Chapter 7

The role of supervision in doctoral education – a transversal perspective

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Introduction

This chapter amalgamates the various understandings of supervision across the six case studies. Our main aim is to explore similarities and differences of perspectives and experiences of doctoral supervision among the 33 supervisors and 64 doctoral researchers in the case studies.

Historically, postgraduate supervision was considered a simple activity based on the assumption that if individuals are active researchers then they can presumably supervise other research, and by implication, doctoral researchers (Rudd, 1985). However, in the past two decades, it has been acknowledged that being a researcher is an important condition, but not a sufficient one, and now there is a consensus that supervisors need to support doctoral researchers to learn how to do research so they become independent researchers (Dewett, Shin, Toh & Samadeni, 2005; Evans, 2010; Lopes, Macário, Pinto, Ançã & Loureiro, 2013). Thus, supervision is seen as a form of teaching that supports learning, and the success of doctoral researchers along this pathway depends heavily on supervisors 'who must provide the time, expertise and support to foster the candidate's research skills and attitudes, and to ensure the production of a thesis of acceptable standard' (Mainhard, van der Rijst, van Tartwijk, & Wubbels, 2009, p. 359-360). This means that supervision is now considered a complex task and a form of teaching in higher education which requires a set of disciplinary and transversal competences (Adham, Ha, Nor & Yazid, 2018; Bøgelund 2015).

According to several authors (for example, Baldwin and James, 1999; Lawson, 2017), most academics agree that supervision is not bound by a set of unique practices' . Rather, it involves socialising a student into—usually—a specific disciplinary culture (Delamont, Atkinson, & Parry, 2000, Parry, 2007). Through the supervision process professional researchers are shaped and eventually attain the PhD, or in the case of career professionals, they are equipped with the research skills required to gain a professional doctorate (e.g., Doctor of Education, or Doctor of Theology). Parry (2007) notes that supervision must take into account the highly dynamic and diverse nature of the PhD, thus making the articulation of a preordained standard difficult, other than informally, and within the scholarly networks of specific fields. As a response to this view, a recent study indicates that Higher Education institutions have started to introduce a considerable range of workshops and seminars for research supervisors (Kiley, 2011).

The case studies this analysis draws from are located in those diverse disciplinary, interdisciplinary, transdisciplinary, and scholarly networks within and across the arts and humanities, and in the case of Durham University, the social sciences.

Baldwin and James (1999) state that most academics agree that supervision is not bound by a set of unique practices, recipes, formulae, or checklists of 'dos and don'ts'. However, they do suggest 11 exemplars of best practice which they have identified through an examination of published research and practices assembled from quality assurance manuals and postgraduate student surveys at the University of Melbourne, as follows:

- ensure the partnership is right for the project
- get to know students and carefully assess their needs
- establish reasonable, agreed expectations
- work with students to establish a strong conceptual structure and research plan
- encourage students to write early and often
- initiate regular contact and provide high quality feedback
- get students involved in the life of the department
- inspire and motivate
- help if academic and personal crises crop up
- take an active interest in students' future careers
- carefully monitor the final production and presentation of the research.

However, Baldwin and James' (1999) list appears to draw on practices from the 'global North', and research published in English, thus neglecting voices from the periphery and in languages other than English. Furthermore, there is a lack of reference to cross-cultural differences in doctoral researchers' supervision experiences which others have noted (e.g. Cornér, Pyhältö, Peltonen & Bengtsen, 2018). Our study addresses this shortcoming as it includes perspectives from the post-Soviet contexts of Bulgaria and Poland, and the much less researched context of doctoral supervision in China. The

universities included in this study also have international students. For example, in the Portuguese context, students come from Africa (such as Angola and Mozambique) and Brazil. In the United Kingdom (UK) context, students come from East and South-east Asia. Consequently, our analysis also entails perspectives from these countries. Moreover, the experiences presented here are also the result of multilingual research, thus exposing linguistically and culturally different understandings of supervision.

Wang (in this volume), citing Parry (2007), notes that the tacit or unconscious learning that takes place in communities of practice, or situated learning contexts such as doctoral supervision, has not received the attention it deserves. Our transversal analysis across the six case studies—situated in different academic, cultural, and linguistic contexts—enables us to explore in depth these 'tacit' understandings of doctoral supervision through the voices of both supervisors and doctoral researchers.

We present the supervisors' and doctoral researchers' perspectives and experiences across five common themes: definitions of supervision (following certain metaphors); processes of supervision; learning doctoral supervision competences; the supervisor-student relationship; and internationalisation and international students.

Definitions of supervision

Understandings of the term 'supervision' across the case studies were shaped by culture and language. In our interviews we were interested to know whether the German concept of the 'Doktorvater' or 'Doktormutter' relationship existing between supervisor and doctoral researcher was present in other European and the Chinese contexts. The Luxembourg case study could have been likely to display aspects of this relationship, given its German cultural and academic influence. For example, one supervisor, from Germany, appeared to acknowledge the 'Doktorvater'/'Doktormutter' relationship through the metaphor of 'children': 'you are interested to see how your…"children" develop and you are proud about successes' (LP7). However, generally, this was not the case and the question elicited various responses—from a rejection of the metaphor as too paternalistic, implying a hierarchical relationship and thus outdated, to the notion of the supervisor as guide: 'somebody who cares and who guides' (LP1), in giving tasks and making expectations clear. (The notion of 'guide' also emerges in the Portuguese case study as a defining term, as discussed below.) Additional understandings in the Luxembourg context included the supervisor as 'authoritative but also democratic and participative' (LP3).

In Durham, the doctor-father/mother terminology was largely rejected and considered potentially damaging to the supervision process, for example: 'if you adopt a kind of parental mode, and that can kind of be authoritarian…in effect what you're doing is you're putting them [doctoral researchers] in a kind of infantilised role, in a childlike position' (DP6). However, one supervisor expressed a paternalistic view: 'You feel you have a baby born each time you have a PhD student coming through' (DP3); and DP6

also drew on the parental metaphor, expressing the need to 'wean' doctoral researchers from supervisory dependence.

In the Portuguese context, 'guide' appeared as a prominent metaphor to describe the supervision process. The Portuguese term used for 'supervisor' is 'orientador', also meaning 'guide', and the word 'orientação' (guidance) is used as synonym for 'supervision' ('supervisão'). Thus, supervision is associated with offering both support and scientific insight and guidance, rather than overseeing and assessing doctoral researchers' work, as expressed by this supervisor from the University of Aveiro:.

> [T]hey [doctoral researchers] should expect me to be there when they need, to give them the guidance they require…they also expect from me the position of someone who is flexible enough to allow them to 'fly' whenever they are ready to fly. (AP2)

This notion of guidance—providing both professional and personal support—was also evidenced in the Krakow University case study. Supervisors spoke of the firm ties between supervisors and doctoral researchers: a supervisor's role is to shape the academic profile of their supervisees to enable them to enter into the academic discipline of their study.

In the Chinese case study, the term takes on yet another meaning. Wang highlights the problem in translating 'supervision'. The term in Chinese conveys the idea of 'monitor' *jiandu* 监督and 'management', *guanli* 管理. The Chinese term for doctoral 'supervisor' is *daoshi,* 导师; the literal translation of the two characters is 'guide master'. However, the supervisors tended to emphasise 'guide' rather than 'master'. The Chinese word for 'supervision' is *zhidao* 指导 which has the sense of 'directing and guiding'. Wang also notes that both supervisors and doctoral researchers understood supervision in accordance with the Chinese saying: *shi fu ling jin men, xiong xing zai ge ren,* 师傅领进门，修行在个人， literally meaning 'the master teaches the trade, but the apprentice's skill is self-made', emphasizing the student's own efforts and conduct.

Among doctoral researchers' definitions of supervision, various other metaphors, and associated positions, emerged. In Aveiro, a doctoral researcher (AS4) discusses the apparently conflicting meanings invoked in the term 'supervisor' in Portuguese: 'orientador' (guide), and 'orientação' (guidance) were used synonymously with 'supervision' ('supervisão'):

> I relate the word 'supervisão' ('supervision') with non-interference, something that is seen from afar. 'Orientação' ('guidance') implies to make suggestions, to indicate paths, and I think that should be the role of the person who is supervising you: to guide, to open paths, to help you to think. (AS4)

The internal contradiction of supervisor as guide was also present in the Bulgarian case study. While supervisors were responsible for establishing the rules, doctoral researchers expressed the need to be guided professionally, and supported both professionally and personally, but they also expressed the desire to be given the opportunity to articulate their own needs with their own voice:

> I have the same expectations, that is, when I need to be guided, to be able to contact him; when I need him to go through what I have written, to be given some recommendations if he has such. (SS2)

In the cases where, despite the reluctance of some participants to use the metaphor, supervision was compared to a parental relationship, the focus was more on the supervisor's engagement in helping or supporting students to cope with their academic and personal up and downs. For example, in the Chinese case study, doctoral researchers described their supervisors as caring, supportive, open-minded, and willing to listen. Their relationship with their supervisors was like that of a family, 'like a father'. Nonetheless. although some of the doctoral researchers viewed their supervisor as 'father', one supervisor did not think it was appropriate to compare their relationship to that of 'father-son' or 'master-apprentice' as this metaphor invoked an old-fashioned, feudalistic relationship:

> Doctoral students are not supervisors' subordinates; they are the most creative individuals in our research community. After accumulating enough research experience and knowledge, they will move to the phase of creation. (BP2)

The idea of a non-hierarchical relationship was quite common (e.g., in Luxembourg, Aveiro and Durham). Doctoral researchers saw supervision as mainly a personal relationship, integrating several tasks of a collaborative nature, i.e. students and supervisors working together and devoting time and energy on equal terms. Thus, the terms 'scientific' and 'academic friendship' emerged to describe this understanding. However, in the Polish context, a contrasting position was evident. When asked to name the relation between themselves and their supervisor, doctoral researchers often spoke of 'dependency'. They claimed that they had much respect for the knowledge and skills of their supervisors and saw their relation with their supervisors as very much hierarchical.

In conclusion, for both supervisors and doctoral researchers, perspectives on supervision were very much influenced by language – the meanings applied to terms related to supervision, such as 'supervisor', 'guide', 'father'/'mother', and culture (including academic and relational understandings) – and in some contexts, hierarchy mattered and in others, it was resisted.

The processes and practices of supervision

Supervisors' perspectives

A unifying understanding of the supervision process across the case studies was the idea that supervision encompasses a plurality of practices that respond to individuals' needs; there is no one-size-fits-all, and there are no typical supervisions. The highly individualised nature of supervision depends on doctoral researchers themselves and their needs at a given moment, and therefore the supervision must be tailored accordingly. This perspective is epitomised in this Durham supervisor's comment: 'every student is different, every discipline is different, and every context different' (DP6). And another supervisor from Luxembourg noted: 'it's very different from one to the other' (LP4). Supervisors spoke of needing to respond to doctoral researchers' individual needs: in the case of part-time students, managing work, family, and study (as in the Durham, Sofia, and Krakow cases); gaining the requisite skills through training and attending courses, publishing from the thesis, and having to accumulate teaching hours (as in Krakow and Sofia); or preparing for future careers as academics (as in Krakow, Sofia, and Beijing).

Distinctions were also made between supervision on the one hand and teaching and training on the other. This is reflected in the relationship being more supervisor-supervisee than teacher-student. Supervision involves a process of educating, on the part of the supervisor, and learning, on the part of the doctoral researcher, in a non-hierarchical relationship of equals in dialogue, as expressed by this supervisor:

> I'm not sure if I would call myself a teacher…teaching is very much about to train people in regard to certain skills and supervision... To me, supervision is more than that…it's more to, yeah, bring people up in regard to the scientific world that in a critical way and I might also learn something from them. (LP1)

Teaching and training here are equated with a more traditional understanding of the supervisory process: that is, someone with researcher skills training or teaching someone who does not have them (Rudd, 1985).

While teaching did appear to take place in the doctoral schools through courses sometimes undertaken before the start of the thesis process, most supervisors did not see their role as one of teaching, unless, as one supervisor noted, she would 'teach' a supervisee about how to respond to criticism, about self-confidence, and developing patience and perseverance, and generally encouraging the supervisee to maintain a positive stance (LP2).

One Chinese supervisor described the importance of dialogic processes in working with his doctoral researchers 'side by side' in a creative manner:

> During the process of supervision, I seldom use lecture mode, that is, I talk while my students are listening. Most of the time, we are engaged in intellectual discussion. … It is not enough for the supervisor to impart knowledge and explain doubts for their students, like Han Yu [ancient

> Chinese teacher model]); a qualified supervisor in my mind should be working side by side with his students to conquer cutting-edge issues. (BP2)

The supervision process appeared to be organised according to specific structures or frameworks in some contexts. In Durham, supervisors (e.g., DP4, DP5, and DP6) recognised a general formula to the research process, dictated by regulations and guidelines (via a learning and teaching manual applied across the university) which stipulate the number of supervisions doctoral researchers are entitled to, how many they should receive in a specific time period, and expectations around record keeping of those meetings. The University's annual doctoral researcher review process provides a benchmark and guide for both supervisor and doctoral researcher in assessing doctoral researchers' progress, a formative assessment practice found in all 'Russell Group' universities (a term applied to the UK's top 24 universities who compete for international rankings).

By contrast, in Luxembourg the *Comité d'encadrement de thèse* (CET) provides a balance between autonomy and guidance, on the one hand, being responsible for ensuring doctoral researchers' satisfactory progress, and on the other, (often as an international committee) exposing supervisors to supervisory practices in other countries and contexts. This also applies to the 'jury' or examining committee:

> If the president of the jury or the main supervisor comes from [a] Swiss or from a French or German tradition, they tend to just take over that kind of style. So for French style, it would last for hours and hours and every one of the jury members would do a monologue of at least half an hour explaining his own stance and so on. Whereas in the German case, it might be over two hours altogether and it's more of a question-answer thing. So yeah, it depends on who is leading. (LP4)

The University's multicultural and multilingual cadre of supervisors echo Luxembourg's cultural and linguistic diversity. Many of the supervisors moved to Luxembourg from other countries, bringing their own experiences and practices. These intermingled with the international cadre of supervisors recruited for the CET, or jury system of examination, and resulted in multiple practices linked to different languages, procedures, and styles of interaction. This diversity offered supervisors valuable insights into doctoral supervision.

Supervisor training was also discussed in the Luxembourg and Durham case studies, each representing contrasting perspectives. At Durham, there is the expectation that supervisors undertake doctoral training courses and they cannot be a 'first supervisor' unless certain conditions have been met (e.g., having undertaken formal training and having seen two doctoral researchers through to completion, that is, a successful examination). In Luxembourg, the opposite prevails; none of the supervisors had had formal training, and instead, relied on their own supervision experience, imitating good practice, and seeking better ways if it had been poor.

Both in Luxembourg and Aveiro there is an absence of supervisory training, and supervisors spoke of a more informal method of supervisor training through the importance of supervision teams—teams of international researchers which enriched the social, cultural and intellectual diversity in the supervision process. Through these teams, researchers were exposed to diverse intellectual perspectives, expertise across academic and professional disciplines, and collaborative knowledge building. As AP2 explained: 'this is not only a means of getting the work done properly…one does not have all the answers…It's also always interesting to learn from other people and from the way they supervise.'.

Doctoral researchers' perspectives

The doctoral researchers' experiences of the processes and practices of supervision appeared to align with those of the supervisors described above: the key theme repeated across all the cases was that there are no typical supervisions. For all doctoral researchers the supervision relationship is different and may even evolve during the supervision process. For example a doctoral researcher from Luxembourg explained how the literal meaning of 'defence', referring to the oral examination in front of a 'jury', can signal a change:

> Suddenly, your supervisor who is supposed to support you and help you, somehow turns against you possibly, in the defence because, you have to defend yourself, so they have to attack you…that's a change…even if they don't really attack you. That depends on their personality. But, sometimes it can happen…I find that a weird change of relationship then.

By contrast, in the Portuguese case study, the relationship transformation was focused more on maturation where doctoral researchers assumed that relationships with their supervisors were more likely to mature over the supervision period, and early in the process the relationship was more formal.

As with the supervisors, doctoral researchers valued collaborative supervisory opportunities, whether through the presence of a co-supervisor or in collaboration with other researchers in international research teams. Doctoral researchers believed that these factors positively influenced the supervision process. According to the Aveiro doctoral researchers, these practices enabled supervisors to divide supervisory roles, and exposed candidates to a diverse range of intellectual perspectives and expertise across academic and professional disciplines, therefore maximizing creativity. Similarly, in the Chinese case study, doctoral researchers appreciated the positive impact of having contact with other researchers, besides their supervisor. The doctoral researchers described the common practice among their supervisors of creating 'informal supervision teams'. Within these teams, former and senior doctoral researchers (usually from one supervisor) help each other and also support less experienced or new doctoral researchers in their studies in an informal academic network. The term to describe these researchers is '*tongmen*', 同门, translated literally

as ‘the same door’, and metaphorically as ‘the apprentice of the same master’ or ‘the apostles of the same (religious or martial arts) school or sect’. This collaborative and reciprocal, yet at the same time hierarchical, relationship supports the development of all doctoral researchers. As part of this arrangement, Chinese doctoral researchers are paired with their international counterparts and expected to support their learning (e.g., by helping to prepare powerpoint presentations and to proofread the final thesis), support one another’s research activities, and provide solutions to problems, thus creating a collaborative doctoral research network of learning.

Other factors influencing the supervision process were the year of study. At Krakow, in the first years of study, doctoral researchers commented on needing more freedom to explore their topic whereas towards their final year (the fourth year), more guidance and stricter rules may be required. At Krakow, too, the position of the student at the institution of Higher Education was a further factor. Doctoral researchers emphasized that for those who were not only pursuing a PhD programme, but also teaching or working as administrative officers the supervisor if often also a direct boss. This might complicate relationships as there are dependencies additional to the one between supervisor and supervisee.

At Sofia, when describing the supervision processes, doctoral researchers mentioned that communication is very often by phone, rather than by email and response is expected to be immediate. This reveals a level of informality and deep involvement of the supervisor. Some doctoral researchers went even further in this expectation claiming that they need to reach their supervisor in person. They believe that it is easier to clarify points in face-to-face communication.

In summary, we can see that, across the case studies, the processes of supervision for both supervisors and doctoral researchers involved similarities and differences, and there was a general consensus that there is no typical supervision, and instead, a plurality of practices. As Wang notes in her Chinese case study, the process of supervision could be described as ‘situated learning’ (Brown, Collins, & Duguid, 1989) whereby both supervisors and doctoral researchers undergo processes of education, training, and enculturation into authentic researcher practices; and where both are engaged in disciplinary socialisation through their interactions with supervisors, peers, and other members of the various communities of practice (Becher & Trowler, 2001; Parry, 2007). These processes—whether for supervisors or doctoral researchers—include the rules, practices, and conventions of their discipline; the institutional practices evidenced in the formal supervisory/doctoral courses and programmes; and the formal and informal institutional and non-institutional networks of social interactions and dialogue.

The supervisor-supervisee relationship

Supervisors’ views

Healthy and productive supervisory relationships are important to doctoral researchers' satisfaction and achievement (Ali, Watson, & Dinghra, 2016; Pyhältö, Vekkaila, & Keskinen, 2015). Supervisors across all the case studies acknowledged the affective nature of the supervisor-doctoral researcher relationship. In both the Aveiro and Durham case studies two competing positions were articulated: supervisors acted as mentors or advisors and shared doctoral researchers' personal problems (much like counsellors); alternatively, they viewed the relationship as a strictly professional and formative process. The first position was expressed by AP3 in Aveiro: 'Our guidance is not just a scientific guidance with all the objectivity it entails, but the whole personal aspect is also important in our relationship with our students' (AP3). And in Durham, DP6 expressed his responsibility for ensuring the wellbeing of the doctoral researcher: 'there's a strong affective element to a Ph.D. Time of emotional anxiety. Ups and downs…you've got to sustain your student through those peaks and troughs' (DP6).

On the other hand, AP4 opined: 'I am a supervisor, I do not have to be friends with them and therefore I have to say what I really think for their personal, professional, and if possible, social development. I avoid conflicts, precisely because I know exactly what my role is' (AP4). And DP6 expressed reservations about the extent of providing pastoral support: 'You don't want to go into their private lives' (DP6). In several of the case studies (Durham, Aveiro, Krakow, and Sofia), relational and pastoral issues were exacerbated by the part-time nature of some of the doctoral researchers' programmes, with part-time doctoral researchers coming under extra stresses caused by work and family over the course of a 4-to 6-year period of sustained research.

In sustaining healthy relationships, communication was considered crucial. In Durham, DP4 explained how poor communication resulted in relationships going 'sour' and then 'festering'. DP3 highlighted the importance of sharing burdens: each challenge a doctoral researcher faced was also one that the supervisor had to face. He concluded: 'the straightforward PhD is more like the exception to the rule' (DP3).

In the Beijing case, Wang describes the importance of harmonious supervisory relationships, which extend beyond the academic and professional to emphasise warm human relations and even a personal lifetime bond. The supervisor is expected to take responsibility for developing this bond. This relationality extends to doctoral researchers too, highlighting the important role of fellow students, or *tongmen* (as discussed earlier and again below).

In some instances, and more specifically in the Beijing case study, supervisors tended to extend their view of doctoral researchers beyond that of professional or academic to both advisor and friend, especially since many of their supervisees were already teachers in their own countries. However, in the case of younger supervisees, supervisors preferred to regard them as members of their extended family, feeling a responsibility to develop in them a positive outlook on the world, life, and the family: to better society, enrich human civilisation, and develop friendship among people of the world (BP1, BP2, BP3). In the case of international students, supervisors recognised

their important role in providing familial support to isolated doctoral researchers who were distant from their families. In this sense, the supervisors took their pastoral role seriously, aligning to the expectation in China of what it means to be a good teacher. However, BP2 countered by also highlighting the mutual respect in this relationship: '[d]octoral students are not supervisors' subordinates: they are the most creative individuals in our research community'.

Supervisees' views

The idea of proximity was also present in supervisees' accounts. For instance, in the Aveiro case, nine doctoral researchers during their reflection about their supervisory relationship mentioned that it was a very personal, close relation. Four doctoral researchers described it even as a friendship. Similarly, in the Chinese case study, the extended t*ongmen* network provided family-like social and academic support among Chinese and international doctoral researchers and extended to everyday life, resulting in the cultivation of a supportive and affectionate relationship, and again the notion of friendship, 'lifelong friendship' beyond the period of the doctoral study itself, was very important. Testimonies from Krakow doctoral researchers provided a contrasting much more distant profile of the supervisor-student relationship. The doctoral researchers claimed that they have a lot of respect for the knowledge and the skills of their supervisors, stating that the relations between them were very much hierarchical.

In conclusion, the relational aspects of the supervisor-supervisee experience are complex and also conflictual, perhaps best summed up by one supervisor from Durham: 'I think I have as many worries about PhD students as I have pleasure in supervising them' (DP3). The supervisory role is often complicated by contextual factors such as supervisors' workloads, and doctoral researchers' professional and personal lives. Supervisors demonstrated a strong awareness of doctoral researchers' expectations in order to provide individualised and student-centred support, and good communication between supervisor and doctoral researcher was key to the success of the relationship. As this transversal analysis suggests, there is much space for sharing of best practice both within and across institutions locally, nationally, and internationally. Doctoral supervision is not understood uniformly in these diverse contexts. Furthermore, supervisor training and upskilling are important in ensuring a high quality doctoral education and experience for doctoral researchers.

Expectations of supervisor and doctoral researcher competences

Generally, as highlighted above, supervisors tended to regard the supervisory role as distinct from teaching, to develop a thesis that demonstrated a theoretical grounding, creativity, and originality, but also expecting them to develop an ability to think originally, systematically, and analytically and evidence this in the thesis. Generally, supervisors believed that their expertise should also align with doctoral researchers' research topic resulting in a mutually satisfying experience and interest. Supervisors in

most case studies also had the role of developing doctoral researchers' transferable competences (for example as described by the European Science Foundation, 2010), for example: self-discipline and persistence; critical thinking; autonomy; collaborative work; social skills; oral and written communication; cultural and ethical values; creativity; flexibility; leadership; digital competences; and problem solving.

Supervisors' competences were described in terms of knowledge, skills, and attitudes/values, with scientific expertise being highly rated by doctoral researchers. AP1 believed that the supervisor's responsibility was 'to carefully define the strategies with the students; they do not define them on their own'. In Durham, supervisory responsibilities were formulated in more detail in terms of statutory responsibilities such as the number of meetings and feedback provided, but nonetheless, supervisors articulated their own expectations of doctoral researchers: 'supervisors have a right to expect that [the doctoral researcher] will do the work' (DP6).

In Krakow, Sofia and Aveiro, one main issue was supervisors' workloads, exacerbated by large numbers of supervisees, and extensive administrative, research and teaching responsibilities. This situation resulted in some supervisors having less time to invest in supervision, for example, supporting doctoral researchers, being available for regular meetings, and giving feedback, which may result in feelings of loneliness and helplessness for doctoral researchers.

Across the case studies, doctoral researchers' understandings of the competences they needed to learn in the PhD process focused on the following transversal competences: self-discipline and persistence, autonomy, social skills, creativity, flexibility, leadership, and capacity for solving problems. They are best summed up by a doctoral researcher from Durham:

> You need three Ps and three Ds and then one H, you know. What are those three Ps? Patience, perseverance, and persistence. Three Ds? Diligence, determination and discipline. And then H, health, both mentally and physically. You need to be strong. (DS3)

In a similar vein, one student from Luxembourg emphasised that the PhD is a balance between challenge and support: in being autonomous, but also in knowing when and how to ask for help when needed. She explained that she had to learn to identify which difficulties and obstacles she was facing and to ask for support accordingly:

> I learned just to really prepare our meetings and really to say, 'Well, I need help with this. I did this. I would write something.' And be very explicit what I want from her and then work very well.

In Sofia doctoral researchers were also very assertive on this matter, acknowledging that the supervisor sets the rules, but also recognising their important role in clearly expressing their demands and expectations.

In the Aveiro and Krakow cases, doctoral researchers reflected on the abilities and skills needed to conduct their research project: namely, knowing how to use appropriate interdisciplinary research techniques to collect and analyse data; knowing how to arrive at justifiable, validated and realistic conclusions; acquiring skills to use and analyse theoretical sources; understanding the requirements of the academic genre; and learning to write in an academically appropriate way. The expectation was that they should prepare themselves for the academy, and not only acquire a PhD degree. The importance of reading and writing language competences (in English in Krakow, and in Chinese for international doctoral researchers in Beijing) was also highlighted as being essential for successful doctoral studies.

Lastly, doctoral researchers from Aveiro and Durham also commented on the knowledge and abilities required of supervisors which they considered important for a successful and positive learning experience. For example, concerning supervisors' knowledge, nine doctoral researchers in Aveiro stressed that the supervisor's scientific expertise was a key factor in choosing their supervisor. They also highlighted that one of the most difficult tasks of the supervisor was to have the ability simultaneously to organise the supervision work, offer support, and challenge doctoral researchers. Their profile of a supervisor included characteristics of trustworthiness, patience and support. In Durham, doctoral researchers said that supervisors need a mixture of academic and interpersonal competences to supervise well. Some individuals also mentioned the need for supervisors to be responsive, giving adequate time and attention to their supervisees, and to be aware of the broader situation of individual researchers in relation to such matters as financial pressures, the job environment, and post-PhD plans.

In sum, as with many other aspects of doctoral study, there is no simple or homogeneous account possible for what competences supervisors and supervisees are expected to have or acquire. Transversal competences are important but so are independence and good health. The value of analysing these matters from across a series of cases, is that it reinforces the absence of commonality.

Internationalisation and international doctoral researchers

With the exceptions of Krakow and Sofia, the case studies had large numbers of international students which, at times, created additional demands. Supervisors highlighted the challenges posed by language, identity, and education background which, in turn, placed demands on supervisors to adapt and/or differentiate their supervision strategies to accommodate different needs and learning approaches. A supervisor from Aveiro explained the challenges they needed to address in their supervisory practices to support the learning of doctoral researchers from the Community of Portuguese Language Countries (CPLC): '[T]heir basic education is not in tune with our typical doctoral students. […] This makes us lower our demands, not because we are discriminating [against] them, but because we want to accompany them and allow them to achieve what is possible (AP1). And in the Beijing case study, doctoral researchers were likened to 'cultural workers' (Giroux, 1992) who were

socialised into new cultural and linguistic practices which included reading and analysing Chinese language and literature, studying further courses in Chinese, and writing the thesis in Chinese. The outcome may be that doctoral researchers' Chinese language proficiency prevents them from displaying their real ability in their thesis. Similarly, in Durham, supervisors expressed concerns about doctoral researchers beginning their doctoral study without adequate English language preparation which can hinder their progress.

A related theme to internationalisation is the notion of 'massification' expressed in the Portuguese experience of increasing numbers of both home and international students undertaking PhDs. In the UK context, although equally affected by high numbers of international students enrolled in the PhD programme, the highly individualised nature of the supervision process and experience meant that the home-international doctoral researcher division was not articulated. Instead, the focus was on the production of a thesis, an outcome which over time had remained largely unchanged (DP6). Nonetheless, societal and structural conditions were seen to be impacting on the contemporary doctorate and supervision processes, for example, in the form of funding structures which resulted in pressure to complete on time and thus removed space for 'boldness in the PhD' (DP4). the recent introduction of social media,, according to one supervisor, also tended to distract from the rigour and attention to detail required of doctoral research.

Lastly, international doctoral researchers were very able to articulate their own experiences and challenges. For example, those in Luxembourg, Durham, and Beijing assumed that the different national backgrounds among supervisors and their doctoral researchers interfered in supervision processes and practices. In the Durham case, two students expressed their disappointment about the lack of availability of their supervisor to meet with them, relating their understanding to different expectations and coming from a different learning background*:*

> Others, who were predominantly British, would respond by saying, well, just get over it. Carry on. Right? And I'm like, 'seriously'? That's not appropriate'. (International doctoral researcher from America, DS7)

Similarly, a doctoral researcher from Luxembourg assumed that a specific decision of the supervisor, which he personally considered to be strange, could be explained by the fact that the supervisor had 'grown up' as an academic in another academic system—the UK. Finally international doctoral researchers in Beijing expressed that they have more difficulties than national students because of the language. Chinese is the only language for all courses, for thesis writing and thesis defence, and here international students fall short.

Conclusions

Across the six case studies at Aveiro, Beijing, Durham, Krakow, Luxembourg, and Sofia, our analysis of the supervisors' and doctoral researchers' experiences of the

doctoral experience has highlighted the similar but above all the diverse interpretations, processes and practices across five themes:

1) definitions of supervision, described metaphorically, for example, as 'Doktorvater'/'Doktormutter', and 'orientador' (guide) and shaped by the meanings of the terms used in each context);

2) the processes and practices of supervision (which were often shaped by institutional expectations and regulations, but also by individual expectations and educational experiences of supervisors and doctoral researchers);

3) the supervisor-doctoral researcher relationship (underpinned by a sense of academic and personal responsibilities on each side to ensure a successful completion, and the affective aspects which require attention and nurturing);

4) expectations of supervisor and doctoral researcher competences (subject expertise, skills, attitudes, responsibilities); and

5) internationalisation and international doctoral researchers (which highlighted the importance of attending to language, identity, and education, and alerted supervisors to the need to adapt and/or differentiate their supervision strategies to accommodate different needs and learning approaches).

Within these themes, the supervisors' and doctoral researchers' comments and experiences both exemplify and enrich aspects of Baldwin and James' (1999) list of 11 exemplars of best practice presented at the outset. Our analysis, which includes voices from the periphery and global South, suggests that while these practices are sometimes shared, they are also subject to individual experience, interpretation, and linguistic and cultural factors. For example, supervisory practices and doctoral researcher experiences are shaped by: contextual factors, which may be institutional, linguistic, and cultural; relational aspects, emerging from the language, identity, educational background, and the personalities of those involved; and structural and organisational constraints such as other emphases and priorities at departmental and university level, and in the wider higher education environment in each case study context.

When the supervisory process and supervisor-doctoral researcher relationship goes well, the comments from supervisors across these six case studies highlight the highly rewarding experience of mutual learning, sharing, enrichment, and achievement on both sides. Nonetheless, the case studies offer diverse perspectives as they are drawn from highly diverse geographical, political, linguistic, and higher educational contexts (the European Union, post-Soviet educational contexts, and China), and in many cases, are influenced by processes of internationalisation, massification, and high numbers of international students from different linguistic and educational backgrounds. Yet, they share some common themes: expectations concerning independence, relational care in nurturing future researchers who will make contributions to academic communities and society more broadly, and robust processes and practices that ensure a high quality

supervisory ethos. Across the case studies, supervision was articulated as a highly individualised, personal, and mostly rewarding experience when outcomes are met.

Together, the case studies offer insights into supervisory practices and experiences, highlighting common and diverse themes and experiences, and thus revealing the highly individualised nature of the supervisor-doctoral researcher experience. The multilingual nature of the research, which drew on Bulgarian, Chinese, English, German, Polish, Portuguese and other languages within the linguistic landscape of the case studies, permits the participation of voices beyond the global North which often go unrecognised in studies of doctoral supervision, and a more diverse linguistic and cultural perspective. The findings from this transversal analysis, and the individual case studies informing it, offer supervisors and doctoral researchers in other contexts opportunities to engage with and reflect on these multiple understandings, experiences, and accounts, and thereby further enrich their own understandings of the process in order to improve the quality of the PhD supervision process.

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