

Listening and feeling doctoral students' perceptions of their doctoral supervision. The PhD students' point of view.

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ABSTRACT

Doctoral education has been subject to research and analysis by researchers in the last fifty years. Nevertheless, doctoral supervision still a private issue among supervisor and PhD student; if the relationship between them goes wrong, a shadow undermines the doctoral research, hindering student support of others, which may result in attrition and dropout. Breaking this situation, transforming the "private place" in a "public matter", requires a profound reflection about the doctoral education aim, institutions goals, institution policy, but also a supervisor and PhD students' perspectives (careers, goals, development, financial support). It is necessary to know, where we want to go, to outline a path to achieve the goals. During the last three years, doctoral supervision has been studied at Universidade Nova de Lisboa (UNL). A qualitative case study method was used. This was the first study (a pilot study) that covered all the nine UNL schools, is intended to identify the supervision practices, but also captures a glimpse of doctoral students' life in the academy, their difficulties, their thoughts and feelings related to doctoral education. The documentary analysis, concerning the institution rules related to doctoral education, was the study first step (already published). The second was the implementation of a survey with closed and open questions to allowed students to express their opinion regarding doctoral education, especially doctoral supervision. During three months, a survey, centred in doctoral supervision, applied online in all schools. This paper aims to describe what was found and what was unexpected in the context of a young university.

Keywords: Doctoral supervision; PhD goals; Socialization process; PhD students' perceptions

INTRODUCTION

Doctoral education is considered the highest level of training in educational systems. In recent decades, there has been a growing interest in doctoral training and the quality of the process of supervising doctoral research, not only in European countries, but also in North America, Australia and New Zealand (Jones, 2013).

In Europe in particular, this interest has increased since the implementation of the Bologna process in 1999 and the adoption of the Lisbon Strategy in 2000 (Keeling, 2006). Higher education is considered crucial for promoting innovation and knowledge creation, in a technology-based society, but is also the ideal environment for building the European research area. Both areas, education and research, are defined as the two pillars of a developed society and are intertwined by doctoral education, as this is not only where researchers are trained and developed, but also where innovative research is developed, creating new knowledge (Berlin, 2003). In this context, doctoral education emerges as one of the keys to innovation and the development of countries. As Pearson, Evans and Macauley refer "doctoral education is both parts of the higher education system for teaching and learning, and part of the research enterprise" (Pearson, Evans & Macauley, 2012).

Hyatt and William, in 2011, from their data, identified some factors that could impact doctoral education and should be studied: "1. Changing the nature of organizations and leadership; 2. Globalization; 3. Funding and resources; 4. An abundance of accessible information; 5. Student diversity (including diverse levels of preparation); 6. New technologies; 7. Accountability" (Hyatt & Williams, 2011: 58).

During the PhD emerges not only a dialogic process of teaching and learning between supervisor and student, but also a creative and a transformative process, which is contextualized and related to institution educational policies, where it occurs. The doctoral journey is not a linear pathway, with PhD students learning how to build new ways of thinking, working in new environments - the academic research environment - but they also develop skills and competences in the field they are developing their work and create new knowledge (Åkerlind & McAlpine, 2017). To achieve these goals students have to feel a safe environment, acquire the academy culture to construct the sense of belonging to it and be socialized with peers, during the integration process in the academy (Gardner, 2008 and 2010). In this context, supervisory practices are closely related to their purpose, emerging the question "What is the purpose of a PhD?" Is the product (original knowledge/thesis)? Or, the process/person/ path (developing research skills, achieving autonomy as a researcher - personal transformation and the path that has been taken)? (McAlpine & Amundsen, 2012).

Supervision is related to the supervisor, the doctoral student, the nature of the research project, to the learning and teaching process, but also with the relationship that is established between supervisor and doctoral student. Supervision cannot be reduced to how it is performed (activities, attributes, behaviours), but must also include what it means to the supervisor and to the doctoral student. Wright, Murry and Geale (2007) found that "(...) the meaning of supervision is not fixed or constant, but socially constructed by, and between, supervisor, students, and other members of the academic community based on their lived experiences" (Wright, Murry & Geale, 2007: 458).

Doctoral supervision has been the subject of research since the early seventies of the twenty century (Jones, 2013). Some researchers have analysed the doctoral supervision process from the point of view of institutions (institution and student funding, student support, socialization process, resources available, facilities, among others) (Kyvik & Smeby, 1994; Golde, 1998; Gardner, 2007 and 2008; Wao & Onwuegbuzie, 2011; Mello, Fleisher & Woehr, 2015; Castelló, Pardo, Sala-Bubaré & Suñe-Soler, 2017), from the students' point of view (their socialization, as feel at the academy, main difficulties encountered, blockages, aids, personal process, completion times) (Kiley, 2015; Lindsay, 2015; Woolderink, Putnik, van der Boom & Klabbers, 2015; Ayers, Kiley, Jones, McDermott & Hawkins, 2016 ; Hunter & Devine, 2017; Bastalich, 2017; Cornér, Löfström, Pyhältö, 2017; Gittings, Bergman, Rose & Shuck, 2018; Spronken-Smith, Cameron & Quigg, 2018), from the supervisor's point of view (available time, funding, project, publications, career impact), their availability for supervision, the meaning of supervision, what doctoral research is for them, among others) (Watts, 2008; Deuchar, 2008; McCallin & Nayar, 2012; Lepp, Remmik, Karm Leijen, 2013; Collins, 2015; Bøgelung, 2015; Delves, Van der Linden, Boudrenghien, Azzi, Galand & Klein, 2015; Woolderink, Putnik, van der Boom & Klabbers, 2015; Benmore, 2016), but also from a societal point of view (how doctoral funding is selected, what are the benefits or drawbacks of research, what is the academic interaction)? /labour market, what is its impact on social welfare, research ethics) (Lafont, 2014; Titus & Ballou, 2014; Bøgelung, 2015). These views have allowed an informed and conscious reflection on doctoral education in its various facets and in particular on the process of supervision.

Another aspect of the doctorate is the process inherent in it. This involves the transition to a new culture and context within higher education (Park, 2005; Christensen & Lund, 2014), which entails a socialization process that can be difficult without the supervisor support (Gardner, 2007 and 2008; Mainhard, van der Rijst, van Tartwijk, & Wubbels, 2009; Halse, 2011). As Mullins and Kiley refer (2002:386) "A PhD is a stepping stone into a research career".

The experiences of doctoral students can be analysed taking into account socialization processes, the progress of the doctoral project, personal development, motivation to pursue a doctoral degree, student support and discrimination and equity (Jones, 2013). The socialization process has been very important for the completion of the doctorate. While peer contact promotes integration by reducing isolation, it also helps to understand institutions explicit and implicit rules, as well as the cultures that govern the research environments in which they are integrated. In this way, students acquire knowledge, values, attitudes and habits of society where they want to be inserted (Golde, 1998; Gardner, 2007). Authors such as Gardner (Gardner, 2007, 2008 and 2010) and Golde (1998) have emphasized the importance of this process as it may lie in the cause of many premature doctoral dropouts. Golde (1998) identifies four socialization tasks in PhD students (intellectual mastery, realities of graduate life; profession preparation; departmental integration) that are associated as achievements (intellectual competence; fitting in and surviving the struggle; clarification of career choice, career -life fit and balance).

In the science field, workplace learning and the investigative environment in which it takes place will influence the experiences of doctoral students and dictate their success and should be taken into account when they start their PhD (Hum, 2015). Hum (2015) research results, point out that, "the interrelationship between different elements related to individuals and context(s) in science doctoral work, and patterns in these interrelationships. (...) Emphasize the importance of attending to the research work students engage in, and the affordances available to them, to ensure effective learning which can support student's learning and career goals." This author also draws attention to the fact that "What was needed for or defined, the successful/negative experience/outcome or affordance/hindrance" differ not only with the doctoral student but also with the context. However, long-term negative workplace experiences were characterized by multiple interrelated problems that prevented doctoral students from continuing their work and achieving their personal goal.

In recent years emerge studies regarding self-efficacy (students' perception of their ability to learn or achieve school behaviour in a given domain) (Overall, Deane & Peterson, 2011; Rahmati, 2015), emotional exhaustion and student well-being during the PhD (Pyhältö, Toom, Stubb & Lonka, 2012; Rahmati, 2015; Hunter & Devine, 2016) and the relationship between goals, metacognition and academic success in higher education students (Coutinho, 2007; Kleijn, Mainhard, Meijer, Pilot & Brekelmans, 2012; Hermita, Thamri, 2014). Depending on the supervisory experiences during the doctorate, this period can be felt like a time of personal and cognitive growth and integration into the research community and/or as a negative experience, a source of anxiety that generates exhaustion and burnout and that may lead to the abandonment of the academy (Yarwood-Ross & Haigh, 2014; Rahmati, 2015; Hunter & Devine, 2016). Results from these studies have shown that the quality of the student-supervisor relationship is an important factor that can shape experiences during the doctoral course and can trigger stress and depression or motivation and satisfaction (Hunter & Devine, 2016; Rahmati, 2015). The key elements are the student, the supervisor, and the relationship between them. The supervisor is the connection of the student to the academy, to the research process, to the investigative environment, to the university (administrative services), and to

the physical space where the doctoral research takes place, having the role of intermediary between the student and the resources that this can use and the research it can perform. Interestingly, the research experiences experienced during supervision reported by graduate students differ according to supervisors' background and are related to the quality of supervision and also to the psychosocial attributes of supervisors and their emotional intelligence (Abdullah & Evans, 2012).

Some researchers, based on data collected during their investigations, have proposed strategies to avoid negative doctoral experience and stress-free supervisory processes. One suggestion for achieving better results and improving performance during doctoral research projects is to use a research management matrix that will guide the student through the research project and allow monitor the research process. In preparing this matrix, the authors considered the knowledge, the practice and development of the research process (Maxwell & Smyth, 2010 and 2011). Another strategy, proposed to strengthen the doctoral student-supervisor relationship, is to develop and negotiate written contracts (Hockey, 1996). Some researchers also suggest using a portfolio to stimulate the student and assess their knowledge (Driessen, van der, Schuwirth, Tartwijk] & Vermunt, 2005). In some research papers, it is mentioned that the frequency and quality of meetings/meetings between supervisor and doctoral student are important for the quality of the supervision process (Baptista, 2014 and 2015). Written feedback is one of the tools used by doctoral supervisors, which used on time promotes student well-being and the research development (Brew & Peseta, 2004; Can & Walker, 2014). In a recent study, researchers collected data on the type of feedback preferred by social science doctoral students (Can & Walker, 2014). From the perspective of the students, this strategy to be effective must provide individualized support, give alternative opinions and points of view, be constructive, provide guidelines, should also encourage dialogue and reflection, as well as justify criticism and be clear. It is through written feedback that the supervisor often communicates with the doctoral student, providing advanced academic training in writing. It is also through feedback that the doctoral student realizes that writing is a form of learning, since reviewing drafts with feedback can lead to the process of discovering new knowledge or perspectives (Kumar & Stracke, 2007).

For a complete overhaul of the supervisory process, one has to look at each of the process actors to understand how they interact, fit and adjust. In this process, institutions play an important role as they give the social, physical and political context to supervision, but also the conditions of economic and financial support so that it can occur.

In this context is important to perceive the students' motivation and expectations when they arrive at the institution and difficulties during the PhD journey.

RESEARCH METHODS

Study context and data

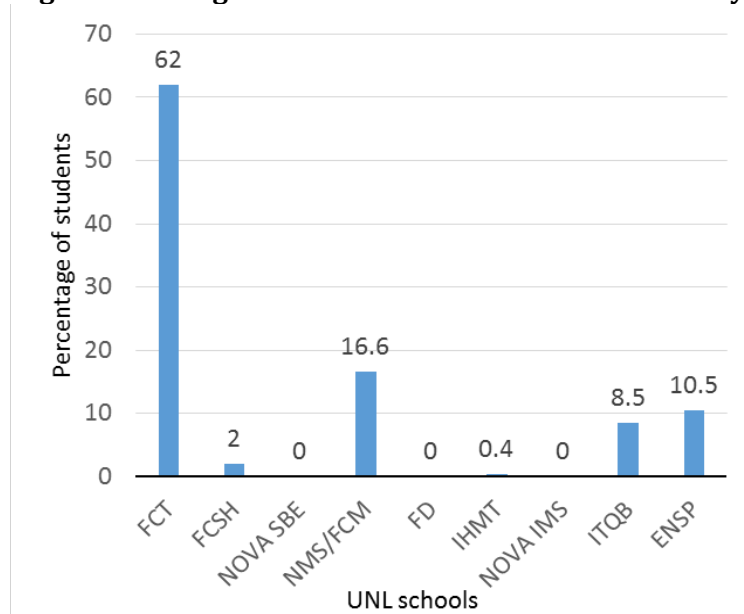
In Portugal, studies regarding doctoral education are few. With the aim of study doctoral education, this pilot study started in 2017 at Universidade Nova de Lisboa. The goals were first to have a perception of fillings regarding this research, to perceive the engagement of the supervisors, PhD students and institution in this research, but also collect the first data that average all the nine schools with different knowledge fields. So with these purposes, the research started. It is important to emphasize that the data now presented is the result of this vignette, which is their first limitation. The other limitation is related to the participation PhD students and supervisor, that doesn't allow a generalization (not only to the UNL population, nor to the Portuguese PhD or supervisor population) but can give some clues to deepening in further studies.

In these contexts, a survey to identify the supervision practices, monitorization and evaluation process, from the PhD student perspective was constructed and validated. It focuses on the following domains: supervisor' ideal profile, students' experience in research supervision, research project supervision (autonomy, management, planning, monitorization and evaluation), supervision practices, PhD aims and socialization process/integration on the academy. To answer the survey close questions doctoral students had to agree, partially agreed, partially disagree or disagree with positive and negative statements. In the survey, students had also an inventory of supervisory practices and the characteristics of a good supervisor. In the end, they could answer one optional open-ended questions related to the reason to be enrolled in a PhD.

This survey was delivered, via institutional e-mail, to all nine schools that belong to Universidade Nova de Lisboa (Faculdade de Ciências e Tecnologia (FCT); Faculdade de Ciências Sociais e Humanas (FCSH); NOVA School of Business and Economics (NSBE); NOVA Medical School / Faculdade de Ciências Médicas (NMS/FCM); Faculdade de Direito (FD); Instituto de Higiene e Medicina Tropical (IHMT); NOVA Information Management School (NIMS); Instituto de Tecnologia Química e Biológica António Xavier (ITQB); Escola Nacional de Saúde Publica (ENSP)), and then, each school released internally and sent to the PhD students. The survey was anonymous and was open for three months; 250 PhD students responded (approximately 12% of all UNL PhDs students). The scale's internal reliability, Cronbach's alpha, of the survey was 0.901.

It is important here, to highlight, that from three schools no one answer the survey, Figure 1.

Fig. 1 Percentage of students that answered the survey.



The student age range between under 25 years old (4%) and more than 50 years old. Almost all PhD students that answer the survey had between 25 and 30 years old (45%), some had between 31-35 years old (21%) and 31% had more than 36 years old.

Twenty-six per cent of the PhD is enrolled in the first time, 16% are in the second year of enrolment, 23% in the third year, 18% at the fourth year of enrolment and seventeen per cent indicate that they are enrolled more than 4 years.

Seventy-two per cent of the PhD students that answer the survey are enrolled at full-time and 28% at part-time.

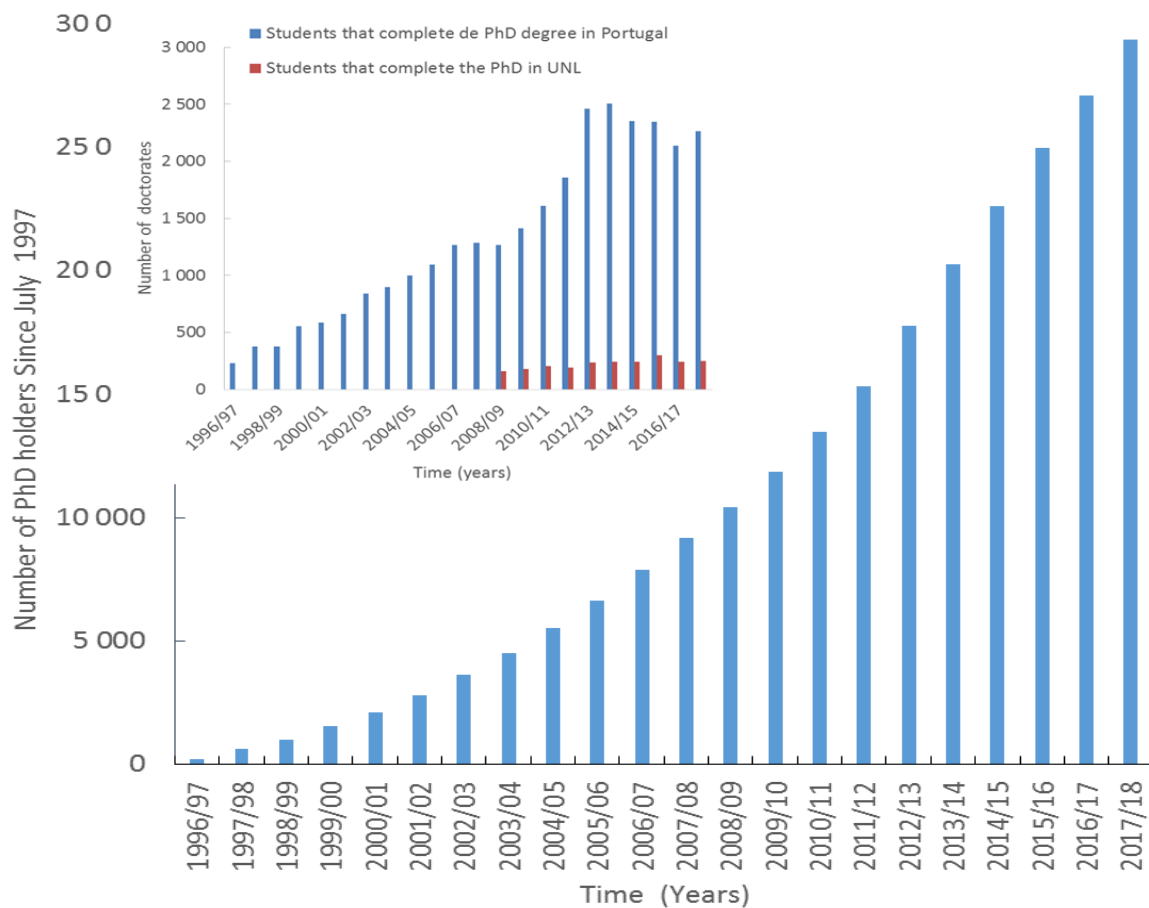
Regarding career scenarios, 22% of PhD students agreeing that a PhD student is a future higher education researcher/teacher, and 38% indicate that, in the future, they intend to work in a higher education institution.

FINDINGS AND DISCUSSION

An overview from PhD numbers in Portugal and in UNL

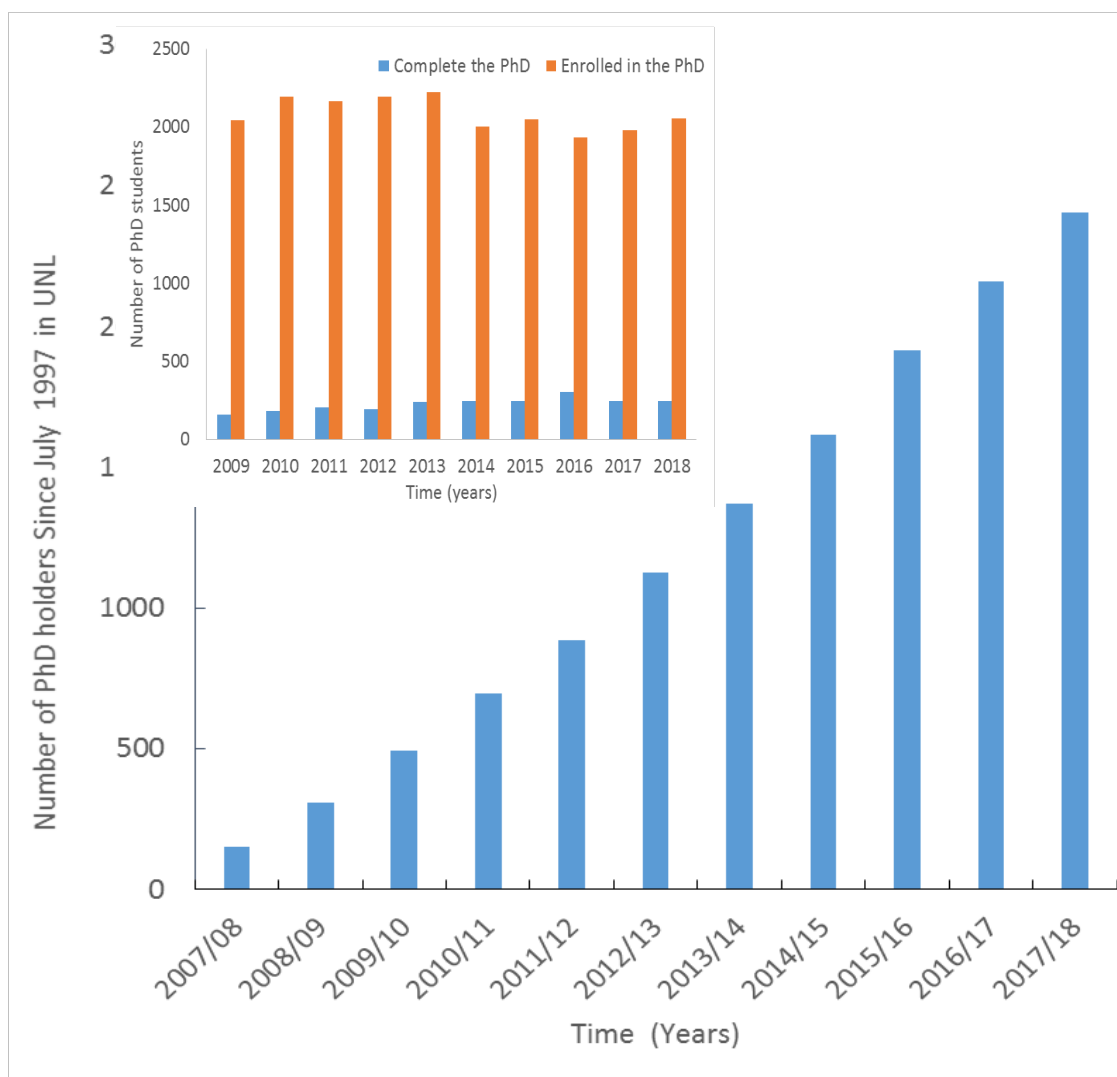
Since the nineties the number of PhD holders in Portugal and in UNL as increased (Fig. 2).

Figure 2 Number of doctorates that complete de PhD degree in Portugal (blue columns), and in UNL (orange in inserted image). The percentage of UNL doctorates in average, from 2008/2009 to 2017/2018 is approximately 11% of the total PhD in Portugal. Data retrieved from <http://www.dgeec.mec.pt/np4/raides/> in 2 July 2019.



In particular at UNL, although the attrition in some UNL schools is not low (Ribau & Alves, 2017 and 2018), the number of students enrolled and that complete the degree is stable (Fig. 3).

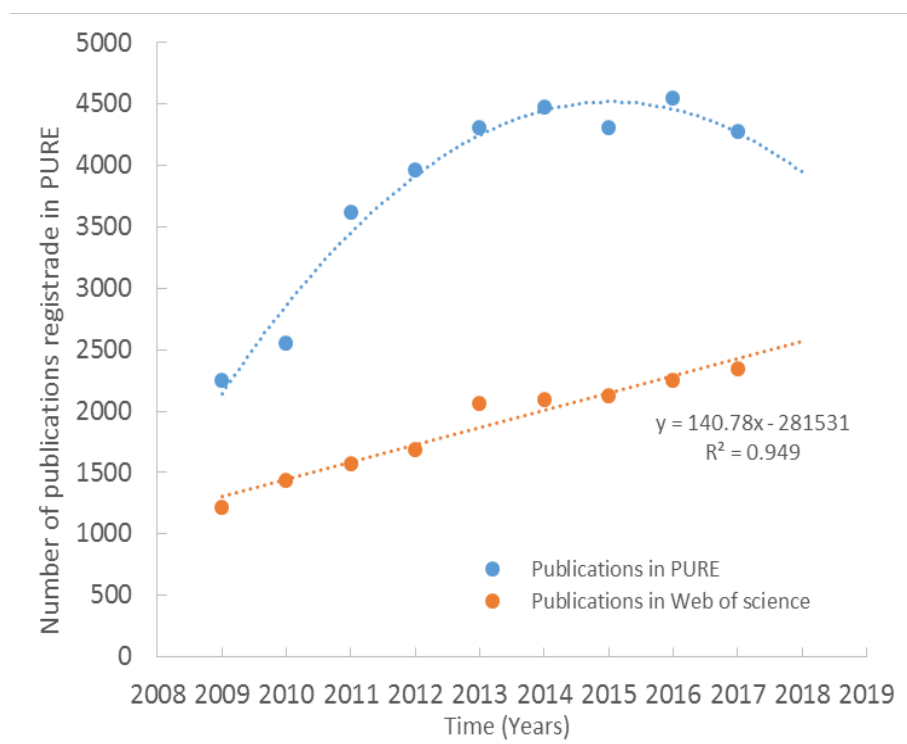
Fig. 3 Data retrieved from Raides 2018 (Tabela 1.1 - Diplomados em cursos/ciclos de estudos que conferem nível CITE de ensino superior por curso/ciclo de estudos e nível CITE - 1996/97 a 2017/18). Insertion -The number of students that complete the PhD (blue) and are enrolled in PhD (orange). Data retrieved from "Relatório de atividades 2018". <https://www.unl.pt/nova/relatorio-de-atividades-e-contas>.



Looking through “RAIDES” [1] data, it is possible to perceive that until 2013, at UNL, each year more students complete the degree (Ribau & Alves, 2018). If we compare the doctorates in Portugal with the one from UNL, the percentage of UNL doctorates on average, from 2008/2009 to 2017/2018 is approximately 11% of the total PhD in Portugal in public institutions, Fig. 3 (insertion). This number is relevant since there are only 13 public universities and an Institute that can confer the doctoral degree in Portugal at this moment.

In the school year 2017/2018, 1979 students enrolled in third-cycle courses, in all the nine schools, having 248 of these students complete the degree at UNL. But in the last years, the number of students enrolled in the doctorate in UNL decrease, although the number of foreign students has increased (Ribau & Alves, 2018). The number of publications also had a little decrease, although the web of science publications has sustainable increased (<https://www.unl.pt/nova/relatorio-de-atividades-e-contas>), Figure 4.

Figure 4. The Number of publications registered in PURE (blue) and also in Web of science (orange). Data retrieved from "Relatorio de actividades 2018 (Quadro 19 - Publicações Pure, 2009-2017). <https://www.unl.pt/nova/relatorio-de-atividades-e-contas>



Each year an average of 141 papers, from UNL researchers (including PhD students), are published in Web of Science and almost the double in peer review reviews. PhD students' research work are important contributors to achieving these paper numbers in UNL.

It is also important to emphasize, at this point that half of the PhD students that answered the survey feels that their supervisor pressures them to publish the results of the doctoral research. This may be a consequence of the institutional policy regarding doctoral education. It is also important to note that in some UNL schools is necessary to publish before the Viva (oral defence of doctoral thesis) (Ribau & Alves, 2017).

PhD journey challenges

The most common reasons given by PhD students for pursuing their PhD are intrinsic (personal appreciation, entry into the academy, personal satisfaction, and personal fulfilment) and extrinsic motives (need to have a PhD for career advancement, career advancement and entry into the academy). Almost all PhD students consider that the acquisition of new skills and knowledge are essential for completing the PhD and that scientific autonomy development is one of the PhD goals.

To identify what characteristics/skills were valued by these students, some statements were presented in the survey. There is a huge consensus regarding the acquisition of knowledge to solve problems and be creative and innovative and their relation to complete the PhD.

Students difficulties in complete the PhD

In 2015 Lindsay referred in an article that "writing a thesis is the most challenging activities that a doctoral student must undertake and can represent a barrier to timely completion". The author found that the factors that help in writing the thesis are related to the support of the supervisor and individual factors such as motivation, organization, and family support among

others (Lindsay, 2005). From the quality descriptors approved by the association of European Biomedicine and Health Sciences institutions, the relationship between the supervisor and the doctoral student is observed in aspects such as the existence of regular meetings, availability, the existence of constructive feedback, respect for the academic autonomy of the doctoral student and promotion of personal development.

Regarding the need for support, half of the PhD students felt at some point of their PhD journey that need more support from their supervisor. Approximately half of the doctoral students have previously worked with PhD supervisors. Note that approximately half of the respondent population feels supported by the supervisor and another half feels that they do not have the support they need. Interestingly, half of the PhD students perceive their supervisor as guides in the development of the research project. But the lack of support may be relevant in the early years of the doctorate, but may also be the result of increased student autonomy in project implementation and planning.

Almost half of the doctoral students refer that their supervisor is always available to talk to them, and half of them say that they had already worked with the PhD supervisor before starting the doctorate. More than half of the PhD students agree that their supervisor discusses with them the doctoral research. In this context, regarding supervisor feedback, more than half of PhD students disagree with the expression "My supervisor is vague in feedback about my work", but few (10%) agree with it. More than 80% of doctoral students disagree with the phrase "My work rarely catches the attention of my supervisor" and more than half (59%) of doctoral students disagrees with the phrase "My supervisor does not care about my proposals for the development of doctoral research". More than two-thirds of the PhD respondents agreed with the statement "My supervisor considers that my skills make me competent to take decisions about doctoral research". Fifty-five per cent of PhD students disagree with the phrase "My supervisor rarely asks for my opinion on the development of my PhD research". Fifty-seven per cent (57%) of doctoral students disagree with the phrase "Sometimes my supervisor undervalues my work". More than half of the doctoral students (57%) consider that their supervisor encourages them to present the results of doctoral research at congresses and conferences and more than 78% of PhD students refer that their supervisor considers that the students' skills make his competence to take decisions about doctoral research. This sentence shows that, in general, PhD students consider that the quality of the feedback given to them by the supervisor is good as for the encouragement and guidance.

Forty per cent of PhD students agree that when a conflict with the supervisor arises, supervisor seeks to resolve it to ensure the conclusion of PhD research. More than half of the students consider that their willingness to complete the PhD is essential to avoid conflicts with the supervisor (only 20% disagree with it).

Regarding the PhD supervisor capability to go along with the student in their research, more than half of the students of PhD students (74%) agrees with the statement "My supervisor has a broad knowledge of the topic I am working on". There is, however a fringe of the doctoral population that partially disagrees with the statement. Note that the supervisor should be an expert in the field study of the doctoral student, but if the subject of the doctoral student is original, it has not been studied or create/build knowledge about it.

Considering that the supervisor is the bridge between PhD students and the academy and in particular to the research group, half of the students indicate that their supervisor encourages them to participate in working meetings with the research group. Most PhD students perceive positively the motivation that is promoted by supervisors. They generally encourage doctoral

students to present their results, give importance to their proposals, which show that supervisors are interested in (get involved with) student work, make student's feel competent and promote their integration into the research group.

Self-regulation, self-assessment and doctoral research self-monitorization

Self-regulation arises in the context of the monitorization process and is related to student research self-monitoring and self-efficacy (Jakesová, Kalenda & Gavora, 2015; Zimmerman, 2000). It is important for the doctoral student to define objectives (to take ownership of the doctoral project as its author), to plan the learning and research process, to monitor the achievement of the predefined objectives, to fulfil the proposals he/she has planned (to execute), to reformulate strategies, to manage the time and the emotions, to complete their degree. From the data it is possible to perceive that there is broad consensus among doctoral students on the objectives of the doctorate. Eighty-six per cent of PhD students considers that one of the PhD's goals is the development of research skills. This result highlights one of the reasons that lead students to pursue doctoral studies even realizing that they may not go through the academy.

Self-monitoring can be performed in three ways: monitoring associated with self-assessment, monitoring associated with strategy implementation and monitoring associated with efforts to tailor strategies from the results obtained (Zimmerman, 1998, 2000). In this paper, we intended to understand the extent to which PhD students perform monitoring related to the implementation of self-regulatory strategies. The doctoral project monitorization was analysed from two statements: "I have a list of the goals that I set in the planning of the doctoral research and that I will check along with the development of my research project" and "For monitor my work, I have a book record of my research." Regarding the first statement, 36% of the PhD students agreed to it and 40% partially agreed, which indicates that not all students monitor their project this way, but may do so in another way. Regarding the instrument used for monitoring here too, there is no consensus. From the results, it can be seen that most students monitor their research work using predominantly the logbook (62%), and others, who have miles stone or goals set in the initial planning will meet them (36%) allowing this attitude to adapt strategies to achieve the final goal (complete the doctorate). Regarding the instrument used by students for monitoring their research, the majority refer that they use a notebook or a lab-book, but only 39% of the PhD students feel that they are a researcher and half of them feels like the author of the research project.

Half of the PhD students that answer the survey consider that the preparation and the milestones in the project are half the times decided in collaboration with the supervisor. The results show that half of the student respondents, plan their doctoral research together with their supervisor and roughly corresponds to the student population that in the last years of the PhD.

It is clear that this self-monitoring is not as comprehensive as it would be desirable, and this fact should be taken into account in the curriculum of the first year of the doctorate when the research methodologies are introduced. To understand if students perceive how the supervisor performs the monitoring of the doctoral project, the following statement was placed in the questionnaire "My supervisor indicates a deadline for the completion of the tasks suggested to me." More than half of the PhD students (62%) agrees with it. This could be a way of monitoring project development, but the results suggest that it is not used regularly by all supervisors.

The autonomy felt by the doctoral students is reflected in the growing independence from their supervisor and the increasing decision making during the development of the doctoral project. This implies the transfer of leadership from the doctoral project, from the supervisor (in project implementation) to the doctoral student (in the last years of research and writing of the thesis). The autonomy was analysed taking into account whether the tasks performed by the student are only those proposed by the supervisor or if he/she also feels capable of doing activities designed by himself. An assertion that not only reflects the autonomy, but also the execution of the tasks was placed on the questionnaire. Half of the PhD students refer that only perform the tasks indicated by their supervisor. If students feel autonomous in their research proposals, they should also perceive themselves as competent in their management. In this context, the doctoral student was placed before the statement, "It is I who manage the tasks I have to perform in my doctorate." This item had the agreement of 89% of the students. This result reinforces the aforementioned conclusion that these students (third and fourth year) feel autonomous and managers of their doctoral project.

It was important also to collect the students' opinion related to authorship and implementation of the doctoral project. Sixty-two per cent of PhD students agree with the statement "As a student, I feel I am a project executor" and 32% partially agreed with this statement. Regarding the authorship of the project, only 52% agree with the statement "As a PhD student, I'm feeling as the author of a project" and 36% partially agree with it. These results reflect the non-appropriation of the doctoral project by some students, which may be explained by the fact that some doctoral projects may be incorporated in other major group research projects, and the doctoral student was not the author of this project. However, it raises the question of authorship of the final thesis and reinforces the position defended by some supervisors, who consider themselves co-authors of the doctoral project and the doctoral thesis. However, being the doctorate and in particular, his/her thesis, the work that will demonstrate the student's acquisition of competences, should this not be the student's authorship alone?

Academy integration in the host institution

Socialization is a determining factor in the success or retention of doctoral students (Gardner, 2008 and 2010; Pearson, 2012). For Gardner (2009) during the development of the doctoral degree there are three important phases: "Entry" (which corresponds to the arrival at the institution and the establishment of relationships with peers and institution staff), "Integration" (which is the time when the student do the doctoral research, consolidates the institutional culture and strengthens the interpersonal relations with the other members of the institution) and "Candidacy" (related to the writing and systematization of the generated knowledge, the interpretation of results and the writing of the thesis). These phases are very important for student integration and socialization during the doctorate. In Gardner's statement (2008: 126) "Socialization is the process through which an individual learns to adopt the values, skills, attitudes, norms, and knowledge needed for membership in a given, group, or organization." This author argues that "fitting the mold "is one of the factors leading to the abandonment of doctoral programs, and that socialization, in this case, is transmitted through a culture of higher education. Organizational culture, as Tierney (1997), cited by Gardner, refer "is the sum of symbolic and instrumental activities that exist in the organization and create shared meaning. (...) An organization's culture, then, teaches people how to behave, what to hope for, and what it means to succeed or fail." (Gardner, 2008: 127). In this context, the socialization of doctoral students is important to them to acquire the sense of belonging and feel integrated into the institution, so that they can finish their doctoral project and complete the academic degree.

But a good socialization process is the antagonist of loneliness and lack of support. More than half of the students (66 %) agree that the PhD journey is a lonely process. These results reveal that the majority of students feel alone. Regarding the statement "Sometimes I think about giving up the doctorate", almost half of the students (47%) of the PhD students agree with it. Concerning the declaration "I feel like I belong to the academic community" 59% of the PhD students agree with it, indicating that the sense of belonging to the academic community is not felt by approximately 40% of the responding doctoral students.

Considering the tasks developed in the host institution, it is possible to realize that most of the students do not teach in the host institutions, only 13 % refer that teach a subject in the school in which he/she perform the doctoral research. The percentage of students that indicate to participate in other tasks/activities (workshops, seminars, conferences) in the host institution increase to 34.0%. The results presented regarding the integration in the academy show that 30% of the doctoral students don't feel integrated into the university and do not participate in the activity of the institution, nor feel that they belong to the community and feel that the doctorate is a lonely process.

One of the questions that arise when we look at academy integration is if it affected by the type of doctoral attendance students have. Comparing the responses of full-time and part-time doctoral students, 25% of full-time PhD students have already considered giving up their PhD while this only happened to 15% of part-time doctoral students. The need for more support is felt predominantly by full-time PhD population (29%), although 37% of full-time attendant students feel that they belong to the academic community. In the part-time PhD students, only 15% feel they belong to the academic community. Regarding the loneliness of the process, the degree of agreement is similar.

Concerning the institutional support, it was asked if they had already participated in doctoral school courses (a platform that offers short courses to help PhD students of UNL to develop transversal and soft skills) and only 61% answered yes.

CONCLUSION

Until this research, there were no data, collected at UNL (and few in Portugal), regarding doctoral education and particularly regarding the perception of doctoral students concerning the supervision process. This was the first step of a research process that has the aim of collecting data and reflect about the results to better understand doctoral education in a Portuguese University and deepen the knowledge about doctoral education and in particular on the research supervision. As a process where the learner and teacher have close connections is hindered with the subjectivity of a relation between two human beings. Knowing how it is processed and constraints that occur during that time may give some clues to improve it.

Although in other countries this process and analysis already started in the last decades of the twenty century, in Portugal this was not the case. That is why this research is a turning point, as it puts the doctoral education as a research issue and highlights the importance of it, if we want to improve the research area in Portugal and particular in UNL. It is important for the continuity of this work that the academic community reads it and recognise is important as a starting point of a broader and deeper project regarding doctoral education in Portugal. Only then, we can have access to data, more refined from the higher education institutions, and the participation/collaboration with a broad range of institutions, students and supervisors. It should be noted that in "The European Higher Education Area in 2015: Bologna process

implementation report", regarding doctoral education and the third cycle from Portugal, the report show that much information is not available, are few or there aren't any.

In 2005, the Joint Quality Initiative group drafted the Dublin Descriptors, which form the European Higher Education Area (EHEA) Qualifications Framework and which was referred to as the "Bologna Framework". In this study, we use some of these descriptors as guidelines, to understand how students see themselves, perceive the experiences during the doctorate, as well as their doctoral supervision.

According to Dublin descriptors, doctoral students must demonstrate a systematic understanding of the scientific field in which they are developing their doctoral project, as well as in the field of competencies and research methods associated with the scientific field under study. In this context, the results obtained indicate that the PhD students consider important to "Know how to solve problems", being "innovative and creative" and that supervisors encourage them to have a critical view of their project. It should be noted that 86% of students identify that one of the PhD goals is to develop research skills. Students must demonstrate the ability to design, implement and adapt a meaningful investigative process, which will depend on developing his/her skills to plan, manage, execute, monitor, evaluate and reflect on your research. Most PhD students agree that the planning of PhD activities is carried out in partnership with the supervisor, with a significant portion referring that they plan and manage the tasks/activities during the research and have the autonomy to implement tasks. The instrument used to monitor research work are the laboratory register book. The verification, throughout the doctoral research, of the achievement of previously defined goals, is performed by only 36% of the doctoral students. Which means that the research monitorization process is hindered and this may be a problem for complete PhD timely.

Although the doctoral student must be the author of the scientific work on his doctoral research, only half of them feel like the author of their doctoral research. So the authorship of the PhD project should be developed and integrated not only in the PhD students' culture but also in the supervisor.

It is important to reflect briefly on the development of autonomy: 18% of students are enrolled in PhD in 4 years and 17% for more than 4 years, which is the approximate number of PhD students who feel autonomy. This can be an indication that in the last years of the doctoral course, students feel autonomy and develop scientific research skills.

The integration in the academy was analysed taking into account the socialization process, the tasks performed at the institution and the career prospects. Concerning a future career, doctoral students show that they expect to work in higher education, with a residual part that does not reflect this objective. More than half of the PhD students that answered the survey desire work in higher education institutions as a researcher or teacher. As mentioned earlier, a doctorate is an individual process, but should not be lonely. However, the feeling of loneliness that sometimes leads to a feeling of abandonment (when there is no feedback, or is not regular, or there is no involvement of supervisors in the doctoral project) is felt by a significant number of doctoral students. This feeling/emotion can be countered if the doctoral students meet regularly with peers, with the supervisors and with members of the research team where they are integrated. These meetings may be in the form of conferences, meetings, debates with or without the presence of the other academic community or even informal meetings.

The quality parameters linked to doctoral supervision (ORPHEUS, PhD Quality Indicators, 2011) state that the responsibility of the supervisor can be assessed by the extent to which the

supervisor is involved in project counselling, monitoring and documenting research progress has an appropriate ethical and scientific conduct and supports the doctoral student's later career. And this should be taken into account since some students felt that their supervisor is not always receptive to meet with them when they needed.

One of the "extra doctoral project" tasks, referred by several doctoral students as a request from their supervisor is that the doctoral student mentors a bachelor or master student. The question arises, how and when does the doctoral student do his research? And what kind of supervision will he implement? "The path is made by walking," seems to be the motto of these supervisors. Another question is "To what extent is this strategy suitable for a doctoral student who they envisage not making a career in academia?" and "to what extent do they develop research skills using these practices?" How do these practices contribute to the doctoral student achievements the Dublin descriptors or doctoral profile, when completing the third cycle? Understanding whether these "extra" activities impact doctoral completion times and the quality of supervision, but also what benefits and disadvantages they bring to the doctoral student is important. For a framing of this theme, it is noteworthy that the LERU group (League of European Research Universities), in the document "Good Practice Elements in Doctoral Training" (2014) mentions that besides the "intellectual, academic and technical, and personal and professional development skills "sometimes" The following skills are sometimes also developed: - the ability to lead other researchers; the ability to teach and train others; - the ability to organize conferences and workshops "(LERU, 2014: 7).

The relationship between the supervisor and the doctoral student can be analysed taking into account regular meetings, availability for the supervisor to be consulted, providing constructive feedback, and respecting autonomy, promoting the personal development of the doctoral student. In this context, we analysed the perception that doctoral students have of the supervisory relationship. Half of the doctoral students had previously worked with the doctoral supervisor. Half of the doctoral students report that supervisors are always available to talk to them (although they also report that they usually have to make an appointment in advance), stating that the supervisor discusses the progress of the doctoral research project with them and that the supervisor has extensive knowledge about their research topic. In this sense, almost half of the doctoral students that answered the survey, see supervisors as their guides for the development of the research project. Feedback given by supervisors is usually perceived as clear. More than half of the PhD students indicate that their supervisors encourage them to present the results at congresses and conferences. It is important to emphasize that the extrinsic motivation given by the supervisors to the doctoral students will be fundamental to promote their self-efficacy and generate confidence and self-esteem, on the one hand regarding the completion of the doctorate and on the other on their training has a competent researcher.

The doctoral students' perception of their supervisors is generally positive, and the supervisor profile that emerges from these results confirms the international proposals. Generally, doctoral students feel that supervisors appreciate them and therefore value their opinion on the development of the doctoral project and do not devalue their work. The fact that doctoral students feel pressured to publish results, should be considered because this is a doctoral demand and that pressure from supervisors sometimes it is related to the urgency of presenting results because they are relevant. Most supervisors discuss doctoral research with doctoral students. Also noteworthy are supervisors characteristics such as being an expert in the field of doctoral project, having a good knowledge of research methodology; know how to advise/give expert advice; have good communication skills; give quality feedback on time; having time (to be available) to listen/interact with doctoral students are characteristics not

only mentioned in this research work but also other national and international investigations (Lee, 2009 a e b; Zuber-Skerritt, 2004; Brew & Peseta, 2004; Baptista & Huet, 2011; Baptista, 2013; Sidhu, et al, 2014).

But we must look at these results, having in mind that the number of students' doesn't allow a generalization nor for UNL PhD student population nor Portugal. But it gives some clues, and call attention to issues (socialization process, integration in the academy, loneliness) that should be discussed and debate inner the institution.

This study, as limitations, and the first one is the fact that from some UNL schools didn't participate in the research, although the author has made many efforts to announce it, deliver and spread it. The other fact is that in the other schools that participate in the survey, the number of participants was not high, even though in FCT it reaches 30% of the PhD students.

In this study, it was intended to have a first view, not a complete one nor deepen, of what were the feelings and perceptions of the PhD students. In the next step, we will focus on topics that emerged as relevant from this first step, the learning, teaching and monitorization during the doctoral supervision process.

[1] Statistical survey "Register of Registered Students and Graduates of Higher Education" of registered students and graduates in Portuguese higher education. Performed under the National Statistical System, is a mandatory answer.

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