



Developing a Pedagogical Training offer to Promote Knowledge and Research Attractiveness

Identification of orientations for the project based on

1. a study on the factors motivating and impeding Master's students in the field of Management and Entrepreneurship to engage in research and PhD, and
2. a survey of good practices developed by universities for research attractiveness.

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Forewords

The number of students enrolling in Higher Education Institutions (HEIs) is rising every year, yet few students enrol in PhD studies especially in the field of entrepreneurship and management studies.

In France in 2016-2017, the number of students engaging in PhD studies in the field of management studies is down by 2.5% and represents 5.5% of the total number of PhD students for that year all fields combined¹. This data is confirmed by Eurostat sources according to which, very few European PhD students enrol in the field of social sciences, management and business studies in comparison to other fields such as natural science, mathematics and engineering: it represents 22,9%².

The conclusion that can be drawn to these numbers is that engaging in research activities in entrepreneurship and management studies is relatively unattractive to students in Europe.

The Erasmus+ PuRPOSE project, coordinated by the University of Montpellier (France) and associating two European universities (Universität-Siegen, Germany and Limerick Institute of Technology, Ireland) as well as a network of entrepreneurs (Réseau Entreprendre, active in several European countries) intends to foster engagement of students in research activities, and PhD especially, in the field of management and entrepreneurship. More specifically, it aims at designing, testing and disseminating an innovative educational programme that contributes to foster doctoral studies attractiveness at Master's level by overcoming the barriers to students' engagement on PhD programmes.

To reach this general goal, the project is divided into 3 main phases:

- A study phase, providing 1/ an in-depth diagnostic of the factors motivating or preventing students to engage in research and PhD after their Master's (MA) studies, and 2/ a State of the Art of initiatives and programmes in a variety of universities across Europe and Canada.
- On the basis of this study, the conception of an innovative educational programme for MA students, and the implementation and monitoring of this programme in the partner universities.
- The evaluation of the programme and the dissemination of the project's results and outcomes to other HEIs and decision makers, encouraging the development of an international community of practice through the creation of a network to share learning material and research opportunities.

This report presents the methodology and the results of the study phase led by the PuRPOSE partners in 2020. The presented data, analyses and state of the art provide relevant orientations to the partner universities for the development and implementation of an innovative educational programme within the framework of the PuRPOSE project. Moreover, as limited scientific literature has been produced on the subject, this report serves as a milestone in the study of factors motivating or impeding students to engage in PhD. In particular, the methodology can be replicated and adapted in other contexts to refine the working hypotheses; furthermore, this study can be performed periodically by the partner universities to measure and assess the impact of the educational programme on their students.

¹ sources: MENESR-DGESIP/DGRI-SIES

² Sources: https://ec.europa.eu/eurostat/databrowser/view/educ_uoe_enrt03/default/table?lang=en

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Introduction

A/ Objectives of the study

The present study was conducted in 3 different European contexts (France, Germany, Ireland) and 3 universities (University of Montpellier, University of Siegen, Limerick Institute of Technology):

- to assess the level of information of MA students as regards to carrier and skill development opportunities in research and apprehend their representation of PhD
- to identify the factors motivating or impeding their engagement in research and PhD
- and to survey existing initiatives and programmes developed by universities aiming at attracting students towards research and PhD

Two types of data were collected and analysed:

- secondary data, in particular good practices of HEIs in research attractiveness, and scientific publications
- primary data, in particular verbatim records for the qualitative analysis, and statistics for the quantitative analysis

B/ Literature review

A non-exhaustive literature review led us to understand that quite a limited number of studies have been conducted to survey the motivation of students to engage in PhD. Reviewed literature included Anderson, M.S. and Swazey, J.P. (1998), Brailsford, I. (2010), Biddle, J.C. (2013), Calatrava Moreno, M.D.C. and Kollanus, S. (2013), Churchill, H. and Sanders, T. (2007), Kollanus, S. (2014), McGee, E.O., White, D.T., Jenkins, A.T., Houston, S., Bentley, L.C., Smith, W.J. and Robinson, W.H. (2016), Mueller, E. and Flickinger, M. and Dorner, V. (2015), Tarvid, A. (2014), Tarvid, A. (2017) and Zhou, J. (2015)³.

Table 1 identifies for each study the profile(s) of the target groups, the scientific sector (i.e. the field(s) of study of the targeted students, diverse or specific), the location(s) where the study took place, the chosen method (qualitative/quantitative/mixed) and, when identified, the main theoretical framework.

Table 1: Overview of a selected literature review on the motivation of students to engage in PhD.

Study	Profile of the target group	Scientific sector	Location	Method	Main theoretical framework
Anderson and Swazey (1998)	PhD students	diverse	USA	Quanti.	<i>none</i>
Biddle (2013)	PhD students	Specific (Education)	USA	Mixed	Based on an experimentation by

³ The full references can be found in Annex A.

					Wellington and Sikes (2006)
Brailsford (2010)	PhD students	Specific (History)	Australasia	Quali.	<i>none</i>
Calatrava Moreno and Kollanus (2013)	PhD students	Specific (Computer sciences)	Finland, Austria	Quali.	Self-determination theory
Churchill and Sanders (2007)	PhD students	Diverse (Social Sciences)	UK	Quali.	<i>none</i>
Kollanus (2014)	PhD students	Specific (Computer sciences)	Finland	Quali.	<i>none</i>
McGee et al. (2016)	PhD students (Black)	Specific (Engineering)	USA	Mixed	Intrinsic and extrinsic motivational framework
Mueller et al. (2015)	MA students + PhD students	Diverse	Germany	Mixed	Social cognitive career theory
Tarvid (2014)	PhD students	Diverse	Latvia	Quanti.	<i>none</i>
Tarvid (2017)	PhD students	Diverse	Estonia, Latvia, Lithuania	Quanti.	Self-determination theory
Zhou (2015)	PhD students (foreigners)	Diverse	USA	Quali.	Value-expectancy achievement motivation

As expressed in Table 1, most of the studies have targeted already engaged PhD students, with some of them focusing on clearly identified profiles; only one included also MA students in the target group. Furthermore, the studies show a variety in the scientific sectors and the locations, as well as the data collection method. Finally, theoretical frameworks tend also to vary.

We chose to introduce 3 of these studies which are particularly relevant to our context and give us perspectives for the study we aim to conduct.

The first study was led by Ian Brailsford in an Australasian university among 11 former PhD students in the field of History to understand their motives for starting a PhD, based on interviews (see Brailsford (2010)⁴). The conclusion of this study is that the motives to start a PhD are of three different types:

- Employment and career considerations
- Personal motives
- The influence of friends, family, colleagues and academics

The author reveals that the studied sample comes to validate the multiple nature of the motives to start a PhD along these three categories. He also recommends universities advertising for PhD positions to implement workshops for potential candidates to allow them to reflect upon their motivation prior to their application.

⁴ Brailsford, I. (2010), "Motives and aspirations for doctoral study: career, personal, and inter-personal factors in the decision to embark on a history PhD", *International Journal of Doctoral Studies*, Vol. 5, pp. 15-27.

One limitation to this study, to our understanding, is that it is not based on a theoretical framework related to intention, which would more effectively capture the determining factors to engage in PhD and, in our context, provide useful, precise elements to focus on in order to accompany students towards PhD.

The second study which served as an inspiration for the present report was conducted by Alexander Tarvid among PhD students in Estonia, Latvia and Lithuania (see Tarvid (2017)⁵). In this quantitative study, PhD students in various fields in the three country were asked to identify the primary goal and the secondary goal which led them to engage in PhD among a list of 9 pre-defined goals shared into two categories:

- Personal goals – “learning/research experience”, “contribute to science, global development”, “new achievement”, “always wanted”, “social status”
- Labour-market goals – “better career prospects”, “better competitive position in labour market”, “better salary”, “demanded by employers”

According to this study, the main goals pursued by the respondents (in all fields) were “learning/Research experience”, “contribute to science, global development”, “new achievement” (personal goals) and better carrier prospects (labour-market goals), which led the author to think that PhD students are primarily motivated by personal goals. However, more precise data on PhD students in the field of Management/Business administration indicate a specificity of that field where students demonstrate relatively high motivation related to professional/career goals, taking also into account that the situation varies in the different studies countries: in Estonia, 45% of the PhD students in the field of Management/Business administration are motivated mostly or primarily by labour-market goals and 55% mostly or primarily by personal goals and, whereas in Latvia, the same ratio is 31%/69%, and in Lithuania 40%/60%.

From this study, we then understand that the motivation of students in the field of Management/Business administration to start a PhD are relatively more professionally oriented compared to other fields of study, and that while comparing different national context, the variation may be significant.

The third study was led by Elisabeth F. Mueller, Miriam Flickinger and Verena Dorner among MA and PhD students in various fields of study in Germany (see Mueller et al. (2015)⁶). The authors used a mixed approach: they firstly conducted a qualitative study (interviews) among MA and PhD students to formulate hypotheses relating to the intention to engage in PhD; then they tested their hypotheses in a quantitative study (through a survey to MA students). Their analysis demonstrated that intrinsic academic motivation, academic achievement, the belief that a PhD will have a positive influence on one's non-academic career, and familiarity with the requirements of earning a PhD, are positively related to the intention to engage in PhD. Other formulated hypotheses about extrinsic academic motivation, or negative perceptions about PhD working conditions regarding workload, supervision, contract, and pay, and their relation to the intention to engage in PhD, were not supported by the quantitative data, which suggests that these determinants less influential or not influential.

⁵ Tarvid, A. (2017), "Attracting doctoral students: case of Baltic universities", *International Journal of Educational Management*, Vol. 31 No. 7, pp. 1017-1041.

⁶ Mueller, E. & Flickinger, M. & Dorner, V. (2015), Knowledge junkies or careerbuilders? A mixed-methods approach to exploring the determinants of students' intention to earn a PhD. *Journal of Vocational Behavior*. 90. 75-89. 10.1016/j.jvb.2015.07.001.

The third study was particularly inspiring by the chosen methodology which included a preliminary qualitative study among stakeholders of PhD to identify hypotheses, and a subsequent quantitative study among the target group concerned by the intention to engage in PhD, i.e. MA students.

The PuRPOSE study capitalises on some aspects of these three studies which are relevant to our context: the scientific sector is specific (Management/Entrepreneurship), the context and location are diverse (3 national contexts), and the target group is represented by MA students, for which the PuRPOSE aim to provide training.

The Model of Planned Behaviour, theorised by Icek Ajzen, serves as a conceptual frame to the study.

C/ Theoretical background

The Theory of Planned Behaviour (Ajzen, 1991)⁷, considers 3 psychological dimensions as primary determining factors of the intention to perform a behaviour: Attitude, Perceived Behavioural Control and Subjective Norms. This theory introduces an operative model which has been largely implemented in the field of social psychology to predict behaviour in a choice situation and to support its change⁸.

The 3 psychological dimensions can be described as follows:

a/ Attitude targets the degree of favourable (or unfavourable) judgment that the subject holds as regards to the behaviour in question and the assessment of its success (or failure).

b/ Perceived Behavioural Control involves the representation of the subject regarding the feasibility of the behaviour s/he aims to adopt. This perception of control over a situation is similar to the concept of *self-efficacy* developed by Bandura (1977)⁹. It consists in the conviction for the subject that s/he holds the necessary resources to adopt the targeted behaviour.

c/ Subjective Norms correspond to perceived social pressure which favours or inhibits the adoption of the behaviour. Two types of norms can be distinguished: injunctive norms ("what I think other expect of me") and descriptive norms ("what I think others do").

D/ Description of the study

According to this model, the PuRPOSE partners have developed a methodology for the study of factors motivating or impeding MA students in engaging in research and PhD, consisting in the design of a questionnaire targeting these students in the three partner universities and the quantitative analysis of their responses.

Beforehand the partners engaged in the preliminary identification of working hypotheses to be further tested through the questionnaire on the target group. The identification of the hypotheses took place during a qualitative analysis of interviews with current PhD students and staff members engaged in PhD-related activities (in particular, supervisors) in the 3 partner universities.

⁷ Ajzen I. (1991). "The theory of planned behaviour", *Organizational Behavior and Human Decision Processes*, 50(2): p. 179-211. [https://doi.org/10.1016/0749-5978\(91\)90020-T](https://doi.org/10.1016/0749-5978(91)90020-T)

⁸ See Fishbein, M. & Ajzen, I. (2010). *Predicting and changing behavior: The reasoned action approach*. New York: Psychology Press.

⁹ Bandura, A. (1977). "Self-efficacy: Toward a unifying theory of behavioral change", *Psychological Review*, 84(2), 191–215. <https://doi.org/10.1037/0033-295X.84.2.191>

The two (qualitative and quantitative) studies are presented below:

1/ A qualitative study of the attractiveness of research and PhD as perceived by PhD students and supervisors

In order to formulate the working hypotheses of factors motivating or impeding MA students in engaging in research and PhD, and building on Ajzen's theory of planned behaviour, the PuRPOSE partners engaged in a qualitative study targeting stakeholders of PhD, namely PhD students and supervisors.

In particular, the aim of the qualitative study was:

- to identify tendencies among PhD students and supervisors on what are the drivers and motivation factors for students in Management and Entrepreneurship to go for a PhD, and
- to get an insight on what could be done to better prepare these students for PhD.

The partners designed a common methodology based on guided discussions in the framework of focus groups. In each HEI, two focus groups were hosted, one composed of PhD students at different stages of completion of their thesis, and one composed of supervisors and staff members involved in the support of PhD students. In each focus group, a facilitator, external to the group and impartial, was present, whose role was to guide the discussions around pre-defined subjects and ensure a free and safe expression for all participants, as well as to record the discussions for further analysis. Each focus group was composed of 4-7 participants and lasted 1.5-2 hours.

The features of the focus groups (homogeneous composition of the group, relatively small number of participants, guided discussions, facilitation by an impartial interviewer) enabled the participants to both express themselves in a safe environment, thus providing honest opinions, and to react to each other's comments, thus highlighting dominant opinions over marginal ones.

The detailed roadmap for the conduction of the focus groups, providing instruction for the organization as well as the interview plan, can be found in Annex B.

The focus groups were conducted between February and June 2020 in the three partner universities. Subsequently, each partner transcribed the verbatim records and produced a preliminary analysis, which was then collected by the University of Montpellier and synthesized in this report.

2/ A quantitative study of factors motivating or impeding students in engaging in research and PhD among MA students

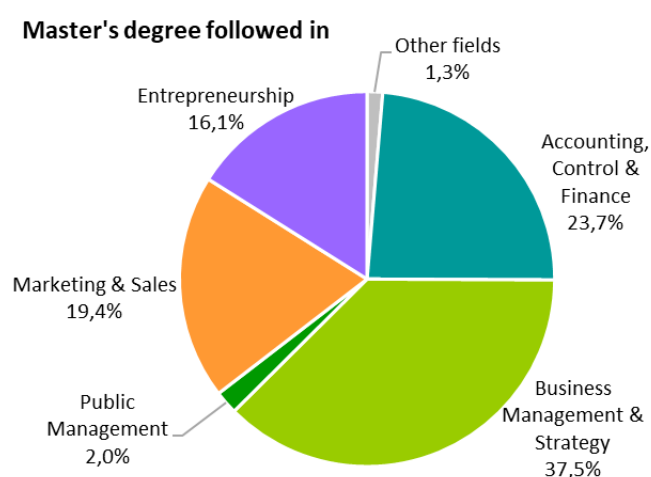
Based on the results of the qualitative analysis, a questionnaire entitled "PhD in 20 questions" was developed by the partners at the University of Montpellier (see the template in Annex C), translated in the three working languages (French, German, English) and administrated to the MA students in Management and Entrepreneurship at the University of Montpellier (**UM**), the University of Siegen (**US**) and the Limerick Institute of Technology (**LIT**).

Information about the administration of the questionnaire and general statistics in each HEI can be found below:

UM All students in Montpellier Management School (MOMA) received an invitation to participate via the Virtual Learning Environment of the university. The survey was administered online in October 12-26, 2020 with Google Forms.

299 master students in Management and Entrepreneurship completed the questionnaire. Corresponding response rate is 24.9%.

The sample consists of 160 M1 (Master's 1st year) and 139 M2 (Master's 2nd year) students. All fields and specialities are represented.

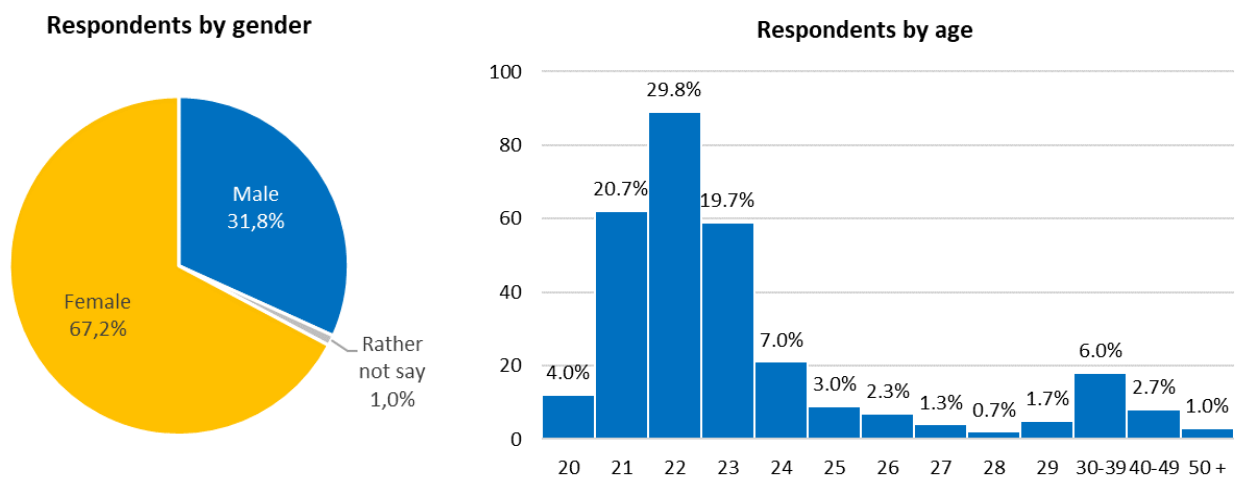


Master's title

	Frequency	Percent
Master Contrôle de Gestion et Audit Organisationnel (CGAO)	8	2.7
Audit et Contrôle Interne (ACI)	3	1.0
Comptabilité Contrôle Audit (CCA)	17	5.7
Contrôle de Gestion et Systèmes d'Information Décisionnels (CGSID)	7	2.3
Finance & Green Finance (GF)	11	3.7
Gestion de Patrimoine (GP)	11	3.7
Diplôme Supérieur de Comptabilité et de Gestion (DSCG)	14	4.7
Master Management, Stratégie	5	1.7
Management Commerce Vente dans les Industries Agro-alimentaires (MCVIA)	1	.3
Management de la Distribution (MD)	12	4.0
Management de la Transition Écologique et de l'Économie Circulaire (MTEEC)	17	5.7
Management des Organisations et Développement Responsable (MODR)	12	4.0
Management et Business Development (MBD)	15	5.0
Management et Communication des Produits et des Marques (MCPM)	5	1.7
Management et Stratégie en Hôtellerie-Tourisme (MSHT)	9	3.0
Management Stratégique des Organisations de Santé (MSOS)	21	7.0
DU Management du développement durable en santé	1	.3
Consultant en Management Organisation Stratégie (CMOS)	14	4.7
Management Public Territorial (MPT)	6	2.0

Master Marketing, Vente	11	3.7
Marketing, Communication et Études (MCE)	3	1.0
Commerce des Vins (CDV)	7	2.3
Marketing du Sport et des Loisirs (MSL)	8	2.7
Marketing et Communication des Organisations (MCO)	12	4.0
Data Mining et Relation Client (DMRC)	8	2.7
Marketing, Innovation et Territoires (MIT)	8	2.7
Marketing du Produit et Solutions Innovantes (MPSI)	1	.3
Master Entrepreneuriat et PME	5	1.7
Accompagnement Entrepreneurial (AE)	7	2.3
Direction Générale de PME (DGPME)	10	3.3
Management de Projet Intrapreneurial et Digital (MPID)	15	5.0
Management International des PME (MIPME)	7	2.3
Transmission et développement des PME (TDPME)	3	1.0
EMBA Stratégie de Croissance des PME	1	.3
Autres	4	1.3
Total	299	100.0

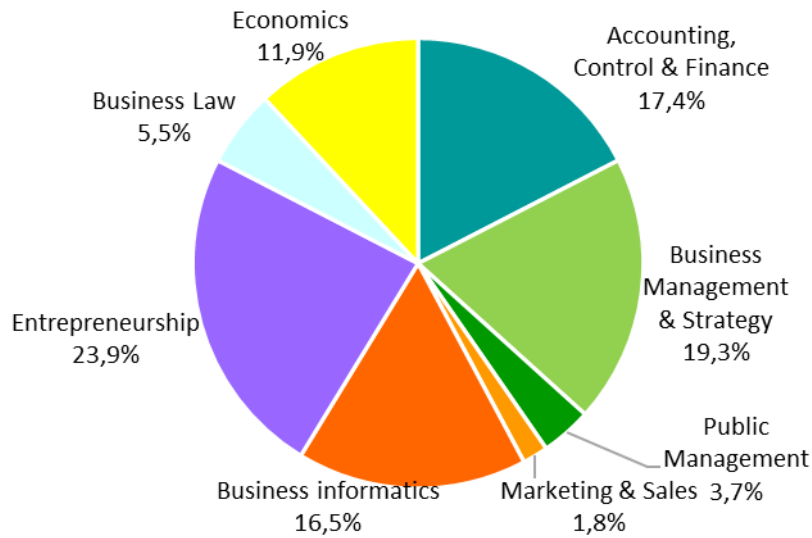
67.9% of respondents are women. Average age is 24.1 (Standard Deviation, SD=5.8) years old and 25.8% are over 23 years old (i.e., beyond the normal age for M2 in the French education system).



US The survey was administered from November 12 to December 4, 2020 to students of the School of Economic disciplines (Fakultät III) at the University of Siegen through the Unipark online survey software. Questionnaire duration ranged 3.2 to 26.3 minutes, with an average time of 8.8 minutes.

109 master students in Management and Entrepreneurship responded to the survey. Among them, 32 are in 1st year of their Master's degree and, 77 in the 2nd year. All fields and specialities are represented.

Master's degree followed in

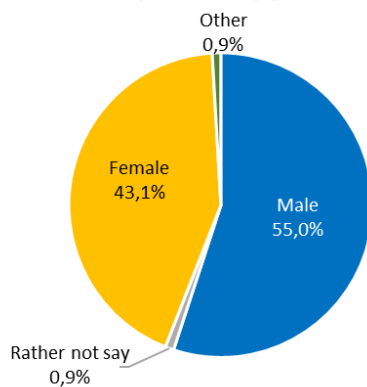


Master's title

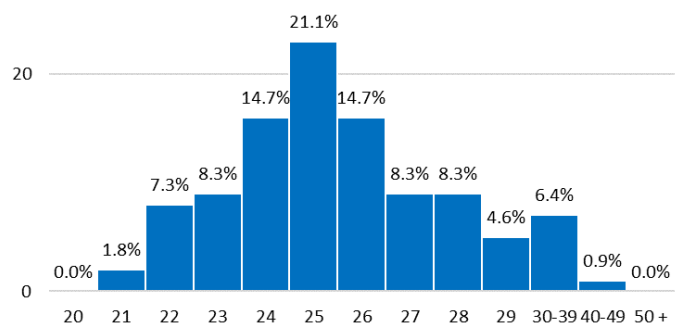
	Frequency	Percent
Accounting Auditing & Taxation (AAT)	6	5.5
Controlling und Risikomanagement (CRM)	13	11.9
Betriebswirtschaftslehre (BWL)	1	.9
Management und Märkte (MuM)	20	18.3
Economic Policy (MEPS)	4	3.7
Business Analytics (BA)	2	1.8
Wirtschaftsinformatik (WI)	9	8.3
Human-Computer Interaction (HCI)	9	8.3
Entrepreneurship & SME Management (SME)	26	23.9
Wirtschaftsrecht (WR)	1	.9
Deutsches und europäisches Wirtschaftsrecht (DEWR)	5	4.6
Wirtschaftswissenschaften (WiWi)	1	.9
Plurale Ökonomik (PÖ)	12	11.0
Total	299	100.0

43.1% are women. Average age is 26.1 (SD=3.4) years old, 46.8% are over 25 years old (median age of the sample)

Respondents by gender

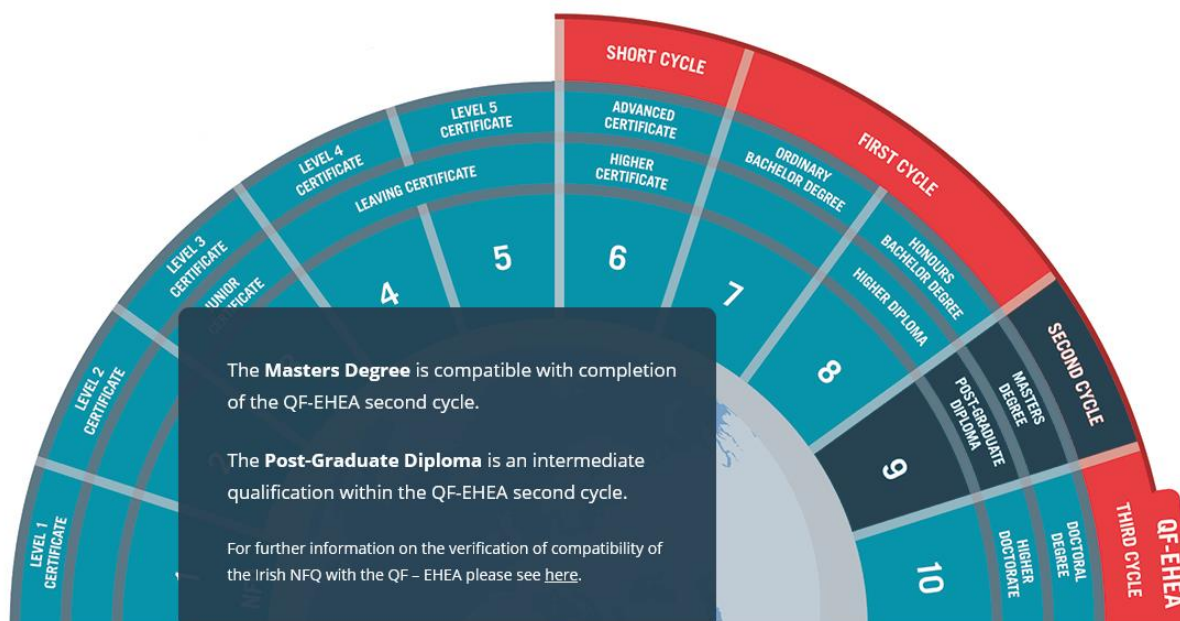


Respondents by age



LIT The survey was administered from December 7, 2020 to February 26, 2021 to the students of the school of Business and Humanities at the Limerick Institute of Technology.

47 students in a master's degree (or an equivalent qualification according to the Irish NFQ framework¹⁰) responded. A little over half of them were following their master by research.



Second cycle qualification		frequency	by research
Specific Purpose Award	SPA	1	
Post-graduate diploma	Post	5	2
Professional Master of Education	PME	3	
Masters degree	M	36	21
Masters tracking PhD	Mtrack	2	2
Total		47	25

Among the respondents, only 18 were studying Management & Entrepreneurship or Applied Social Sciences and therefore constitute the target group of the PurPOSE project.

Field	frequency
Management & Entrepreneurship	13
Applied Social Sciences	5
Education & Art	5
Education & Health	2
Engineering	12
not specified	10
Total	47

The small number of replies received may be due to distance learning (because of lockdown situation), exams, project deadlines and the Christmas break, as well as the relatively small size of the Limerick Institute of Technology, compared to the University of Montpellier or the University of Siegen.

¹⁰ See <https://nfq.qqi.ie/index.html>

Unfortunately, this number of replies is too low to allow statistical analysis and meaningful country comparisons.

In addition to the above-mentioned study, the PuRPOSE partners have surveyed their own partners in HE national and international networks.

3/ A survey of good practices for research attractiveness in universities across Europe and Canada

The objective of the survey was to map out some existing initiatives in HEIs as regards to research attractiveness, especially in the field of management and entrepreneurship in order to draw in them inspiration in the design of an innovative educational programme targeting specifically the factors identified during the study.

Each partner identified several HEIs in their cooperation networks and looked at the programmes and initiatives implemented by the institutions through information available on their websites or through direct communication with staff members of these institutions, and using a common template to survey:

- general information about an initiative or a programme (number of targeted students, profile of the students (M1, M2, other), mandatory/optional, physical/e-learning, etc)
- a more in-depth description of the initiative (goals, activities, calendar, etc)
- the measured results/impact of the initiative
- the potential for transferability
- contact for further information

I/ The attractiveness of research and PhD as perceived by PhD students and supervisors

A/ Comparative analysis

The following structure has been used to analyse the three universities:

- 1/ Capacity and competencies
- 2/ Desire and motivation to do a PhD
- 3/ Influence of curriculum
- 4/ External influence

1/ Capacity and competencies

To begin with capacities and competencies, one big issue seems to be the global lack of information regarding the possibility of doing a PhD, among students.

Indeed, the three universities experiment the challenge of informing students about the PhD possibility and process. Only a minority of students are aware of the possibility and the majority seem to have trouble getting to the information, especially before entering a master programme. All supervisors (especially France and Germany) agree to the importance of their role, as teachers, to inform students, in addition to use actual PhD students to help promoting the doctorate.

See Table 1: Item: Lack of information

- ➔ This observed lack of knowledge in master's students can be countered both by including awareness-raising work regarding research as part of teacher-researchers' duties; and by promoting feedback mechanisms from PhD students capable of giving a clear and encouraging vision of their job to Master's students.

Another issue seems to be encountered, specifically in France and Germany: the perception that only the best students are meant to do a doctorate. It is usually seen as a top level's student privilege; therefore, students do not feel concerned about this specific possibility. The fact that they are surrounded by professors and people at the university, whose abilities they consider to be very high compared to themselves, leads to the feeling of insecurity and makes them doubt their abilities. Supervisors can also influence these feeling as they sometimes have this idea of the "ideal" candidate, who needs to be very good. But they also temper this statement and tend to give less importance to results than motivation for research.

See Table 2: Item: Perception that "only the best ones can do it"

- ➔ It seems necessary to aim at rooting out the idea that only the best students can engage in PhD studies and to offer the possibility to other student profiles who could thrive in this line of work.

In line with those statements, a typical profile of “the good PhD student” has been drawn by all 3 universities. A lot of skills were in common and it appears that it has more to do with soft skills and social skills than with academic capacities.

See Table 3: Item: Skills

- ➔ Many skills are needed to successfully carry out PhD work, however these skills do not necessarily include extraordinary “academic” skills. This notion should be promoted to Masters’ students so that those who have the desire to engage in PhD studies but dismiss the idea because of their grades are aware that this isn’t necessarily an obstacle.

Students’ self-perceived incapacity, caused by lack of knowledge on what research and PhD work really are, seems to be a major obstacle in engaging in PhD studies. Students believe they won’t be able to fit in their preconceived “PhD student” profile.

Thus, one can wonder what sparks PhD students’ desire to engage in PhD studies.

Table 1: Item: Lack of information

University of Montpellier	Limerick Institute of Technology	University of Siegen
<p><i>"During my professional Master's degree, at the time [the possibility of doing] research was hardly mentioned, not at all even." (Student 4)</i></p> <p><i>"I didn't know what it was." (Student 1)</i></p> <p><i>"I believe we do not share enough insight on our own job" (Supervisor 1)</i></p>	<p>Both students and supervisors noted that it was often only when the student asked a lecturer or similar about the opportunity that it was then discussed with them in detail.</p> <p>They noted that PhD level was usually discussed after they registered in a master's programme [Supervisor 4].</p>	<p>Lack of information about the selection: <i>"Many as I said are not aware, only dimly aware: What is this Ph.D. stuff? Do you get selected? Do you have to be asked by the professor or are you actually allowed to contact the professor." (Prof.4)</i></p> <p>Lack of information about the procedure or schedule for a Ph.D. degree: <i>"Another reason I heard about, is that they cannot imagine how it is to write a Ph.D. So they are afraid of, or they have this risk aversion in mind because they cannot figure out how is it how can I make it" (Prof. 1).</i></p> <p><i>"So then we have people sometimes who don't even know (Name Prof. 2) alluded to that, who don't even know: Oh the opportunity exists, the Ph.D. They never heard about it, they didn't even know about it." (Prof. 4), "I found that there is no communication at all" (Student 5).</i></p> <p><i>"That's what I take away is that I probably need to inform them better about the possibility to do this. So in the master lectures for instance. Where I probably could invest an hour or so of the lectures into you know just telling them what a Ph.D. might look like and what they could do there and why this is important and attractive" (Prof. 4).</i></p> <p><i>"I think it would be super nice in a master phase, for example, to have someone like a Ph.D. student with a Q and A session or something so that you're really able to just let it like from a very personal way" (Student 5).</i></p>

Table 2: Item: Perception that “only the best ones can do it”

University of Montpellier	Limerick Institute of Technology	University of Siegen
<p><i>“For me doing a PhD was something that’s really super high level...” (Student 6); “I didn’t even know how it could be accessible, I thought it was only for a certain type of person” (Student 6)</i></p> <p><i>“They asked us “who wants to do a PhD? We’re looking for PhD students” and the three who raised their hand were the 3 best students. The others just didn’t feel concerned and so that was the end of that.” (Student 1)</i></p> <p><i>“I would tend to temper the importance of past results. Obviously if we get brilliant people from the start it might be easier, but I think there are potentially students who aren’t as brilliant, who didn’t get honours left and right in the past but who can, at some point, come to the realisation that they have a real interest in research, and also because it’s another way of thinking than just cramming information inside their head”. (Supervisor 1)</i></p>	<p><i>No data</i></p>	<p><i>“And that leads me basically to the thing that it often feels like people at university are super-geniuses. But it has a lot to do with learning that they are not and everybody is just working on their stuff” (Student 5)</i></p> <p><i>“It feels like you’ve never good enough for that.” “And for me personally I saw there are Ph.D. positions but I thought I might must be the best student any way” (Student 5).</i></p> <p><i>“Because they sometimes see these professors as they are born as professors” (Prof. 4).</i></p> <p><i>“I think it’s a big issue [...] because you’re always with those people who are like, you know what I mean.” (Interviewer) “Top-shots” (Student 1).</i></p>

Table 3: Item: Skills

University of Montpellier	Limerick Institute of Technology	University of Siegen
<p>Take a step back and put things into perspective: <i>"For me a good PhD student is someone with good organisational skills and who is able to put things into perspective so as not to get overwhelmed and panic" (Student 2); "I think a good PhD student is someone who has a fulfilling personal life and does loads of things other than his thesis". (Student 2)</i></p> <p>Overcome failure and doubts: <i>"It's learning about taking a step back, I learned to do that, now if I get turned down for something it doesn't affect me, I wasn't like that before". (Student 3)</i></p> <p>Resilience: <i>"It's learning about taking a step back, I learned to do that, now if I get turned down for something it doesn't affect me, I wasn't like that before". (Student 3)</i></p> <p>Autonomy: <i>"I think autonomy should be one of the main qualities of a PhD student, that and strong resilience abilities". (Supervisor 1)</i></p> <p>Organisational skills: <i>"it's self-management really, like a freelance or anyone else, you have to adapt to the necessary work rhythm" (Student 4)</i> This notion includes time management, as stated by PhD supervisors: <i>"A PhD is necessarily a long-term project", "it's being capable of setting short-term objectives to reach the final goal". (Supervisor 3)</i></p>	<p>Technical Skills: Literacy skills Research skills – for example how to best utilize databases Literary and analytical skills</p> <p>Personal Skills: Relationship building between supervisor and student Time management Managing a work / life balance Resilience, adaptability</p>	<p>The respondents spoke about the necessary scientific skills that are elementary for research. In this context, interest "in the literature" (Student 5), "writing in English" (Prof. 3) and "methodology" (Prof. 4) were discussed as examples.</p> <p>Methodological skills: <i>"So I would love to have people you know already been really up to speed in terms of methods. [...] So normally they don't have you know much of methodology classes or so. So they rather come unprepared. And that's not a big issue for me because I can send them to courses" (Prof. 3).</i></p> <p>Ability to motivate oneself: <i>"And what I could add is that they have yeah at least strong motivation" (Prof. 3).</i> Here students and supervisors agree that this <i>"self-motivation"</i> (students 2 and 5) is an important skill.</p> <p>"Scientific curiosity" (Prof. 5) mentioned by both groups as an important skill to successfully do a Ph.D.</p> <p>Resilience: <i>"you have to be resilient" (Student 3).</i></p> <p>Self-organization: Ph.D. students should be able to be <i>"self-structured and focused"</i> (Student 2). Both groups also seem to agree that students seeking a Ph.D. require a certain degree of openness in terms of <i>"people and topics"</i> (Student 5)</p>

<p>Isolation. <i>“A good PhD student for me is also someone who can deal with isolation. It’s my impression that writing a thesis involves a lot of solitude, inner reflecting and personal decision-making.”</i> (Supervisor 3)</p> <p>Gain new skills: <i>« getting into research leads to another way of thinking and seeing things. There needs to be this capacity to change and adopt a different kind of thinking on the student’s part”</i> (Supervisor 1)</p>		<p>In this context, the supervisors also mention the willingness to participate in conferences: <i>“[there are] PhD students who prefer sitting in their cabins and it's not so good”</i> (Prof. 2).</p>
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2/ Desire and motivation to do a PhD

In the three universities, some students have the initial desire to do a PhD: sometimes straight after their Master, sometimes after some years of work experience in the private sector. Especially in Limerick, PhD students understand it as a logical pathway to become a teacher at University level or to do research.

See Table 4: Item: Possibility/desire

- ➔ Students seem to be aware of the PhD pathway for several reasons. These reasons can relate to different influences' factors that will be developed after.

Some of them did not have the initial idea of doing a PhD, but found out about the opportunity through different channels (teachers, seminar, master programmes, interesting subject).

See Table 5: Item: Opportunity

After engaging in PhD, PhD students report experiencing a mismatch between what they expected (depending on how much information they had, and the perception of what a PhD is). They express a need to compromise and accept to morph from "student" into "PhD student". Supervisor also have a role to play in this compromise and to adapt their expectations. This issue was however not stated at Limerick Institute of Technology.

See Table 6: Item: Compromise

- ➔ There is therefore a need to lift the veil on the world of research and the related job opportunities in order to trigger a desire to engage in PhD studies and mitigate potential disappointment due to misperceptions.

The desire to go for a PhD (spontaneous or induced) is often triggered by different factors which can be common between universities.

Table 4: Item: Possibility/desire

University of Montpellier	Limerick Institute of Technology	University of Siegen
<p>Straight after their Master's degree, in a "logical" way: <i>"I was already quite motivated, I wanted to write a thesis, it was already planned for several years" (Student 3), "I've always had it (the PhD) in mind, even though I was doing a business-oriented Master's" (Student 4)".</i></p> <p>A need for more freedom in their work: <i>"So if I went on, it's because my first research experience, even if it had taken place in a certain environment, I enjoyed it, this openness, this freedom" (Student 5).</i></p> <p>A thesis was also for them the opportunity to keep on experiencing what they enjoyed during their studies: <i>"I went to literature prep classes, then I went for philosophy, I always enjoyed writing and reading, so for me a PhD, it had a great value" (Student 2), "And it's from there that I started to see that it was the opportunity, actually, to combine statistics-mathematics and consumer behaviour and that would mean to do a PhD, that's how I told myself, in fact the best for me is to continue with a PhD, that way I could use everything that I know and that I am skilled in doing" (Student 3).</i></p>	<p>A student explained her desire, in that she wanted to go from teaching at second level to teaching at University level. With an economics background and an interest in entrepreneurship she said that this was going to <i>"take my career up one level"</i> [student 5]</p> <p>[student 6] was focused early on as she enjoyed the research work she experienced at a masters level and also commented on enjoying being challenged, <i>"there are always new challenges and new projects coming up and research is endless, so I can't go into research if I don't have a PhD or a masters"</i></p>	<p>Only one of the five students expressed: <i>"I actively decided to do the Ph.D."</i> (Student 1)</p> <p><i>"Another group are students who have already successfully finished their studies and who have a real interest in continuing working at the university in that kind of context. But this is a rather small group"</i> (Prof. 2)</p>

Table 5: Item: Opportunity

University of Montpellier	Limerick Institute of Technology	University of Siegen
<p>The desire to go for PhD can be triggered by the access to information about the opening of positions and an interesting subject: <i>“There was a subject that I liked and that was relatively in line with my studies and what I was doing at the company. So I applied, and it worked.”</i> (Student 4)</p> <p>Some students chose to do a PhD because they had a trustful relationship with their current supervisor during their Master’s degree: <i>“I was quite honoured to be with someone that high in hierarchy.”</i> (Student 6)</p>	<p>The process in LIT also helps the supervisors in their recommendation to the students. They noted the key capabilities in literacy, literary and analytical skills that are important for research and that those first 18 to 24 months in the Master’s stage can tell a lot about a student and helps them when recommending that they go forward for a transfer.</p>	<p>Students who wish to do a Ph.D. out of their own desire can be divided into two subgroups: those who have a strong desire of their own and those who have a desire but do not take action.</p> <p>These students were both asked by their supervisor whether they could imagine doing a Ph.D. <i>“it was more like, ‘ok I do my Master’s and then I would work and at some point maybe I will do it’. And then, yeah, like, my Professor from a class came to me and asked me”</i> (Student 5).</p> <p><i>“I honestly have to say that it was luck or coincidence that I actually started my Ph.D. So I was approached by someone from the chair I’m currently working for [...] yeah, because I really did not have it in mind at all, like, it was never in the back of my mind”</i> (Student 2).</p>

Table 6: Item: Compromise

University of Montpellier	Limerick Institute of Technology	University of Siegen
<p><i>"Before I got here, before I started, I had an image of PhD studies that does not match what it actually is" (Student 4),</i></p> <p>PhD students must be able to free themselves from their preconceived ideas and to transition from "regular student" to "PhD student": <i>"it means that, at some point, we're going to have a hard time if we have the wrong idea about what a PhD is" (Student 6).</i></p> <p><i>"Our job is not well known nor understood, they [the students] have a certain idea of what it is which, from my perspective at least, is far from the reality of our professional life, so it is not attractive to them" (Supervisor 1), "they think that achieving the title of Doctor is like finding the Holy Grail, and then the return to reality is abrupt, because now they have to find a job position and it's going to be their first job interview" (Supervisor 1).</i></p> <p><i>"It is through practice that we discover (new things), so we should have them doing research and from there, we can dispel a lot of ambiguity" (Supervisor 2).</i></p>	<p>No data</p>	<p>On the one hand, the methodological competence, that the supervisors agree can be taught to the students, is discussed. <i>"We can help him or her to get there and we must, we cannot choose only Nobel Prize-winning material, we must generally try and find also people who maybe must make compromises in that sense" (Prof. 4).</i></p> <p>As some candidates were not feeling comfortable in the role of a teacher: <i>"The respective candidates they had doubts about the teaching load which comes with a position at the university"</i> (Prof. 3), the supervisor found a compromise, namely smaller groups of students, so that one of the candidates decided to go for a Ph.D.</p>

3/ Influence of curriculum

One of the obstacles to engaging in PhD studies is the growing “professionalisation” of the courses offered at the university, students seem to be more likely to choose the industry pathway.

See Table 7: Item: Professionalisation of studies/industry

To tackle this high influence of the industry opportunities, some research programmes are however planned in master’s programmes. In Montpellier, there is a research-oriented curriculum, in addition to a “regular” master. Both in Germany and Ireland, there is a specific master programme which aim to “transfer” master students to PhD students.

See Table 8: Item: Training in research/influence through studies

- ➔ Research programmes, such as “Graduate School”, seem to be the most convenient pathway to identify interested and interesting students for supervisors and also a good introduction to the world of research for students.

An issue that was considered in Germany and France was the status of student when doing a PhD. Students need to feel this membership as real research members.

See Table 9: Item: Work experience vs. studies

As a further aspect that can influence a decision for a Ph.D., the focus groups also address various aspects related to the position (as a research assistant or teacher at the university for example). The financial aspects were also addressed. In particular, competition with industry seems to have an important impact on the students’ choice, compared to the choice of an academic career.

See Table 10: Item: Influence of position and Table 11: Item: Funding

- ➔ Curriculum and the link with teachers seem to be key elements for the access to information and therefore have a direct influence on students’ choice. Other common external factors also influence such a choice.

Table 7: Item: Professionalisation of studies/industry

University of Montpellier	Limerick Institute of Technology	University of Siegen
<p><i>"I find it harder and harder to find PhD students as curricula has grown to be increasingly business-oriented, I think this is also a hindrance in steering Master's students towards PhD studies" (Supervisor 1).</i></p> <p>Many have graduated from professional programmes and/or had professional experience before changing career paths and getting into research: <i>"I've always had it (doing a PhD) in mind, even though I was doing a professional Master's degree" (Student 4),</i></p> <p>The desire to "find a job" after completing these professional training programmes is strong: <i>"After the end of my professional Master's degree, I only wanted one thing, to find a job" (Student 1),</i></p>	<p>Supervisors shared that even if they can pay students (who do part-time teaching hours) around €18k in a salary <i>"but they are getting job offers at 37k and 38k in industry with their level 8 qualification"</i> and that industry seems to take them before they get to pitch research as an option, stating that <i>"they were not offering them enough (financially) "</i> This has been a continued challenge for supervisors and [Supervisor 1] further commented that <i>"In the last couple of years when the labour market was very tight and the offers for the students was very good. Almost all of our level 8 degree students in engineering are linked in some way with a company before they graduate"</i>.</p> <p><i>"And I found most of my peers would not have gone on to do a Masters, I suppose where maybe the time alone Universities are rated on their employment rates directly after their courses, and it's pushed, so you are kind of pushed out into industry. And that's kind of the focus. Whereas I suppose it's not really mentioned unless you go, I found it in myself personally, that unless you go and look into it yourself, it's not really presented to you, the universities are kind of going on, we have a 98% employment rate after your undergrad. So they're pushing you into industry and you fall into that path."</i> [Student 3]</p> <p>The supervisors commented <i>"I'm paying someone €18,000 in salary but they are getting job offers at €37,000 and €38,000 in industry, with their level 8 degree qualification, you know, so immediately we know that we were not offering them enough money unless they're very committed. And so that's a challenge. And it has been a challenge."</i></p>	<p><i>No data</i></p>

Table 8: Item: Training in research/influence through studies

University of Montpellier	Limerick Institute of Technology	University of Siegen
Research-oriented curricula do exist at the university and were attended to by some of the PhD students: <i>"I did the Double Master's Degree 'REM' (Research in Management Studies) and research seminars too, which aimed to teach Master's students about research."</i> (Student 6)	The relationship between student and staff is important, in particular at Master's level as the process in LIT is that one enters a Master's level and then through a transfer process they can go on to do their PhD.	<p>In the focus group of the students, the SME Graduate School of the university analysed is addressed. Two of the participants of the focus group, as well as the interviewer, are part of this graduate school, which offers students the opportunity to start with the first courses of their Ph.D. studies already during their master's degree. In addition, the students work as student assistants at their supervisor's chair during their master studies and are then employed as part-time (50% contract) research assistants after successful graduation and transition to the Ph.D. phase.</p> <p>This process is perceived as very motivating by the students. <i>"And I kind of got the motivation when, due to this programme I have to say where you can kind of integrate your master studies with Ph.D. studies"</i> (Student 2).</p> <p>Social interaction with other members of the university: <i>"So I think it has a lot to do with connecting with the people and getting to know the people behind and that's why as well programmes like that are pretty nice"</i> (Student 5). Here the interpersonal relationships within the programme are also especially referred to, which are considered very helpful and valuable: <i>"But if I really struggle [...] at least know the people from Graduate school and I know that I can talk with them and they won't judge me because probably they felt the same at least at some point"</i> (Interviewer).</p> <p>In particular, they agreed that it is the supervisor's responsibility to approach good students about doctoral studies when they appear in their courses. <i>"Which means in our system it has to be even from the professor himself. There is nobody else who will approach you"</i> (Student 3).</p> <p>The supervisors attach great importance to the research seminars in the study programme in order to find suitable candidates. All five professors see this as a good and suitable opportunity to find candidates, which seems to work well. <i>"It's rather important for me to contact good students when they are appearing and presenting in the seminars. Then I go to them, I often: Can you imagine doing a Ph.D. study afterwards"</i> (Prof. 2).</p>

Table 9: Item: Work experience vs. studies

University of Montpellier	Limerick Institute of Technology	University of Siegen
<p>« And at the university, compared to the directors, to the professors etc., we are considered as [simple] students” (Student 6), “Likewise, in the professional world, I have the feeling that those who write a PhD thesis are perceived as... (simple) students” (Student 6). However, supervisors do not necessarily share the association “PhD – students”: “I think research provides professional skills” (Supervisor 2)</p> <p>However, in France, a PhD still remains undervalued in the industry, compared to other countries: “the number of students who go for a PhD in Management is much higher in Germany than in France, especially because a thesis, the title of ‘Doctor’ is much appreciated, and those are people who are then entitled to work in companies.” (Supervisor 3)</p>	<p>No data</p>	<p>“So I also started in 2016 as just some student worker at the chair to help out so I got to know already all the people. So when you start you actually off with your Ph.D. and you do not have this hurdle anymore to get into these small I mean these small universities chairs and I think that was really beneficial” (Student 2).</p> <p>The students in the focus group criticize the perceived hierarchy and distance that prevails between professors and students in their studies. “I mean you can always make an appointment at a professor and saying: Hey I am interested in doing Ph.D. But then you sit there like you like a very tiny student” (Student 5).</p>

Table 10: Item: Influence of position

University of Montpellier	Limerick Institute of Technology	University of Siegen
<p>Teachers base the attractiveness of training programmes on their competitiveness on the labour market, rather than on their effectiveness in preparing students for research: <i>"In order to attract them to our Master's degree, we tell them 'come study with us, you will get out of here with great jobs'"</i> (Supervisor 3).</p> <p>The supervisors should however insist on the professional opportunities after a thesis, as becoming a teacher-researcher is not the only option: <i>"Yes it's true that we may approach it from a teacher's point of view [i.e. emphasizing this career path over others], but indeed we can do research and then go work for a company afterwards, or start a business, teaching is not the only option"</i> (Supervisor 1)</p>	<p><i>No data</i></p>	<p>The supervisors, who seem very dissatisfied with this situation, also see this problem. <i>"But the problem is what can I offer them? I only have part-time jobs of course. [...] That's a problem at our faculty our university and perhaps we should work on this to have more assistance at any chair"</i> (Prof. 2).</p> <p>The supervisors criticize the fact that they only have term-limited contracts for their employees. <i>"And you never know whether the contract can be prolonged and they can't quite finish it this time"</i> (Prof. 2).</p> <p>Students critically discuss possible skills they acquire during their Ph.D. studies. <i>"I mean you can see every class as a project you can see it in developing it even if we go into other countries and we organize workshops and it's the same. But I mean you also know the industry doesn't see it like that"</i> (Student 2)</p> <p>The students in the focus group, despite the conditions, seem to appreciate very much is the combination of the position of research assistant with the Ph.D. This seems to make a doctorate attractive. <i>"I think if someone would have asked me: 'Hey do you want to do your Ph.D. like externally so you will work a lot and you will write it on the other hand' I would have probably said no"</i> (Student 5).</p> <p><i>"But because it is so integrated over here in Germany that we get money paid for doing lectures and working at the chair and at the same time doing our Ph.D. So it's kind of an integrated system. I think we do not have that but if you would need to work on the side, you have multiple things on your mind at the same time. And I do not know if that is the best way to do a Ph.D. in the end. Like I can really focus if I have the motivation of course on writing my paper"</i> (Student 2)</p>

Table 11: Item: Funding

University of Montpellier	Limerick Institute of Technology	University of Siegen
<p>Common assertion: the student is not paid, i.e. does not get a “salary” as an employee would.</p> <p>There are however different funding opportunities for PhD students which can be assimilated to a salary: <i>“We must desacralize and explain through a booklet the different ways to fund a thesis, to start with, explain that people get paid, that sometimes you get as much, even sometime more than with the first jobs you reach out of the Master’s”</i> (Student 4).</p> <p>Despite this, the attractiveness of finding a job directly after a Master’s degree stays strong due to perceived salary differences.</p> <p><i>“In any case, in the public sector we are not paid properly, that’s how it is, and the students, they hope for something else, so they think that, going for the private sector, they will necessarily earn much more than we do”</i> (Supervisor 1).</p> <p><i>“The current tendency leads me to think that [this discussion] might already been a bit outdated, since I find today’s generation tends to focus less and less on higher salaries, and increasingly on the quality of personal and professional life, and this is where we have leverage [to attract students] to our field”</i> (Supervisor 2)</p> <p>Supervisors also share this statement and are aware about the fact that funding is necessary, which can ensure decent living standards to complete a good quality PhD: <i>“It seems to me that we can’t ask people to be brilliant, with hands tied to move one”</i> (Supervisor 3).</p>	<p>All the students agreed that funding was a major hurdle and also had implications then in their work life balance which was also cited as a challenge during their time as researchers with one student noting <i>“I think funding has a big role as well... at times you have a fully funded PhD or fully funded masters programmes but sometimes you don’t have those. So there is a lot of kind of figuring out where the money is going to come from.”</i> [Student 2]</p>	<p>As a further aspect that can influence a positive decision for a Ph.D., the focus groups also address various aspects related to a position as a research assistant at the university. In particular, the financial aspects associated with such a position are addressed. Initially, students agree that the payment for a 100% position at the university is relatively attractive. <i>“The job and the payment is actually not bad which we get over here in Germany”</i> (Student 2). However, such jobs are not the rule for the university under study. Mostly only part-time jobs (50%) are offered, which are less attractive for Ph.D. candidates compared to other jobs in the industry.</p> <p>Student 5: <i>“You won’t work as Ph.D. for the money but yeah well”</i></p> <p>Student 2: <i>“I would for 100 percent. Yeah”</i></p> <p>Student 5: <i>“Yes but not 50.”</i></p> <p>Student 2: <i>“No no.”</i></p> <p><i>“You could argue that you earn more money if you have the doctor degree or so. But I think it’s not important not attractive for them.”</i> (Prof. 2)</p>

4/ External influence

The same observation was made between Montpellier and Siegen Universities: the devaluation of the doctorate by society and industry.

See Table 12: Item: Devaluation of the doctorate (society/industry)

- ➔ These negatively charged, often incorrect considerations on the activity of PhD in the field of Management studies, and the status of the PhD students, most certainly plays a role in the decision process of MA students regarding their possible career paths.

Relatives also play an important part in the decision-making process.

See Table 13: Item: Value by relatives

- ➔ For students who already linked to the university in the family environment, the choice is more likely to be oriented as comparison to other MA students who do not have connection to the academic world.

But the attractiveness of industry is still very appealing to them because of position offers, salary, family planning, etc. In France, for example, other career opportunities after a PhD are badly known.

See Table 14: Influence by industry

Table 12: Item: Devaluation of the doctorate (society/industry)

University of Montpellier	Limerick Institute of Technology	University of Siegen
<p>French PhD students are aware of the diploma's devaluation <i>"roughly speaking, in France, PhD is not valued"</i> (Student 5).</p> <p>very little credit in the eyes of their pairs, professors or administration: <i>« And at the university, compared to the directors, to the professors etc, we are considered as [simple] students"</i> (Student 6).</p> <p><i>« when I left my company, when I told them what I would do [a PhD], it was very badly considered, as you said, in the private sector, we talked about this already, it is like 'Oh yes, you are going to do nothing, you will be free'"</i> (Student 4).</p> <p>PhD is not seen as a proper professional activity in general: <i>"and on the opposite, when I talk about it to other people, they think you do absolutely nothing, that you just chill out, that there is no point of doing what you do, roughly, you are just going to become a teacher and you will teach 100 hours of class per year, and that's it."</i> (Student 4),</p> <p><i>"we all experiment it every day, people cannot quite imagine the time it takes to write an article, not to mention a PhD thesis, it seems to them so very simple and superficial, it is only a document at the end, at least for Humanities, as we do not have this technical part [like in chemistry or biology experiments], and it takes weeks and weeks to write meaningful things that can be a contribution, everything that rely upon our criteria"</i> (Supervisor 2).</p>	<p>No data</p>	<p>a generally negative perception of the masses and society seems to prevail, which is also associated with a decline in prestige with regard to the doctoral title: <i>"So I think a lot of people do not do it because it's not so attractive in the end to do it financially and this prestige, which I mentioned in Germany; it really declined over the years. So a doctor is not like a doctor anymore it's more"</i> (Student 2).</p> <p><i>"It is in a certain way kind of this ivory tower which is there and I had this image before and it was also communicated from my social community in general"</i> (Student 2).</p> <p><i>"And you also get approached by active practitioners [...] and they sometimes say something like: Yeah well you doing your research over here but the practice practitioners do it differently or the world looks differently than you look at it. It's not numbers it's not statistics"</i> (Student 2).</p> <p>It becomes clear that the Ph.D. students are aware that such employment is less helpful in view of a career in the industry, which is due to a negative perception of the industry in regard to such jobs. A similar attitude prevails in relation to work experience: Student 5: <i>"But I mean you have work experience but different work experience. I mean you worked at the chair. [...]"</i> Student 2: <i>"But it isn't even to us. We're we even said if you get a real job"</i></p>

Table 13: Item: Value by relatives

University of Montpellier	Limerick Institute of Technology	University of Siegen
<p>« you have to be supported, you must be able to say 'my parents are here, or my partner...'” (Student 4).</p> <p>“it has been also a bit influenced by my family because my father did a PhD and he is a teacher at the university (...) yes, since I was little, he compelled me to do it; if I hadn't a father who is a professor, I think maybe I would have had the same curricula than you, but yes, it influenced me”. (Student 3)</p> <p>Starting a PhD is seen as a high level of education for family, and it seems to be well welcomed, without being totally understood: “even I, in my family, when one says 'University Professor', in the village, the one who is a professor, it means 'Sorbonne', 'Paris', they don't know what it means, but it is highly valued... Everyone was encouraging me. I mean, the amount of pride, it can really boost” (Student 1).</p>	<p>“I mean, my parents really wanted to push me to do better [than them in career] and in higher education I could get that opportunity” [student 2] She also factored in the influence of her head of department at the time who encouraged her to go from her undergrad into a masters when she had explained that she wasn't ready yet to go into industry.</p>	<p>Students coming from an academic background seem to feel some kind of pressure to pursue a Ph.D. “My grandparents are professors, my parents, my uncles, my aunts, so there is no choice. If I will not do it, then I will be the dummy of the family” (Student 4)</p>

Table 14: Influence by industry

University of Montpellier	Limerick Institute of Technology	University of Siegen
<p><i>"In any case, in the public sector we are not paid properly, that's how it is, and the students, they hope for something else, so they think that, going for the private sector, they will necessarily earn much more than we do" (Supervisor 1).</i></p> <p>writing a thesis allows the development of skills which can be put forward in the industry: <i>"So there is also... doing research, it's also giving competences that can be useful, like searching for information, critical analysis, which are definitely useful, whatever they want to do."</i> (Supervisor 3)</p> <p>Our panel of PhD students has indeed a good knowledge of the different opportunities accessible after a PhD, which were not limited to teaching.</p>	<p>Supervisors also commented on this area. They shared that even if they can pay students (who do part-time teaching hours) around €18k in a salary <i>"but they are getting job offers at 37k and 38k in industry with their level 8 qualification"</i> and that industry seems to take them before they get to pitch research as an option, stating that <i>"they were not offering them enough (financially)"</i> This has been a continued challenge for Supervisors and [Supervisor 1] further commented that <i>"In the last couple of years when the labour market was very tight and the offers for the students was very good. Almost all of our level 8 degree students in engineering are linked in some way with a company before they graduate"</i>.</p>	<p><i>"Because it my impression competition from industry is quite strong at the moment still"</i> (Prof. 3). Thus the industry represents a credible competitor in the war for talent, as they appeal with attractive work models.</p> <p><i>"Many people who do get good offers of permanent positions, better paid permanent positions elsewhere are not applying to us"</i> (Prof. 4).</p> <p>aspects of family planning can also be a reason to choose a career in industry. <i>"Probably we are all pretty young but it can as well be a topic like how will stuff with kids look like right? You are in you Ph.D. it will go on and you go on with your academia career It is it can be totally different than working in industry where you say okay I can quit now"</i> (Student 5)</p>

B/ Synthesis

The most common themes between the University of Montpellier, the University of Siegen and the Limerick Institute of Technology are the following:

- MA students experiment a lack of information concerning PhD studies, which prevent them to consider the possibility of doing a PhD. Lecturers also have difficulties to promote research as a career opportunity;
- Several skills to define the “ideal” PhD student are commonly underlined in the three universities, such as resilience, time-management, self-organization and methodology/research specific skills.
- In each focus group, some students had a preliminary desire to start a PhD, and others found out about the opportunity, usually through lecturers or research seminar programmes;
- The issue of funding is important to all students;
- Family/relatives play an important role to the decision-making process;
- Industry is highly in competition with research at the end of MA programmes.

These hypotheses are in line with the findings presented in the scientific literature review, where we encounter similar topics. In particular, the relation between the level of information and the intention to do a PhD had been highlighted by Mueller et al. (2015). The influence of family/relatives had also been underlined in Braisford (2010). However, the dual motivation “personal motives vs. professional/career-oriented motives” framed in Braisford (2010) or Tarvid (2017) was not so clearly identified in our study.

This preliminary survey allowed us to identify several influential factors involved in the decision making to start a PhD. On the basis of these elements, the second study, focusing on quantitative data and targeting MA students was conducted, which results are presented below.

II/ Factors motivating or impeding Master's students in engaging in research and PhD

A/ Comparative analysis

The following analysis is structured as follows:

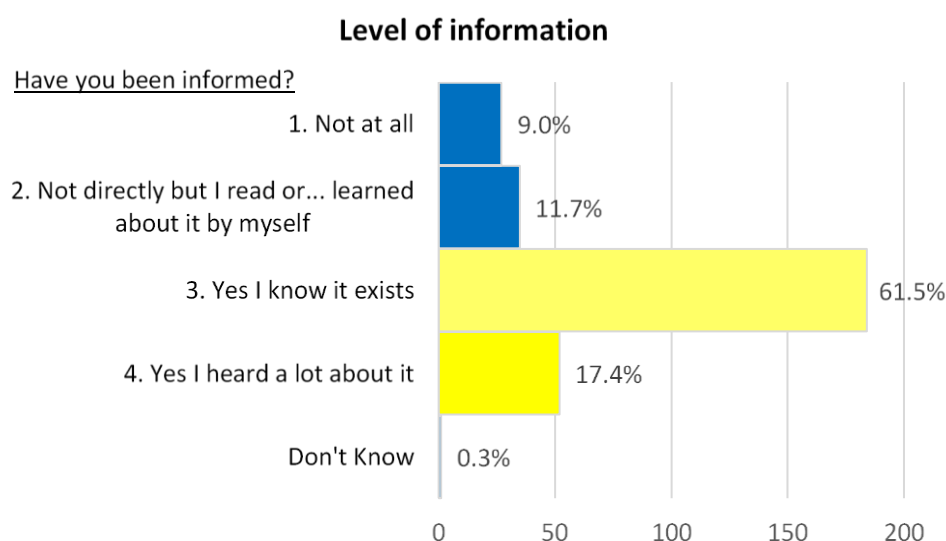
- 1/ Received information on academic career path
- 2/ Intention to pursue doctoral studies
- 3/ Conceptions of PhD
- 4/ Attitude toward PhD
- 5/ Perceived behavioural control on PhD achievement
- 6/ Determinants of the doctoral intention

As mentioned in introduction, the subsequent comparative analysis is based on the data extracted from the questionnaire administrated at the University of Montpellier and the University of Siegen, the sample from the Limerick Institute of Technology being of an insufficient size to allow meaningful comparison.

1/ Received information on academic career path

The level of information was captured by a 4-point scale (see below bar charts).

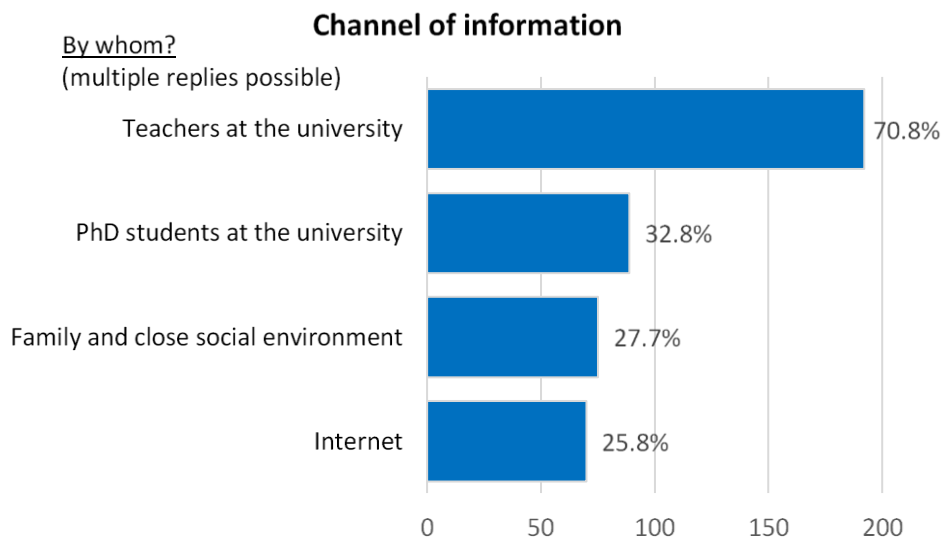
UM Among French master students, 79.1% of the respondents report that they have heard about PhD/ research opportunities in their field.



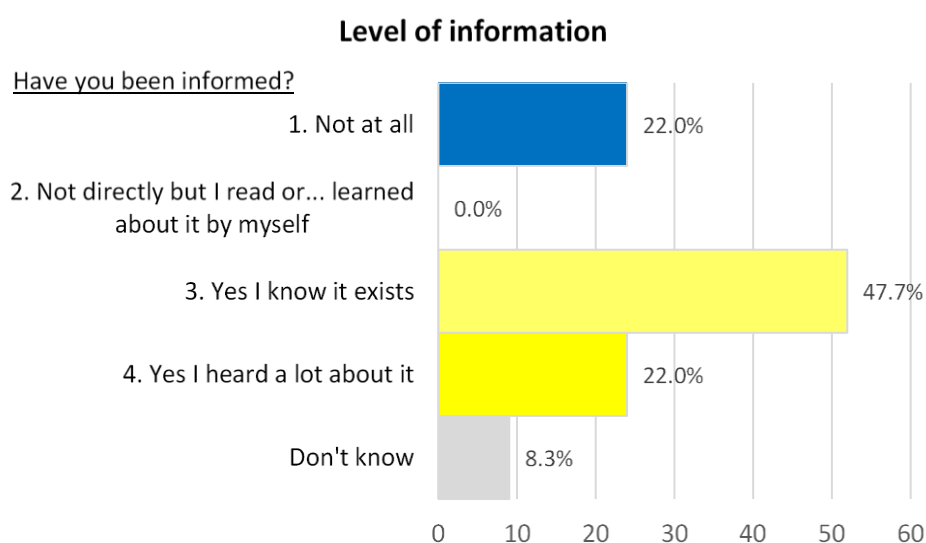
They have been informed mostly at the university, by teachers (70.8%) or by PhD students (32.8%), who are often teaching assistants. But not only: relatives and friends (27.7%) or self-information on the internet (25.8%) also play a significant role.

Some marginally significant differences were detected between master years:

- Enhanced level of information for M2 vs. M1 (2.96 (SE=.07) vs. 2.80 (SE=.06), t-test on group means: $p < .10$),
- Family and close social environment more often a channel of information among M2 vs. M1 students (33.3% vs. 22.8%, Chi-square test on frequencies: $p < .10$)

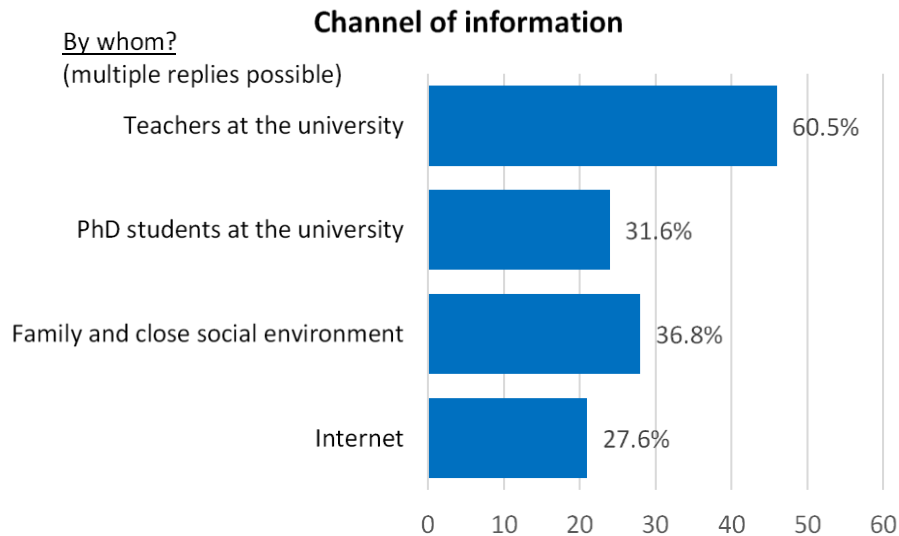


US Among German master students, 69.7% of the respondents report that they have been informed about PhD/ research opportunities in their field, and 22.0% say they have not heard about it at all. These figures are similar to what was observed with French students.



The main source of information are teachers (60.5%). Then, family and the close social environment (36.8%), PhD students (31.6%) and internet (27.6%).

When looking for differences between master years: Level of information in M2 appears to be significantly greater than in M1 (2.93 (SE=.12) vs. 2.39 (SE=.21), t-test on group means: $p < .05$).

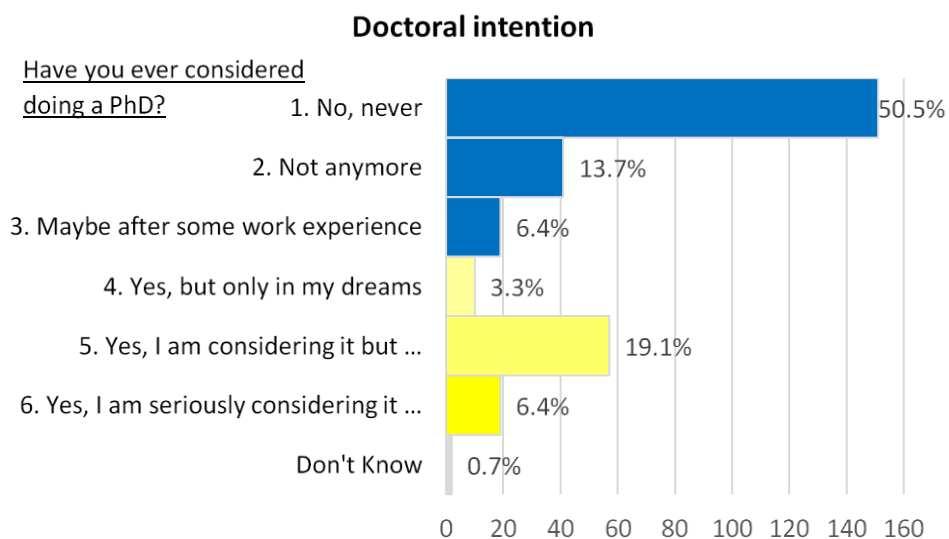


2/ Intention to pursue doctoral studies

The doctoral intention was assessed by a 6-point scale (see below bar charts).

UM Among French master students, 29.0% of the respondents express a positive intention toward PhD. In addition, 6.4% consider doing it but with some reservations (*Maybe later*). By contrast, 50.5% indicate having never considered it.

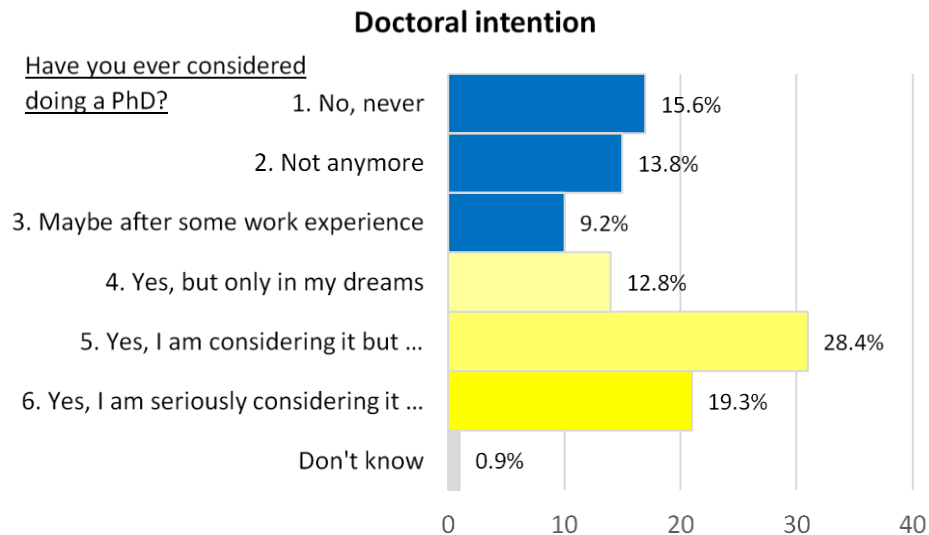
Positive intention to pursue doctoral studies appears significantly more frequent among M2 vs. M1 students (36.7% vs. 22.2%, Chi-square test: $p < .01$).



US Among German master students, 60.6% of the respondents express a positive intention. That's more than twice as much as with French students. Only 15.6% indicate having never considered doing a PhD.

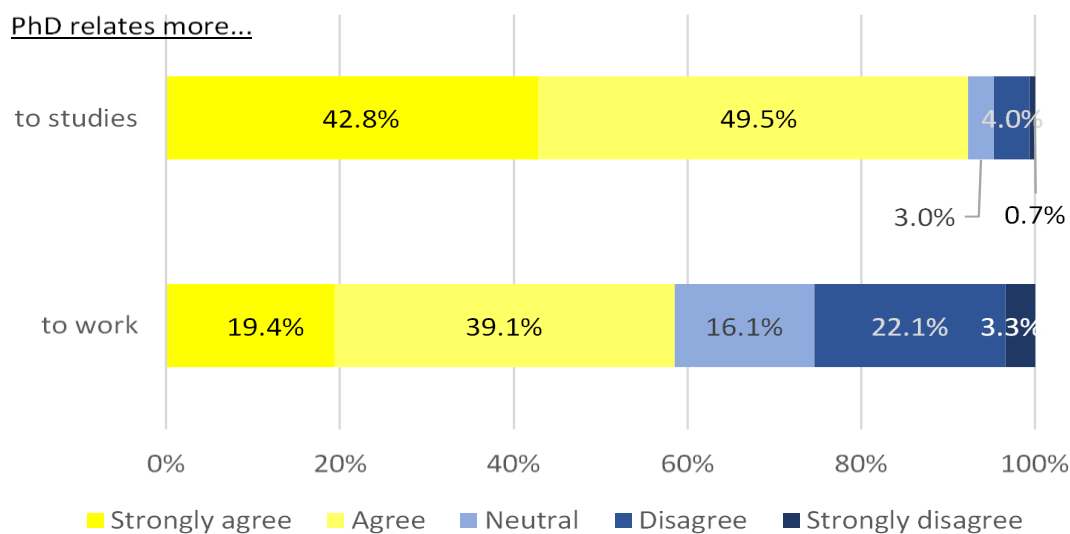
Positive intention is stable between M1 and M2 years (59.4% and 61.1%, respectively).

However, among respondents, women are significantly less prone than men to considering doing a PhD (50.0% vs. 68.9%, Chi-square test: $p < .05$).

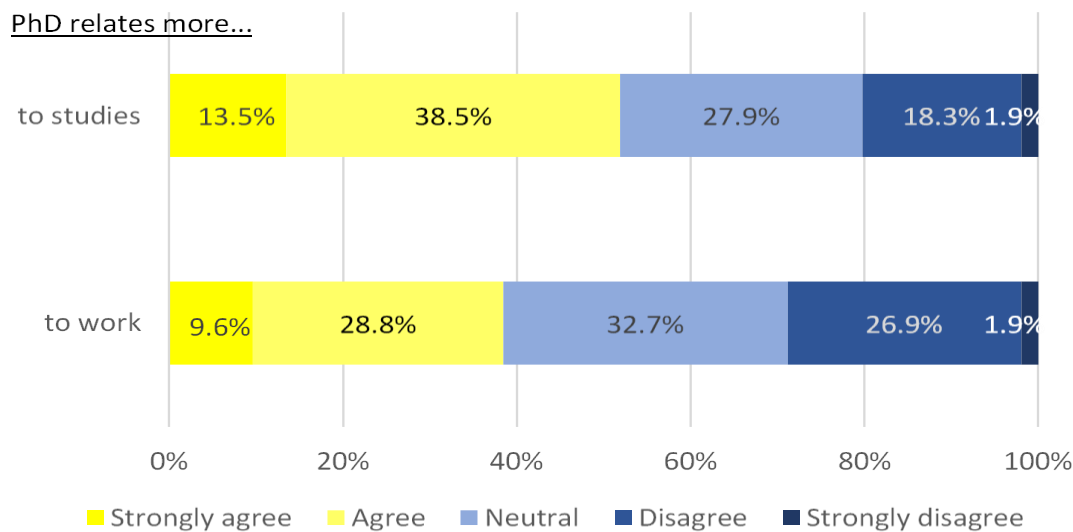


3/ Conceptions of PhD

UM Among the French master students surveyed, PhD is almost unanimously perceived as a continuation of studies (agreement rate= 92.3%) but it is, in the same time, considered a proper job by 58.5% of them.



US Opinions expressed by German master students are more balanced. They are only 38.5% to associate PhD with work and a majority of them (51.9%) consider it relates more to studies.



4/ Attitude toward PhD

In line with Ajzen's Planned Behaviour model (PBM), we considered attitude toward PhD studies to be a primary determinant of the doctoral intention.

In order to capture attitude of master students, 11 statements were tested with respondents on a 5-point Likert scale (see below tables where they are listed by descending order of their agreement rates).

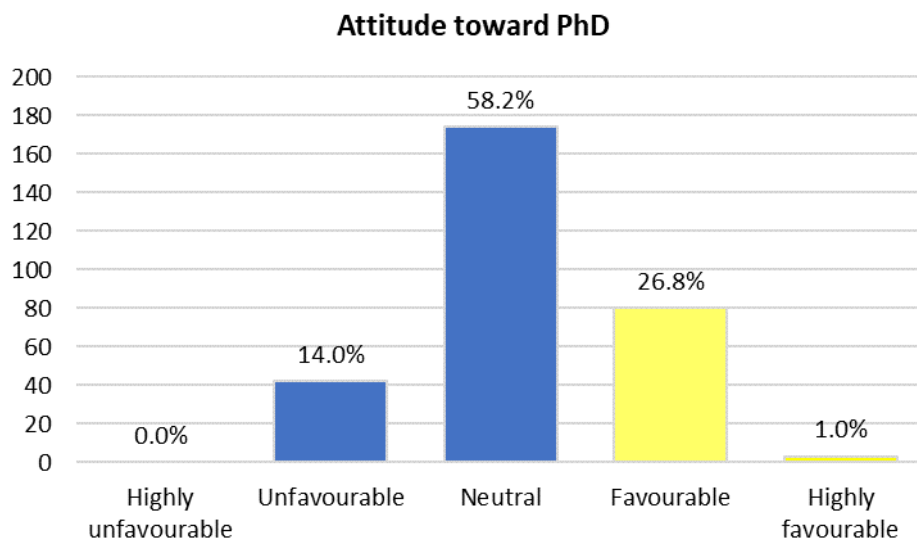
UM Three of the proposed statements are agreed by the majority of the French master students: Great discipline is required (agreement rate= 93.6%), PhD is difficult to access (64.2%) and is a prerequisite for academic career (60.5%). The other way round, most rejected arguments are: PhD is expensive (20.1%) and is three years out of trouble (3.7%).

Do you agree with the following statements?	N	Minimum	Maximum	Mean	Standard Deviation	Agreement Rate
Great discipline required	299	1	5	4.49	.682	93.6%
Difficult to access	299	1	5	3.60	1.096	64.2%
Prerequisite for academic career	299	1	5	3.67	1.148	60.5%
Unique intellectual challenge	299	1	5	3.39	1.019	49.2%
Highly valued	299	1	5	3.38	1.173	47.2%
A lot of solitude	299	1	5	3.14	1.079	40.1%
Interesting first work experience	299	1	5	3.11	1.056	37.5%
Part-time work not possible	299	1	5	3.25	1.023	34.8%
A lot of useless literature	299	1	5	2.86	1.170	33.4%
Expensive	299	1	5	2.91	.889	20.1%
3+ years out of trouble	299	1	5	1.55	.827	3.7%
Valid N (listwise)	299					

favourable	arguments retained
unfavourable	arguments retained

After psychometric checks and in order to ensure content validity¹¹, 3 favourable (*highly valued, interesting first work experience, unique intellectual challenge*) and 3 unfavourable (*difficult to access, a lot of useless literature, a lot of solitude*) arguments were retained to build a valid measurement of students' attitude toward PhD.

Then, a mean score was computed for each respondent¹², ranging from 1.00 (Highly unfavourable) to 5.00 (Highly favourable) attitude.



Finally, 27.8% of French master students surveyed show favourable (or highly favourable) attitude toward PhD. No differences between M1 and M2 students or, men and women.

In contrast, a significant difference was detected between age groups. Master students over 23 years old have a more favourable attitude toward PhD than their younger counterparts (3.23 (SE= .06) vs. 2.98 (SE= .04), t-test: $p < .01$).

US Out of the 11 arguments tested, 6 obtain the agreement of the majority of the German students (see below table). Compared to their French counterparts, they substantially give higher rankings to 3 favourable arguments: PhD is 3 years out of trouble (agreement rate= 67.3% vs. 3.7%), PhD is highly valued (79.8% vs. 47.2%) and a unique intellectual challenge (70.2% vs. 49.2%).

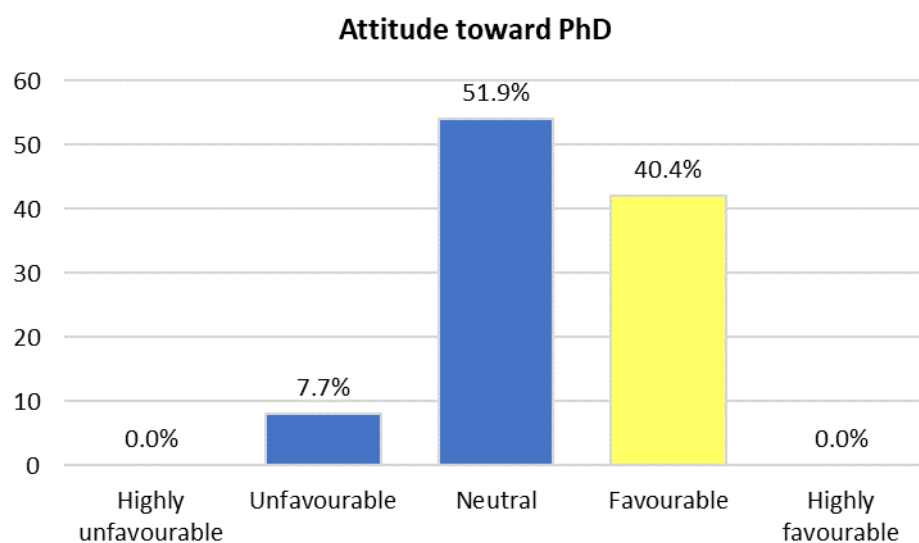
Do you agree with the following statements?	N	Minimum	Maximum	Mean	Standard Deviation	Agreement Rate
Great discipline required	109	2	5	4.63	.578	97.1%
Highly valued	109	2	5	4.08	.889	79.8%
Difficult to access	109	1	5	3.91	1.116	73.1%
Unique intellectual challenge	109	1	5	3.92	1.077	70.2%
3+ years out of trouble	109	1	5	3.81	1.191	67.3%

¹¹ For instance: too few variance was captured in *Great discipline required* or in *3+ years out of trouble* items; *Part-time work not possible* is not a judgment for or against PhD.

¹² Unfavourable items were, of course, reverse-coded before score computation.

Prerequisite for academic career	109	1	5	3.36	1.088	51.9%
A lot of useless literature	109	1	5	3.25	1.155	44.2%
Part-time work not possible	109	1	5	3.03	1.296	37.5%
Interesting first work experience	109	1	5	2.93	1.338	36.5%
Expensive	109	1	5	2.90	1.145	31.7%
A lot of solitude	109	1	5	2.43	1.095	20.2%
Valid N (listwise)	109					

favourable	arguments retained
unfavourable	arguments retained



Distribution of composite scores show that 40.4% of German master students surveyed have favourable attitude toward PhD. No significant differences of this proportion were detected between master years, men and women, or age groups.

5/ Perceived behavioural control on PhD achievement

As another key determinant of intention in Ajzen's Planned Behaviour model, Perceived Behavioural Control (PBC) was evaluated in a two-step approach.

First, respondents were asked to rate a list of 14 skills (see below tables) according to their usefulness (from 1. "Not useful" to 5. "Essential") in PhD achievement. Second, they were asked to rate their own degree of control of those skills (from 1. "Not so strong" to 5. "Very strong").

PBC was then computed as the mean product of their responses.

UM The top five of useful skills according to French master students? Autonomy, Curiosity, Perseverance, Organising skills and Self-discipline.

At the bottom of the list, Teamwork and Networking are the only skills receiving less than 50% of agreement (see below table).

Useful skills for PhD

Are these skills useful to do a PhD?	N	Minimum	Maximum	Mean	Standard Deviation	Agreement Rate ^a
Autonomy	299	1	5	4.76	.620	94.6%
Curiosity	299	1	5	4.65	.650	93.3%
Perseverance	299	1	5	4.62	.707	93.0%
Organising skills	299	1	5	4.65	.670	93.0%
Self-discipline	299	1	5	4.66	.642	93.0%
Global thinking	299	1	5	4.39	.792	87.6%
Decision-making	299	1	5	4.15	.875	79.6%
Stress management	299	1	5	4.03	.960	73.2%
Communication skills	299	1	5	3.89	.982	69.6%
Adaptability	299	1	5	3.82	.991	66.2%
Reactivity	299	1	5	3.89	1.017	65.6%
Creativity	299	1	5	3.77	1.037	62.9%
Teamwork	299	1	5	3.18	1.162	39.1%
Networking	299	1	5	3.17	1.025	34.8%
Valid N (listwise)	299					

^a proportion of responses greater than 3 on a 5-point scale ranging from 1. Not useful to 5. Essential.

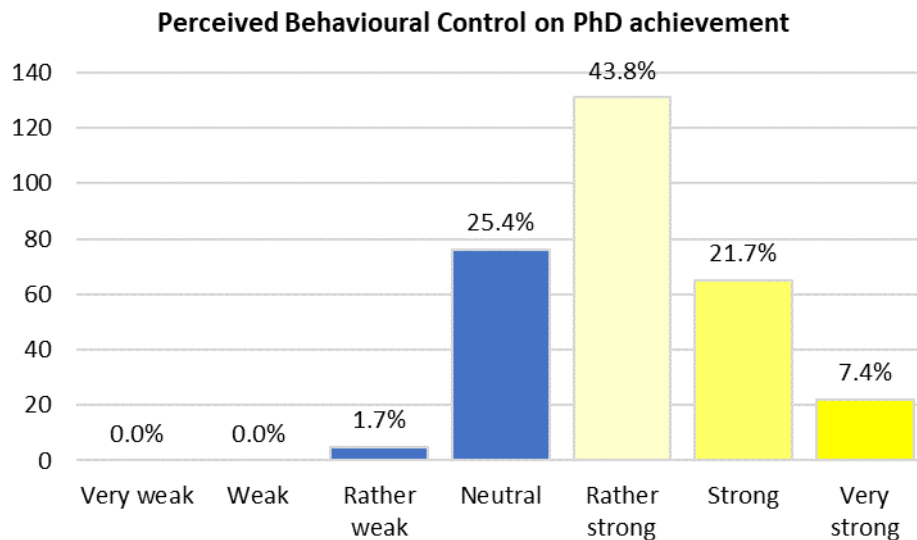
The bottom five of less controlled skills by the respondents? Networking, Stress management, Creativity, Global thinking and Decision-making.

Degree of control on those skills

How strong would you consider yourself as regards to these skills?	N	Minimum	Maximum	Mean	Standard Deviation	Control rate ^a
Adaptability	299	1	5	4.06	.794	79.6%
Autonomy	299	1	5	4.14	.889	78.3%
Curiosity	299	1	5	4.09	.941	74.9%
Perseverance	299	2	5	4.07	.868	74.6%
Organising skills	299	1	5	3.93	1.075	67.9%
Self-discipline	299	1	5	3.93	.996	66.2%
Reactivity	299	1	5	3.80	.890	65.9%
Communication skills	299	1	5	3.74	.908	62.9%
Teamwork	299	1	5	3.75	1.004	61.9%
Decision-making	299	1	5	3.65	.976	53.8%
Global thinking	299	1	5	3.58	.995	53.2%
Creativity	299	1	5	3.38	1.109	48.2%
Stress management	299	1	5	3.35	1.074	46.2%
Networking	299	1	5	3.34	.989	45.8%
Valid N (listwise)	299					

^a proportion of responses greater than 3 on a 5-point scale ranging from 1. Not so strong to 5. Very strong.

Finally, PBC scored “Strong” or “Very strong” for 29.1% of the French master students surveyed. However, none of them show “Very weak” or even “Weak” control on PhD achievement (see below chart)



No differences were detected between M1 and M2 students, or men and women. But, like for Attitude, master students over 23 years old express a significantly stronger behavioural control on PhD achievement than their younger counterparts (5.27 (SE= .11) vs. 5.01 (SE= .06), t-test: $p < .05$).

US The top five of useful skills for PhD according to German master students is Self-discipline, Perseverance, Organising skills, Stress management and Curiosity. This list is similar to that of French students (even if not in the same order) with the exceptions of Stress management (included) and Autonomy (excluded).

Useful skills for PhD

Are these skills useful to do a PhD?	N	Minimum	Maximum	Mean	Standard Deviation	Agreement Rate ^a
Self-discipline	109	3	5	4.91	.349	98.0%
Perseverance	109	2	5	4.64	.626	94.1%
Organising skills	109	1	5	4.54	.714	94.1%
Stress management	109	3	5	4.50	.658	91.1%
Curiosity	109	2	5	4.32	.774	85.1%
Decision-making	109	1	5	4.09	.861	78.2%
Communication skills	109	1	5	3.99	1.025	74.3%
Networking	109	1	5	4.04	1.009	73.3%
Autonomy	109	2	5	4.04	.927	71.3%
Adaptability	109	1	5	3.66	.983	61.4%
Global thinking	109	2	5	3.73	1.019	57.4%
Teamwork	109	1	5	3.55	1.170	57.4%
Creativity	109	1	5	3.46	1.063	49.5%
Reactivity	109	1	5	3.48	.856	42.6%
Valid N (listwise)	109					

^a proportion of responses greater than 3 on a 5-point scale ranging from 1. Not useful to 5. Essential.

The bottom five of less controlled skills by the respondents? Reactivity, Networking, Creativity, Decision-making and Global thinking. This list is similar to that of French students with the exceptions of Reactivity (included) and Stress management(excluded).

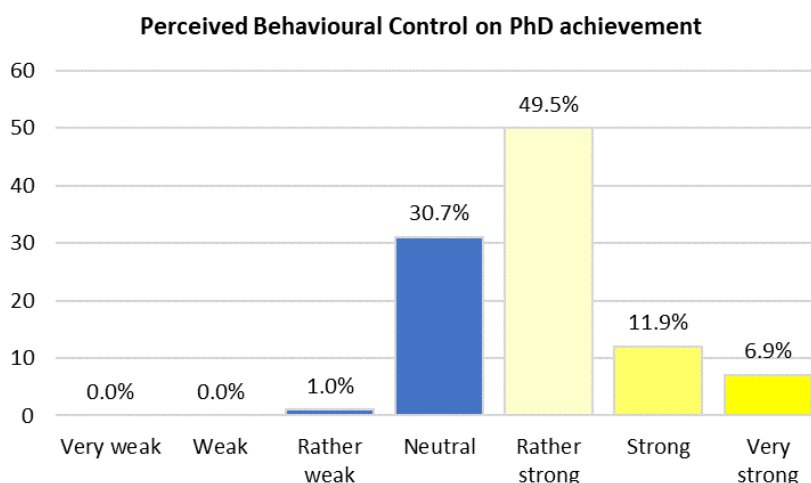
Degree of control on those skills

How strong would you consider yourself as regards to these skills?	N	Minimum	Maximum	Mean	Standard Deviation	Control rate ^a
Adaptability	109	2	5	4.02	.778	79.0%
Teamwork	109	1	5	3.96	.963	77.0%
Organising skills	109	1	5	4.11	.952	75.0%
Curiosity	109	2	5	3.95	.914	70.0%
Perseverance	109	1	5	3.85	.857	70.0%
Communication skills	109	1	5	3.89	.952	69.0%
Stress management	109	2	5	3.78	.848	69.0%
Self-discipline	109	1	5	3.77	.973	65.0%
Autonomy	109	1	5	3.79	.924	62.0%
Global thinking	109	1	5	3.74	1.011	54.0%
Decision-making	109	1	5	3.52	.990	52.0%
Creativity	109	1	5	3.31	1.237	45.0%
Networking	109	1	5	3.19	1.051	37.0%
Reactivity	109	1	5	3.36	.746	35.0%
Valid N (listwise)	109					

^a proportion of responses greater than 3 on a 5-point scale ranging from 1. Not so strong to 5. Very strong.

Finally, only 18.8% of the German master students surveyed perceive a “Strong” or “Very strong” control on PhD achievement. That is a lower proportion than French students (29.1%). However, none of the respondents have a “Very weak” or “Weak” behavioural control.

No differences were detected between M1 and M2 students, men and women, or age groups.



6/ Determinants of the doctoral intention

In order to identify the significant determinants of doctoral intention among master students, correlations with all characteristics measured were calculated.

UM On the French sample, the correlation table (see below) highlights several significant relationships:

- Age ($p < .01$), favourable Attitude ($p < .001$) and Perceived Control on PhD achievement ($p < .01$) are positively associated with the intention expressed by the students.
- If the level of information received is not associated with intention, the type of sources is. Thus, having searched information on internet (on your own) is positively ($p < .001$) correlated with intention. By contrast, having been informed by teachers (at the university) appears to be negatively ($p < .05$) associated with doctoral intention.

	All respondents (N=299)	M1 students (n=160)	M2 students (n=139)
Pearson Correlations	Doctoral intention	Doctoral intention	Doctoral intention
Age (over 23 yrs old vs. not)	.187 **	.111	.213 *
Gender (women vs. men)	-.086	-.019	-.143 °
Level of information	.008	-.098	.072
By teachers (yes vs. no)	-.142 *	-.117	-.174 *
By PhD students (yes vs. no)	-.067	-.047	-.096
By family and close social environment (yes vs. no)	.086	-.007	.141 °
By internet (yes vs. no)	.216 ***	.240 **	.226 **
Attitude	.256 ***	.171 *	.353 ***
Perceived Behavioural Control	.152 **	.077	.216 **

Correlation is significant (2-tailed) at *** .001 level, ** .01 level, * .05 level, ° .10 level.

Among M2 students, the group most concerned, those correlations are strengthened, and two additional associations are detected:

- Women are less prone considering doing a PhD than men ($p < .10$).
- Having been informed by family and your close social environment tends to be positively associated ($p < .10$) with doctoral intention in this group.

US On the German sample, the correlation table (see below) provides results consistent with those obtained on the French sample with some specificities regarding information.

- Favourable Attitude ($p < .001$) and Perceived behavioural control ($p < .001$) are positively associated with doctoral intention. Age (although not as significantly) is also positively associated ($p < .10$).
- Women are significantly ($p < .05$) less prone considering doing a PhD than men.
- Contrary to with French students, the level of information received is positively related ($p < .001$) to their intention.
- Regarding the sources, self-information by internet shows a positive significant correlation ($p < .05$) with doctoral intention. Information received from teachers does not. However, information from PhD students appears to be positively associated ($p < .10$) with intention but

only among M2 students. And, information received from the family and close social environment is negatively associated ($p < .05$) with intention among M1 students.

Pearson Correlations	All respondents (N=109)	M1 students ^a (n=32)	M2 students (n=77)
	Doctoral intention	Doctoral intention	Doctoral intention
Age (over 25 yrs old vs. not)	.174 °	.243	.162
Gender (women vs. men)	-.206 *	-.131	-.230 *
Level of information	.342 ***	.304	.396 ***
By teachers (yes vs. no)	-.003	.153	-.032
By PhD students (yes vs. no)	.175	.061	.214 °
By family and close social environment (yes vs. no)	-.120	-.484 *	-.027
By internet (yes vs. no)	.255 *	.370	.229 °
Attitude	.394 ***	.178	.453 ***
Perceived Behavioural Control	.370 ***	.428 *	.347 **

Correlation is significant (2-tailed) at *** .001 level, ** .01 level, * .05 level, ° .10 level.

^a Mindful of the low number of respondents in this group, results should be interpreted with caution.

B/ Synthesis

Age: maturity is a positive determinant of doctoral intention. This can partly explain the higher proportion of students considering PhD after their studies in Siegen (in comparison with Montpellier). Master's students in Siegen are indeed in average 2 years older than in Montpellier. An appreciable proportion of respondents (6.4% in Montpellier, 9.2% in Siegen) also indicate that they would prefer having some professional experience prior to engaging in a PhD.

Gender: despite very contrasting samples (68% women among French respondents and only 43% women among German respondents), feminine self-limitation is highlighted in both contexts.

Level and sources of information: in the French context, the level of delivered information does not influence doctoral intention. Information delivered from lecturers/researchers (distant injunctive norm) is even counterproductive. However, the close social environment seems to have a positive effect (close injunctive norm).

In the German context, the level of delivered information favours students' doctoral intention. However, at the university, PhD students seem to be better mediators (descriptive norm) than lecturers/researchers. The close social environment appears to have a rather negative influence on doctoral intention.

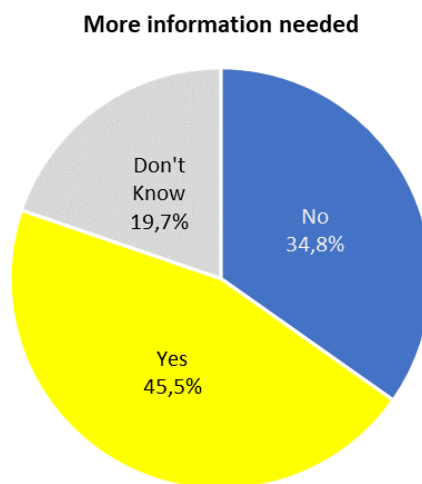
In both cases, self-informing through internet constitutes a positive determinant.

Attitude and perceived behavioural control: attitude and perceived behavioural control are positive determinants of doctoral intention in the studied contexts. If both constitutes levers of influence, in the French context attitude appears as the most determining factor (more limiting that the level of control expressed by the students which, besides, is rather high).

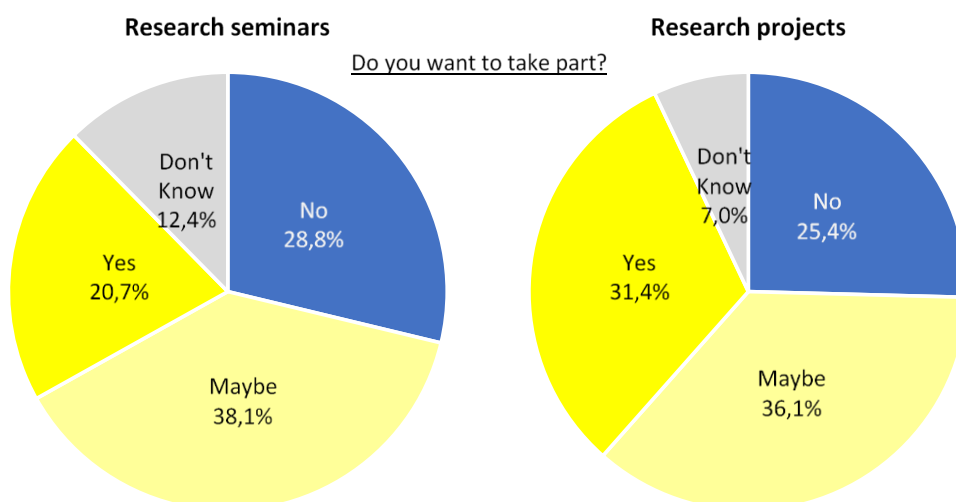
In the German context, PhD benefits clearly from a more favourable judgment from the students, and doctoral intentional is indeed high among them, as mentioned before. Behavioural control constitutes however the most limiting factor.

C/ Perspectives

UM Only 17.1% of the French master students surveyed say they are adequately informed about the opportunities for PhD in their field. A claim for **more information** is expressed by 45.5% of them (see below chart).

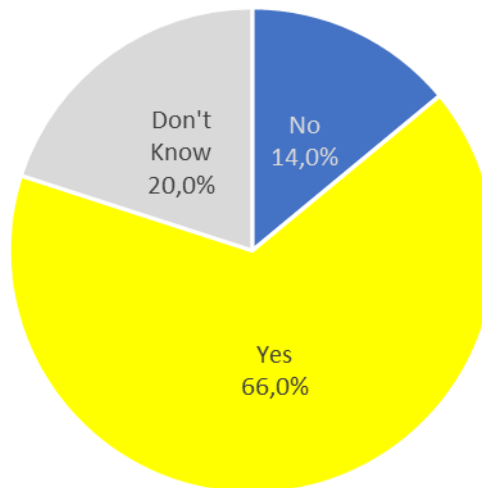


20.7% are willing (and 38.1% still remain hesitant) to participate in **research seminars** during their studies. This proportion is even greater for participating in **research projects adapted** to their level: 31.4% are ready (plus 36.1% hesitant) to take part (see below charts).



US Only 20.0% of the German master students surveyed say they have enough information about the opportunities for PhD in their field. This figure is very similar to that on the French sample. Consequently, 66.6% of the respondents ask for **more information** (see below chart).

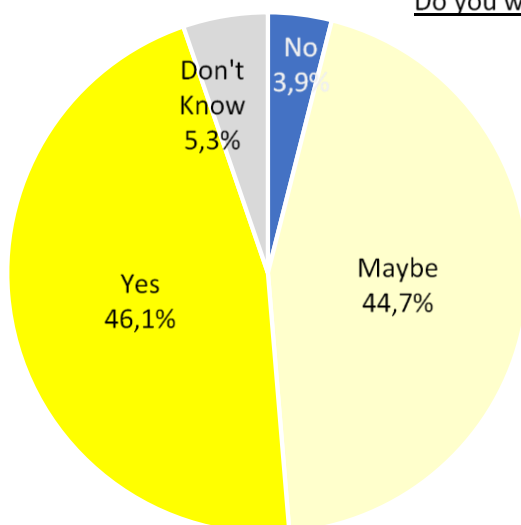
More information needed



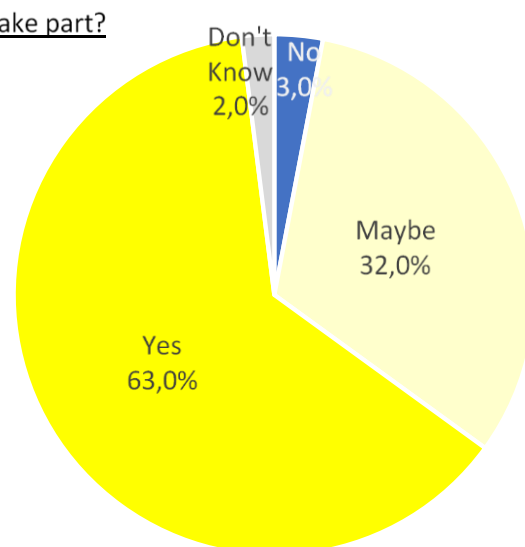
Regarding participation to **research seminars**, 22.0% of the German students answer that this is already required to get their degree. Of the other respondents, 46.1% are ready to take part.

Participation to **research projects** is acclaimed by all respondents with 63.0% who want to take part (see below charts).

Research seminars



Research projects



III/ Good practices for research attractiveness in universities across Europe and Canada

A/ Survey of the good practices

Good practices have been identified in the following universities, part of cooperation networks with the partner universities of the PuRPOSE project:

In Germany:

- Leipzig Graduate School of Management
- University of Lüneburg
- Ludwig Maximilian University of Munich
- University of Siegen

In Spain:

- University of Navarre

In France:

- University of Montpellier

In Ireland:

- Trinity College Dublin
- University College Dublin, two initiatives
- Technological University Dublin
- Waterford Institute of Technology

In the United-Kingdom:

- Oxford University
- London Imperial College

In Canada:

- University of Ottawa
- University of Laval

Complete information about the initiatives or programmes implemented by these universities have been gathered in 15 “good practices cards” which can be found in Annex D.

The subsequent analysis and synthesis are based on this information.

B/ Comparative analysis

A wide range of initiatives have been implemented by universities. What is relatively frequent in every country or university are PhD programmes *per se*. These programmes are available in every surveyed university, yet little is known about how the administration of these institutions promotes it among masters' students. It appears that the focus is more often put on the institution's reputation (world impact research university, top-level research lab etc) than actual promotion of the PhD programme. A Doctorate in Business Administration delivered by the Waterford Institute of Technology. This programme, which is not recognized as a PhD *per se*, specifically targets professionals with extensive work experience, and proposes part-time training through research applied to the professional activities of the participants, thus establishing a strong link between the university and the private sector.

Some universities offer research-oriented Master's degree (University of Montpellier, University of Munich, University College Dublin). These MA programmes are available either to students after their undergrads, or to PhD students as part of a mandatory training programme and help them to acquire methodology skills or other research disciplines. The motivation driving students to get involved in such programmes after their undergrads still remains unclear, in particular it is difficult to evaluate if their motivation is already linked to the perspective of doing a PhD after the research-oriented MA. It appears that joining such curricula is strongly linked to internal promotion, i.e. through lecturers or supervisors. Particularly relevant in the context of the sanitary crisis, some universities have adopted blended learning, combining on-site and virtual classes, such as the University of Laval.

An interesting initiative is the principle of the Graduate School or Doctoral track (implemented for example at the Universities of Siegen or Lüneburg). Master's students are able to start working on their research topic already at MA master level and then are fully prepared to start their PhD. They are in close contact with their supervisor and the lab, as they can be already integrated as student research assistant before they become assistant professor during their PhD. They also have access to research events (seminars, conferences workshop...). The enrolment of students seems once again to be highly related to the relationship between students and lecturers (future supervisors), who were able to identify the highly potential candidates.

A last programme deemed of high relevance for the PuRPOSE project is the UROP Programme (implemented in several universities across Northern America and Europe, and in our survey, by the University of Ottawa). This programme offers a scholarship to students to devote 75 hours to work on a research project, under a teacher supervision (also paid for it), in order to raise their interest for research. At the end of the programme, a research seminar enables students to present their work and to win a prize. Unfortunately, little figures or data are available to evaluate the link between participating in such programmes and later pursuing a PhD, as the students most usually apply to other universities for further education. There is dedicated staff to administrate the programme and to promote it among students and lecturers. The scholarship appears of high importance for students to get involved in the programme, as it allows them to fund their studies, especially in national contexts where the tuition fees to register at a university are particularly high.

C/ Synthesis

Although it is difficult to evaluate to what extent a programme is successful to promote the doctoral pathway, as not so many data are available to understand the levers and obstacles for students to apply or not, and if they apply, how many of them graduate; this benchmark of good practices among European and Canadian universities gives us an insight of what can be done for the PuRPOSE project.

It appears relevant to set up processes to integrate Master's students to a programme which leads them to the doctoral studies, by introducing them the research fields and topics, by building a relationship with potential supervisors and by giving them opportunities to be integrated into a direct research environment (lab seminar, conferences, workshop...).

Blended learning appears to be the most relevant way to train the students; it is particularly relevant in the context of the sanitary crisis, and it allows the students to acquire skills and develop their projects at their own pace, while maintaining a strong supervision from lecturers and researchers at the university.

An international partnership allows the students to benefit from the experience of lecturers and researchers from other universities as well as other students, providing the possibility for international collaboration on research project and training programmes.

Furthermore, a strong connection between the academia and the private sector/the industry enables the students to grasp the direct application of research on the field and to train themselves based on situations and cases inspired or provided by entrepreneurs and managers.

Finally, a strong focus should be put on attracting students towards those programmes and properly assess the impact of such programmes on the participants, and further on the institutions which implement them.

Conclusion

A/ Orientations for the project

In the framework of the Theory of planned Behaviour of I. Ajzen and based on the results of the studies, the PuRPOSE partners formulate the following recommendations and orientations for the project:

In terms of information:

- Focus on self-information of the students. Prescription, on the contrary, proves to be unproductive or even counterproductive;
- Internet appears to be the most adapted medium;
- Favour direct testimonies of PhD students or homologs which are engaged in a research training (descriptive norm);
- Change the attitude of students by targeting stereotypes on PhD (on solitude, uselessness, low employability).

In terms of skills and competences:

- Tackle the lack of perceived control on the completion of PhD and prove the feasibility of a carrier in research in the field of Management and Entrepreneurship;
- Focus on experimentation and concrete discovery of research activities;
- Target in particular the students who have already formulated a doctoral intention;
- Deconstruct self-limitation.

As regard to the identified good practices in other universities, the PuRPOSE partners hold the following:

- Implement pathways between the Master's level and PhD, on the examples set by graduate schools, allowing to secure a pool of students interested in research;
- Invite all students, including the ones registered in business-oriented curricula, to "taste" research through direct involvement in research projects, allowing them to acquire useful skills such as resilience, time-management, self-organization and methodology, and to arouse interest in research;
- Focus on blended learning which associate regular, face-to-face learning, and virtual learning and the use of online material for self-training;
- Set up an international network of collaboration to create a "real-life" research environment, including lab seminars, workshops and conferences, in which the students get a hands-on experience on how research work is done on an international level;
- Strengthen cooperation between universities and the industry to create synergies and tackle the perceived disconnection of research from the contemporary issues relevant to entrepreneurs and companies.

B/ Description of the PuRPOSE initiative

These findings provide guiding elements for the design of the PuRPOSE initiative to be implemented within the framework of the project. In particular, the initiative is divided into 2 parts.

1/ An information portal

The PuRPOSE website will serve as a portal to inform about research and PhD in the field of Management. It targets in priority MA students in that field, but also BA students, and other students in other fields of study. Secondly, it targets lecturers and researchers from other universities. Thirdly, the portal can be of interest to a broader audience consisting in entrepreneurs or employees.

The objectives of the PuRPOSE website are to:

- Break stereotypes about PhD and more generally research in the field of Management;
- Inform on the motivations and procedures to engage in PhD;
- Inform on the doctoral programmes and current research conducted in the labs in the partner universities.

The content of the portal will consist mainly in testimonials of current PhD students, thesis supervisors and other stakeholders of PhD and research at the university and beyond, which will give personal, subjective answers to the frequent questions of the students, and motivate them to consider PhD as a potential career opportunity.

The website will be regularly updated as to provide dynamic content to the visitors.

It will also constitute a way to attract more universities in a collaborative network of research in the field of Management.

2/ A pedagogical programme

The PuRPOSE “Minilabs” are a blended pedagogical programme allowing training of Master’s students to research through practice. The programme will run throughout the academic year and will associate virtual training via online modules on methodology, a research project chosen by the participant and supervised by a lecturer of the partner universities, a facilitated access to the field provided by the entrepreneurs from Réseau Entreprendre and the network of collaborators of the partner universities, and an international mini-symposium for the participants to meet and discuss their research projects and preliminary results.

The Minilabs will target students who already expressed an interest in research or who present a “research profile” in order to allow them to acquire the necessary skills to conduct research projects and foster (successful) applications to PhD programmes.

The Minilabs will be implemented gradually in the partner universities. In a long-term perspective, the programme could be implemented in other universities, thus participating to the creation of an international network of research in management.

Annex A: Bibliographical references

- Anderson, M.S. and Swazey, J.P. (1998), "Reflections on the graduate student experience: an overview", *New Directions for Higher Education*, Vol. 1998 No. 101, pp. 3-13.
- Biddle, J.C. (2013), "Factors affecting student choice of an education doctorate: a case study in the United States", *Work Based Learning*, Vol. 3 No. 2, pp. 35-53.
- Brailsford, I. (2010), "Motives and aspirations for doctoral study: career, personal, and inter-personal factors in the decision to embark on a history PhD", *International Journal of Doctoral Studies*, Vol. 5, pp. 15-27.
- Calatrava Moreno, M.D.C. and Kollanus, S. (2013), "On the motivations to enroll in doctoral studies in Computer Science – a comparison of PhD program models", *International Conference on Information Technology Based Higher Education and Training (ITHET)*, pp. 1-8.
- Churchill, H. and Sanders, T. (2007), *Getting Your PhD: A Practical Insider's Guide*, Sage Publications, London.
- Kollanus, S. (2014), "Initial motivation and progress with doctoral studies in computer science: a case study from a Finnish university", *IEEE Frontiers in Education Conference (FIE)*, pp. 1-8.
- McGee, E.O., White, D.T., Jenkins, A.T., Houston, S., Bentley, L.C., Smith, W.J. and Robinson, W.H. (2016), "Black engineering students' motivation for PhD attainment: passion plus purpose", *Journal for Multicultural Education*, Vol. 10 No. 2, pp. 167-193.
- Mueller, E. & Flickinger, M. & Dorner, V. (2015), Knowledge junkies or careerbuilders? A mixed-methods approach to exploring the determinants of students' intention to earn a PhD. *Journal of Vocational Behavior*. 90. 75-89.
- Tarvid, A. (2017), "Attracting doctoral students: case of Baltic universities", *International Journal of Educational Management*, Vol. 31 No. 7, pp. 1017-1041.
- Tarvid, A. (2014), "Motivation to study for PhD degree: case of Latvia", *Procedia Economics and Finance*, Vol. 14, pp. 585-594.
- Zhou, J. (2015) International students' motivation to pursue and complete a Ph.D. in the U.S. *High Educ* 69, 719–733.

Annex B: Roadmap for the conduction of the focus groups

A/ Organisation of the focus group

1/ Before the focus group

The questions are set in advance according to the template (cf. B/ and C/), as well as an analysis grid based on the 3 psychological dimensions of the Theory of Planned Behaviour of AJZEN. One (or two) moderators are designated to conduct the focus group (interview the participants, facilitation of the discussions, recording)

2/ During the focus group

The moderator starts by explaining the context of the focus group (aim of the project, objectives of the focus group) and the rules (anonymity and confidentiality). After that the moderator invites the participants to introduce themselves briefly. Then the moderator introduces the questions. The moderator can come back to some elements mentioned by the participants to encourage them to develop their arguments. As possible, the participants should interact and debate together, but stay focused on the topic, as to avoid unnecessary digressions.

As the end of the focus group, a small questionnaire is filled by the participants (in particular, the name – only for the purpose of linking the verbatim to the data of the questionnaire, the age, the gender, and for PhD students, the year of PhD – 1st, 2nd, 3rd, 4th etc, the sources of income and the profession of the parents), in order to link the comments to the persons.

3/ After the focus group

The recording must be first transcribed. Then the verbatim records are classified according to the analysis grid. Finally, a synthesis is written to share the results and compare them.

B/ Plan for the interview (PhD students)

1/ Introduction

Present the context (PuRPOSE project, aim of the study), explain the steps of the focus group and the rules (organised debate, recorded answers, confidentiality)

2/ first round

Ask the participants to introduce themselves, to talk briefly about their studies and what they do now (PhD: what year, what subject, etc)

3/ Decision-making (before)

- Why did you choose to do a PhD?
- What was the main motivating factor, or the triggering event?
- Among your former classmates, were there people who wanted to do a PhD, but eventually didn't? According to you, why?
- What did you know/think of research before you started your PhD?

4/ Process (during)

- What makes a « good » PhD student? What are the necessary qualities/competences to do PhD?
- What makes a « good » supervisor?
- What are the main difficulties in your daily work? What do you think causes them?

5/ Recommendations

- Which initiatives could you think of to encourage students to go for PhD?
- What could be done to help them write good applications?

6/ Conclusion

Close the debate, thank the participants, and ask them to fill the questionnaire.

C/ Plan for the interview (supervisors)

1/ Introduction

Present the context (PuRPOSE project, aim of the study), explain the steps of the focus group and the rules (organised debate, recorded answers, confidentiality)

2/ First round

Ask the participants to introduce themselves (what discipline, how many years of experience as supervisor, how many PhD supervised, etc)

3/ Decision-making (before)

- According to you, for what reasons students choose/do not choose to do a PhD?

4/ Process (during)

- What makes a « good » PhD student? What are the necessary qualities/competences to do PhD?

- Do you have difficulties to find « good » PhD candidates? If so, why, according to you?
What makes a « good » supervisor?
- What are the main difficulties in your daily work as supervisor? What do you think causes them?

5/ Recommendations

- What makes a good application for PhD?
- Which initiatives could you think of to encourage students to go for PhD?
- What could be done to help them write good applications?

6/ Conclusion

Close the debate, thank the participants, and ask them to fill the questionnaire.

Annex C: PhD in 20 questions - questionnaire template

SECTION 1: Basic information

Q1. How old are you? (mandatory)

- Answer in number

Q2. Which gender do you identify as? (pick one) (mandatory)

1. Male
2. Female
3. Other
4. Rather not say

Q3. What year are you currently in? (pick one) (mandatory)

1. Bachelor's
2. Master's (1st year)
3. Master's (2nd year)
4. other : please specify

Q4. What is the title of your degree? (mandatory) (give examples depending on the country)

- Answer in text (short)

Q5. For what reason(s) did you choose this degree? (pick one or more) (mandatory)

- Career perspectives in this field are rather good
- Someone recommended this degree to me
- I am rather successful as regards to the taught courses
- It is in line with my previous degree
- I am interested in the topic
- It is necessary for my career path
- Other: please specify

SECTION 2: Introduction to PhD

Q6. Have you been informed about research as a potential career path? (pick one) (mandatory)

1. Yes I heard a lot about it
2. Yes I know it exists but I have not dig into it
3. Not at all
4. I don't know

Q7. If you answered yes, through what channel(s) did you hear about potential PhD/research opportunities in your field? (pick one or more)

1. from teachers/lecturers at the university
2. from PhD students at the university
3. from teachers/researchers or PhD students in my family/close social environment
4. I read about it in a paper or on the internet
5. Other: please specify

Q8. Please elaborate shortly (who, how?)

- Answer in text (long)

Q9. Have you ever considered doing a PhD? (pick one) (mandatory)

1. No, never
2. Not anymore
3. Yes, I am seriously considering it as a logical next step from my current studies
4. Yes, I am considering it but haven't seriously made the decision or done my research yet
5. Yes but only in my dreams
6. Maybe after some work experience
7. Other: please specify

Q10. Could you explain why or why not?

- Answer in text (long)

SECTION 3: What is a PhD for you?

Q11. In your opinion, a PhD relates more to: (pick one) (mandatory)

1. Studies : scale 1 -5
2. Work : scale 1 -5
3. Both scale 1 -5
4. Other: please specify

Q12. Can you explain a bit more your opinion about PhD?

- Answer in text (long)

Q13. Do you agree with the following statements about PhD? (for each proposition, from 1. Strongly disagree to 5. Strongly agree) (mandatory)

1. You can access aPhD only with very good grades at the university
2. You must read a lot of useless literature
3. You get to spend 3+ years at the university out of trouble
4. It means a lot of solitude
5. It requires discipline
6. It is highly valued
7. It is an interesting first work experience
8. It leads to becoming a lecturer at the university

9. It is a unique intellectual challenge in order to build oneself as an individual
10. It is expensive
11. You cannot do it part-time

SECTION 4: Skills needed for a PhD

Q14. In your opinion, are these skills useful to do a PhD? (for each proposition, from "1. not useful" to "5. essential") (mandatory)

1. Adaptability
2. Stress management
3. Teamwork
4. Networking
5. Communication skills
6. Autonomy
7. Decision-making
8. Organising skills
9. Self-discipline
10. Creativity
11. Curiosity
12. Perseverance / endurance
13. Global thinking
14. Reactivity
15. Others : specify

SECTION 5: What about you?

Q15. How strong would you consider yourself as regards to these skills? (for each proposition, from "1. not so strong" to "5. very strong") (mandatory)

1. Adaptability
2. Stress management
3. Team work
4. Ability to federate
5. Communication skills
6. Autonomy
7. Decision-making
8. Organising skills
9. Self-discipline
10. Creativity
11. Curiosity
12. Perseverance
13. Global thinking
14. Reactivity
15. Others : specify

SECTION 6: Do you want to take part?

Q16. Do you feel that you have been adequately informed that research was a career option in your field? (mandatory)

- Answer from 1. No, not at all to 5. Yes, I feel I have all the information I need

Q17. Would you want to get more information about the opportunities for PhD after your studies ? (pick one) (mandatory)

1. Yes
2. No
3. I don't know

Q18. Would you want to take part in research seminars during your studies? (mandatory)

1. Yes
2. Maybe
3. No
4. It is required in order to get my degree
5. I don't know

Q19. Would you want to take part in research projects adapted to your level during your studies? (mandatory)

1. Yes
2. Maybe
3. No
4. I don't know

Q.20 Any further comments or suggestions? (optional)

- Answer in text (long)

Annex D: Collection of good practices of universities for research attractiveness

Presentation

Leipzig Graduate School of Management / Doctorate at HHL / 25 new doctoral students/year / 240 doctoral graduates (1998-2017)

The target group of the program are students which already finished their masters and who had an Above-average master-level degree in business or economics. Courses are mandatory for accepted students. The attendance of the courses in Leipzig is obligatory, therefore the program is structured in a physical way.

Local program at the university.

The tuition fee amounts to EUR 15,000 for the entire program, which is to be paid in three installments at the beginning of the first, second and third academic year. The enrollment fee is EUR 2,500, the examination fee EUR 1,000, waivers are possible). In order to promote further education, Sparkasse Leipzig (local Bank) offers attractive student loans with favorable terms to HHL students. Possibilities for scholarships.

Description

The Doctoral Program of HHL is designed on a part-time basis and is particularly of interest to research-oriented candidates, seeking to combine their job with a postgraduate degree. It includes coursework in the form of lectures and seminars, independent research and participation in doctoral forums, research colloquia, summer schools and conferences. As a rule, HHL's Doctoral Program takes three years. Doctoral candidates have the flexibility to arrange the coursework according to their individual schedule. All seminars require students' attendance in Leipzig. Admission to the Doctoral Program at HHL is highly competitive and the participation in such a program in Germany differs from an American Ph.D. or a DBA program: It requires that the candidate finds a professor to supervise his or her doctoral thesis and a research proposal has to be submitted.

Year 1: Two mandatory courses (approx. 2 weeks), four elective courses (3-4 days each), Summer Meeting I (2 days), Research Colloquium (1 day)
Year 2: Summer Meeting II (2 days), Doctoral Colloquium (1 day)
Year 3: Acceptance and defense of dissertation (1 day)

Transferability – improvement

The initiative is transferable to most universities as it is a program with high fees. The interesting part is, that the program is designed to be a part time program where participants can work in their jobs while doing their Ph.D. Thus they are also able to gain working experience. This could be interesting for people who do decide against a Ph.D. due to the fact that they lose years of working experiences and thus promotions in their career.

Measures to enable transferability could be:

1. Set up a similar infrastructure
2. Assignment of a responsible person, who takes care of the organization of the courses but also the interests of the students
3. It should be determined which amount of fees is appropriate for each country.
4. Interested parties should be informed about possible funding options. (In the present case, for example, there is cooperation with a local bank).

Further information

<https://www.hhl.de/faculty-research/research/doctorate-at-hhl/>

Presentation

The Doctoral Track enables well-qualified students admission to study for a doctorate during their Masters course. With the simultaneous admission on a Master's course and a doctorate, they can begin preparing for their doctoral research project during their Masters and make a start on becoming part of the scientific community.

In the last 10 years less than 10 students participated in the programme.

The application can be made at any time during a Master's course, although the first or second semesters of the Master's are recommended. Students who are in the program can participate in all doctoral courses offered by the university. It is a regional offer for students at the University of Lüneburg.

Description

Interested students are advised to use the initial months of their master's course to gain an initial picture of the contents of their major and to contact potential supervisory academic staff from their intended area of research to discuss potential research projects. As soon as the future supervisor has been confirmed and created a corresponding review, students can submit their application for admission to the Doctoral Track to the responsible doctoral board through Student Services.

In order to participate in the program, students must have achieved a grade of at least 1.5 during their BA. The programme ends with the final enrolment in the doctoral programme after the Master's degree has been awarded.

With the Doctoral Track, students are able to focus intensively on their chosen area of research during their Master's courses and to use their Master's thesis as the basis for their doctoral research project. Being able to focus early on the area of research creates the ideal conditions for active, research-focused learning. The early participation in the modules for the doctorate supports this learning process.

Students who are in the program can participate in all doctoral courses offered by the university. Through a mentoring programme, PhD students advise the Doctoral Track Master's students and share their experience with them. It is also common practice that the graduates of the Doctoral Track work as research assistants with their supervisor during their MA degree.

Results – impact

Students are supported and get prepared for their doctorate already during their Master's studies. After graduation, students can start directly with their doctorate since they have identified the topic for their thesis and acquired the necessary skills. Through employment as a research assistant which usually goes hand-in-hand with the successful completion of the programme and the Master's degree, the university benefits from capable employees.

Transferability – improvement

The program can be transferred to many universities, as it does not initially require any financial resources. The programme merely provides a framework for students to prepare for a doctorate while they are still in their Master's programme: students are informed of the possibility to do a doctorate through the programme, and then they shall discuss different options for employment or financing with their professor on a case-to-case basis.

Measures to enable transferability could be to set up a similar infrastructure and assign a responsible person who would take care of the organization of the courses but also the interests of the students. Measures to improve the initiative could include adjusting the criteria of the final grade for the BA degree, as it might be a reason why the program is not well received by students, and active promotion by the teaching staff by contacting students individually.

Further information

<https://www.leuphana.de/graduate-school/master/doctoral-track.html>

Presentation

Ludwig-Maximilians-Universität München / Master of Business Research (MBR)

The target group of the program are students which already finished their masters and want to start their Ph.D. at that point. The MBR is an integral part of doing a PhD at the Munich School of Management. It ensures a high standard of research at the faculty and the final grade forms part of the PhD grade. Students cannot take up a Ph.D. at this university without enrolling in the MBR. For all of the courses in the program attendance is mandatory.

They courses of the program are mostly in a physical way. The MBR can be compared to a additional Master, which the Ph.D. students at LMU have to complete besides their Ph.D. studies.

Local offer of the Ludwig-Maximilians-Universität München. Only students which want to do a Ph.D. there are allowed in the program.

Tuition fees adhere to the standard rates in Bavaria. The only fee is a 118,50 € (as of Summer 2017) administrative fee charged by LMU Munich. However, most students enrolled in the MBR are simultaneously employed as research assistants at one of the institutes at the Business Administration Faculty.

Description

All PhD students have to complete the Master of Business Research program that trains students in essential methods and topics for management research. This mandatory course is also to ensure the ongoing quality of the degree. The only requirements for the respective Ph.D. students is that they have a qualifying degree (masters degree) and a doctoral supervisor. Students have to find the supervisor on their own, by talking to them. If these two requirements are met, the students automatically enter the MBR program. Thus the program is like a additional Master. Students have to earn a Masters degree first. The MRB program is an obligatory part of the Ph.D. studies at the LMU.

The Munich School of Management offers a broad variety of courses for PhD students. They frequently invite renowned researchers from all over the world for teaching method and reading courses to PhD students. The program is designed for four semesters (two years) including one semester for the project study. The MBR core courses (A/I) are usually block courses that cover three to four full days. In addition, they will generally be required to prepare a presentation or seminar paper (specified for each course in the course syllabus). From experience LMU estimate that each course takes two to three weeks full-time work.

Formally, the MBR replaces the oral exam in the PhD process. The MBR grade thus counts for 1/3 of the final grade for the PhD, with the other two thirds being made up of the grade for the doctoral thesis.

Transferability – improvement

The initiative is transferable if the university has an option for funding (to pay the wages of the students and also of the coordinator).

1. Set up a similar infrastructure
2. Assignment of a responsible person, who takes care of the organization of the courses but also the interests of the students
3. Establishment of uniform standards for the entire faculty
4. Creating acceptance for the program. Since the program is obligatory for all Ph.D. students of the faculty, a willingness to accept uniform standards must be created among the supervisors and students

Further information

<https://www.phd.bwl.uni-muenchen.de/phd-courses/index.html>

Presentation

University of Siegen / SME Graduate School - Sustainable Managing Entrepreneurs / All in all since 2016 (start of the Program) 20 students joined the program in their Masters phase. 2 of them dropped due to qualification reasons, 2 left for personal reasons (but are still associate members). Thus there are 16 students right now, only four of them did not start their Ph.D. phase yet, as they are still in their masters. But one of the 3 will join already in may 2020. The others will finish their studies in summer.

The program is suitable for two types of applicants: a) academically committed MA students of the faculty at Siegen University who are in the first or second semester of their Master's degree and who have already achieved almost most of the credit points and who have an average grade of 1.5 or better at the time of application but who have not yet completed the full Master's degree program; or b) students making their initial application to one of the Master's programs. These applicants must have completed their Bachelor's degree with the ECTS grade of A or be in the top 10 percent of the degree cohort at their home university. Furthermore the students have to enrol in a masters program of the faculty. If the students are accepted in the SME Graduate School, all classes are mandatory.

The program is based on physical activities. Those are led/arranged by the supervisors (two Post-Docs) of the program.

Local program of the university of Siegen. For students who are accepted into the programme, participation in the events is free of charge. As described, students are employees of the University of Siegen.

Description

The program is designed for students who wish to investigate, in- depth and from different perspectives, the backbone of most economies, and to draw international comparisons of small and medium-sized enterprises, start-ups and family businesses. They will be prepared for a successful, research-oriented career. The SME Fast-Track consists of two stages: 1) the "Master's stage", which takes between

two and four semesters at the most; and 2) the "Ph.D. stage", which is usually two to three years. A Master's degree must be earned parallel to the doctorate, on the basis of the examination regulations for the Master's degree courses. Two selection procedures are held, one before the "Master's stage" and the second before finally entering the "Ph.D. stage". Candidates for whom the evaluation procedure, and thus the final selection for the "Ph.D. stage", has not been successfully completed will remain in the Master's degree program, culminating in the award of a regular Master's degree. Those who advance to the Ph.D. stage must successfully complete the Master's degree as well before entering the Ph.D. stage.

The students study their regular Master's program. During this time they maintain close contact to their selected Ph.D. supervisor's group, working with their advisor in her or his research group as a student research assistant with a contract of 5 – 8 hours per week. After finishing their masters program and entering the "Doctorate phase", the Ph.D. candidates work in their supervisor's department on a 50- percent contract. The students attend working group meetings as well as the Fast-Track SME Graduate School meetings and classes. The regular meetings are lead by the supervisors of the program. Guest lecturers are often invited for the methodological workshops lead by guest lecturers, which take place at non-regular intervals (e.g. Prof. Dr. Simon Parker, Prof. Dr. Roy Thurik, Prof. Dr. Rui Baptista; Prof. Dr. David Audretsch).

Admission to doctoral studies is not contingent on a Master's degree but is strongly related not only to the grades of the Master's program but also to the evaluation of the work experience in the supervisory group and in the research project. In the doctorate studies, the Fast-Track candidate can draw on previous work and in so doing can either complete the Ph.D. thesis faster or treat the topic in greater depth. Nevertheless, to earn a contract as Ph.D. student, the applicant must successfully complete the Master's degree, but can attend classes, etc., beforehand.

In the "Doctorate phase", the Ph.D. candidates work in their supervisor's department on a 50- percent contract (TVL-13), if they have successfully completed the Master's Degree and the evaluation by the committee. Fast-Track Ph.D.s must attend SME Graduate School Meetings and earn 20 credit points in the Ph.D. SME Program in addition to the regular 20 Ph.D. points and the Master's-track credits.

Results – impact

The program started in summer 2016, so no student has finished the Ph.D. yet. However some are close to finishing it within only 3 years of doctoral phase. At irregular intervals, data on publications, additional scholarships, participation in other grant programmes and student conferences are collected. Students benefit from early-on research orientation (Fast-track as beneficial strategy to obtain a PhD).

Due to the regular meetings the students know each other so they can support one another. They have a network of other Ph.D. students and also get in touch with scientists from all over the world. Synergy arising from the collaboration of researchers from different chairs. And also research collaborations can develop between students but also beyond the borders of the university. In addition, the fast-track character and the limited time (3 years in Ph.D. phase) give the students an incentive to start with the dissertation as soon as possible and finish it within that time. The language of the program is English, thus students also get prepared in terms of scientific language.

Through the employment as a research assistant and student assistant the university gains capable employees which stay relatively long-term.

Transferability – improvement

The initiative is transferable if the university has an option for funding (to pay the wages of the students and also of the coordinator).

In a nutshell, the graduate school should be modelled as a mini Max-Planck institute. Measures to enable transferability could be:

1. Set up a similar Infrastructure
2. Assignment of a responsible person, who takes care of the organization of the courses but also the interests of the students

3. Teaching staff should actively promote the opportunity to participate and maybe approach individual students about it.
4. Increase collaboration among different professors/chairs
3. Avoiding too distant fields
4. Active role of supervisors (formal lectures/moderation/feedback/colloquium), so not to overburden postdocs etc.
5. Networking with other universities/ graduate school

Measures to enable transferability could be to set up a similar infrastructure and assign a responsible person who would take care of the organization of the courses but also the interests of the students. Measures to improve the initiative could include adjusting the criteria of the final grade for the BA degree, as it might be a reason why the program is not well received by students, and active promotion by the teaching staff by contacting students individually.

Further information

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<https://www.sme-gradschool.wiwi.uni-siegen.de>

Presentation

IESE Business School Barcelona is a business school that depends on the University of Navarre, it is regularly classified as one of the six best business schools in Europe by the Financial Times, and is also renowned for its MBA program and its Executive MBA (thanks to a historic partnership with Harvard University). The school is present on several campuses (Barcelona, New York, Madrid, Munich and São Paulo) and carries out international recruitment for its students.

The Barcelona campus offers a Master of Research in Management (MRM) and a PhD in Management. The peculiarity of this initiative is that the two diplomas are integrated into a single course, the school therefore aims to capture students from the second cycle for accompany them until their doctorate.

The IESE doctoral program therefore prepares for a career in the university environment through rigorous training in qualitative and quantitative research. There is therefore support from the teachers since the second cycle.

The doctoral program is 100% funded, including a fee waiver and an allowance.

The school highlights in its communication for future students: its privileged relationship with Harvard University; the proximity and availability of its faculty; its international network thanks to its various campuses and its network of alumni; its position in the international rankings.

Description

The first step to becoming a doctoral student at the IESE is therefore to apply for the Research Master in Management from the IESE, a full-time program of two years of courses, seminars and basic, advanced and specialized courses in a total charge of 120 credits. The master's program as a whole provides students with the quantitative and qualitative methodological skills that will allow them to conduct empirical and theoretical research for publication in mainstream journals. After completing their course work, students are required to take an exam in their area

of specialization and submit an empirical research paper showing great potential, both of which are prerequisites for entering the doctoral program of the IESE.

All admitted students will receive full financial support. The financial support program includes annual tuition fees of € 30,000 and an annual allowance to cover living expenses of € 16,695. To be eligible for financial support, students must work as research assistants for at least 10 hours per week from their second year. This experience allows them to participate in research before starting their doctorate.

The program is designed to train students interested in pursuing an academic career. The objective of the admissions committee is to choose a small group of students who are committed to learning in a demanding and rigorous environment and who will continue to advance management knowledge. Typical candidates hold an undergraduate degree in a relevant discipline and have finished in the top 10% of their promotion. Most incoming students also hold a master's degree. The entire program takes place in English.

In order to participate in the program, students must have achieved a grade of at least 1.5 during their BA. The programme ends with the final enrolment in the doctoral programme after the Master's degree has been awarded.

With the Doctoral Track, students are able to focus intensively on their chosen area of research during their Master's courses and to use their Master's thesis as the basis for their doctoral research project. Being able to focus early on the area of research creates the ideal conditions for active, research-focused learning. The early participation in the modules for the doctorate supports this learning process.

Transferability – improvement

Integration in the same course of the master and doctorate allows to support students very early in a career in scientific research.

Further information

<https://phd.iese.edu/>

Presentation

The Montpellier Management business school (“MoMa”), part of the University of Montpellier, offers a Master’s degree focusing on research in management studies, with the aim to introduce Master’s students to research, train them in the methodology of research, and foster further applications to PhD programmes at the university.

The Research and Management Studies (“REM”) Master’s degree is a complementary Master’s degree, open to all Master’s students at MoMa in their second year. These students must follow complementary modules to obtain a double Master’s degree. This Master’s programme is also available as complementary to PhD students at MoMa who do not hold a research-oriented Master’s degree, and can be accessible to some extent to professionals who demonstrate experience in the field.

Description

The REM Master’s consists in 100 hours of courses focusing on subjects such as epistemology and design of research in management, research project management, and research methods (quantitative, qualitative).

Master’s students who follow the REM Master’s in complement of their main Master’s degree can choose to write a research Master’s thesis instead of an internship report.

Transferability – improvement

To date, the REM Master’s only provides training to research, but not through research. In other words, the students, unless already engaged in a PhD, are not directly connected to the research activities of the laboratories at the university.

An improvement of this initiative would be to include supervised research activities in relation with the strategical focus of the laboratories of Montpellier to further the link between education, training and research.

Further information

<https://www.montpellier-management.fr/liste-des-formations/m2-recherche-etudes-management/>

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Trinity College Dublin (TCD) – PhD research themes in Entrepreneurship and Social Entrepreneurship

Presentation

At TCD, the PhD programme incorporates five distinct learning goals including:

- 1) Identifying and developing the critical knowledge, skill, and expertise required to thrive in an international research and teaching environment that is intensive, collaborative, enjoyable, and results-oriented;
- 2) Appreciating and critiquing the philosophical foundations, theories, and practices of social science research;
- 3) Identifying, critiquing, and justifying the key elements of an integrated programme of research leading to the award of a higher degree by research;
- 4) Effectively planning, conducting, and communicating rigorous, valid, and ethical research; and
- 5) Critically examining and evaluating ongoing or completed research projects.

On the TCD website, supervisors have listed their areas of interest and if they are seeking PhD candidates. The website also lists recent PhD graduates and current PhD candidates, their areas of research and any published articles.

See <https://www.tcd.ie/business/doctoral/research-interests.php>

The PhD programme runs throughout the academic year which is organized around three terms: first term (September to December); second term (January to April); and third term (May to August).

Description

New PhD students are enrolled at the beginning of September each year. While students may enrol on either a full-time or part-time basis, all students benefit from the same programme of doctoral formation.

Each student is assigned a principal supervisor with whom they are expected to maintain regular contact. If a student's programme of research is of an inter-, trans-, or multi-disciplinary nature, a co-supervisor may also be appointed. All principal supervisors are appointed from within Trinity Business School while co-supervisors may be appointed from other Schools throughout the University. In certain circumstances, co-supervisors may be appointed from other Universities or industry partners depending on the nature of the research being undertaken.

A strong working relationship between a student and their supervisor(s) is a vital element of any programme of research leading to the award of a PhD degree. Our faculty are committed to building such relationships with their students. Throughout the period of enrolment on the PhD register, faculty provide first-class instruction, teaching, counsel, and oversight on all matters relating to the pursuit of high-quality research.

New entrants and continuing students are required to follow a set of structured components which are central to the effective formation of all doctoral candidates. These components have been designed to support the routine and ongoing work involved in pursuing a programme of research leading to the award of a PhD degree. They provide in-depth learning and development opportunities tailored to meet the needs of PhD students.

these components include courses on (non-exhaustive): pursuing excellence in doctoral research, social science research philosophy, publication skills, quantitative research, qualitative research or research integrity and impact in an open scholarship era.

Further information

<https://www.tcd.ie/business/doctoral/programme-structure.php>



PURPOSE

Good Practices in Research Attractiveness

University College Dublin / Innovation Academy complementary modules

Presentation

The UCD Innovation Academy delivers complementary modules for MSc students and PhD candidates in the area of innovation as an opportunity to broaden their skills in a dynamic, multidisciplinary learning environment.

The modules are open to current UCD PhD Candidates from any discipline. To register the students must have permission from their PhD Supervisor.

All UCD Innovation Academy modules are delivered online in the 2020/21 Academic Year. Classes run from 9.30am – 4.30pm each day with a combination of live online classes, self-directed learning and group activities.

All Innovation Academy modules take a learning by doing approach, combining, individual, group and team activities, tasks and projects including presentations, discussion and reflection:

- Active/task-based learning
- Peer and Group work
- Reflective Learning
- Enquiry & Problem-based learning
- Student Presentations
- Case Study Learning

Description

The 6 modules on offer are the following:

1) Design Your Purposeful Life

The aim of this module is to enable students to plan and reflect upon their learning, career and life goals using Design Thinking and other approaches.

2) Creative Thinking & Innovation

The aim of this module is to help participants to access their innate ability for creative thinking and innovation in its broadest sense, and to consider how to develop an opportunistic mindset in exploring ideas in a multidisciplinary team environment. This module is delivered through activity-based exercises and interactive challenges at both individual and group level.

3) Design Thinking for Innovation

This module is designed to provide the participant with a comprehensive and in-depth experience of Design Thinking, culminating in the presentation of a creative, innovative solution to a complex real-world challenge of an external host.

4) Entrepreneurship: Application & Mindset

The purpose of this module is to develop the participants' entrepreneurial mindset - helping them see the world, think and act in a more entrepreneurial manner - either for starting their own business or for leading initiatives within an organisation.

5) Exploring Intellectual Property

This module introduces students to the issues and actions associated with quality, value, identification and protection of intellectual property. This includes an exploration of copyright, patenting, trademarks, industrial design and know-how as well as ways to derive value from the 'protectable' and the 'unprotectable'.

6) Communicating for Impact

The purpose of this module is to enable students to effectively communicate their ideas, project, research or potential venture to a broad range of audiences both in person and online.

Transferability - improvement

The Innovation Academy offering is not a PhD programme, rather it is a suite of 6 modules that are complementary to a wide range of PhD programmes, and introduce candidates to the concepts of innovation and entrepreneurship. As such, it doesn't require the development and approval of a full PhD programme, so it should be possible to use the model and develop a suite of modules.

The Innovation Academy model is an exciting model for two reasons:

- i) It is expected that PhD candidates will be domain experts and technically competent, but frequently lack the entrepreneurial skills that would help them develop an idea or iterate an innovation, because their formal education generally omits these skills. By taking these 6 elective modules, PhD candidates can focus on their domain expertise but also learn critical business skills;
- ii) The elective modules are an innovative way to introduce the concepts of entrepreneurship, innovation and Design Thinking to those not undertaking a PhD in those specific fields;

Further information

More information and participants' testimonials are available on:

<https://www.innovators.ie>

Presentation

UCD Michael Smurfit Graduate Business School is a member of a number of internationally renowned alliances, giving their doctoral students the opportunity to participate in a wide range of PhD seminars and workshops. In particular, the school of business is a member of the strategic alliance CEMS which objective is to foster doctoral education, EIASM, which seeks to advance the study of Management in Europe, or EDAMBA which promotes cooperation and facilitates the exchange of information and PhD candidates between its members.

As entry requirements the a PhD programme at the UCD Smurfit school, a candidate must hold one of the following:

- a minimum 2.1 primary degree in Commerce or Business Studies, or in a subject closely related to the proposed area of study;
- an appropriate Master's degree (or equivalent) from a recognised higher education institution
- evidence of academic standing and/or relevant professional experience proving the applicant's suitability for doctoral studies

Applicants must also submit a 1000-word research proposal outlining the chosen topic, the nature, scope and methodology of study, the relevance or importance of the topic and a preliminary literature review.

The tuition fees for a full-time programme are, for an EU citizen €6,530 per annum, and for a non-EU citizen €12,575 per annum. The Business School's Centre for Doctoral Research provides funds to support attendance at conferences, seminars and workshops.

Description

The PhD is structured into two stages. Stage 1 is an initial period of advanced education and normally comprises 90 ECTS credits. At the end of Stage 1, students may apply to transfer to Stage 2, which is largely dedicated to original doctoral research, but may also include taught modules. Students with a relevant Master's degree by research may be admitted directly to Stage 2.

All PhD students are required, with the support of their Doctoral Studies Panel, to develop a Research and Professional Development Plan that describes the student's educational, training and personal and professional development needs.

Taught courses include research methodology, advanced disciplinary knowledge, and personal and professional competencies. The modules on research methodology focus on philosophical positions in social science research, quantitative methods, qualitative methods and research management and design. In addition, all students are required to complete a course on Research Integrity Training.

Discipline-specific modules are also available along with the opportunity to take modules that focus on other competencies, such as teaching and communication skills. In addition, PhD students can also benefit from extensive training in transferable skills and research management skills offered to all PhD students in UCD.

Students whose native tongue is not English are strongly encouraged to avail of the English for Academic Studies programme offered by the Applied Language Centre, UCD and provides students with a focused learning experience through which they can improve their language proficiency.

Results - impact

The Smurfit website contains a significant listing of its graduates – their names, thesis title, subject area and the name of their supervisor. The website also lists current students by name, their thesis title and the name of their supervisor.

See <https://www.smurfitschool.ie/thesmurfiteexperience/alumnistories/>

Transferability - improvement

The Smurfit Graduate Business School reputation is challenging to replicate, taking both time and successful high profile graduates. Similarly, access to the CEMS and EDAMBA networks is dependent on developing this good reputation.

However, the concept of an international peer network is achievable – such an international network could be developed amongst similar ranked third level colleges. The early stage of such an initiative, could be to build on partnerships with third level institutions developed over EU projects and to look at the Erasmus student programme – both of these would utilise existing linkages, allowing for a shorter leading time to develop and run a pilot network.

Further information

<https://www.smurfitschool.ie/>

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Presentation

Technological University of Dublin is a relatively new Irish University, combining Dublin Institute of Technology, Institute of Technology Blanchardstown and Institute of Technology Tallaght. TUD offers a number of entrepreneurial PhD programmes across a wide range of sectors, in particular:

1) PhD in Social Entrepreneurship

The programme is a direct entry PhD and is not designed for MSc students to transfer across. Undergrad students must have a 2.1 Level 8 honours degree or higher in a relevant degree. The programme is Fully Funded (ie Scholarship, Fees & Materials funding available), with all programme fees being met by TU Dublin. €16k is available as a Student Stipend with a further €2k to cover Materials/ Travel etc. The programme is led by two lecturers, one from School College of Business and one from School Marketing.

2) International Entrepreneurship or Creative Industry Strategies

The programme is open to all undergrads with a minimum 2.1 in any discipline. Candidates will have to self-fund their studies.

Description

1) PhD in Social Entrepreneurship

Open calls are regularly posted for students to apply to PhD on topics proposed by the supervisors. For example, as of April 2020, the subject area is: 'Social Culture and Enterprise'. The specific area of study is "Exploring the life-cycle of social enterprises –focus on triggers for growth".

2) International Entrepreneurship or Creative Industry Strategies

Research proposals will be considered within the areas of international entrepreneurship or creative industry strategies that propose adopting a qualitative research design or social network analysis.

Transferability - improvement

The key aspect of this TU Dublin PhD programme is that it funds the candidate with €16k stipend and €2k of expenses.

Such a situation is possible where the research is funded by industry or the candidate is doing the programme part-time and being funded by their employer, but is highly unusual when neither of these criteria apply.

Further information

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1) PhD in Social Entrepreneurship

Dr. Lucia Walsh (lead supervisor) & Dr. Ziene Mottiar

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2) International Entrepreneurship or Creative Industry Strategies

Dr Deirdre McQuillan

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Presentation

The DBA programme focuses on the application of theoretical knowledge to the advancement of management and business practice, and is designed to develop the analytical, conceptual, and critical thinking skills of senior business and management professionals. This is a distinctive, research-issue driven programme that is orientated towards senior executives in managerial roles and combines workplace and professional engagement with the scholarly rigour of the academic institution.

The four-year part-time programme is innovative in its structure, combining three significant milestones on the doctoral process: advanced research skills workshops, cumulative paper series and the completion of the DBA thesis, all of which centres around addressing an organisational issue of interest. The programme is designed to facilitate senior manager access, with a 2–3-day block on campus each semester.

The DBA is aimed at mid-career individuals who have already established themselves as business leaders or are on track to being appointed to executive positions and are supported in their academic ambition by their employing organisation. The programme combines workplace and professional engagement with the scholarly rigour of the academic institution. The DBA aims to develop the participant's ability to undertake independent research at an advanced level and make a significant contribution to knowledge and professional practice through the evaluation of business management structures, contexts, and processes.

Standard applicants will have an MBA (or equivalent master's degree in the field of business and management or organisation studies) and a minimum of five years management experience, ideally at senior level. Applicants should also display a competence in solving problems analytically and in separating opportunities and challenges in terms of cause and effect, as well as the potential to conduct research.

The fees payable over four years are €35,000.

Description

The programme is divided into three stages: following completion of a series of workshops in Stage 1, participants will submit a research proposal, to be presented at a doctoral colloquium. Students will then research and write up a series of research papers in Stage 2, guided by an academic mentor and a WIT working paper series, before submitting and defending their thesis in Stage 3 of the programme.

Stage 1 focuses on supporting the research design and application through examining current and topical methodological questions and debates. Through a series of intensive workshops, provided by the School's leading academics, participants develop advanced research skills to be applied in Stage 2 of the research process, when they carry out an extended study under the tutelage of a trained professional and in interaction with their peers through a cumulative 'research paper' series. In Stage 3, participants will present and defend their thesis, amalgamating their paper series, and adding in introduction and context, discussion, conclusions and recommendations and reflections.

A series of five workshops incorporating twelve modules, and the doctoral colloquium are held over a 30-month period (averaging one per semester). A series of research paper presentations and examinations are held over the subsequent 18 months prior to submission of the thesis. There is significant independent and workshop tutor or supervisor supported work completed by participants over the intervening periods.

Results - impact

PhD candidates tend to go into academia and either continue their research, become lecturers, or do both. A professional DBA is focused on the actual application of knowledge and theory in real world business practice situations.

A person with a DBA who applies their new knowledge during and after their programme, will directly contribute to their company growth and development – adding to the company product development cycle, product line, innovative thinking, exports, job creation, etc.

It appears a more economically advantageous use of resources than a PhD, which whilst contributing to the broader canon of entrepreneurial knowledge, does not directly impact on commercial activity.

Testimonials of alumni can be read on the website:

https://www.wit.ie/courses/doctorate_in_business_administration_part_time

Further information

https://www.wit.ie/courses/doctorate_in_business_administration_part_time

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Presentation

University of Oxford / Saïd Business School / DPhil in Management / 9 students

Students can apply with their bachelors degree, but the most successful applicants typically have a distinction in a Master's level degree in addition to their undergraduate studies. For the program there is a clear guideline which courses are to be completed so the courses are mandatory. There are compulsory courses as well as elective courses. Doctoral students can choose from the latter, but the number of electives is specified as in a study plan.

The course fee in 2020-21 is £20,920. However, students are advised that, depending on their choice of research topic and the research required to complete it, they may incur additional expenses, such as travel expenses, research expenses, and field trips. But in almost all cases, doctoral students admitted into the programme receive full funding over four years.

Description

The University of Oxford's doctoral program at the Saïd Business School offers high-calibre management researchers the chance to work closely with faculty at the forefront of their fields, to be part of a vibrant research community and to benefit from the resources and reputation of the University. Accepted applicants will be both a student and a junior research colleague. As a doctoral candidate, students will be assigned two supervisors to act as their academic advisers and mentors.

The program provides courses in a wide variety of research methods and students will work closely with their supervisors to define the research question and develop their thesis. In addition, they will have opportunities to gain teaching and research assistant experience and become involved with the intellectual community within both Saïd Business School and the wider University. Students will attend academic conferences, make presentations, organize lectures and seminars and contribute to management and academic decisions. The Saïd Business School has deliberately kept the programs small which means that in the vast majority of cases, students

are fully funded to allow them to devote their energies to research. The DPhil corresponds to a PhD degree offered at most other universities.

Student taking the DPhil in Management are required to take three core courses in quantitative and qualitative research methodology during their first year. During second and third terms, doctoral students will undertake advanced research methods training and, in consultation with their supervisor, select specialist courses, available from a choice of topics relevant to area of interest. Following successful completion of all necessary courses, and by the end of their 4th term, students are expected to have successfully submitted and been assessed for their Transfer of Status. The transfer process provides the opportunity for the student to discuss their work with two independent members of staff under examination conditions and to receive feedback.

By the end of their 9th term students will be due to complete their Confirmation of Status. This process allows the student to have a review of their work by two assessors, to give a clear indication of whether it would be reasonable to consider submission within the course of a further three terms, if work on the thesis continues to develop satisfactorily.

Students will be expected to attend training, workshops and seminars on job applications, teaching, learning and assessing, interviewing and presentations skills. Students will also be given the opportunity to improve their teaching and research skills by applying for remunerated positions as teaching and research assistants, within the school or at colleges.

The doctoral thesis should not exceed 100,000 words. It must be a significant and substantial contribution to the field of learning in management. As a rule of thumb, it should be good enough to be published in book form or as a series of academic articles.



PURPOSE

Good Practices in Research Attractiveness

University of Oxford's - Saïd Business School Doctoral Programme

Results – impact

The Saïd Business School is a young school in an ancient university, but it has already generated outstanding research strengths and our DPhil, which is known internationally as a PhD, offers you the opportunity to engage with internationally-renowned faculty and access our specialist research centres and facilities. In addition, 3 former participants are presented with their current position. These have already been employed as post-docs or professors at renowned universities.

Transferability – improvement

The initiative is transferable if the university has an option for funding (to pay the wages of the students and also of the coordinator).

1. Set up a similar Infrastructure
2. Assignment of a responsible person, who takes care of the organization of the courses but also the interests of the students
3. Teaching staff should actively promote the opportunity to participate and maybe approach individual students about it.

Further information

<https://www.sbs.ox.ac.uk/programmes/dphil-management>

Presentation

Imperial College Business School is a business school in London and forms part of Imperial College London. The business school's initiative to attract students to scientific research and its doctoral program is to combine highly relevant and structured training during the first year with the Master's in Research (MRes) programme focusing on specialist courses and core research skills. MRes provides a solid foundation for an academic career.

The Doctoral programme is structured to take between four and five years full-time. In the first year, all students undertake the MRes programme. Subject to satisfactory academic progress, students then progress to the PhD which takes between 3-4 years. Admission onto the Doctoral programme is highly competitive as we accept around 15 students each year. It is not possible to enrol on the Doctoral programme on a part-time or distance learning basis. Students must be in attendance throughout the full period of study.

The Doctoral programme at Imperial College Business School is fully financed – this includes a tuition fee waiver and a stipend for up to five years. The 2019-20 rate of the Graduate Teaching Assistant scholarship stipend is £17,100 in year one, rising to £18,500 in subsequent years (rates are reviewed annually) Stipends are tax-free and the continuation of the stipend will depend on the satisfactory progress on the programme. Within Imperial also exist opportunities from various external studentships, including EPSRC, ESRC and the Imperial College President's PhD Scholarships.

Description

The Doctoral programme is a full-time, five-year programme that combines highly relevant and structured training in the first year when you complete a Master's in Research, with the freedom to explore your chosen area of research over the course of a further four years.

The year one start with a one-year Master's in Research (MRes). During this time, the student will take compulsory modules in research methodology and subject-specific theory, which will provide a theoretical grounding and thorough research training for a solid foundation for an academic career. It is also necessary undertake an individual research project. The MRes grant the necessary skills to perform high quality doctoral research in the areas of Finance, Economics and Management. Modules are assessed by a mixture of assignments, research projects and examination.

The year two allows to undertake advanced reading modules in order to deepen into theory and discuss current research in Finance, Economics and Management. It is also necessary choose a primary and secondary supervisor, based on the research interests. The supervisor-student relationship is the foundation for a successful doctoral thesis as the supervisor help for develop the research question, identify research and teaching opportunities and support the student through the studies and the academic job application process. For the Research Plan, the supervisor to refine initial plans, define with the student the research question and outline the core literature of the research area. During the summer of year two, the Early Stage Assessment (ESA) is assessed by a panel of faculty. The ESA outlines the research question, the work done to date and the future research activities to be carried out to complete the project. It is comprised of a written report and presentation to which all PhD students and research department faculty are invited. The purpose of the ESA is not only to assess the personal progress but it also gives the opportunity to discuss work at its early stages and get feedback and ideas from faculty to improve the research.

The years three and four are devoted to the thesis, focusing on the collection and analysis of empirical data and developing theoretical frameworks. Under the guidance of the supervisors, the thesis gives you the opportunity to conduct a substantial piece of original research. In parallel, being part of the School's inspirational research community is a crucial aspect of the doctoral experience – as is gaining familiarity with

cutting edge research from world-leading academics. The research departments run seminars where internal and external academics discuss their latest work. As well as providing insight into yet-to-be-published research, the seminars offer networking opportunities and visiting academics often lead special topic workshops for research students. The Doctoral programme also supports the participation of research students in international conferences for present the research and participate in doctoral consortia. The Late Stage Review (LSR) takes place in the summer of year three and follows the same principle as the Early Stage Assessment, in that its purpose is to assess the progress and provide feedback and advice on the direction and scope of the research.

Finally, the year five is the Continuing Research Stage, which will culminate in the submission of the thesis and the viva voce examination. The student must submit your thesis within five years of starting the programme.

Transferability - improvement

- Definition of a precise doctoral program over 5 years with objectives and rigorous annual evaluation
- Integration during the first year of the doctoral program of a research master

Further information

business-school@imperial.ac.uk

doctoral@imperial.ac.uk

<https://www.imperial.ac.uk/business-school/programmes/doctoral-degree/why-imperial/>

Presentation

The Telfer School of Management at the University of Ottawa offers a master's degree in management science and a doctorate in management. The doctorate focuses on 5 fields of study: accounting and control; entrepreneurship; finance; health systems; organizational behaviour & human resources.

The Telfer Master of Science in Management emphasize innovation management, entrepreneurship and finance—three key areas of study that can be examined from a wide variety of management perspectives. The objective of this diploma created upstream of Ph D was to constitute precisely a pool of students who would subsequently wish to continue their doctoral studies.

The doctoral program is only offered full-time and face-to-face. It is not a distance program.

In parallel with seminars, special workshops and activities focused on personal and professional development take place throughout the PhD program. Some of these workshops are delivered through the Doctoral Leadership Development Program and others are offered as part of the Altitude Program. The Altitude professional development program offers students at the master and doctoral levels as well as postdoctoral students' unique opportunities to develop core competencies (communication, teaching, research, etc.) outside the classroom in order to get ready for the workforce. All workshops aim to foster students' success in their academic studies and their professional aspirations. All activities are free, including a diverse choice of workshops, and all graduate and postdoctoral students are welcomed.

The students therefore observe their head teacher and other faculty members through teaching assistantships and conferences. In addition, the students are strongly encouraged to register for the University Teaching Certificate from the University of Ottawa.

Description

The Telfer School of Management at the University of Ottawa created the Undergraduate Research Opportunity Program (UROP) provides research experiential learning opportunities for undergraduate and graduate students in academic, government and industry organizations in Canada and abroad.

This program is structured around a scholarship is meant to stimulate undergraduate students' interest in research and encourage senior students from all faculties to do graduate studies and pursue a research career. By participating in UROP, a student will: receive a \$1,000 scholarship; devote at least 75 hours in an academic year to working on the research project with a faculty member chosen by the student; write a research abstract; prepare a poster on the results of the research; and participate in the annual UROP poster symposium. Supervising faculty members receive \$500 in research funds to support their involvement in the program.

By participating in UROP, students will benefit from: an enriched student university experience; research opportunities at the undergraduate level; a one-on-one relationship with faculty; hands-on experience in their field of study; greater preparation for graduate studies; increased engagement in their studies; assistance making career decisions; recognition of scholarship received on official transcripts.

Further information

Mirou Jaana, PhD - Full Professor
Director, PhD Program in Management
<https://telfer.uottawa.ca/en/phd/>

Arturo Segura – Director
<https://research.uottawa.ca/centre-research-opportunities/>

Presentation

The University of Laval on the site of the Faculty of Administration offers a master's degree in administration sciences - management - with dissertation and a doctorate in administration sciences - management.

These programs aim to train management specialists through the deepening of knowledge in this field and allow to acquire experience in scientific research around various themes: human resources management, organizational strategy, management of innovation, knowledge transfer, service management, occupational health and safety management, sustainable development, leadership and international management.

The master's degree consists of 45 credits and can be completed full-time or part-time. Some lessons are carried out in hybrid mode: a very flexible formula which combines the advantages of classroom and Internet teaching. Class meetings are once a month or every two weeks depending on the course's pedagogy. The duration of the study program therefore depends on the number of credits registered in each session, but it cannot exceed four calendar years from the first registration session. This program is intended for people who have a bachelor's degree, or a diploma deemed equivalent in administration. Tuition fees are around 1,930 € per year for a Quebec student.

The doctorate is aimed at people who have a master's degree with thesis, or a diploma deemed equivalent, in administration or a related field. This program must be followed full time for the period corresponding to schooling, which is equivalent to the first four consecutive sessions. Full-time enrolment allows completion of this program within a normal timeframe of four to five years. Tuition fees are around 1,930 € per year

for a Quebec student. There are several admission, excellence or mobility scholarship programs to help students finance their thesis.

Description

The initiative of the University of Laval is based on two programs: the master's degree in administration sciences - management - with dissertation and the doctorate in administration sciences - management. In addition, there is an integrated passage to the doctorate allowing you to begin your contributory training both at the master's and at the doctorate, subject to a formal agreement between the management of a master's program and the management of a doctorate.

The master's degree offers the possibility of specializing in a discipline or a field of research and then gaining experience in scientific research in order to enter the job market or pursue doctoral studies. Centered on a research project, this master's degree includes 21 course credits and the writing of a thesis of 24 credits. Students are considered full-time when they register for a minimum of 12 course credits or 7 research credits per session. Most courses won 3 credits each. Full-time registration allows you to complete this program within a normal two-year period.

The doctorate is aimed at former high-level independent researchers in management. It helps to deepen particular problems and also provides the means to access careers in research and teaching. The doctorate has two main phases divided into stages: 21 course credits, the doctoral exam (9 credits), the thesis project (3 credits) and the thesis (63 credits). The program must be followed full time for the period corresponding to schooling, which is equivalent to the first four consecutive sessions. Full-time enrolment allows completion of this program within a normal timeframe of four to five years. In

order to support university students, it has created a graduate study guide presenting benchmarks for research training: choosing the research director, writing the dissertation or thesis. It also offers tools and ways of interacting for more effective communication: formulation of expectations, collaboration plan. Finally, it specifies various aspects of carrying out the research, such as the research notebook, and makes the link with the services of Laval University likely to support students along the way.

Transferability – improvement

Here are the different points of the Laval University initiative that can be reproduced in other schools:

- 1 - Develop a research master to encourage students to research
- 2 - Installation of an integrated passage between the master and the doctorate allowing the student to directly start his 3rd cycle
- 3- Creation of a graduate path guide to support the student and communicate benchmarks on research training

Further information

https://www4.fsa.ulaval.ca/etudes/programme/MM-SAD_MNG/

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