



The hidden side of the doctoral degree: Testimonies on the interruption of the doctoral process in the Federation Wallonia-Brussels

Executive summary



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This document is an executive summary. The full report detailing the analyses of the empirical data collected is available in French at http://www.observatoire.frs-fnrs.be/publications.html.

The impetus for this study was the finding that a fairly significant number of doctoral degrees are not completed, a phenomenon about which relatively little is known. According to studies carried out at international level, as well as in Flanders and in the Federation Wallonia-Brussels (FWB), the rate of non-completion of doctoral degrees is estimated at between 40 and 50% (Council of Graduate School, 2008; Groenvynck & al., 2013; van der Haert & al., 2015; Wollast & al., 2018). These figures are sobering. Indeed, nearly half of the people who start a doctoral degree will not finish it.

The scientific literature identifies several factors that may play a role, such as ownership of the thesis subject (Devos & al., 2017), the support of the supervisor (Löfström & Pyhältö, 2015), funding (van der Haert & al., 2015) or the field of research (Groenvynck & al., 2013).

In an attempt to better understand these interruptions to doctoral degrees in the FWB, a qualitative survey was conducted by the team of the Observatory of Research and Scientific Careers. What are the mechanisms, events, and interactions that lead to an interruption of a doctoral degree before the defense of the thesis in our universities? To this purpose, 30 interviews were conducted with 12 doctoral students who had interrupted their doctoral degree, as well as with 18 supervisors.

Through the perceptions of those interviewed, it was possible to build up a picture of the doctoral degree as a process, and the interruption of the doctoral degree as a multidimensional phenomenon which develops gradually (Castelló & al., 2017; Hardré & al., 2019). The testimonies presented in this report do not therefore represent an exhaustive analysis of the situations under study but do provide an overview of the doctoral process and spell out all of the elements which, in the case and in the eyes of the people interviewed, failed and caused the process to be interrupted.



Methodological elements

Following calls for testimonies, 30 semi-directional interviews were conducted with 12 doctoral students, as well as 18 supervisors. These semi-directive interviews were conducted between December 2018 and March 2019 on the topic of the doctoral degree in general and the non-completion of the doctoral degree in particular. The questions asked (Friedberg, 1988, 1993) related to the content of the actual work of the people interviewed, the relationships maintained in the framework of the doctoral process and the reasons inherent in their experience of interrupting the doctoral process.

The Observatory has as its mission to study research and scientific careers from all six universities of the Wallonia-Brussels Federation. The sample for this study was therefore drawn from doctoral students and supervisors from all universities and reflects a diversity in terms of gender, nationality, and general field of research. It should be noted, however, that all the doctoral students interviewed had funding to carry out their doctoral degree (which was started between 2007 and 2016, for a period of 2 to 5 years).

	Supervisors (18)	Doctoral students (12)
Gender	Women (11)	Women (9)
	Men (7)	Men (3)
Nationality	Belgian (16)	Belgian (9)
	Other (2)	Other (3)
General field of	Exact and Natural	Exact and Natural
research	Sciences (9)	Sciences (6)
	Social Sciences and	Social Sciences and
	Humanities (6)	Humanities (6)
	Life and Health	
	Sciences (3)	
Type of funding	N/A	FNRS/FRIA/FRESH (7)
		FSR (3)
		Assistantship(1)
		Private Foundation (1)

This report presents the testimonies of those interviewed during three major "phases" of the interruption of the doctoral degree. First of all, the initial conditions of the doctoral degree are discussed, including the preliminary motivations, mutual expectations, and working conditions. Next, the doctoral degree itself is considered in detail through an examination of the obstacles encountered, the difficulty associated with learning autonomy at work, and relations with the supervisors. Finally, the moment of the interruption of the doctoral degree is described, via the breaking points and the often difficult decision, then the transition or even personal and professional reconstruction.

1. Starting the doctoral process: initial conditions

Motivation: between passion for research and job opportunity

It appears that doctoral candidates have different motivations for starting a PhD degree: some are already passionate about research and the doctoral degree is a long-standing project but there are also people who have been offered to start a PhD degree and who, in addition to feeling some interest in research and the project concerned, see it as a job opportunity (almost) like any other.

"Since a young age I have wanted to undertake lengthy studies, to go as far as possible towards understanding a subject, and challenge myself intellectually. Research, and a doctoral degree, was an obvious course to follow." (Doctoral student)

"I wasn't intending to do a PhD but the project itself was really interesting. I applied and during the interview was asked why I wanted to do a PhD. I was clear about it: I wasn't especially keen! [...] In the end I went ahead with it. I figured it would be nice. So that's how I started." (Doctoral student)

¹ All interviews were originally conducted in French and translated to English for this report.



According to some interviewees, a doctoral degree is sometimes initiated for what they consider, to varying degrees, to be "bad reasons". Receiving such a proposal is seen as "flattering": the person feels valued and this may obscure further reflection on the doctoral degree and its objectives.

"When I was asked to do a PhD, I think my ego came into play. It's flattering. I liked the sound of being a doctor! I should have thought a bit harder about it." (Doctoral student)

"The symbolic value accorded to a PhD can lead people to undertake one for what I consider to be the wrong reason. **Doing a PhD for the prestige** and telling yourself "I'm very intelligent, I'll do a PhD". Whereas you can be very intelligent and still not be suited to doing a PhD. A PhD isn't the continuation of your studies." (Supervisor)

Tacit mutual expectations on management and working independently

When we look at the expectations of each party at the start of the doctoral degree, it seems that the question of autonomy is already present in people's minds. The interviewees seemed to share the idea of a doctoral student working independently, investing in her/his own research, and a supervisor being present to oversee the process, to advise, to support her/him if necessary.

"When it comes to research, doctoral students have the qualifications but are not yet ready to carry out the work, to analyse it, structure it, present it, put strategies in place...My aim is above all to **help the**person become autonomous, from a training perspective."

(Supervisor)

"I wanted an **intellectually satisfying autonomous research post**. I expected my supervisor to suggest new ideas, tell me when I had made a mistake, help me to develop my critical thinking..." (Doctoral student)

However, it appears that these elements are very little discussed and that they are mostly tacit expectations, little defined. What does autonomy in doctoral work mean in concrete terms? When should we consider that it is legitimate for doctoral students to ask for help? To what extent will the supervisor be available, knowing their workload and the various tasks to be combined among academics? In addition, can everyone be autonomous in the same way, from the beginning of the doctoral degree, which is a "real job" but is also always a learning experience, even if the candidate has an excellent profile in principle?

"My role is to allow researchers to work on what interests them [...] I am not prescriptive in any way. Researchers should be independent and we should be able to leave them to it. They are fully grown adults. My role is to be available to those wanting to do a PhD...and wanting to do it well." (Supervisor)

"I thought there would be much more support. It's true that research is also about being autonomous, but I hadn't realised to what extent back then." (Doctoral student)

It would appear that it was in the realisation – or not – of these tacit expectations that the various doctoral experiences reported in this study were complicated, and that this was where obstacles to the smooth-running of the doctoral degree gradually developed.

Working conditions: funding, physical and hosting conditions

With regard to working conditions, the first question concerns the funding or not of the doctorate, which is a point of contention among supervisors – even if the sample did not include any doctoral students not funded by a research grant or an assistantship. Most supervisors were fairly intransigent about the fact that a doctorate should not in principle be started if a source of funding is not secured; in our sample, among supervisors who raised the issue of funding, only those from Social Sciences and Humanities stated that they strongly supported the possibility of a PhD being self-funded.

"We should not allow a supervisor to supervise a thesis without guaranteed funding, unless the doctoral student comes with his/her own funds." (Supervisor)



The next point raised in the report concerned the day-to-day working conditions, for example the problem of the isolation of researchers, an isolation which may be just as much about the subject of the project (very different from what colleagues are working on, for example, or even the supervisor) as the geographical location. Indeed, our interviewees testified to having felt very lonely, without real colleagues or in a different building from them, leading to a complicated social life. Loneliness, in all its facets, can become very burdensome.

"It would perhaps be better for the subject of your doctoral degree to be similar to that of your team because if it is very different **the doctoral student can feel lonely**. We have had some people failing to complete for this reason...this would be something I would change if I were to do this again." (Supervisor)

"There were weeks when I would come to the office in normal working hours but not see a single soul. Not my supervisor, not any other colleagues. Being that alone didn't suit me at all! I could be wasting time on Facebook or working, nobody would notice the difference. I could arrive at 11 a.m. or not come to the office at all, it didn't matter. Nobody noticed and nobody cared. This had a detrimental effect on my morale and my way of working." (Doctoral student)

Lastly, the hosting conditions in which doctoral students are placed were also discussed. In several reported cases, what could be considered "basic" conditions were clearly lacking.

"Things got off to a bad start... [...] I was put in an office which should have been temporary but which became permanent, on another floor. I didn't really have an office chair, just a weird chair made from iron and plastic, which someone had left there... Nobody showed me any office supplies or stationary so I bought some myself and was then taken to task because I wasn't supposed to enter them as expenses. I wasn't given a computer straight away..." (Doctoral student)

Several testimonies have highlighted similarly uncomfortable conditions, in which some of the doctoral students begin their new job (sometimes even

their first). The interviewees experienced this – at the time or often afterwards – as a form of disrespect towards them, perceiving these factors obviously not as the reason they didn't complete their doctorate degree but as something which set in motion a dynamic which would end with non-completion.

2. The doctorate itself: a question of balance(s)?

In these experiences of a doctoral process being interrupted, the interactions between supervisors and doctoral students were described in detail. The initial unspoken expectations were put to the test and the differences in thinking between the supervisors and the doctoral students increased. The supervisors highlight factors related to the profile of the doctoral students as being critical when it comes to the interruption of the doctorate, while the doctoral students place more emphasis on factors related to supervision and support.

Learning autonomy: successfully seeking help

The process of becoming autonomous cannot be taken for granted. Where do you draw the line when it comes to autonomy? To what extent might supervision be perceived as excessively controlling, or – by contrast – as insufficiently engaged?

"My role is basically to let the students be autonomous. As soon as they ask for help, I try to make myself available to meet them within a week or two. I do not seek them out myself, since this is all part of them learning to be autonomous. Except of course if I haven't heard from them at all for a while, I will then get in touch to see how they are getting on, but I do not "police" them." (Supervisor)

"There is a **tendency to expect researchers to be autonomous from the word go**. I wasn't incompetent when it came to being autonomous, but it's difficult to get going and launch your research project when you do not yet have ideas, contacts, experience...When you are receiving support, it is much easier to move towards autonomy."

(Doctoral student)



Learning and teaching autonomy is therefore delicate, especially if we do not talk about it – and talking about it can be a difficult process: fear of putting someone out, fear of not looking sufficiently autonomous, general dissatisfaction with the support provided, etc. Supervisors sometimes have several people to supervise and juggle with a busy schedule, while doctoral students are usually very focused on their personal doctorate, with the supervisors as a central resource.

"I saw my supervisor at least once a month, even though she was really busy, and she was always available if I had a question. I certainly didn't have the impression that anything was lacking in this regard, but I needed more hands-on support. In my case, I should have had a meeting at least every two weeks but I should have realised this and requested it. It's difficult because you don't get any training to become a doctoral student and yet it is a real job." (Doctoral student)

"The most difficult thing is working out what type of supervision a young researcher needs, especially if he doesn't talk about it. For those who are getting on well it's ok, everything progresses smoothly, but for others it's not as obvious. If they don't tell me that they would like to see me more often or that they need help, I don't always manage to second guess their expectations and needs. I tell them to get in touch if they need anything but they perhaps think that they should be managing on their own and they don't dare... For me, that's the most complicated thing." (Supervisor)

A doctoral degree, a demanding process: between individual responsibility and the need for support

The supervisors interviewed regularly highlighted the difficulty and intrinsic requirements of the doctoral degree, the fact that it was necessary to be "robust" enough, involved and passionate enough to overcome the obstacles. Therefore, interruptions to doctoral degrees were mainly due, according to these testimonies, to a mismatch between the personality of the doctoral student and the requirements of the research.

"With research, you create a hypothetical working plan but it remains uncertain by the very nature of research. It wouldn't make sense to work in any other way. This is becoming harder and harder for students to accept, as though we should be selling them something that is guaranteed to work. The trend is towards immediacy and guaranteed success." (Supervisor)

"The more time goes on, and the greater the competition, **the more robust you have to be**: jibes, spitefulness, backstabbing...are far from unheard of in research." (Supervisor)

"A doctoral degree **tests the nerves**. What really gets tested is the doctoral students' composure, their ability to go the distance and see their project through to its conclusion." (Supervisor)

Supervisors also mentioned a lack of resistance to obstacles, the fact that their doctoral students did not always make enough effort to make progress in their doctoral degree. On this subject, the expression "doctorant fonctionnaire", which can be translated as "doctoral civil servants" came up three times in the interviews, illustrating the lack of involvement of the "new generation" but also the issues that this raises for the supervisor, whose role is admittedly complex.

"Young people are less and less dedicated to research: it seems there are more and more students who approach research like civil servants. At 8.30 a.m. there is no-one around! They slowly start to arrive around 9.30 or 10, then at midday it's time for lunch. You could imagine that they are going to work later in the evening but by 6 p.m. everyone has gone home. Where are they? For me, research was a passion [...]. I worked a lot but willingly, because I loved it. Where are the passionate researchers today? That is my main regret, working with "doctorants-fonctionnaires". When I ask them if they could at least work standard office hours, from 9 til 5, they say they work at home, and not to worry. But what about those doing experiments? They can't do them at home! If they don't turn up, maybe they're less passionate about it...but in that case, what is my role supposed to be? Maybe I'm failing to convey my passion. But it is supposed to be their career!" (Supervisor)



Finding compatibility between the doctoral students and their supervisor is not straightforward. There is a demand in terms of investment that is not always met, in either direction. On the one hand, the investment of doctoral students does not match what supervisors expect. On the other hand, the received supervision does not always correspond to what doctoral students expected or thought (sometimes after the event) they needed – whether or not the relationship between the two parties is considered positive.

"My supervisor worked by the principle that if we needed him, he was there; if we didn't need him, he didn't interfere. It was his way of leaving us free to get on with it. It didn't work with me at all because I am not someone who asks for help. [...] Which meant that, for the four years of my degree, we had two meetings about my thesis." (Doctoral student)

"It was so vague...the research didn't really make sense, it wasn't clear to me where I was going with it. **He didn't have any expertise in my subject** and was at the same level as me most of the time, so I carried on working without knowing if it was any good, and without having much faith in what I was doing. He sometimes said I understood it better than he did." (Doctoral student)

Achieving a balance requires the active collaboration of both parties and is a complex undertaking requiring adjustments along the way.

Emotionally "heavy" experiences

Beyond these questions of balance and inadequacy, testimonies of heavier emotional experiences were collected. The people in question reported situations of disrespect, moral harassment and discrimination that caused them distress, leading them to interrupt their doctoral degree with a sense of bitterness, and in some cases a profound impact on their mental and physical health. Several interviewees also expressed regret that a form of impunity reigned in their university in relation to abuses that they suffered, or which they witnessed.

"[I] constantly felt that I was not respected, which intensified as time went on and made itself felt through a lot of observable facts over the months and years. For me, it was a form of **psychological abuse**. In my case, the few times people paid any attention to me I was made to feel useless, disposable, insignificant, someone who could be used." (Doctoral student)

"Sometimes [my co-supervisor] was bright red from shouting. **By the end I was physically afraid, I thought she was going to hit me!** I spoke about it to my supervisor but he didn't say anything. One day he told me to wait until she "overstepped the mark". But what does overstepping the mark mean? Was I supposed to wait until she pushed me down the stairs?" (Doctoral student)

"[A hierarchical superior] told me that if I had a child, that meant that subconsciously I didn't really want to be a researcher." (Doctoral student)

3. Interruption of the doctoral degree: no longer able to continue

Reaching a breaking point

At this moment, the differences between doctoral students and supervisors are pronounced: the two parties are less and less – or not at all – able to share a common vision of the doctoral thesis underway. The distance between doctoral student and supervisor, as well as between the student and the thesis, becomes greater. Along the way, meaning is lost and the focus shifts instead to the many obstacles hampering the doctoral process, in which personal investment is often important. Some people have evoked an increasing disinterest in the thesis, the feeling of no longer enjoying it, or another professional opportunity arising which reshuffles the cards.

"As time went by, I no longer saw an end to what I was doing, I no longer understood what I was doing there. Where was this leading? What was the point of it?" (Doctoral student)

"The thesis and I grew apart... It took me a long time to realise that it really wasn't working." (Doctoral student)



"The trigger was when a friend asked for my help on a project which could lead to the creation of a business. [...] it was an opportunity which really gave meaning to my decision to stop." (Doctoral student)

The supervisors we interviewed gave the following reasons for people not completing the doctoral process: lack of motivation and enthusiasm from their doctoral students, personality problems, ill-equipped for the requirements of a doctoral thesis, etc. For these supervisors, it is therefore considered difficult to "change course" and their role shows once again its limits in the accompaniment and support of people who are "not cut out for it".

"She loved her subject, the thesis committee was enthusiastic, the project had been set up correctly, but she didn't find what she hoped to in her material. [She] became demotivated. [...] What was needed for her to complete her doctoral degree? A different personality."

(Supervisor)

"For my two students who did not complete their doctoral degrees, it was really down to events outside their function. Now I am convinced that if the person is 100% sure of their desire to do a doctoral degree, he or she will perhaps not abandon this professional project."

(Supervisor)

These recurring themes also show that it is difficult for supervisors to realise what is being played out at the level of those being supervised. Moreover, some supervisors explained that they can feel helpless, with the impression that they lack tools and resources.

"The doctoral student became depressed, had a burnout. We weren't able to help. [...] I don't know what happened. From one day to the next she stopped coming. Complete burnout - she could no longer get out of bed. Frankly I didn't understand it at all. I didn't see it coming."

(Supervisor)

Personal reconstruction and professional transition

Each situation is unique, the interruption can occur at different times (quickly at the beginning of the process or just before the defense, for example) and is experienced sometimes as a release or relief, sometimes with suffering, anguish and depression. For example, six of the twelve doctoral students reported being in a state of burnout when they interrupted their doctorate, whether it was because of harassment, major difficulties in drafting or a gradual stalemate and inertia that could not be overcome.

"I was sleeping three hours a night because I was having panic attacks. All day, from 6 a.m. to 1 in the morning, I was sat at my desk with my documents and I was blocked [...]. I stayed at home, in my room, unable to work or to recognise the fact that I wasn't coping. Three or four months went by like that, without any contact with my supervisor. The mere thought of the email I would have to send would give me a panic attack. I wasn't well. Wasn't well at all." (Doctoral student)

"It was hard and I am still in the process of reconstructing myself. I finished the last few days left on my contract on medical leave. I didn't want to be there anymore, I was sick and tired of it and I wanted out. The reconstruction process is slow, very slow. [...] I didn't have the energy to go straight into another job." (Doctoral student)

As a result, the professional transition varies, depending on how traumatic the experience of interrupting the doctoral degree was, or the financial need to find a new professional occupation. The variable nature of the transition is also linked to the ability of the people in question to "mourn" the doctoral degree, to consider this experience as a failure that is bitterly regretted or as a period of positive contributions.

"I regret having done the doctoral degree, I really feel like I wasted four years of my life. I am over 30 years old and I have no house, no children, no real job...I have a car. Woohoo! All of that is linked because I became increasingly insular during that period. I wasted four years. I should never have started." (Doctoral student)



"I didn't finish my doctoral degree but all that work wasn't for nothing. I gained a lot, in terms of skills but also of experience: I learned from my "mistakes", I am more attentive to and conscious of my own desires, and of how to react if things go wrong." (Doctoral student)

4. Reflections and recommendations

There are many reasons for the interruption of a doctoral degree, often combining a series of factors of varying importance in the eyes of the people concerned. A doctoral degree is and will remain a demanding process that will always lead to situations of non-completion but improvements are clearly imaginable in the context of the universities of the Federation Wallonia-Brussels. This would make it possible to reduce the proportion of doctoral students who start a doctoral degree but do not complete it, and to improve the overall well-being of the various protagonists.

Pay more attention to the different elements that make up the doctoral process

Recruitment criteria, setting common objectives, adapting to the profile of doctoral candidates, etc. Protagonists should be more attentive to the potential "risks" present at the beginning of the process: long-term uninsured funding, a subject of research far from the field of knowledge and expertise of the parties, the vision of the doctoral degree as a professional opportunity rather than the pursuit of a passion, etc.

Promote more dialogue among the various parties

In the situations reported, many tacit expectations, things unsaid, ambiguities and progressive entanglements in the relations between doctoral students and supervisors were observed. Regular dialogue and more transparent communication would facilitate the identification of the needs and expectations of each party, be it for more personal, scientific and/or technical aspects, within the pair or with the help of external resources.

Support doctoral students

According to the people interviewed, the **mechanisms** put in place by the universities to support young researchers were, at the time of their doctoral experience (or at the time of the interview for the supervisors), **often already in place but not always known, used or perceived as useful.** It would be desirable for universities to continue their efforts in this area to provide doctoral students with maximum information on the various aspects (positive and negative) of a doctoral degree, on the help available, on the "rights and duties" of each party, on what can be considered "normal" or not, etc. In this regard, it is worth noting the recent publication of the interuniversity project "PhD Welcome Pack" which is fully in line with this approach. In addition, doctoral students must feel that the institution to which they belong is concerned about their situation and well-being. As such, several interviewees expressed regret that there was a form of **impunity** in their university for abuses they claimed to have experienced or witnessed.

Train and support supervisors

Not trained in the supervision of individuals and the management of human relations, these people combine the supervision of one or more doctoral processes with their own scientific research, teaching activities and/or institutional responsibilities. In these conditions, given the difficulty of assuming full responsibility for supervising a doctorate, the training of supervisors and a better effectiveness of external resources seem to be tangible avenues to follow.

> Be aware of the impact on mental health

The negative impacts of a process which is in principle stimulating and formative but as demanding as a doctoral degree should not be underestimated. In this report, we heard stories of harassment, depression, loss of self-esteem, burnout, discrimination, and long-term trauma. This study covers a limited number of individual cases but the ease with which such negative testimonies were collected should act as a wake-up call for the entire scientific community. While the population of doctoral students is particularly affected by mental-health problems (Levecque, Anseel, De Beuckelaer, Van der Heyden & Gisle, 2017), their



professional network could be better trained and informed on these aspects in order to better detect the first signs of these problems and respond to them (or relay them to competent people) in an appropriate manner.

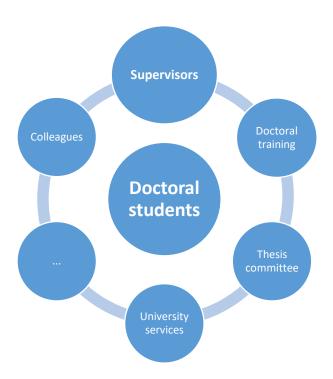
Produce more complete data

This qualitative report could be enriched by other case studies but also by a regular and centralised collection of statistical data within the various universities of the FWB. At present, beyond sporadic studies, this information is missing or partial, but its collection and consolidation would greatly complement knowledge about the interruption of the doctoral process, and the rate of success or failure to complete, both for the population as a whole and by honing in on individual profiles. Such data would provide an in-depth knowledge of the phenomenon and the room for manoeuvre to try to remedy the various shortcomings.

> Towards greater "regulation" of doctoral degrees?

Although autonomy would appear to be a central notion of scientific research, the existence of more formal rules (for example, clarification of the rights and duties of the parties) and an increased importance accorded to the mechanisms governing the doctoral degree could reduce the pressure on doctoral students and supervisors, and promote flexibility in accessing a variety of resources beyond the supervisor (thesis committee, doctoral training, or even a possible mentoring system) thus reducing the person's dependence on his or her supervisor.

The details of this reflection are to be found in the full report.





Bibliography:

Castelló, M.; Pardo, M.; Sala-Bubaré, A. & Suñe-Soler, N. (2017). Why do students consider dropping out of doctoral degrees? Institutional and personal factors. *Higher Education*, 74 (6), 1053-1068.

Council of Graduate Schools (2008). Ph.D. Completion and Attrition. Analysis of Baseline Program Data from the Ph.D. Completion Project. CGS: Washington, DC.

Friedberg, E. (1988). L'analyse sociologique des organisations. POUR (28), Paris: L'Harmattan.

Friedberg, E. (1993). Le pouvoir et la règle. Paris : Éditions du Seuil.

Groenvynck, H.; Vandevelde, K. & Van Rossem, R. (2013). The Ph.D. Track: Who Succeeds, Who Drops Out? Research Evaluation, 22, 199-209.

Hardré, P. L.; Liao, L.; Dorri, Y. & Beeson Stoesz, M. A. (2019). Modeling American Graduate Students' Perceptions Predicting Dropout Intentions. *International Journal of Doctoral Studies*, 14, 105-132.

Levecque, K.; Anseel, F.; De Beuckelaer, A.; Van der Heyden, J. & Gisle, L. (2017). Work organization and mental health problems in PhD students. *Research Policy*, 46 (4), 868-879.

Löfström, E. & Pyhältö, K. (2015). 'I Don't Even Have Time to be Their Friend!' Ethical Dilemmas in Ph.D. Supervision in the Hard Sciences. *International Journal of Science Education*, 37 (16), 2721-2739.

van der Haert, M.; Arias Ortiz, E.; Emplit, P.; Halloin, V. & Dehon, C. (2014). Are dropout and degree completion in doctoral study significantly dependent on type of financial support and field of research? *Studies in Higher Education*, 39 (10), 1885-1909.

Wollast, R.; Boudrenghien, G.; Van der Linden, N.; Galand, B.; Roland, N.; Devos, C.; De Clercq, M.; Klein, O.; Azzi, A. & Frenay, M. (2018). Who Are the Doctoral Students who Drop Out? Factors Associated with the Rate of Doctoral Degree Completion in Universities. *International Journal of Higher Education*, 7 (4), 143-156.

Observatory of Research and Scientific Careers - F.R.S.-FNRS

Thanks to funding from the Federation Wallonia-Brussels (FWB), the Observatory of Research and Scientific Careers was created in September 2018. Integrated in the F.R.S.-FNRS, this structure aims, among other things, to track and analyse the careers of researchers in the FWB through surveys and data cross-referencing. In collaboration with the six FWB universities, the Observatory is responsible for developing knowledge on the doctoral and postdoctoral process. It makes recommendations to facilitate the professional transition of PhD holders and optimise the doctoral process in order to meet the expectations of researchers and society. Particular attention is paid to the various obstacles to a scientific career: stereotypes and discrimination related to gender, constraints related to the requirement of international mobility, impact of the pressure to publish early in one's career, etc. The results of surveys and analyses are systematically published on the site: http://www.observatoire.frs-fnrs.be.

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