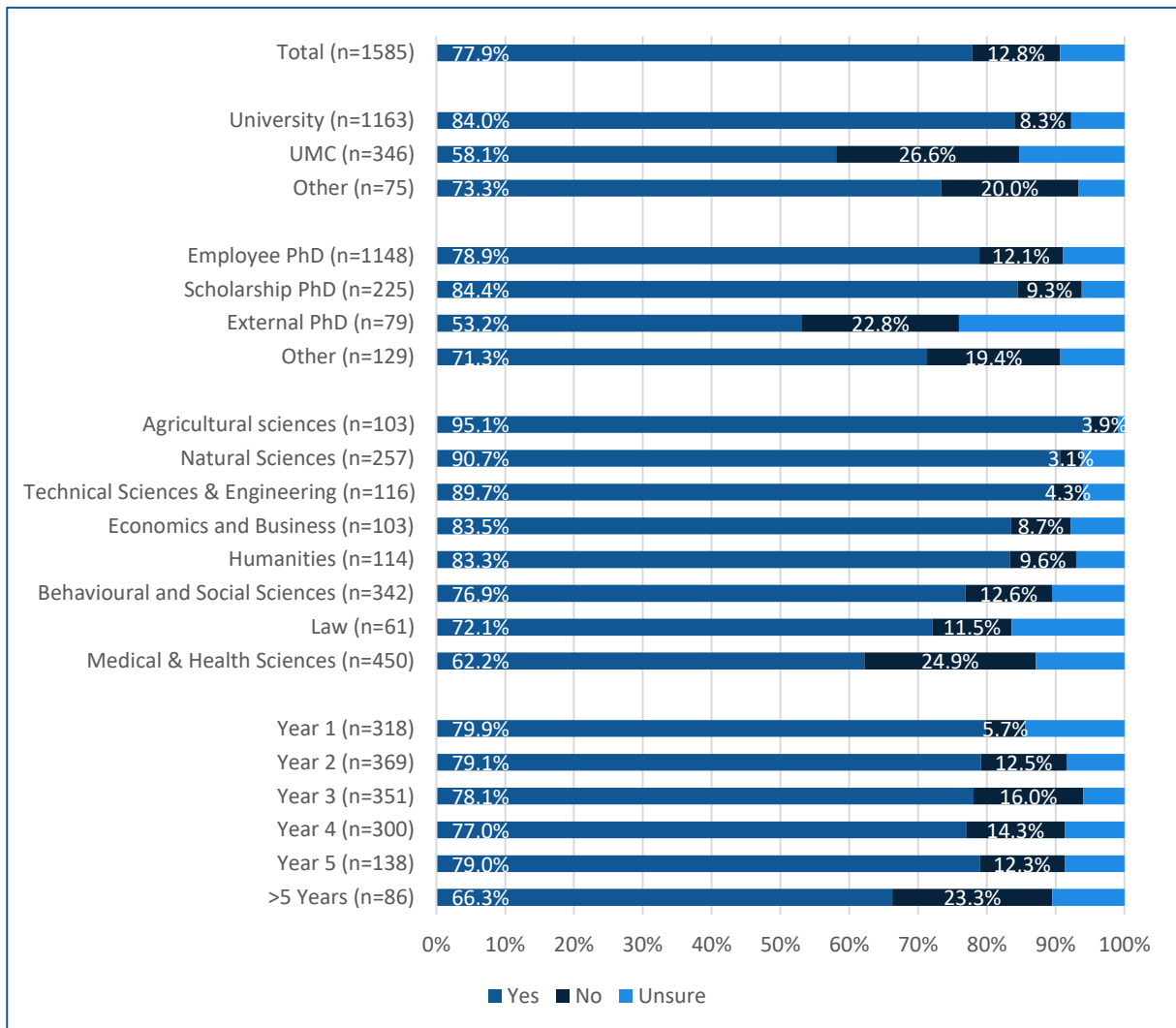


Figure 2.7: Responses to the question "Did you have or will you have a go/no-go assessment?", in total, per type of institution, type of PhD arrangement, discipline and PhD phase.

The go/no-go assessment is most common in Agricultural sciences, where 95.1% of the PhDs indicate that they have this assessment at some point. In Medical and Health sciences, PhDs are least likely to have a go/no-go assessment (62.2%), with 24.9% indicating that they have not had and will not have such an assessment. PhDs in Law relatively often indicate that they do not know whether they have a go/no-go assessment, while PhDs in Agricultural sciences doubt about this least.

Just like training and supervision plans, go/no-go assessments are a relatively new phenomenon, we could expect to see an increase over time in the share of PhDs who have a go/no-go assessment. We indeed see a slight increase from year 4 to year 1 in the share of PhDs indicating that they have a go/no-go assessment, but the increase is too small to indicate any recent surge of go/no-go assessments. Finally, it is interesting to see that many first year PhDs do not know whether they will have a go/no-go assessment.

### Conference funding

Going to conferences is important for PhDs to get feedback on their research and to build a network. It is then very helpful if PhDs can get funding to go to conferences and don't have to pay for these sometimes very pricy conferences all by themselves. We therefore asked our respondents whether they can get funding to go to conferences. Figure 2.8 shows the responses to this question, also by type of institution, PhD arrangement, and discipline. 76% states to be able to get funding to go to conferences, while 9.3% indicates that they cannot. 14.7% is not sure about this.

The differences between types of institutions in the availability of funding for conferences are not extremely large. 84.9% of PhDs at universities and 82.1% of PhDs at UMCs indicate to be able to get funding for conferences, compared to 76% of PhDs at other types of institutions. There, however, PhDs more often indicate that they cannot get funding to go to conferences.

Between types of PhD arrangements, the differences are much more pronounced. While 87% of the employee PhDs state to be able to get conference funding, only 46.8% of external PhDs can get funding to go to conferences. 30.4% of this group indicates that they cannot get funding at all, and another 22.8% is not sure about this. Scholarship PhDs and other types of PhDs also more often state that they cannot get funding for conferences than employee PhDs, but these differences are much smaller compared to external PhDs.

Finally, disciplines to some extent also vary in their opportunities for conference funding, with Technical sciences and Economics and Business PhDs most often indicating that they can get conference funding (89.7% and 89.3%). PhDs in Medical and Health sciences and Humanities less often indicate that they can get funding (79.8% and 81.6%). PhDs from Humanities and Behavioural and Social sciences relatively most often indicate that they cannot get any funding for conferences (7% and 5.9%).

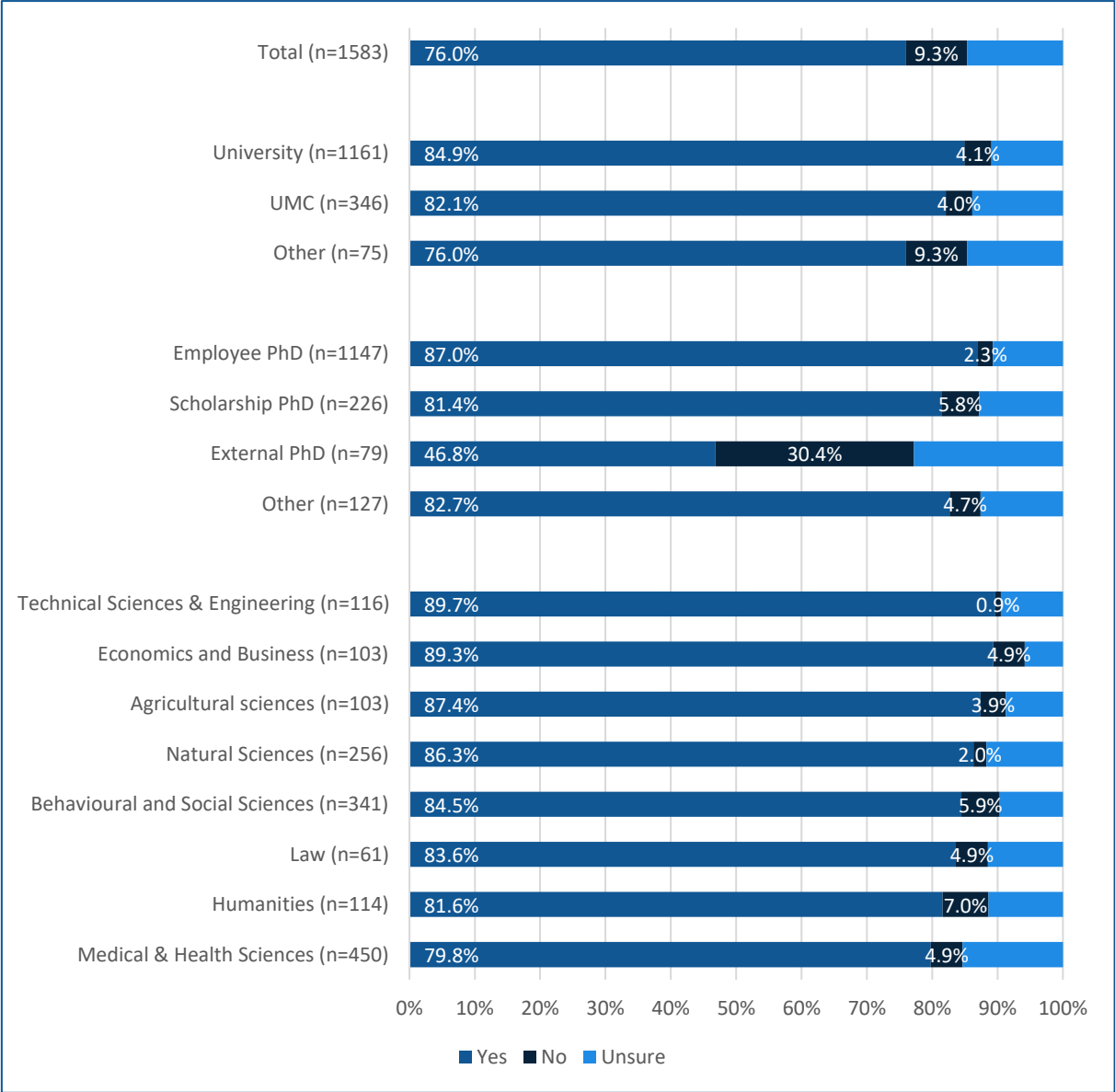


Figure 2.8: Responses to the question "Can you get funding to go to conferences?", in total, per type of institution, type of PhD arrangement and discipline.

### ***Who pays for conferences***

The PhDs who answered that they can get funding for conferences were asked to indicate who then provides the funding for conferences. They could select multiple from the following options: the institution, the Graduate School, and external funder, or other. The responses to this question can be found in figure 2.9 (next page). In most cases, the institution itself provides the funding for the conferences (64.8%), followed by external funders (28.2%) and the Graduate School (22%).

Who funds the conferences differs per type of institutions. At universities, funding via Graduate Schools is much more common than at UMCs and other types of institutions, where funding by the institution itself is much more common. External funding for conferences is practically equally common at all types of institutions.

The PhD arrangement also very much influences which sources of funding PhDs can address. Employee PhDs most often can turn to the institution for conference funding (70.6%), while scholarship PhDs relatively often have to acquire funding via the Graduate School (39.7%). External PhDs often need to address other types of funding sources (29.7%), while other types of PhDs also relatively often address external funders to pay for their conferences (38.8%).

The sources of conference funding are also very discipline specific. Getting funding via the institution is most common in Technical sciences and engineering and Medical and Health sciences, while PhDs in Economics and Business often need to address their Graduate Schools (49.5%). PhDs in Agricultural sciences relatively often address external funders for their conference funding, while PhDs in Law relatively often also have other sources for conference funding.

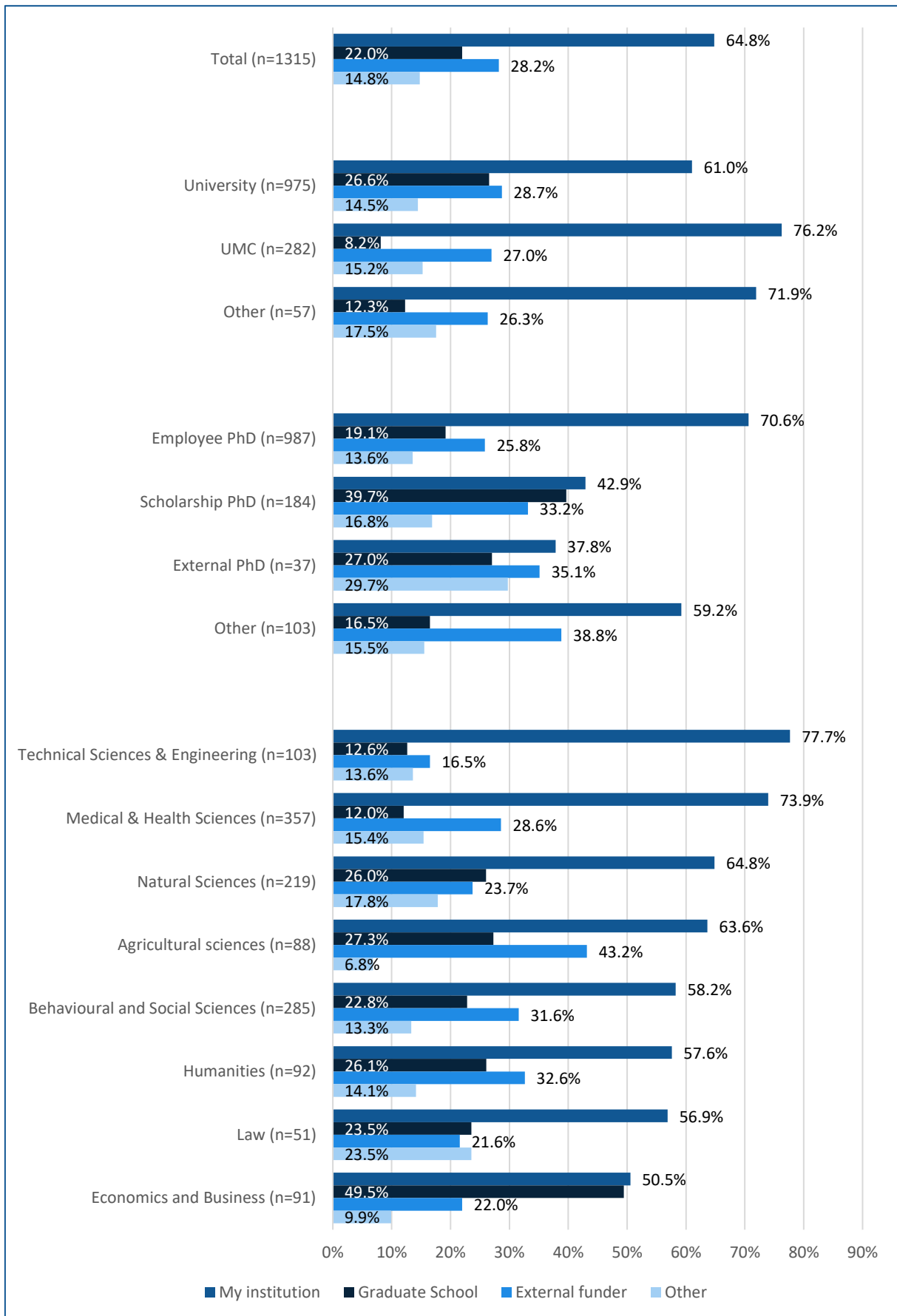


Figure 2.9: Responses to the question "Who pays for the conferences?", in total, and per type of institution, type of PhD arrangement and discipline.

## Reasons to pursue a PhD

When graduating from a Master's programme, the options are endless. Many of these options provide more job security and income security than doing a PhD, certainly when you are not even an employee PhD, and may be much less stressful than doing a PhD. What then drives PhDs to pursue a doctoral title?

In our survey, we asked the respondents what are the reasons they chose to pursue a PhD. They could choose multiple from the following options:

- Because I like doing research
- I was interested in the subject of the PhD project
- To get into academia
- To improve my career prospects
- Personal development
- To answer a specific question in my field
- To contribute to solving a specific problem
- Other, namely:
- [Only for MD PhDs] To get into a specialisation track

The results to this question can be found in figure 3.1. Here, we see that the most common reason for doing a PhDs is that the PhDs like doing research (76.2%). Doing a PhD is also often considered to be a form of personal development (63.8%), and being interested in the subject of the project is also often mentioned (56.8%). 42.6% of the MD PhDs indicate that they are (also) doing a PhD to get into a specialisation track. In contrast, only 24.6% of PhDs indicate to be doing a PhD to get into academia. Answering specific questions in the field and contributing to solving specific problems are less frequently mentioned as reasons to pursue a PhD.



Figure 3.1: Responses to the question: "What are the reasons you chose to pursue a PhD?" (n=1,598).

## Gender differences

To assess whether there are gender differences in reasons to pursue a PhD, we look at the reasons for men and women separately (figure 3.2). Here we see that men relatively more often indicate to pursue a PhD for personal development, to improve their career prospects or to get into academia, while women more often indicate to be interested in the subject of the PhD project and, in the case of MD PhDs, to get into a specialisation track. Men and women

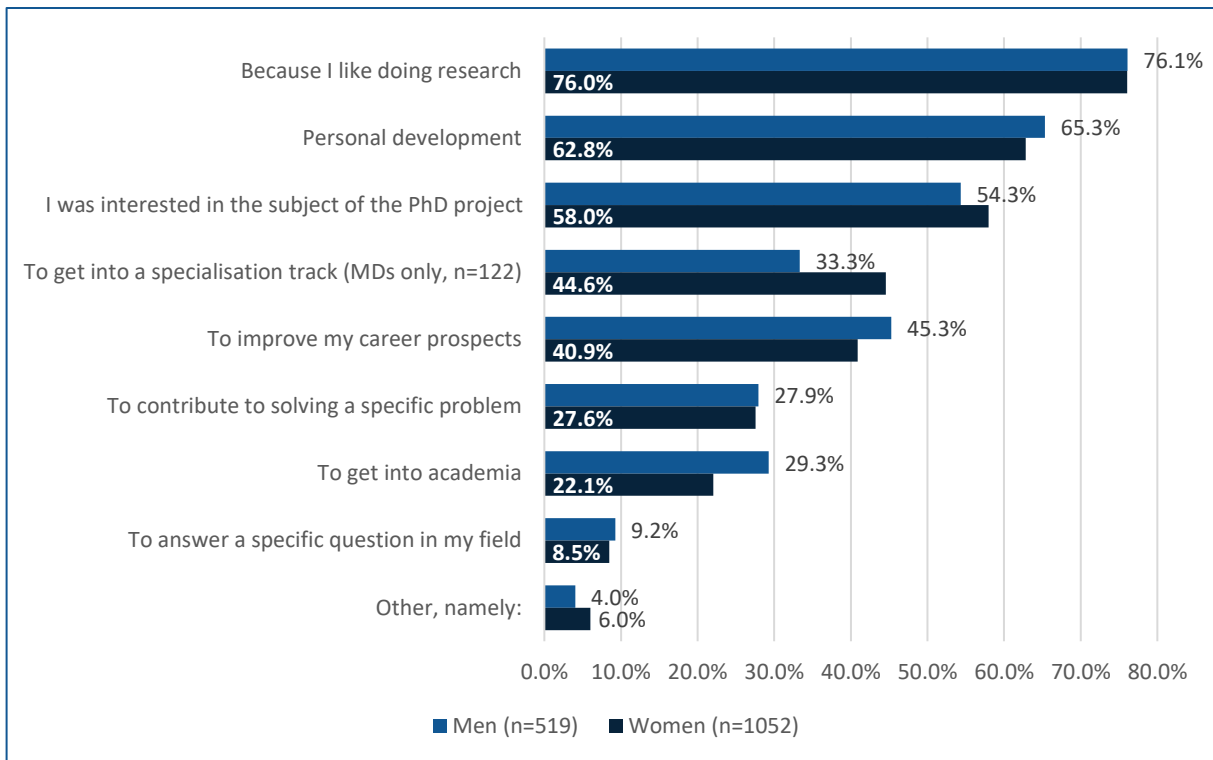


Figure 3.2: Responses to the question: "What are the reasons you chose to pursue a PhD?", per gender.

practically equally often mention that they like doing research, that they want to contribute to solving a specific problem, and that they want to answer a specific question in the field.

### Type of PhD arrangement

We furthermore investigated the extent to which the reasons for doing a PhD differ per type of PhD arrangement (figure 3.3, next page). For all types of PhDs, except for other types of PhDs, the most common reason is that the PhD likes doing research. For other types of PhDs, the most mentioned reason is personal development. Employee PhDs relatively often indicate that they like doing research and that they like the subject of their PhD project, while scholarship PhDs relatively often indicate that they pursue a PhD to improve their career prospects and to get into academia. External PhDs relatively more often indicate that they want to contribute to solving a specific problem or to answer a specific question in their field. Other types of PhDs also relatively often pursue a PhD to improve their career prospects.



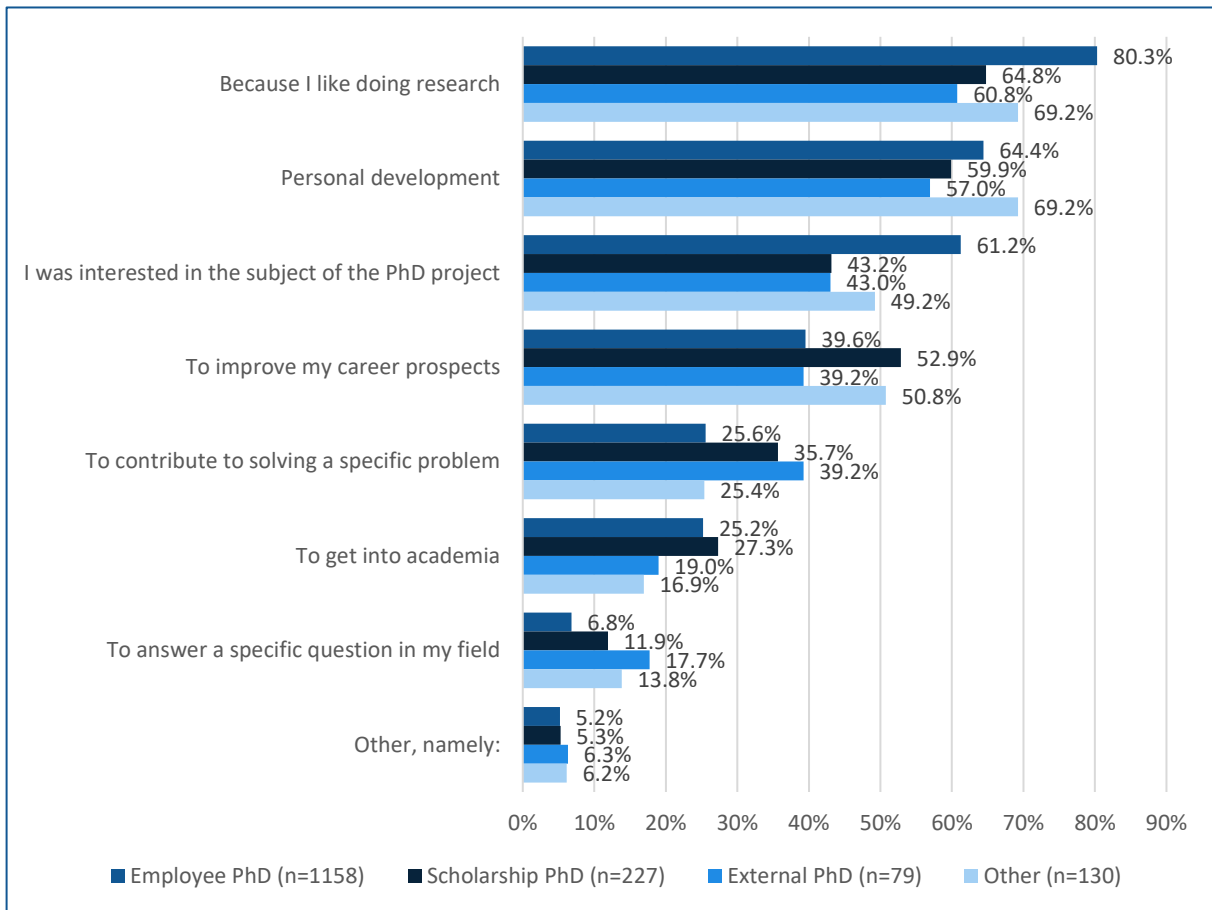


Figure 3.3: Responses to the question "What are the reasons you chose to pursue a PhD?", per type of PHD arrangement.

### Discipline

There are also quite some differences between disciplines in the reasons why PhDs choose to pursue a PhD (figure 3.4, next page). In all disciplines, the most common reason is that they like doing research. For the top three reasons, there are differences between disciplines, but they are relatively small. Larger differences are found for the less frequently mentioned reasons. For instance, PhDs from Law and Humanities relatively often chose to do a PhD to get into academia, while PhDs in Agricultural sciences relatively often want to contribute to solving a specific problem. PhDs in Medical and Health sciences relatively often indicate that they want to improve their career prospects, together with PhDs from Agricultural sciences.

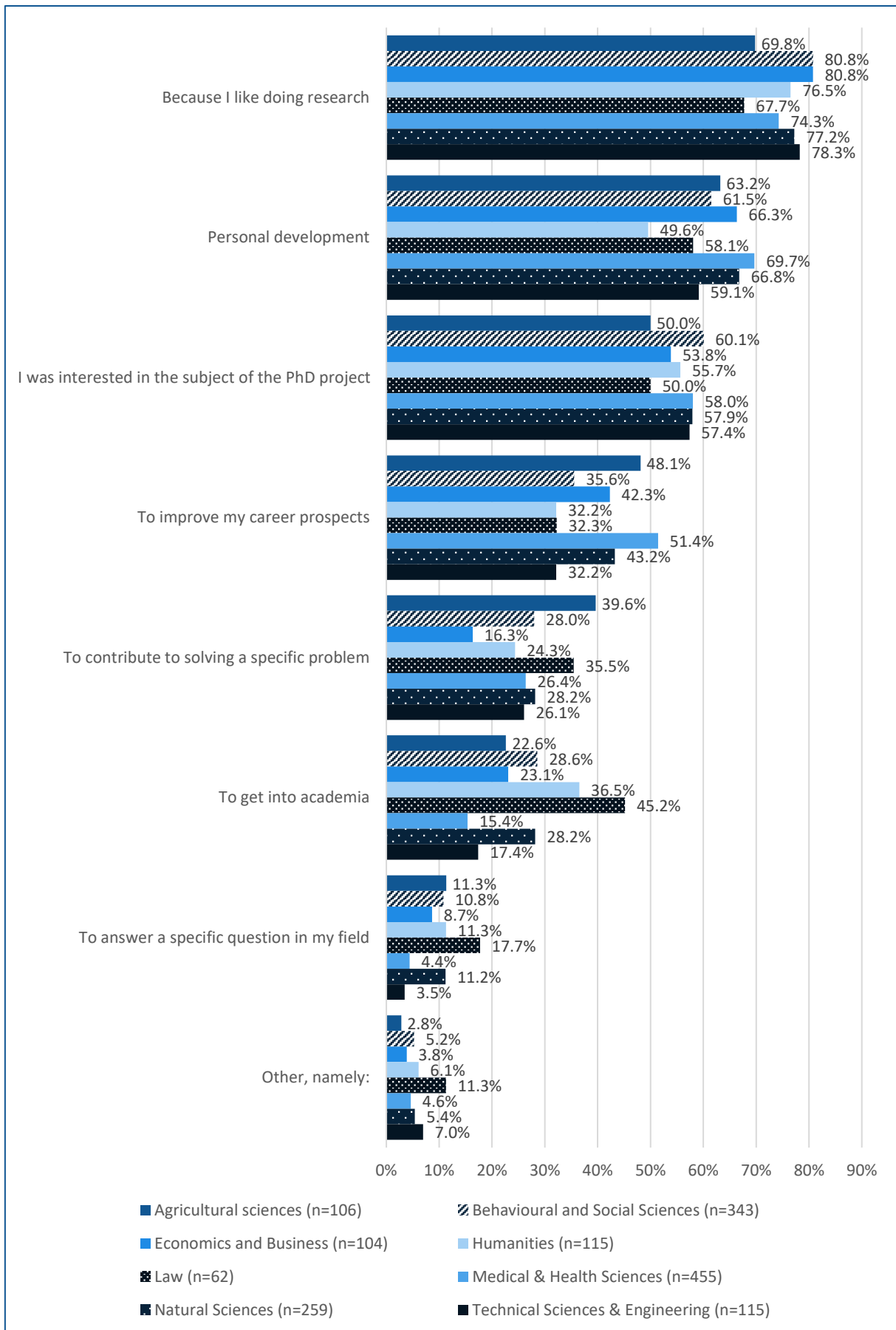


Figure 3.4: Responses to the question: "What are the reasons you chose to pursue a PhD?", per discipline.