

Doctoral supervision and researcher development

Gabriela González Ocampo

<http://hdl.handle.net/10803/454980>

ADVERTIMENT. L'accés als continguts d'aquesta tesi doctoral i la seva utilització ha de respectar els drets de la persona autora. Pot ser utilitzada per a consulta o estudi personal, així com en activitats o materials d'investigació i docència en els termes establerts a l'art. 32 del Text Refós de la Llei de Propietat Intel·lectual (RDL 1/1996). Per altres utilitzacions es requereix l'autorització prèvia i expressa de la persona autora. En qualsevol cas, en la utilització dels seus continguts caldrà indicar de forma clara el nom i cognoms de la persona autora i el títol de la tesi doctoral. No s'autoritza la seva reproducció o altres formes d'explotació efectuades amb finalitats de lucre ni la seva comunicació pública des d'un lloc aliè al servei TDX. Tampoc s'autoritza la presentació del seu contingut en una finestra o marc aliè a TDX (framing). Aquesta reserva de drets afecta tant als continguts de la tesi com als seus resums i índexs.

ADVERTENCIA. El acceso a los contenidos de esta tesis doctoral y su utilización debe respetar los derechos de la persona autora. Puede ser utilizada para consulta o estudio personal, así como en actividades o materiales de investigación y docencia en los términos establecidos en el art. 32 del Texto Refundido de la Ley de Propiedad Intelectual (RDL 1/1996). Para otros usos se requiere la autorización previa y expresa de la persona autora. En cualquier caso, en la utilización de sus contenidos se deberá indicar de forma clara el nombre y apellidos de la persona autora y el título de la tesis doctoral. No se autoriza su reproducción u otras formas de explotación efectuadas con fines lucrativos ni su comunicación pública desde un sitio ajeno al servicio TDR. Tampoco se autoriza la presentación de su contenido en una ventana o marco ajeno a TDR (framing). Esta reserva de derechos afecta tanto al contenido de la tesis como a sus resúmenes e índices.

WARNING. The access to the contents of this doctoral thesis and its use must respect the rights of the author. It can be used for reference or private study, as well as research and learning activities or materials in the terms established by the 32nd article of the Spanish Consolidated Copyright Act (RDL 1/1996). Express and previous authorization of the author is required for any other uses. In any case, when using its content, full name of the author and title of the thesis must be clearly indicated. Reproduction or other forms of for profit use or public communication from outside TDX service is not allowed. Presentation of its content in a window or frame external to TDX (framing) is not authorized either. These rights affect both the content of the thesis and its abstracts and indexes.



Facultat de Psicologia, Ciències
de l'Educació i de l'Esport Blanquerna

Universitat Ramon Llull



UNIVERSITAT
**RAMON
LLULL**

Doctoral Supervision and Researcher Development

Conceptualization, practices and experiences

Gabriela González Ocampo

Supervisor: Dr. Montserrat Castelló Badia

Barcelona, 2017

DOCTORAL THESIS

| | |
|--------------|--|
| Title | Doctoral supervision and researcher development |
| Presented by | Gabriela González Ocampo |
| Centre | Faculty of Psychology, Education and Sport Sciences. Blanquerna, Universitat Ramon Llull. |
| Department | Education |
| Directed by | Dr. Montserrat Castelló Badia |

This thesis has been supported by the Spanish Ministry of Economy and Competitiveness under Grant (CSO2013-41108-R); and by the Mexican National Council of Science and Technology (CONACYT), under Grant (Ref.216956-477102).

Acknowledgments

Firstly, I would like to express my gratitude and appreciation to my supervisor Dr. Montserrat Castelló for all her encouragement and constant support during the doctoral process. Her guidance and constructive feedback enabled me to discover new perspectives in research writing and doctoral supervision. Her selfless time and patience were sometimes all that kept me going. Her passion has led me to pursue a research career in Education.

Besides, I would like to thank to SINTE-LEST team for the stimulating discussions during many of the projects meetings, those spaces became key for my learning and preparation. With a special mention to Dr. Mariona Corcelles, Dr. Eva Liesa and Dr. Maribel Cano for their support during the project we worked together. Moreover, I want to express my gratitude to Dr. Carles Monereo, his feedback during the writing seminars was very important to improve my papers. Besides, I would like to thank Dr. Jordi Segura for his help throughout the doctoral programme.

Furthermore, I would like to thank to the National Council of Science and Technology (CONACYT), and the Spanish Ministry of Economy and Competitiveness for the financial support under which my research was carried out.

A very special gratitude goes to Dr. Mercedes Zanotto who encouraged me to pursue my doctoral studies, and for putting me in contact with SINTE-Lest team. Besides, her advice was always very helpful during my stay abroad. In the same vein, I would like to thank Dr. Doris Jiménez for her valuable advice for my career.

My deepest gratitude to my colleagues and peers Liliana Gallego, Anna Sala, Fabiola Hernández, Nùria Suñe, Mariela Aguayo, Marta Pardo, Mireia Giralt and Andrea Miralda for all the conversations and discussions we shared throughout these years. Your insightful comments have been very important for revising and improving my work, but above all your friendship and motivation was very important for traversing this journey. Thank you for all the fun and wonderful moments we shared together.

Moreover, I would like to thank all supervisors and students for their participation in the studies that integrate this thesis.

Furthermore, I want to express my gratitude to the friends that I have met in Europe: Silvia Sohrabian, Sarah Braun and Liena Isaula you have become family to me. Moreover, I want to extend my gratitude to my Mexican friends who always encouraged me in many ways throughout this amazing learning journey: Carmen Verdin, Gilberto Ochoa, Xóchitl Aguilar, Rocío Calderon and Adriana Toval. Also, special thanks to UPAEP for the support in my doctoral studies.

Thank you to all people who helped me during my stay in Barcelona, I appreciate your time and care.

And most importantly, I want to thank my parents Mireya Ocampo and José Luis González for their love and constant support in pursuing my dreams. Thank you very much for always being there, and believing in me. I owe it all to you.

Contents

| | |
|--|-----------|
| Chapter 1. General Introduction | 15 |
| 1.1 Structure of the thesis..... | 18 |
| 1.2 Context of the thesis: Doctoral supervision in Spain | 23 |
| 1.3 Theoretical framework..... | 24 |
| 1.3.1 Supervisory support and students' researcher development..... | 24 |
| 1.3.2 Supervision and learning | 26 |
| 1.3.3 Supervision and writing..... | 27 |
| 1.3.4 The supervisory relationship..... | 28 |
| 1.3.5 Supervisor development | 30 |
| 1.4 Method..... | 33 |
| 1.4.1 The aim of the thesis..... | 33 |
| 1.4.2 Methods | 33 |
| 1.4.2.1 Participants | 34 |
| 1.4.2.2 Instruments | 34 |
| | |
| Chapter 2. Research on doctoral supervision: what we have learnt in the last 10 years | 37 |
| 2.1 Introduction | 39 |
| 2.2 Method..... | 41 |
| 2.2.1 Criteria for relevance and inclusion..... | 41 |
| 2.2.2 Search terms and databases | 41 |
| 2.2.3 Data analysis | 41 |
| 2.3 Results | 42 |
| 2.3.1 What are the general characteristics of the research conducted on supervision? (RQ1)..... | 42 |
| 2.3.2 What are the purposes of research on supervision? (RQ2)..... | 46 |
| 2.3.3 What are the relationships between the purposes and methods of research on supervision? (RQ3)..... | 52 |
| 2.4 Discussion..... | 54 |

| | |
|--|-----------|
| Chapter 3. How do doctoral students experience supervision?..... | 57 |
| 3.1 Introduction | 59 |
| 3.1.1 Influence of supervision-related experiences across the doctoral journey | 59 |
| 3.1.2 Doctoral students' agency and regulation strategies | 60 |
| 3.2 Method..... | 61 |
| 3.2.1 Participants | 61 |
| 3.2.2 Instrument | 62 |
| 3.2.3 Data analysis | 63 |
| 3.3 Results | 64 |
| 3.3.1 Frequency of significant experiences in doctoral students' journey related to supervision..... | 64 |
| 3.3.2 Relation between supervision experiences, students' background characteristics and satisfaction with their doctoral studies..... | 64 |
| 3.3.3 Characteristics of students' reported experiences on supervision | 66 |
| 3.3.4 Students' strategies to deal with supervision-related difficulties | 72 |
| 3.4 Discussion..... | 76 |
| | |
| Chapter 4. Writing in doctoral programs: Examining supervisors' perspectives . | 79 |
| 4.1 Introduction | 81 |
| 4.2 Method..... | 83 |
| 4.2.1 Participants | 84 |
| 4.2.2 Data collection | 84 |
| 4.2.3 Data analysis | 85 |
| 4.3 Results | 86 |
| 4.3.1 The role of writing in doctoral training | 86 |
| 4.3.2 Characteristics of writing support offered by supervisors..... | 90 |
| 4.3.3 The relation between the role that supervisors attribute to writing and the type of writing support they offer to their students | 93 |
| 4.4 Discussion..... | 95 |
| | |
| Chapter 5. Supervisors were first students: Examining supervisors' perceptions as doctoral students <i>versus</i> doctoral supervisors..... | 99 |
| 5.1 Introduction | 101 |

| | |
|--|------------|
| 5.2 Method..... | 103 |
| 5.2.1 Participants | 103 |
| 5.2.2 Data collection | 103 |
| 5.2.3 Data analysis | 104 |
| 5.3 Results | 105 |
| 5.3.1 How did participants perceive and value the overall doctoral experience and the supervisory relationship when they positioned themselves as doctoral students or as supervisors? (RQ1) | 105 |
| 5.3.2 What were the most significant experiences regarding the doctoral experience and the supervisory relationship from participants' perceptions, both as doctoral students and as supervisors? (RQ2)..... | 110 |
| 5.3.3 What are the relationships between participants' perceptions when they positioned themselves as students or as supervisors? (RQ3)..... | 116 |
| 5.4 Discussion..... | 119 |
| | |
| Chapter 6. General Conclusions | 121 |
| 6.1 Research on doctoral supervision: what we have learnt in the last 10 years..... | 123 |
| 6.2 How do doctoral students experience supervision?..... | 124 |
| 6.3 Writing in doctoral programs: examining supervisors' perspective..... | 124 |
| 6.4 Supervisors were first students: Examining supervisors' perceptions as doctoral students <i>versus</i> doctoral supervisors | 125 |
| 6.5 Limitations..... | 126 |
| 6.6 Educational implications and future research..... | 127 |
| 6.7 Closing remarks | 129 |
| | |
| References..... | 131 |
| | |
| Appendix A: Doctoral supervisor survey | 145 |

List of Figures

| | |
|--|-----|
| Figure 1. Distribution of studies by Countries | 44 |
| Figure 2. Distribution of the affective value attributed to each type of supervision experiences | 68 |
| Figure 3. Perceptions of the overall doctoral experience | 108 |
| Figure 4. Perceptions of the supervisory relationship | 108 |
| Figure 5. Affective value attributed to the most significant experiences | 112 |

List of Tables

| | |
|---|-----|
| Table 1. Distribution of the type of participants and disciplines..... | 43 |
| Table 2. Distribution of the methods applied for data collection | 45 |
| Table 3. Distribution of the approaches to data analysis | 46 |
| Table 4. Purposes of research on supervision | 46 |
| Table 5. Distribution of the studies based on their research purposes and methods | 53 |
| Table 6. Participants' demographic characteristics | 62 |
| Table 7. Items about significant events in the doctoral journey of ECRs survey..... | 63 |
| Table 8. Frequency of significant experiences related to supervision..... | 64 |
| Table 9. Relationship of background characteristics and the affective value of supervision experiences | 65 |
| Table 10. Differences with doctoral students' satisfaction and the affective value of the supervision experiences | 66 |
| Table 11. Characteristics of the supervision experiences..... | 67 |
| Table 12. Relation between supervision experiences and the affective value..... | 72 |
| Table 13. Categories of strategies | 73 |
| Table 14. Participants' characteristics | 84 |
| Table 15. The role supervisors attribute to doctoral writing | 86 |
| Table 16. Categories of the type of writing support offered by supervisors | 90 |
| Table 17. The relation between the role of writing and the type of writing support offered to doctoral students | 94 |
| Table 18. Participants' characteristics | 103 |
| Table 19. Categories of perceptions regarding the affective value of their doctoral experience..... | 105 |
| Table 20. Frequency of the type of experiences | 111 |
| Table 21. Relationship between the perceptions of the doctoral experience and the supervisory relationship from the student's position versus the supervisor's position | 116 |
| Table 22. Relationship between type of experiences and the positions | 118 |

Chapter 1

General Introduction

Contents

| | |
|---|----|
| 1.1 Structure of the thesis..... | 18 |
| 1.2 Context of the thesis: Doctoral supervision in Spain | 23 |
| 1.3 Theoretical framework..... | 24 |
| 1.3.1 Supervisory support and students' researcher development..... | 24 |
| 1.3.2 Supervision and learning | 26 |
| 1.3.3 Supervision and writing..... | 27 |
| 1.3.4 The supervisory relationship..... | 28 |
| 1.3.5 Supervisor development | 30 |
| 1.4 Method..... | 33 |
| 1.4.1 The aim of the thesis | 33 |
| 1.4.2 Methods | 33 |
| 1.4.2.1 Participants | 34 |
| 1.4.2.2 Instruments | 34 |

This thesis attempts to enlarge and deepen our theoretical and empirical knowledge on doctoral supervision conceptualization, practices and experiences and its implications for researcher development. From a sociocultural approach, we aim to address supervision from the perspective of who we consider to be the main protagonists: doctoral students and doctoral supervisors.

We approached supervision as a *relational* (Kam, 1997; Franke & Ardvisson, 2011) *developmental* (Doloriert, Sambrook, & Stewart, 2012) and *dialogical process* in which students and supervisors engage throughout the doctoral journey (Green, 2005). This process combines different domains of activity (Murphy, Bain, & Conrad, 2007; Wisker, 2012) and involves varied discourse practices (Paré, Starke-Meyerring, & McAlpine, 2011; Gee, 2000). From this perspective, supervision integrates a *dynamic* and *multidimensional interplay* between students and supervisors.

We also acknowledge that supervision should be viewed as a *professional work* that articulates distinct facets (Halse & Malfroy, 2010): 1) a learning and working relationship between students and supervisors, 2) reflection over practices and responsibility towards students' work in an ethical manner, 3) scholarly expertise, 4) the knowledge and use of competences for supervising, and 5) knowledge of the disciplinary and institutional culture and norms that govern the doctoral process. Furthermore, research points to supervision as a potential environment for providing varied resources and opportunities to encourage learning and researcher development (Kobayashi, Grout, & Rump, 2013, 2015; Wisker & Kiley, 2014) and emphasizes that it should be embedded in formative assessment practices (Crossouard & Pryor, 2008). Therefore, supervision is not merely a space for transferring knowledge but instead is a context for promoting knowledge construction in which both students and supervisors are actively involved. This is especially important to acknowledge the pedagogical component of supervision (Åkerlind & McAlpine, 2015; Emilsson & Johnsson, 2007; Grant & Mckinley, 2011; Manathunga, 2007).

Research has advocated particular interest for studying supervision as an important source to better understand the practices underpinning doctoral education and its related outcomes given the central and determinant role it plays in the doctoral journey (e.g., Aitchison, Kamler, & Lee, 2010; Lee & Boud, 2009; Pearson, 2005; Pole, Sprokkereef,

Burguess, & Lakin, 1997). For instance, studies on supervision have shed light regarding satisfaction with doctoral studies (Ives & Rowley, 2005; Zhao, Golde, & McCormick, 2007) and factors related to thesis submission and degree completion (Seagram, Gould, & Pyke, 1998; Latona & Brown, 2001; Lovitts 2001; Manathunga, 2007). Despite the growing number of studies examining doctoral supervision, there is still a need to gain a better understanding about how supervision is conceptualized as well as what are the usual practices and experiences reported by doctoral students and supervisors and what is the interrelation among such issues, especially in Spanish-speaking countries (Spain and Latin America), where these topics remain understudied. We expect this thesis to help us bridge this gap and contribute to outline future research directions.

1.1 Structure of the thesis

This thesis is divided into six chapters. **Chapter 1** contains three sections. The first section of this chapter addresses the rationale, structure and context of the thesis. The second section is dedicated to the theoretical framework. It begins with an overview on *supervisory support and students' researcher development*; next, specific aspects of supervision such as *learning* and *writing* are discussed as well as the characteristics that define *the supervisory relationship*. This section closes with a brief review about *supervisor development*. In section three we describe the aim of the thesis and methods. This section provides general information about the participants and instruments of the four studies that integrate this thesis.

The following chapters (from two to five) are respectively devoted to the four studies conducted; each detailing the rationale, aims and research questions that support the study, followed by a description of the methodology and results and ending with the discussion section. In **chapter 2** a review on research on supervision in the last ten years is presented (González-Ocampo & Castelló, submitted). **Chapter 3** focuses on students' experiences on supervision (González-Ocampo & Castelló, submitted), whereas **chapter 4** is devoted to the analysis of supervisors' perspectives and practices regarding students' writing (González-Ocampo & Castelló, accepted). The last study - **chapter five**- approaches supervisors' perceptions regarding their own experiences, both as students and supervisors (González-Ocampo & Castelló, submitted).

Finally, **chapter six** provides the most relevant conclusions from the four conducted studies. This chapter also includes the limitations, educational implications and guidelines for future research. In the following, we outline a summary of each study presented in this thesis.

Study 1. Doctoral supervision: what we have learnt in the last 10 years: ¹

Supervision has been shown to be central for improving the quality of doctoral programmes (Malfroy, 2005; Martinsuo & Turkulainen, 2011). Therefore, it is not surprising that interest in deepening the knowledge on supervision has grown significantly in recent years. There is a large literature on doctoral supervision, including diverse research foci and varied methodological approaches.

Despite this growing concern for enlarging the understanding on supervision, reviews examining this relevant topic are still scarce, and, as far as we know, the few published reports addressed specific aspects of supervision, such as the appropriateness of conventional and alternative models of supervision (McCallin & Nayar, 2012), supervision practices in virtual contexts (Maor, Ensor, & Fraser, 2016), or supervisory styles and factors involved in their choice (Boehe, 2016). As Torraco (2005) explains, integrative literature reviews contribute to develop new frameworks and perspectives on a specific theme. This type of review can contribute to clarifying theoretical and methodological aspects about doctoral supervision and defining a research agenda.

In this chapter, we present a review of the research on doctoral supervision conducted between 2005 and 2016. More specifically, we focused on analysing the general characteristics, purposes and contributions of 68 studies. In light of this objective, we introduced a framework that integrates the specific characteristics and research approaches of the reviewed studies. The results helped us define in more detail the research questions of the subsequent three empirical studies, which aimed to fill some of the main gaps identified in this first study.

¹ Submitted to the journal of *Higher Education Research and Development*.

Study 2. How do doctoral students experience supervision? ²

Studies on doctoral education are predominantly concerned with exploring how doctoral students experience their doctoral journey (Appel & Dahlgren, 2003; Gardner & Gopaul, 2012; Jairam & Kahl, 2012), and doctoral students' experiences with supervision are at the core of this journey. Undoubtedly, analysing doctoral students' experiences related to supervision can contribute to better understanding how the doctoral trajectory develops. Moreover, it can help deepen the understanding about how students assume and handle their doctoral process.

In this regard, studies have concentrated on examining students' challenges and problematic experiences related to supervision. However, the way in which doctoral students handle problematic supervision experiences and the role that good and satisfactory supervisory experiences play in their trajectories have received little attention and remain understudied. Students should be aware of their own skills and strategies to face difficulties and take an active part in the development of the supervision process. Examining difficulties but also good students' and supervisors' experiences could help better understand the *learning dynamics* involved in supervision (Kobayashi, Grout, & Rump, 2015).

Consequently, in this chapter, we analysed both positive and negative supervision experiences from doctoral students' perspective through a large-scale survey. More particularly, we focused on discussing three central aspects: 1) the characteristics of the doctoral students' most significant experiences related to supervision, 2) the relation between the reported supervision experiences and students' sociodemographic characteristics and satisfaction with doctoral studies, and 3) the way students handle negative supervision experiences.

² Submitted to the journal. *Studies in Continuing Education*

Study 3. Writing in doctoral programs: Examining supervisors' perspectives.³

Doctoral students are expected to develop a range of academic literacy skills to accomplish optimal performance in their academic communities of practice. In this developmental process, writing, particularly research writing, plays many roles that go beyond the completion of the doctoral thesis.

Research writing has been associated with contributing to scholarly identity formation (Paré, et al., 2011) and the development of agency (Wisker, 2016) because through writing, students learn to regulate their own academic literacy skills, build a research voice and develop or create new knowledge (Castelló, Iñesta, & Corcelles, 2013). Therefore, supervising writing is fundamental for enabling doctoral students' development (Lee & Boud, 2009), and supervisory writing practices can become significant guidance for students learning to communicate in academic contexts. This is especially true for students who are not enrolled in courses or research activities that provide them with guidance about learning to write. The set of strategies that supervisors develop to guide writing is also indicative of how they understand the role of writing in doctoral student training. Supervisors as students should be aware of their own conceptualization and writing practices. There is evidence that knowledge about the approach to supervise writing (Lee, 2008) can be very helpful in developing more efficient supervisory practices.

This chapter focuses on the conceptualization and practices for supervising research writing. It also considers the relationship between the conceptualization and the strategies developed to supervise writing. We approached supervisors' perceptions about writing by examining the role they attributed to writing and the writing support they offer.

³ Accepted with minor revision in the journal *Higher Education*.

Study 4. Supervisors were first students: Analyzing supervisors' perceptions versus doctoral supervisors⁴

A growing area in supervision research has focused on analysing learning and development of supervisors and relating them with the efficacy of supervision practices (Amundsen & McAlpine, 2009; Turner, 2015). This implies approaching supervisors' experiences as a way to understand the conceptualization and implementation of the supervision process (Delamont, Parry, & Atkinson, 1998; Stephens, 2014) and therefore its associated outcomes. Moreover, exploring doctoral experiences from supervisors' perspectives can provide an enriching arena to gain more knowledge about how early career academics construct and navigate the doctoral journey.

In this chapter, we considered supervisors' perspectives regarding their doctoral process from two positions, as students and supervisors. We explored how participants perceive their previous experiences as doctoral students and their current experiences as supervisors. We assumed that examining both positions could provide a more comprehensive understanding about supervisor development and the influence of doctoral experiences in the shaping of the doctoral journey.

The use of reflective practices has been proven to promote supervisors' awareness regarding their own supervision process but also used to analyse their own students' experience with supervision (Barnes & Austin, 2009; Brew & Peseta, 2007; Feather & McDermott, 2014). Therefore, in this study, we approached supervisors' perceptions by examining the accounts of their doctoral experience and the extent to which those experiences contribute to their current supervisory practices.

⁴ Submitted to the journal *Innovations in Education and Teaching International*.

1.2 Context of the thesis: Doctoral supervision in Spain

In Spain, doctoral programmes include supervision and mentoring as key practices for supporting doctoral students' training and development. Therefore, doctoral programmes are required to have mechanisms for the recognition of the supervisory and mentoring roles. This implies having clear definitions of the activities for supervising doctoral theses and guidelines for the promotion of good supervisory practices. Furthermore, according to doctoral programme regulations, only Ph.D. professors with accredited research experience can supervise and mentor doctoral students. (The Spanish Ministry of Education, regulation of doctoral studies, Royal Decree 99/2011).

Although it is acknowledged that the role of the supervisor can include varied activities, the conduction of the thesis is considered the primary task. Supervisors carry out the main responsibility to guide the research process, to ensure the adequacy and coherence of the distinct doctoral training activities and consider the impact and innovation of the research project. Supervisors are also entrusted to authorize the submission of the doctoral thesis. Tutors are responsible to ensure that the formation and research activities comply with the requirements and principles of the doctoral programme. These roles are complementary, as both supervisors and tutors are responsible to follow up and inform on students' progress. Thus, it is very common that supervisors assume both roles.

Although the dyadic relationship student–supervisor is very common in Spanish doctoral programmes, group supervision is also a recognized and well-accepted practice to conduct the doctoral thesis. However, having multiple supervisors must be academically justified. For instance, such practices can refer to co-supervision by experienced supervisors and novice supervisors, interdisciplinary supervision or an international collaboration (The Spanish Ministry of Education, regulation of doctoral studies, Royal Decree 99/2011).

In the Spanish context, the choice of supervisor involves a very important moment in the doctoral process. Doctoral students often take an active role in the selection of their supervisors. It is common that students arrange interviews with different professors

before they make the choice. In fact, supervisor selection can start when master's students are required to develop and write their master dissertation (MD). During this process, students should seek for PhD professors to supervise their MD. These professors are part of the Master programme in which students are enrolled. For students who decide to apply for a doctoral programme, the MD constitutes the proposal of the doctoral research project. Therefore, it is frequent that students continue working with the same PhD professor to continue their previous research work and expand their objectives.

1.3 Theoretical framework

1.3.1 Supervisory support and students' researcher development

Doctoral studies are often considered the most significant stage for researcher development, in which students are expected to develop varied research–academic skills. This process does not occur in a vacuum; it is socially mediated by interaction with the scholarly community, which influences and shapes students' participation and development (Lave & Wenger, 1991; Wenger, 1998). It has been shown that supportive environments, as well as joint research work, contribute to students' engagement with doctoral studies, which, in turn, provides a sense of commitment, confidence, motivation, and satisfaction with the research work and the research community (Zhao & Kuh, 2004; Vekkaila, Pyhälto, & Lonka, 2013; Wisker, 2012).

Accordingly, guidance and support from the scholarly community can be understood as a learning environment (Pyhälto, Stubb, & Lonka, 2009; Pyhälto & Keskinen, 2012). This environment empowers professional development and identity because through interaction with other researchers, students learn different research perspectives, develop new ideas, and more importantly learn to manage their participation (Lave & Wenger, 1991; Weidman & Stein, 2003) and recognize their own position in the scholarly community (Sala-Bubaré & Castelló, 2016).

Doctoral journey experiences can be related to emotional, academic and social aspects of students' lives. Finding a balance among these three distinct aspects can become extremely challenging. Therefore, it is not surprising that students find themselves

struggling with different situations from the very beginning of their doctoral studies (Appel & Dahlgren, 2003; Gardner, 2010; Pyhältö, Toom, Stubb, & Lonka, 2012). In many cases, they perceive themselves to be scarcely prepared to face specific situations without proper guidance and support. Even students with a high level of autonomy can experience difficulties and need help from more experienced researchers to deal with them. Among these difficulties, research has highlighted that many students find thesis writing to be a very heavy burden and endless task (Aitchison, Catterall, Ross, & Burgin, 2012), while others struggle with a feeling of incompetence and isolation (Golde, 1998), which can lead to low productivity and thus dissatisfaction with the doctoral process. In all those cases, support and encouragement have been revealed to be determinant for students to endure the doctoral process (Gardner, 2010).

A particular kind of support and encouragement comes from supervisors, who are in a privileged position for enabling doctoral students' experience and research development (Gardner, 2007; Gardner & Gopaul, 2012; McAlpine, Jazvac-Martek, & Hopwood, 2009; Sambrook, Stewart, & Roberts, 2008) and play a very important role in optimizing the benefits and resources in doctoral studies (Egan, Stockley, Brouwer, Tripp, & Stechyson, 2009).

Research has repeatedly confirmed the relevance of supervisory support to doctoral students' learning and research development, and experiences related to supervision have been reported as crucial determinants in the quality of the doctoral process (Barnes, Williams, & Staessen, 2012; Halbert, 2015; Ives & Rowley, 2005; Malfroy, 2005; Martinsuo & Turkulainen, 2011; Zhao, Golde, & McCormick, 2007; Pyhältö, Vekkaila, & Keskinen, 2015). In this sense, it has been found that many students celebrate or regret their doctoral experience mainly based on the perceived quality of the supervision they received. Frequency of advice from supervisors is related to students' time completion and satisfaction, even if the quality of the advice is not as good as expected. Students can empower their initiatives or take other directions based on supervisors' advice when working through important decisions such as choosing the research stay or applying for grants. Supervisors are particularly important for students who feel isolated from their disciplinary communities or those who feel discouraged regarding their doctoral process and outcomes (Sala-Bubaré & Castelló, 2016). Research has also demonstrated that experiencing a lack of proper support and guidance

can result in students' abandonment (Castelló, Pardo, Sala-Bubaré, & Suñe-Soler, 2017; Lovitts, 2001; Rudd, 1986) and therefore lower attrition rates.

1.3.2 Supervision and learning

As mentioned, appropriate supervision provides the context for students' learning through the doctoral journey (Halse & Malfroy, 2010; Kobayashi, Grout, & Rump, 2013, 2015; Wisker, Robinson, Trafford, Warnes, & Creighton, 2003), and in many cases, supervisors become the main source of learning about specific aspects of the research process or disciplinary practices. Moreover, when students and supervisors engage in a dialogical and epistemic process, both can learn together through different activities that constitute learning spaces (e.g., supervision sessions, seminars), in which they share and create knowledge (Wisker et al., 2003).

Positive experiences of supervision have been associated with the development of several research competences and skills, such as self-efficacy and autonomy (Barnes & Austin, 2009; Overall, Deane, & Peterson, 2011) and critical analysis (Manathunga & Goozée, 2007). Supervision has also been found to be key for doctoral students learning to become agentic and to become an active participant in their own doctoral process (Martinsuo & Turkulainen, 2011), being more proactive and resilient and working through the varied challenges of the doctoral process and regulating their own development through the different stages of the doctoral journey (Pyhältö & Keskinen, 2012). Significant and satisfactory relationships with more experienced researchers (e.g., supervisors) are an essential ingredient for enabling independency (Baker & Pifer, 2011).

It is common for students who developed close relationships with their supervisors, after the completion of the doctoral process, to continue collaborating with their supervisor in other research projects. In this sense, supervision also constitutes a space for enabling researcher identity development (Petersen, 2007, 2014) and helping students locate themselves and construct and negotiate practices and positions in their careers (Paré et al., 2011).

1.3.3 Supervision and writing

As Kamler and Thomson (2010) noted, “research is writing”; thus, learning to write is a cornerstone for doctoral students’ development (Maher, Feldon, Timmerman, & Chao, 2014). However, research has clearly demonstrated how doctoral writing challenges students emotionally and intellectually (Aitchison et al., 2012). Students experience different tensions when writing highly specialized texts that should be aligned with genre conventions of their particular disciplinary community (Castelló et al., 2013). Thus, writing the thesis, either as a monograph or as a series of articles, becomes a major challenge throughout the doctoral education (Paré, Starke-Merrying, & McAlpine, 2009), to which must be added the requirement of publishing during the doctoral studies, which has been established by many doctoral programmes in recent years (Castelló, 2016; Kamler, 2008; Paré, 2017). In this scenario, writing becomes a site for collaboration and ongoing learning (Maher et al., 2008) and is one of the major issues for both students and supervisors (Paré, 2017).

Research has noted the critical role of doctoral writing supervision in promoting students’ learning and researcher development (Lee & Murray, 2015) by means of guiding the construction, articulation and communication of knowledge (Paré, 2011). There is evidence of the significant value of supervisory feedback for enabling student’s self-regulation of their writing process (Stracke & Kumar, 2010; Wisker, 2016) and their sense of confidence with respect to their own writing skills (Stillman-Webb, 2016). Supervisory feedback is essential to help students become more critical regarding their texts. The discussion of concepts and argumentation of ideas that students and supervisors hold through the texts is key for guiding students to reflect on their own conceptual, methodological and epistemic assumptions. Kumar and Stracke (2007) described three main functions of supervisory feedback on writing that vary depending on supervisors’ preferences and approaches: 1) *referential*, which consists of providing comments regarding editing aspects, content and structure of the text; 2) *directive*, which refers to providing suggestions, questions and indications related to content aspects, argumentation and the clarification of ideas; and 3) *expressive*, which includes supervisors’ comments in terms of praise or criticism. Supervisors can also face difficulties when supervising writing, especially when they are newcomers to the supervisory role (Paré, 2011), even if they have proven to be very good writers. In this

sense, supervisors can be considered *learners and teachers* of academic writing (Maher & Say, 2016), although more research is needed to understand how they conceptualize and develop these roles. In fact, examining supervisors' writing practices can also provide relevant information about the interaction between students and supervisors and the researcher development process.

1.3.4 The supervisory relationship

The supervisory relationship can be seen as a continual dialogue between students and supervisors, which is often referred to as a socialization process for facilitating disciplinary knowledge, practices and culture appropriation (Gardner, 2008; Löfström & Pyhältö, 2014). Doctoral students and supervisors have reported the importance of the satisfaction experienced in the supervisory relationship for enabling the research process (Erichsen, Bolliger, & Halupa, 2014; Pyhälto, Vekkaila, & Keskinen, 2012). Aspects such as the students' and supervisors' perceptions, the approach and type of supervision, and institutional cultures and practices mediate this relationship (Hemer, 2012).

A particular issue research has highlighted as crucial is the adjustment of students' and supervisors' expectations about supervision (Moxham, Dwyer, & Reid-Searl, 2013; Murphy, Bain, & Conrad, 2007; Pyhältö et al., 2015); a mismatch between students and supervisors can lead to stressful situations for both sides. The importance of establishing a balance between the supervisory support provided for the research process and emotional aspects has also been emphasized, and characteristics such as *communication*, *commitment*, *availability* and *consistent support* have been related to 'good supervision' (Halbert, 2015). A lack of such characteristics can trigger disengaging experiences (Stubb, Pyhältö, & Lonka, 2011; Virtanen, Taina, & Pyhältö, 2016). Moreover, in recent years, research has shown that a considerable number of problems affecting the supervisory relationship were related to ethical aspects such as perceived inequity, exploitation or the intrusion of the supervisor's view (Löfström & Pyhältö, 2014, 2015). A shared understanding about supervision and about what is expected from the supervisory relationship is very important to identify and manage the problems that could appear during the doctoral process.

Perceptions of power in the supervisory relationship have also been shown to affect the working dynamics and roles of students and supervisors, which evolve throughout the doctoral process (Doloriert et al., 2012). Therefore, adequate management of boundaries between students and supervisors (Petersen, 2007; Manathunga, 2007) is essential to contribute to the quality of the supervisory relationship.

Frequency and effectiveness of supervision meetings have repeatedly been reported as related to the quality of and satisfaction with supervision (McAlpine & McKinnon, 2013). A low frequency of supervision has been found to increase students' burnout experiences (Cornér, Löfström, & Phyhälto, 2017), and some studies have suggested that changes in frequency and type of supervision meetings should adjust to students' needs and characteristics in relation to their stage in the doctoral studies (Acker, Hill, & Black, 1994; McAlpine & Amundsen, 2009; McAlpine & Mckinnon, 2013).

Cross-cultural aspects and disciplinary backgrounds have also been indicated to influence how the supervisory relationship is built and challenges addressed. It has been found that international students can be more dependent on supervisors than domestic students since different types of help related to cultural issues (Winchester-Seeto et al., 2014) or disciplinary behaviour patterns are required (Wisker & Claesson, 2013).

Historically, the supervisory relationship has been considered a dyadic interaction between the doctoral student and the supervisor. Although research has largely acknowledged the importance of this dyadic interaction, in recent years, the relevance and prevalence of joint supervision to offer students more supportive environments have also been emphasized (Kobayashi et al., 2013; Lahenius & Ikävalko, 2014; Manathunga, 2012). Having multiple supervisors still tends to be more typical in natural sciences than in social sciences (Pole et al., 1997; Kobayashi et al., 2013), where the dyadic relationship remains as the primary source of support. The implementation of more collective supervisory practices can facilitate and diversify the sources of support in the doctoral journey (Cornér et al., 2017) and ultimately can allow the use of collaborative peer practices as alternative and complementary forms of support, in which students learn together with and from their supervisors and colleagues (Malfroy, 2005).

Sharing the supervisory tasks can help more effectively develop the diverse activities involved in the supervisory role (Lahenius & Ikävalko, 2014), and developing collaborative support interactions beyond the conventional ‘one-on-one’ relationship can benefit students’ self-confidence, socialization and learning (Mullen, 2003; Mullen & Tuten, 2010). In this sense, research has indicated that having more than one supervisor can provide more variation in learning opportunities (Kobayashi et al., 2015) because different voices are dialoguing and offering alternatives.

However, collaborative practices may also lead to challenges and tensions, as misunderstandings between supervisors can emerge in relation to differences between disciplinary cultures and styles of supervision. Students may encounter problematic situations regarding the establishment of the organization and communication with the group of supervisors (Manathunga, 2012; Pole, 1998). Therefore, the management of power and roles between students and supervisors is essential for fostering a positive working atmosphere and facilitating the supervision process (Doloriert et al., 2012).

1.3.5 Supervisor development

Supervision practices can vary considerably depending at least on disciplinary culture, doctoral experiences and personal characteristics (Amundsen & McAlpine, 2009; Halse, 2011; Malfroy, 2005). Therefore, supervisors’ awareness regarding their conceptions, strategies and ways to approach the supervision process is essential. Many studies indicate that the way supervision is structured is very relevant and is related with the type of support and activities offered, the establishment of the doctoral goals, and the characteristics of the interaction developed between students and supervisors (Barnes & Austin, 2009; Franke & Ardvisson, 2011; Vilkinas, 2008). It is important to note that balancing the supervisory activities in relation to students’ needs and characteristics can raise problems for developing effective and enjoyable supervision. For instance, providing excessive personal support can hinder the development of students’ independence (Overall et al., 2011), and supervisors can feel overwhelmed by a lack of student autonomy.

Supervisors also experience stress when trying to reconcile their supervisory role with institutional requirements (Lee, 2008). More specifically, those who are new in the

supervisory role may experience more challenges when working through difficulties that emerge during the supervision process (Turner, 2015). At the same time, combining the different aspects and functions—related to learning, research and teaching—involved in the supervisory role is difficult for less experienced supervisors (Murphy et al., 2007). This difficulty tends to be linked to a lack of clarity regarding the functions and tasks involved in supervision, which results in dissatisfactory doctoral experiences for both students and supervisors. The notion of supervisory approach has been revealed to be useful in understanding how different supervisors combine and assemble their own conceptions and supervisory skills. Lee (2008) defined five supervision approaches: 1) *Functional*, which focus on project and time management; 2) *Enculturation*, which fosters socialization with the scholarly community; 3) *Critical thinking*, which promotes reflection and critical analysis about the research process; 4) *Emancipation*, which focuses on autonomy and self-efficacy; and 5) *Developing a quality relationship*, which focuses on coaching and motivation. As mentioned, awareness is required for supervisors to analyse the advantages and disadvantages of each approach in relation to students' needs and stage in the doctoral process.

It is not only supervisors' knowledge of the varied supervision approaches that mediates the development of supervision but also supervisors' previous experience with supervision. Studies indicated a relation between supervisors' current practices and their own experience (as students) with their supervisors (Delamont, Parry & Atkinson, 1998; Lee, 2008; Stephens, 2014). Thus, positive and negative supervision experiences constitute a turning point for becoming supervisor. Considered from this perspective, it is worth considering that one of the main aspects that influence the process of becoming supervisor relies on the reflection of supervisors' own negative and positive experiences with supervision (Stephens, 2014); this, in turn, has consequences for future supervisor training and development. Unfortunately, the way in which doctoral students are trained to carry out supervisory tasks in the future remains hidden through the doctoral process, and in many cases, it is overlooked, as much of the effort is concentrated on the research process and the completion of the doctoral thesis. A similar situation can be described when looking at early career researchers training to become supervisors.

Consequently, research has focused on determining the resources on which supervisors rely to learn and improve their supervision practices. Support from their colleagues is

one of the most relevant followed by workshops and handbooks. Although some programmes have been developed for supporting new supervisors, there is a risk that such programmes focus on administrative aspects rather than addressing the complexity of the pedagogy of supervision (Manathunga, 2005). In this sense, supervisor's *development programmes* are considered powerful pedagogical environments to enhance the preparation of supervisors (Emilsson & Johnsson, 2007; Guerin & Green, 2013; Manathunga, 2005), especially when the participation of experienced supervisors sharing their supervisory skills and strategies contributes to newcomers' training (Kiley, 2011).

Pearson (2005) highlighted three aspects that should be included in supervision development programmes: 1) supervision for facilitating student learning about research, 2) the foregrounding of the dynamics of the research learning environment, and 3) the promotion of critical reflection and engagement with the scholarly community. From this perspective, *flexibility* is considered an important component for supervision development to encourage supervisors to ground their practices on their own experience and conditions and on the diversity of their students. Guerin and Green (2013) recently suggested the implementation of what they called the '*collaborative critique approach*' to develop supervision programmes oriented to encourage collective reflections within supportive and friendly environments.

When revising their own experiences, supervisors can more closely look to their supervisory journey and therefore to the path that they have undertaken in their development as supervisors. Here, supervisors' perceptions about their doctoral experiences are key for better understanding the implications of becoming supervisor. Accordingly, writing is suggested as a "*critical inquiry*" for facilitating reflection and re-construction of the supervisory practice as a "*work-in-progress*" (Manathunga, 2010). More recently, teaching to write has been emphasized as a core aspect in supervisors' professional development (Guerin et al., 2017).

1.4 Method

1.4.1 The aim of the thesis

The purpose of this thesis is to gain a better understanding of the doctoral supervision process and its educational implications for researcher development. To accomplish this aim, we conducted four studies addressing the following objectives:

1. Identifying and analysing the characteristics, purposes and primary contributions of the literature on doctoral supervision.
2. Analysing the characteristics and the affective value of doctoral students' supervision experiences and the strategies employed to handle the perceived negative supervision experiences.
3. Analysing and explaining the relationships between supervisors' conceptions and the strategies implemented for supervising research writing.
4. Analysing the role of doctoral experiences in supervisor development.

The first objective was addressed through a literature review from a systematic and interpretative approach. The second, third and fourth objectives were addressed through three different empirical studies, with mixed design and mainly following the principles of the grounded theory approach (Glaser & Strauss, 1967).

1.4.2 Methods

Overall, the thesis was conducted using a mixed-method design (Creswell, 2014). In the three empirical studies, we combined both qualitative and quantitative analyses to obtain a more complete understanding of the investigated issues. The research questions addressed in each study guide the selection and definition of the methods for data collection and data analysis procedures.

In the first study, we carried out a qualitative analysis through an integrative literature review (Torraco, 2005). For the three subsequent studies, we used an interpretative cross-sectional design to examine doctoral students' and doctoral supervisors'

perceptions and experiences. Qualitative data were content analysed following the principles of grounded theory (Corbin & Strauss, 2007; Glaser & Strauss, 1967), while statistical analysis included chi-square tests to analyse the relations among the emerging categories and the participants' background variables. In the second study, we also applied an independent-sample *t*-test to measure the differences between positive and negative supervision experiences.

1.4.2.1 Participants

Participants included doctoral students and doctoral supervisors from different Spanish research-intensive universities. In the first study, a total of 68 empirical studies were reviewed and included in the analysis. In the second study, participants were 1173 doctoral students from different disciplines. Studies three and four included a total of 61 doctoral supervisors from the social sciences and humanities.

1.4.2.2 Instruments

In the empirical studies (studies 2, 3 and 4), different questionnaires and surveys were used for data collection. In the second study, data were collected using some items included in the questionnaire FINS-RIDSS that was developed as part of a larger project on ECR identity development⁵ (Castelló, Pardo, Sala-Bubaré & Suñe-Soler, 2017; Castelló, McAlpine & Phyältö, 2017; Castelló, Phyältö & McAlpine, in press). The items analysed were five open-ended questions designed to examine doctoral students' significant events in the doctoral journey and coping strategies. Information about satisfaction with doctoral studies (one Likert-type item) and socio-demographic characteristics (gender, age, country, discipline and stage of doctoral studies) was also collected.

In studies 3 and 4, data were collected using an ad hoc, open-ended online survey designed to prompt supervisors' perceptions and accounts regarding three issues: 1) the doctoral writing, 2) the overall doctoral experience and 3) the supervisory relationship

⁵I+D+i Researcher's Identity Education in Social Sciences funded by the Spanish Ministry of Economy and Competitiveness (ref.: CSO2013-41108-R).

(see Appendix A). It included 9 open-ended questions and four questions about background variables (gender, age, discipline, and years of experience). Open-ended questions were designed to capture structured narratives from doctoral supervisors' experiences, practices and conceptualization of supervision.

Chapter 2

Research on doctoral supervision: what we have learnt in the last 10 years

Contents

| | |
|--|----|
| 2.1 Introduction | 39 |
| 2.2 Method..... | 41 |
| 2.2.1 Criteria for relevance and inclusion..... | 41 |
| 2.2.2 Search terms and databases | 41 |
| 2.2.3 Data analysis | 41 |
| 2.3 Results | 42 |
| 2.3.1 What are the general characteristics of the research conducted on supervision? (RQ1)..... | 42 |
| 2.3.2 What are the purposes of research on supervision? (RQ2)..... | 46 |
| 2.3.3 What are the relationships between the purposes and methods of research on supervision? (RQ3)..... | 52 |
| 2.4 Discussion..... | 54 |

2.1 Introduction

During the last decade, doctoral education has experienced an exponential growth. The rapid increase in the number and internationalisation of doctoral students, the diversification of the structures of doctoral programmes and the needs of the labour market have boosted important changes in doctoral education processes (Boud & Tennant, 2006; Enders & de Weert, 2004; González-Ocampo et al., 2015). Within this evolving research field, supervision has been one of the most discussed topics, due to its critical role in supporting and steering the journey of doctoral students (Malfroy, 2005; Martinsuo & Turkulainen, 2011; Vilkinas, 2008). Supervision has been shown to have an important influence, either positive or negative, on students' learning, progress and satisfaction throughout the doctorate (Ives & Rowley, 2005; Overall, Deane, & Peterson, 2011; Zhao, Golde, & McCormick, 2007), and it is determinant in ensuring the completion of doctoral studies (Pole, Sprokkereef, Burguess, & Lakin, 1997). Research has also demonstrated that supervision can act as an important mediator regarding students' relationship with the scholarly community (Pyhältö, Vekkaila, & Keskinen, 2012) since it provides an enabling environment for strengthening networking and doctoral students' socialisation in local and global researcher communities (Gardner, 2010; Sala-Bubaré & Castelló, 2016).

Research has also been devoted to analysing the meaning of supervisory work and variation in its conceptualization. It has been defined as *a collective enterprise* (Pyhältö et al., 2012) that implies *institutional responsibility* (McAlpine, 2013) going beyond an individual practice. Moreover, supervision as a *relational process* (Kam, 1997; Franke & Ardivissov, 2011) integrates space in which *learning, research and teaching* are possible (Kobayashi, Grout, & Rump, 2013; Murphy, Bain, & Conrad, 2007; Turner, 2015; Wisker, Robinson, Trafford, Warnes, & Creighton, 2003).

This growth in research interest has also encompassed the publication of a variety of reviews on particular aspects of supervision, such as the appropriateness of traditional and alternative models of supervision in addressing current research challenges (McCallin & Nayar, 2012), the presence of interdisciplinary research supervision (Vanstone, Hibbert, Kisella, Pitman, & Lingard, 2013), the relationship between supervision approaches and research conceptual frameworks and its impact on research

education (Bastalich, 2015), virtual supervision and its relationship with collaborative supervisory practices in virtual spaces (Maor, Ensor, & Fraser, 2016), or supervisory styles and the factors involved in their choice (Boehe, 2016).

The results from all of these reviews emphasise the variety of approaches to research supervision and the meanings underlying the notion of supervision and its associated practices. This diversity represents a challenge for researchers attempting to elucidate a clear path of the contributions in the research devoted to the study of this subject. To attend to this challenge and contribute to the forward progress of research in this field, we conducted this review aiming to provide an account of the relationship among the characteristics, purposes and results of the research conducted on doctoral supervision during the last ten years⁶. The following research questions were addressed:

- RQ1. What are the general characteristics – participants, disciplinary context, country, and methods – of the research conducted on supervision?
- RQ2. What are the main purposes and associated findings of research on doctoral supervision?
- RQ3. What are the relationships between the purposes and methods of research on supervision?

We consider such a review⁷ necessary and useful for other researchers to have a clearer portrait of what we know about supervision within the doctoral research context. This clarity can also help in having a more nuanced understanding of the implications and challenges that research on supervision may involve. We believe that this knowledge can contribute to identifying current gaps and lead to the development of new research directions to fill them. In what follows, first, we describe the procedure followed to collect and analyse the studies included in the review. Then, we discuss the results on the basis of the emerging categories regarding supervision research purposes, methods and results and their relationships, and finally, we draw conclusions and propose some guidelines for future research.

⁶In this review, we opted to use the term *supervision* to refer to studies on both supervision and advising. As is well known, the predominance of these terms is based on the framing traditions developed in different academic research contexts (with the term *advising* being more common in the United States and *supervision* in Europe and Australia), but no differences regarding their meaning can be found based on the terms used.

⁷ González-Ocampo, G. & Castelló, M. (2017). This study has been submitted to *Higher Education Research & Development*

2.2 Method

2.2.1 Criteria for relevance and inclusion

Studies published between 2005 and 2016 across different countries and all types of disciplines were considered for inclusion in the review, provided they accomplished the following criteria: first, a study was considered relevant if its main focus and aims were on advising and supervision in doctoral education. Second, we only considered empirical studies published in journals indexed in the most well-known databases (Web of Science and Scopus). We selected English as the language of publication for pragmatic reasons including representativeness and accessibility.

2.2.2 Search terms and databases

The literature search was conducted through the electronic *Web of Science* and *Scopus* databases. The primary search keywords used were *supervision* and *advising*, which were combined with the secondary terms *doctoral students* and *doctoral education*. The combination resulted in a total of 607 references, 94 for *advising* and 513 for *supervision*. These references were loaded in Mendeley Desktop and screened to eliminate duplicates (n=225). Afterwards, the abstracts and conclusions of the remaining documents were read to analyse whether they fulfilled the aforementioned inclusion criteria. Based on this preliminary analysis, an important number of articles were excluded because they focused on other themes different from supervision (n=107), because they were not empirical studies (n=76) or because they were conducted in other contexts different from doctoral education (n=131). The remaining 68 articles were included in the review.

2.2.3 Data analysis

The analysis was conducted in three phases. In the first phase, articles were iteratively read in depth and classified in a descriptive table, taking into account the following variables: 1) participants, 2) method (data collection and data analysis), 3) research questions, and 4) findings. Information about the disciplinary fields and countries where

the studies were conducted was also included. This allowed us to answer the first research question by having a general picture of the characteristic of research on supervision and by mapping how the studies were distributed. In the second phase, to address the second research question, the *purposes* of the studies were established by means of grouping research questions into thematic clusters, which, after being discussed and refined, led to the establishment of emerging codes. These emerging codes were discussed by a group of experienced researchers (n=3) in the field to validate the analysis and to define the final categories and subcategories. The few doubtful cases were discussed until consensus was reached. Finally, in the third phase, categories regarding *purposes* were related to the *methods* used in different studies to seek a relationship between these variables, according to our third research question. The emerging relationships were clustered, discussed and revised by the same group of experienced researchers who supported the purposes and methods categorisation.

2.3 Results

The results are organised according to the three research questions. Thus, first, an overview of the characteristics of the research on supervision and their distribution is presented. Such characteristics include the type and role of participants, information on the disciplinary context, the country, and the methods used in the reviewed studies. Second, we detail the results regarding the purposes of the research on supervision, and finally, we show the relationships between the purposes and methods of the reviewed studies.

2.3.1 What are the general characteristics of the research conducted on supervision? (RQ1)

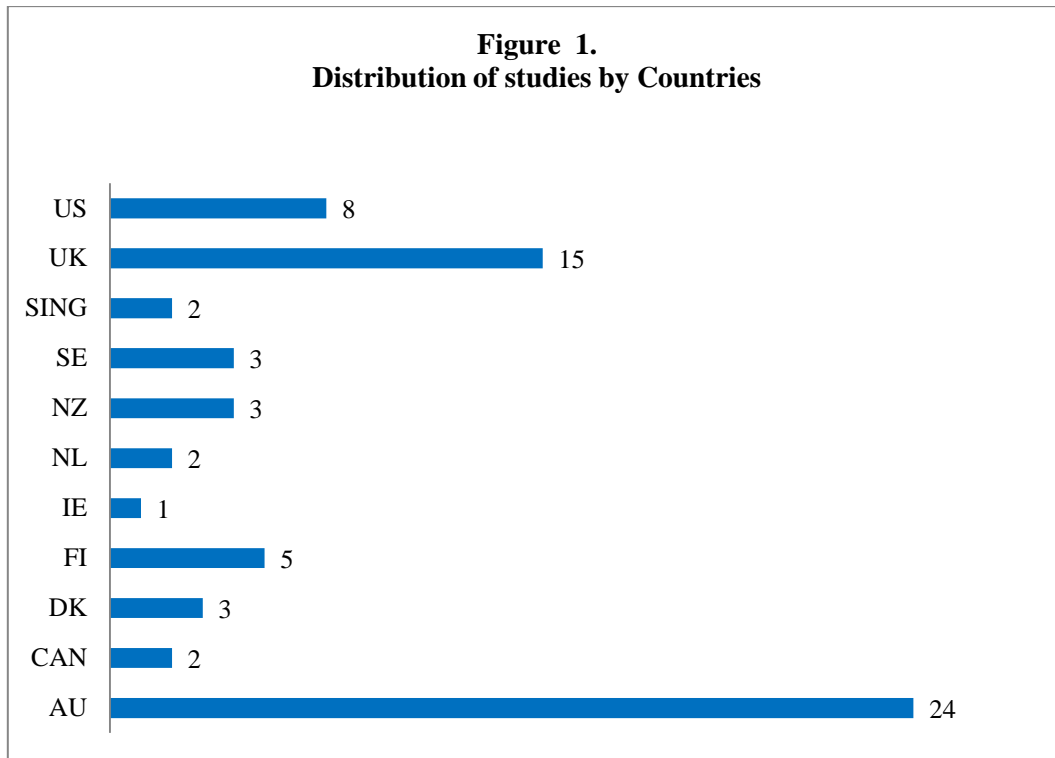
Regarding participants, the majority of studies (27) focused on supervisors, though students also had important participation (18). Almost one-third of the studies (20) reported both supervisors and students as participants, whereas few (2) selected doctoral programmes or universities, and only one study included students, supervisors, and doctoral programmes.

In relation to the disciplines, the studies mostly (43) explored supervision in both STEM (science, technology, engineering and mathematics) and HASS (humanities, arts and social sciences) disciplines, whereas an important number (12) focused on STEM disciplines, and only 5 reported research exclusively on HASS disciplines. Some studies (8) did not provide information regarding the disciplinary context (see Table 1).

Table 1. Distribution of the type of participants and disciplines

| Variables | Value | Frequency | Percentage |
|-------------------------------|--------------------------------------|-----------|------------|
| Type and role of participants | Students | 18 | 26.5 |
| | Supervisors | 27 | 39.7 |
| | Programmes or Universities | 2 | 2.9 |
| | Students and Supervisors | 20 | 29.4 |
| | Students, Supervisors and Programmes | 1 | 1.5 |
| Disciplines | HASS and STEM | 43 | 63.2 |
| | HASS | 5 | 7.4 |
| | STEM | 12 | 17.7 |
| | No information on the discipline | 8 | 11.7 |

As for the countries, the majority of studies conducted research in Australia (24) and UK (15), followed by USA (8), Finland (5), Sweden (3), Denmark (3), New Zealand (3), Netherlands, Canada and Singapore with the same number of studies (2), and Ireland (1) (see Figure 1).



Methods used by the reviewed studies

We distinguished between the methods used for *data collection* and those devoted to *data analysis*.

Data collection

Four methods for collecting data were identified in the reviewed studies: a) interviews, b) surveys, c) written logs and narratives, d) observations of interaction, and e) document analysis. Among which, interviews appear to be the most utilised method (37), followed by surveys (14). Further, the account of written material through reports, drafts, feedback, notes, descriptions and autobiographies was also reported as a method for collecting data (3), and a very similar number of studies (2) indicate that they applied observations of interaction by means of recording sessions through video, audio or participant observation. Only one study noted document analysis as the main method of data collection. A significant number of studies reported the use of two or more of the abovementioned methods (11), which points to an increasing tendency for using a

combination of methods. These results indicate that interviews and surveys are viewed as the core methods for undertaking research on doctoral supervision (see Table 2).

Table 2. Distribution of the methods applied for data collection

| Method | Frequency | Percentage |
|-----------------------------|-----------|------------|
| Interviews | 37 | 54.4 |
| Surveys | 14 | 20.6 |
| Written logs and narratives | 3 | 4.4 |
| Observations of interaction | 2 | 2.9 |
| Document analysis | 1 | 1.5 |
| Combination of methods | 11 | 16.2 |
| Total | 68 | 100 |

Data analysis

The approaches to data analysis were classified considering whether they used a qualitative, quantitative or mixed perspective. The qualitative approach was found to be the most common approach (58), applying specific techniques/methods such as content analysis, ethnography or narratives.

The number of studies that conducted data analysis from a quantitative approach was much smaller (5), similar to those using mixed-methods (5). Regarding the relationship between the procedures for data collection and those used for data analysis, we observed that qualitative studies tended to use more varied methods (e.g., interviews, surveys, written logs and observations of interaction). In contrast, studies using quantitative and mixed-methods of data analysis were mostly based on surveys. The distribution of methods is shown in Table 3.

Table 3. Distribution of the approaches to data analysis

| Approaches to data analysis | Frequency | Percentage |
|-----------------------------|-----------|------------|
| Qualitative approach | 58 | 85.2 |
| Quantitative approach | 5 | 7.4 |
| Mixed analysis methods | 5 | 7.4 |
| Total | 68 | 100 |

2.3.2 What are the purposes of research on supervision? (RQ2)

Three categories emerged from the analysis of the reviewed studies' purposes, depending on whether they focused on a) the analysis of participants' perceptions (those of supervisors, students or both) of supervision; b) the development and training processes of supervisors as well as their pedagogical practices; and c) the development of conceptual or theoretical frameworks to explain models for supervision (see Table 4).

Table 4. Purposes of research on supervision

| Categories | Definition | Subcategories |
|---|--|---|
| Perceptions | Studies aiming to explore the conceptions, experiences and related outcomes of supervision. | Students' perceptions Supervisors' perceptions Students' and supervisors' perceptions |
| Pedagogy and development of supervisors | Studies aiming to examine the supervision strategies and development of supervisors. | Strategies for supervising doctoral students Supervisors' learning and development |
| Conceptual models | Studies aimed to explore and develop theoretical frameworks, conceptual proposals and models of supervision. | Development of conceptual and theoretical frameworks |

Perceptions on supervision

More than half of the studies (45) assigned to this category focused on the analysis of doctoral students' and supervisors' perceptions regarding conceptions, experiences and related outcomes of supervision.

Students' perceptions

An important number of studies on perceptions (17) focused on doctoral students. Among which, we found several studies aimed at examining how students perceive quality and satisfaction with supervision (Barnes, Williams, & Staessen, 2012; Erichsen, Bolliger, & Halupa, 2014; Halbert, 2015; Löfström, & Pyhältö, 2014; McAlpine & Mackinnon, 2013; Soonga, Thi Tran, & Hoa Hiep, 2015; Zhao, Golde, & McCormick, 2007). Large-scale studies were conducted to establish comparisons in students' supervision experiences across disciplines (Zhao et al., 2007; Barnes et al., 2012). Conversely, small-scale studies examined perceptions of the supervision process and how it changes at different stages of doctoral studies (McAlpine & Mackinnon, 2013) or is influenced by ethical issues (Löfström & Pyhältö, 2014).

Some studies were also devoted to the design and implementation of instruments for collecting students' feedback concerning supervision: the *Questionnaire on Supervisor–Doctoral student Interaction (QSDI)* (Mainhard et al., 2009); and *Research Student Feedback Survey (RSFS)* (Lee & McKenzie, 2011).

The manner in which students perceive the role of supervisors has been the focus of several studies, which emphasised the relevance of supervisory support in doctoral students' experience (Bégin & Gérard, 2013; Devine & Hunter, 2016; Keefer, 2015; Lei & Hu, 2015; Platow, 2012), including the relationship of academic, personal support with students' perceived research self-efficacy (Overall, Deane, & Peterson, 2011).

Students' perceptions with multiple supervisors reported the importance of analysing the varied ways in which the supervisory relationship is developed, from a dyadic relationship to joint supervisory practices (Lahenius & Ikavalko, 2014). To a lesser

extent, students' perceptions of the supervision of doctoral writing were also examined (Odena & Burgess, 2015).

The results of the studies included in this sub-category mainly highlighted students' challenges and difficulties related to supervision and the importance of supervision in shaping doctoral students' experiences. They also denoted supervision as an important indicator for evaluating the quality of doctoral programmes.

Supervisors' perceptions

A smaller group of studies (10) focused on analysing supervisors' understandings of their supervisory role and related experiences.

A first group of studies in this category explored the activities and responsibilities undertaken by supervisors to characterise their supervisory role (Barnes & Austin, 2009; Bøgelund, 2015; Franke & Ardvisson, 2011; Vilkinas, 2008; Wisker & Robinson, 2014) and their own satisfaction with the supervisory relationship (Knox, Schlosser, Pruitt & Hill, 2006).

The feedback on writing provided by supervisors was also examined to identify supervisors' perceptions of the challenges that students face when writing their thesis or in publishing (Bitchener, Basturkmen, & East 2010; Maher et al., 2014); other related issues such as aspects that contribute to timely completion, from supervisors' perspective (Manathunga, 2007), and their role in the socialisation of doctoral students were also examined (Gardner, 2010).

In general, the findings from these studies showed the importance of supervisors' awareness of the activities and responsibilities embedded in the supervisory role. In the same vein, they indicated the relevance of understanding the challenges that supervisors face when they embark on the doctoral journey as supervisors, with the ultimate goal of contributing to the development of efficient supervisory practices.

Students' and supervisors' perceptions

The majority of studies about perceptions (18) focused on examining perceptions of supervision, including the perspectives of both supervisors and doctoral students.

A first group of studies was devoted to analysing specific issues, such as the complexity of joint supervision (Kobayashi, Grout, & Rump, 2013; Olmos-López & Sunderland, 2016), group supervision (Fenge, 2012; Hutchings, 2015), or cross-cultural supervision experiences (Grant & McKinley, 2011; Manathunga, 2011; Winchester et al., 2014). The perceptions of both students and supervisors regarding the type of interaction developed at different moments of the research career (Sambrook, Stewart, & Roberts, 2008), the ethical challenges that they face (Löfström & Pyhältö, 2015), satisfaction (Ives & Rowley, 2005) and the mutual learning gained through the relationship (Lindén, Ohlin, & Brodin, 2013) were also investigated.

A second group of studies was interested in transversal and general issues of any supervisory process, such as students' and supervisors' understandings of research during the PhD and the nature of the supervisory process (Kandiko & Kinchin, 2012), power-related issues (Doloriert, Sambrook, & Stewart, 2012; Hemer, 2012), and the *emotional management* of students and supervisors (Doloriert et al., 2012). Within this group, there was an interest in examining the *fit* between students' and supervisors' perceptions, expectations about the supervision process (Moxham, Dwyer, & Reid-Searl, 2013) and the supervisory tasks (Pyhältö, Vekkaila, & Keskinen, 2012, 2015), in addition to *beliefs* about supervision and its relationship with *teaching, learning* and *research* (Murphy, Bain, & Conrad, 2007).

The results from these studies offered a more comprehensive picture of the varied educational implications of doctoral supervision by relating the perspectives of students and supervisors and largely showed how both supervisors and students can benefit from clarifying expectations regarding their roles and activities.

Pedagogy and the development of supervisors

Of the studies reviewed, 17 were included in this category and were classified into two groups: 1) studies examining specific strategies for supervising doctoral students and 2) studies exploring supervisors' learning and development.

Strategies for supervising doctoral students

Studies (8) that specifically aimed to analyse the supervision strategies were mainly focused on examining *adaptive support strategies* (de Kleijn, Meijer, Brekelmans, & Pilot, 2014), strategies for helping students accomplish the purposes of doctoral studies (Åkerlind & McAlpine, 2015), or strategies for creating supportive contexts that facilitate doctoral completion (Green & Bowden, 2012), creativity (Whitelock, Faulkner, & Miell, 2008) and supporting doctoral students' writing and publication (Kamler, 2008).

Other studies examined the relationship among the *content*, *intentions* and *strategies* of supervision (Bruce & Stoodley, 2013) or the relationships existing between the use of some group experiences, such as *research seminars* (Malfroy, 2005) or joint supervision (Kobayashi et al., 2015), and learning.

Supervisors' learning and development

An important number of studies (9) addressed supervisors' learning and development to strengthen their role and enrich the doctoral journey of students. Among which, those focused on examining supervisors' learning experiences in becoming supervisors (Guerin, Kerr, & Green, 2015; Halse, 2011; Stephens, 2014; Turner, 2015) highlighted the significant role of the past and current experiences of supervisors in the construction of their identity as supervisors and the development of their approaches to supervision. Two studies explored supervisors' learning experiences through group supervision programmes (Emilsson & Johnsson, 2007; Wisker & Claesson, 2013) and addressed the challenges and benefits embedded in the implementation of supervisor training programmes.

Specific aspects such as supervisors' learning and development through the examination of doctoral theses (Wisker & Kiley, 2014), the use of collaborative reflective practice (Guerin & Green, 2013), or political, social and educational demands (Kiley, 2011) in training programmes were also addressed.

The findings from these studies highlighted the pedagogical component of supervision and revealed that supervision does not develop in a vacuum but, rather, relies on the experiences, knowledge and skills that shaped supervisors throughout their own doctoral journey. An important number of studies recommended the need to train supervisors to face the challenges that they will encounter when developing their role.

Development of conceptual models for understanding and improving doctoral supervision

A small group of studies (6) aimed to increase knowledge on supervision through the development of conceptual models.

Some studies noted the varied connotations that can be attributed to supervision in doctoral education (Lee & Green, 2009) and supervisory styles (Gatfield, 2005). Others, based on how supervisors develop and articulate their work, emphasised that supervision should be analysed from a holistic perspective, including dimensions ranging from the individual (supervisors) to the social (disciplines and institutions) (Halse & Malfroy, 2010).

Three of the reviewed studies attempted to identify and explain the approaches that guide the work of supervisors. Lee (2008) examined conceptions of research supervision by interviewing supervisors about their students' experiences with supervision and their current supervisory role. Her work aimed at relating *supervisors' activity, supervisors' knowledge and skills and possible student reaction*. In a subsequent study (Lee & Murray, 2015), the authors sought to adapt the previous proposal on approaches to research supervision to develop a *model to supervise writing*. Recently, Benmore (2016) has addressed the concept of *boundary management* in the supervision process. This author places the spotlight on exploring *the roles and role transitions* that occur within the supervisory relationship.

The findings of the studies in this category showed the complexities of conceptualising supervision, given that it requires identifying varied aspects including *beliefs, expectations, experiences, knowledge, strategies, skills* and *disciplinary and institutional aspects* that support and orientate the implementation of supervision. Furthermore, the approaches and models developed pointed to the dynamic and social nature of supervision, given that its development involves different participants and contexts (e.g., institutions, research teams, supervisors, students).

2.3.3 What are the relationships between the purposes and methods of research on supervision? (RQ3)

We found the following relation among the three established *categories of research purposes* and *methods* reported in the reviewed studies (Table 5):

a) Studies focused on perceptions carried out the data collection process by using *interviews, surveys, observation of interaction and written logs and narratives*. Interviews (22) and Surveys (13) were evidenced as the most common. Six studies in this category used two different methods: *interviews* and *surveys* (Bitchener, et al., 2010; Doloriert et al., 2012; Olmos-López & Sunderland, 2016), *interviews* and *Observation of the interaction* (Hemer, 2012; Kobayashi et al., 2013), and *interviews* and written logs and narratives (Kandiko & Kinchin, 2013), and only two studies combined three methods: *interviews, survey and logs of activities* (McAlpine & Mckinnon, 2013), and *interviews, survey and Observation of the interaction* (Hutchings, 2015). Moreover, this was the only category to conduct the data analysis from a diversity of approaches (*qualitative, quantitative and mixed method*). The great majority of the studies (35) were conducted from a qualitative approach.

b) Studies focused on pedagogy and supervisors' development revealed to use very varied methods of data collection (5), which integrates the use of *Interviews, Surveys, Observation of interaction, Written logs and narratives, and Documental analysis*. The tendency here of applying a more diverse methodology for gathering the data relies on the type of information that it can be collected when exploring pedagogic aspects (e.g., strategies, activities, interaction, etc.). *Interviews* (9) and *Mixed-method* (3) were the most common methods observed in this category. Differently, surveys were less likely

in this category (1). We found 3 studies included in this category that illustrated two or more methods (Emilsson & Johnsson, 2007; Wisker & Claesson, 2013; de Kleijn et al., 2014). Concerning the type of analysis, we only identified procedures of qualitative nature.

c) *Studies focused on conceptual models* only indicated the use of interviews to gather the data. They undertook the data analysis procedures from a qualitative approach. This responds to their purposes, which were aimed at articulating conceptual frameworks and clarifying theoretical aspects of the doctoral supervision.

Table 5. Distribution of the studies based on their research purposes and methods

| Methods | | Research purposes on supervision | | |
|-----------------|---|----------------------------------|---|-------------------|
| | | Perceptions | Pedagogy and development of supervisors | Conceptual models |
| Data collection | Interviews | 22 | 9 | 6 |
| | Surveys | 13 | 1 | -- |
| | Observations of interaction | -- | 2 | -- |
| | Written logs, narratives and autobiographical reports | 2 | 1 | -- |
| | Documentary analysis | -- | 1 | -- |
| | Mixed-methods | 8 | 3 | |
| Data analysis | Quantitative | 5 | -- | -- |
| | Qualitative | 35 | 17 | 6 |
| | Mixed-methods | 5 | -- | -- |

2.4 Discussion

In this study, we reviewed a decade of research on supervision focusing on research purposes, methodological approaches and consolidated results. Our analysis established three categories of study purposes: 1) *perceptions*, 2) *pedagogy and the development of supervisors*, and 3) *conceptual models*. Consequently, we argued that these categories explain the issues addressed by research on supervision over the past 10 years. Regarding *perceptions* we identified the supervisory relationship as a key topic of research. Studies focused on *pedagogy and the development of supervisors* demonstrated a significant interest in the specific pedagogical practices embedded in supervision and the development of supervisors. *Conceptual model* studies focused on the development of theoretical frameworks and orientations to analyse and explain supervision.

The results regarding the methods applied showed that the following data collection instruments are the most common: 1) *interviews*, 2) *surveys*, 3) *observations of interaction*, 4) *written logs and narratives*, and 5) *document analysis*. *Interviews* and *surveys* appeared to be the most commonly used methods. This result may be because they are sufficiently flexible (structured, semi-structured and non-structured) to adjust to the different types and amounts of information necessary based on the research purposes. In addition, both methods are broadly recognised across all disciplines. Data analysis is conducted mainly from qualitative approaches, whereas quantitative and mixed-methods were less likely to be noted in the reviewed studies.

Regarding disciplinary contexts, studies demonstrated a preference for exploring supervision with participants from both HASS and STEM disciplines. This may be due to two reasons; first, having participants with different disciplinary backgrounds may offer a larger and more diverse picture of the phenomenon studied; second, gathering a large number of participants from a specific disciplinary context may be challenging, particularly for longitudinal studies.

Furthermore, we observed a relationship between countries and the type of research on supervision. Studies from Finland, for example, showed concerns for ethical aspects (Löfström & Pyhältö, 2014, 2015), whereas research from countries such as Australia

and New Zealand analysed cross-cultural issues (Wisker & Kiley, 2014; Winchester-Seeto et al., 2014; Manathunga, 2011). This result shows that research on supervision aims to respond the needs and demands related to the cultural and educational particularities of countries. The results also indicated the impact of cultural differences on the development of satisfactory relationships between students and supervisors. Moreover, the results emphasised the importance of examining supervision across disciplines, given that this process can be addressed differently according to the disciplinary culture.

Moreover, our findings revealed a consistent increase in publications on supervision from 2010 onwards. Indeed, we reported 16 articles between 2005 and 2009 versus 52 in the past 6 years, which clearly positions supervision as a fruitful field for research on higher education.

Chapter 3

How do doctoral students experience supervision?

Contents

| | |
|--|----|
| 3.1 Introduction | 59 |
| 3.1.1 Influence of supervision-related experiences across the doctoral journey | 59 |
| 3.1.2 Doctoral students' agency and regulation strategies | 60 |
| 3.2 Method..... | 61 |
| 3.2.1 Participants | 61 |
| 3.2.2 Instrument | 62 |
| 3.2.3 Data analysis | 63 |
| 3.3 Results | 64 |
| 3.3.1 Frequency of significant experiences in doctoral students' journey related to supervision..... | 64 |
| 3.3.2 Relation between supervision experiences, students' background characteristics and satisfaction with their doctoral studies..... | 64 |
| 3.3.3 Characteristics of students' reported experiences on supervision | 66 |
| 3.3.4 Students' strategies to deal with supervision-related difficulties | 72 |
| 3.4 Discussion..... | 76 |

3.1 Introduction

Doctoral education has been conceptualized as a journey that students navigate with the support of the research community (Golde, 2010; Pyhältö, Stubb, & Lonka, 2009; Pyhältö & Keskinen, 2012). This journey entails diverse and varied experiences, some of them more significant and satisfactory than others. Therefore, it is not surprising that students recall their doctoral process through what they consider were their most important experiences. Such experiences are frequently associated to the interaction developed between the students and the different social agents (e.g., supervisors, colleagues, senior researchers) who are also involved in the doctoral journey (Sala-Bubaré & Castelló, 2016).

Research has repeatedly emphasized the significant role of the doctoral students' experiences to build the academic career trajectory and shown that some particular experiences and the way in which students perceived them have influence on their trajectory development (Appel & Dahlgren, 2003; Gardner & Gopaul, 2012; Jairam & Kahl, 2012; Jazvac-Martek, 2009; McAlpine, Jazvac-Martek, & Hopwood, 2009). However, previous research has mostly focused on difficulties, tensions and challenges experienced by doctoral students and not on the role that positive experiences might have on students' trajectories; furthermore, almost nothing is known about students' strategies and skills to cope with the difficulties or negative experiences. On the other hand, large-scale quantitative studies examining doctoral students' experiences are still scarce, making integration of previous small qualitative results difficult. In this study, we aim to address the gaps of previous research by analysing doctoral students' perceptions regarding negative and positive supervision experiences along the doctoral journey, as well as their strategies in dealing with challenging situations through a large-scale survey.

3.1.1 Influence of supervision-related experiences across the doctoral journey

When asked about their doctoral studies, most students bring to mind their experiences with supervisors, whether positive or negative. Studies on doctoral education have extensively emphasized the importance of supervision to guide students' learning and

promote researcher development through the doctoral journey (Barnes & Austin, 2009; Kobayashi, Grout, & Rump, 2013; Overall, Deane, & Peterson, 2011). Others have highlighted how a good supervisory relationship may increase the satisfaction with doctoral studies (Ives & Rowley, 2005; Mainhard, van der Rijst, & van Tartwijk, 2009; Zhao, Golde, & McCormick, 2007) and improve the quality of the doctoral programs (Malfroy, 2005; Martinsuo, & Turkulainen, 2011). On the contrary, perceived problems with supervision may lead to students' abandonment of doctoral studies (Castelló, Pardo, Sala-Bubaré, & Suñe-Soler, 2017; Egan, Stockley, Brouwer, Tripp, & Stechyson, 2009; Löfström, & Pyhältö, 2014). Support from supervisors has claimed to be crucial in providing a broader view on the difficulties and opportunities that doctoral students may encounter in their academic careers (Åkerlind & McAlpine, 2015).

Supervision has also been related to students' socialization experiences throughout the doctoral process, which in turn, have been identified as determinant in promoting researcher development and inclusion in the research community (Gardner, 2008, 2010). Therefore, it is not surprising that students tend to assess their doctoral experience depending on the perceived quality of their supervisory relationship (McAlpine & Mckinnon, 2013).

3.1.2 Doctoral students' agency and regulation strategies

Doctoral studies encompass an enriching context of experiences that are expected to contribute and enhance students' training and development as researchers. Among those experiences, perceived problematic situations can be the difference between moving forward in the doctoral process or stepping back. Thus, the way students understand and manage difficulties, the strategies they display to be agentic and regulate challenges and difficulties can enable or hinder their own learning and progress and play a key role in the development of their academic identity (McAlpine & Amundsen, 2009). Agency and associated strategies to regulate emotions, actions and thoughts (Castelló, Iñesta, & Corcelles, 2013) not only influence students' individual learning processes but also affect the way in which students interact and position themselves within the academic and research community (Hakkarainen et al., 2014; Pyhältö & Keskinen, 2012). In this sense, the supervisory role might be critical to help students gain awareness of and learn to use their skills, resources and strategies to cope with difficulties and challenges

(Hopwood, 2010; Wisker, 2016). Furthermore, discussing and articulating expectations between students and supervisors about the process of supervision has been found to ensure positive relationships (Moxham, Dwyer, & Reid-Searl, 2013). However, when problematic situations are precisely related to supervision, both students and supervisors may experience blockages to overcome the situation and research has scarcely addressed the study of the strategies students usually put into action when they experience difficulties with supervision.

This study⁸ is intended to enlarge and deepen our knowledge on how doctoral students experience supervision and manage problematic situations entailed by the supervisory relationship. The following research questions were addressed:

RQ1. How frequently did doctoral students report significant experiences related to doctoral supervision during their doctoral journey?

RQ2. Was there any relationship between the reported supervision experiences and students' sociodemographic characteristics and satisfaction with doctoral studies?

RQ3. What were the characteristics of students' reported experiences regarding supervision?

RQ4. What were the affective values (positive or negative) attributed by students to their significant experiences regarding supervision?

RQ5. What were the reported strategies by doctoral students for dealing with perceived negative supervision experiences?

3.2 Method

3.2.1 Participants

A total of 1173 doctoral students (mean age: 36.3; SD: 8.9) from 56 Spanish research-intensive universities participated in the study. They came from varied disciplines and were at different stages of their doctoral studies (see Table 6).

⁸González-Ocampo, G., & Castelló, M. (2017). This study has been submitted to *Studies in Continuing Education*

Table 6. Participants' demographic characteristics

| Variable | Values | Frequency | Percentage |
|---------------------------|--|-----------|------------|
| Gender | Men | 438 | 40.3 |
| | Women | 649 | 59.7 |
| Age | under 30 | 288 | 27.2 |
| | 30 to 39 | 452 | 42.7 |
| | 40 to 49 | 204 | 19.3 |
| | 50 or more | 114 | 10.8 |
| Country | Spain | 729 | 69.2 |
| | Others countries | 320 | 30.7 |
| Discipline | Architecture and Engineering | 57 | 4.9 |
| | Economy | 156 | 13.3 |
| | Education | 285 | 24.3 |
| | Health sciences | 259 | 22.1 |
| | Humanities | 171 | 14.6 |
| | Law | 90 | 7.7 |
| | Psychology | 154 | 13.1 |
| Stage of doctoral studies | 1 st and 2 nd year | 429 | 41.2 |
| | 3 rd and 4 th year | 345 | 33.2 |
| | 5 th year or more | 266 | 25.6 |

3.2.2 Instrument

The instrument used for gathering data was an online survey designed for a larger project on early career researcher identity⁹ (Castelló et al., 2017; Castelló, McAlpine, & Phyältö, 2017; Castelló, Phyältö, & McAlpine, in press). It included five *sociodemographic variables* (gender, age, country, discipline and stage of doctoral studies), one Likert-type item on satisfaction (Do you feel satisfied with your doctoral studies? 1= very dissatisfied, 7= fully dissatisfied) and 5 open-ended questions focusing on the most significant positive and negative events students experienced through their doctoral journey, as well as on the strategies they used to deal with the negative events (see Table 7).

⁹ I+D+i Researcher's Identity Education in Social Sciences funded by the Ministry of Economy and Competitiveness (ref.: CSO2013-41108-R).

Table 7. Items about significant events in the doctoral journey of ECRs survey

| Type of events | Items |
|-----------------|---|
| Positive events | 1) The most positive experience from the beginning of my doctorate until now was when... 2) This experience was important to me because... |
| Negative events | 3) The most negative experience from the beginning of my doctorate until now was when... 4) This experience was important to me because... 5) In that moment, what I did was... |

3.2.3 Data analysis

To answer the first research question, all information contained in the students' answers was read to become familiar with participants' comments and to differentiate those on supervision from others regarding different types of events students mentioned as significant in their doctoral journey. Next, the significant events related to supervision were classified based on their affective value.

Regarding the second research question, *we applied* Chi Square tests to analyse the relationship between the characteristics of the supervision experiences mentioned by the students and the background variables. The differences between students' satisfaction with their doctoral studies and the type of supervision experiences were measured by independent samples *t*-test.

For the rest of the research questions, students' answers were content-analysed and first organized into parental codes. Comments that included the description of the supervision experiences were classified under the parental code *type of experience*, whereas information referring to what students did to deal with negative supervision experiences was listed under the parental code *strategy*. Then, all students' comments included in those parental codes were iteratively read to group them into categories. Regarding the parental code *type of experiences*, categorization was partially adapted from Pyhältö, Vekkaila and Keskinen (2015), whereas categories included in the parental code *strategy* were emergent and theoretically grounded by research on self-regulation strategies and agency (Castelló, Bañales, & Vega, 2010; Castelló, Iñesta, &

Monereo, 2009; Castelló, Iñesta, & Corcelles, 2013). After the categories were established, two trained researchers independently analysed all the answers, and their level of agreement was assessed to guarantee reliability of the system of categories (The level of agreement was very high and ranged from 88 to 100% depending on the categories). The few doubtful cases were discussed until consensus was reached.

3.3 Results

3.3.1 Frequency of significant experiences in doctoral students' journey related to supervision.

Of the participants, 209 (17.8%) indicated that the most significant experiences in their doctoral journey were related to supervision. A total of 223 supervision experiences were reported. In general, students mentioned more negative than positive experiences related to supervision, while a minority (14 students) indicated both negative and positive experiences related to supervision. Table 8 shows the frequency of students' significant experiences related to supervision and the affective value they attributed to them (positive and negative).

Table 8. Frequency of significant experiences related to supervision

| Affective value of the supervision experiences | Frequency | Percentage |
|--|-----------|------------|
| | n | % |
| Positive | 88 | 39.5 |
| Negative | 135 | 60.5 |
| Total | 223 | 100 |

3.3.2 Relation between supervision experiences, students' background characteristics and satisfaction with their doctoral studies.

Results revealed a significant relationship between the affective value of the supervision experiences and *discipline* (χ^2 (5, $N=223$) = 14.217, Cramer's $V=$.252, $p<$.05), *stage of doctoral studies* (χ^2 (2, $N= 206$) =6.016, $p=$.049), and *age* (χ^2 (2, $N= 211$) =102.619,

Cramer's $V=.697$, $p<.01$). As shown in Table 9, students who came from architecture, engineering and law were more likely to experience negative supervision events than students from others disciplines. Moreover, negative supervision experiences were more frequently reported by students with ages between 30 to 39. Conversely, positive experiences related to supervision were more frequent in older students with ages between 40 to 49. Fifth-year students reported more negative experiences of supervision than students from previous years.

Table 9. Relationship of background characteristics and the affective value of supervision experiences

| | | Supervision experiences | |
|---------------------------|--|------------------------------|-------------------------------|
| | | Positive | Negative |
| Discipline | Architecture and Engineering | 3 (1.3%)* z= -1.9 | 14 (6.34%)* z= 1.9 |
| | Economy | 11 (4.9%) | 13 (5.8%) |
| | Education | 27 (12.1%) | 29 (13%) |
| | Health sciences | 3 (1.3%) | 9 (4%) |
| | Humanities | 20 (9%) | 37 (16.6%) |
| | Law | 14 (6.3%)* z= 2.4 | 8 (3.6%)* z= -2.4 |
| | Psychology | 10 (4.5%) | 25(11.2%) |
| Age | 25 to 29 | 2 (.9%)** z= -4.4 | 32 (15.2%)** z= 4.4 |
| | 30 to 39 | 5 (2.4%)** z= -7.2 | 69 (32.7%)** z= 7.2 |
| | 40 to 49 | 61 (28.9%)** z=8.3 | 20 (9.5%)** z= -8.3 |
| | 50 or more | 16 (7.6%)** z=3.3 | 6 (2.8%)** z=-3.3 |
| Stage of doctoral studies | 1 st and 2 nd year | 9 (4.4%) | 6 (2.9%) |
| | 3 rd and 4 th year | 43 (20.9%) | 59 (28.6%) |
| | 5 th year or more | 27 (13.1%)* z=-2.1 | 62 (30.1%)* z=2.1 |

Note, z = corrected standardized residuals

* $p= <.05$

** $p=<.01$

Regarding students' satisfaction with their doctoral studies, there was a significant difference between the group of students who referred having positive supervision experiences and students who referred mainly negative supervision experiences. The results indicate that supervision experiences were related to the satisfaction with doctoral studies (see Table 10).

Table 10. Differences with doctoral students' satisfaction and the affective value of the supervision experiences

| Scale (1-7) | Positive supervision experiences M (SD) | Negative supervision experiences M (SD) | Significance |
|------------------------------------|--|--|------------------------------|
| Satisfaction with doctoral studies | 5.30 (1.50) | 1.12 (.41) | $t(210) = -29.983, p = .000$ |

3.3.3 Characteristics of students' reported experiences on supervision

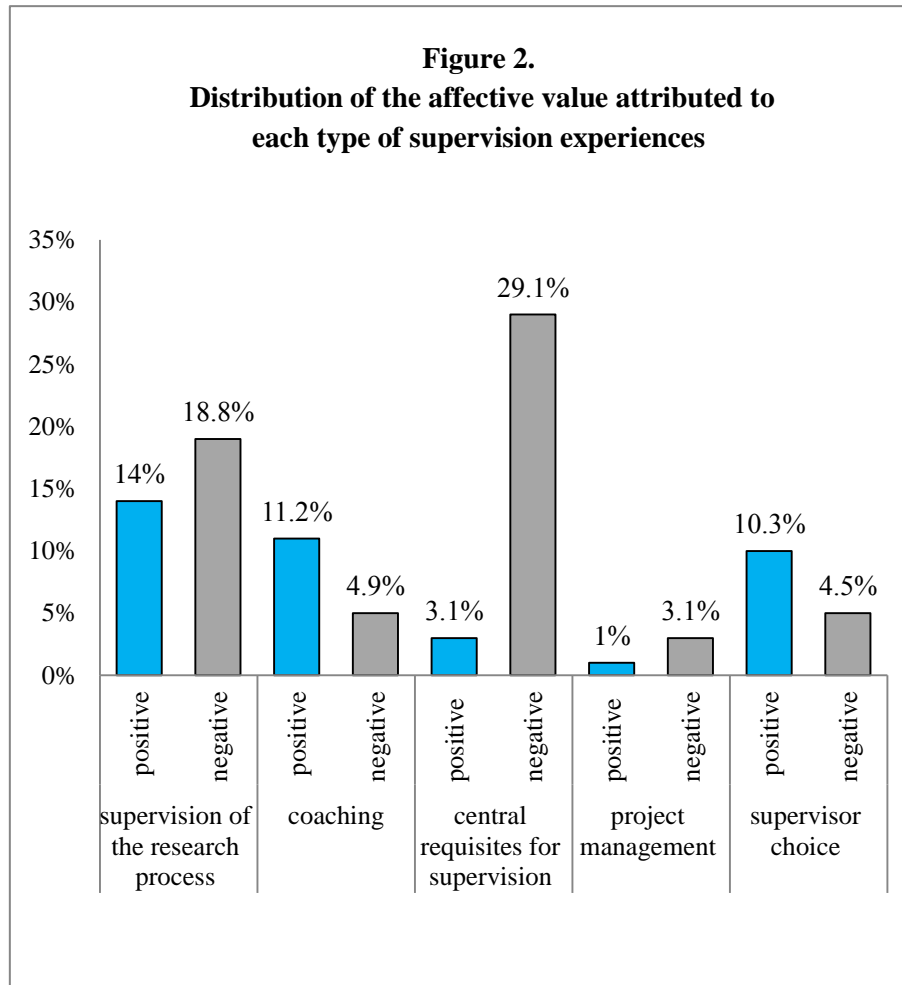
Students mentioned a range of experiences related to supervision that were classified into six broad categories. To the original four categories described by Pyhältö, Vekkaila and Keskinen (2015), one more was added to account for participants' answers variability. Those experiences were considered the most significant in doctoral students' journey. Final categories and their characteristics are summarized in Table 11.

Table 11. Characteristics of the supervision experiences

| Type of experience | Characteristics |
|---------------------------------------|--|
| Supervision of the research process | Giving advice and instructions on how to conduct the research and become researcher. |
| Coaching | Emotional support, motivation, constructive feedback and joint brainstorming. |
| Central prerequisites for supervision | Communication, supervisors' presence and commitment, communication, interest in the project, knowledge of the subject and shared research interests. |
| Project management | Funding and resources, guaranteeing quality, guidance, and giving career advice. |
| Supervisor choice | Selection of the supervisor, change of supervisor, the beginning of the supervisory relationship. |

Note: Adapted from Pyhältö, Vekkaila and Keskinen (2015)

Regarding the affective value attributed to those experiences, participants reported more negative experiences (60.4%) than positive experiences (39.6%) (See Figure 2).



Supervision of the research process

Students alluded to the advice and guidance from their supervisors as an essential mediator to conduct the research process. In their comments, students (14 %) referred to the importance of having supervisory support to learn about the methodological procedures and theoretical aspects involved in the research project.

I received support and guidance from my supervisor and that was very important to me because it helped me to organize the ideas that I had in mind to conduct the thesis. (P433)

Supervision of the research process was also mentioned as a way to have a more comprehensive perception of the researcher career development.

The most positive experience is not a specific situation; it has been all the work with my supervisor. It has helped me to gradually acquire academic competences, to increase my

methodological knowledge, to have a broader understanding of the reality. This has given me a more mature position in the world [...] (P329)

A higher percentage of students (18.8%) also indicated they experienced difficulties with the supervision that affected their own research process and training:

My most negative experience was at the beginning of the process, when the supervisor put me in an office and I was told “write a thesis”. I didn’t have the support that I was expecting from my supervisor. I realized that I was alone and that I had to learn by myself. (P553)

I realized that I didn’t receive help from my supervisor to construct the thesis, maybe this is something that happened with all supervisors and students but for me, it was very hard. That made me understand how things are in the academic context. (P147)

Coaching

Emotional support and close guidance from the supervisor were also described as significant experiences through the doctoral journey. Students (11.2%) considered it necessary to be encouraged by their supervisors to advance their research. This also promoted a sense of appreciation.

Receiving congratulations by my supervisor when I accomplished a good progress with my work. I had not progressed in a long time and this acknowledgment motivated me to move forward. (P668)

A small percentage of our students (4.9%) perceived they were not receiving the expected support from their supervisors in terms of emotional aspects: ‘*My supervisor doesn’t care about me. I feel alone and with no answer*’ (P51). One student expressed discouragement regarding the feedback from his supervisors:

It is not only one experience, every time when I need help my supervisor take weeks to answer. It is difficult to feel motivated because every time that you have a doubt you get stuck. (P360)

Central prerequisites for supervision

Several students described their most significant experiences in terms of the basic or central prerequisites that supervision involves. They pointed to these basic aspects as determinant in shaping the way the doctoral journey is experienced. A small percentage of students in this category illustrated having a positive experience related to the communication with the supervisor (3.1%):

The communication with my supervisors has been very important. To be able to speak with them [...] is gratifying. (P525)

Most of the students' comments included in this category (29.1%) mentioned they struggled with the manner in how supervisors handled the central prerequisites for supervision. Those students claimed that their supervisors were not prepared enough to undertake the supervisory role or did not show interest in the research project:

Three months ago, I found out that my supervisor doesn't know what my research work is about. That was an eye-opener to me, to the reality in which I am. (P383)

I had some tensions due to the lack of expertise of one of my supervisors and the impossibility of having an open communication with him. (P621)

Some students indicated to have experienced abandonment from their supervisors, which entailed tensions and challenges. They felt this affected not only the academic aspect of the doctoral process; it also meant dealing with emotional tensions such as disappointment and frustration:

After a problem between my supervisors, one of the co-supervisors abandoned the supervision of the thesis. It meant losing the person who had encouraged me to undertake the career a researcher; this also created tensions with the research work. (P981)

My supervisor had to abandon her job position and looked for a job in another country. I thought this could be the end of my thesis project or its never-ending development. (P521)

Project management

A minority of the students reported experiences in which the help of the supervisor was determinant to obtain funding for the research preparation. They were also concerned

about the role of the supervisor to support their professional career: The majority of these experiences were described as negative (3.1%).

When I realized that my supervisors were not going to help me to find funding or a job position, I knew it would be very difficult to find a post-doctoral position. (P879)

Supervisor choice

The selection of the supervisor was also identified as a significant experience for participants in this study. Students described how the supervisor choice influenced the doctoral process, though different perceptions of this experience were identified:

I found a supervisor who matched with my research interests. I saw the possibility of carrying out my research project. (P390)

When I changed supervisor and research team, it meant starting all over again... But, I learned that with effort and dedication all could be possible. (P324)

Students (10.3%) emphasized the relevance of being involved in the supervisor choice to ensure the success of the research process. Students also perceived themselves as being part of the community because their criteria were taken into account in their choice of supervisor. Hence, they felt confident when the supervisor of their choice accepted to supervise the research work:

The most important experience was when a supervisor with a large expertise on my research theme accepted to supervise my thesis. I felt important and that my work was relevant too. (P390)

The selection of the supervisor made me feel part of the institution and it was the first step to start [...] (P1115)

The results also revealed significant relationships between the type of supervision experiences reported by students and the affective value they attributed to these experiences ($\chi^2(3) = 54.222$, Cramer's $V = .493$, $p < .01$). Supervision experiences included in the *Coaching* and the *Supervisor choice* categories were more likely to be associated with positive significant experiences throughout the doctoral journey, whereas experiences included in the *Central prerequisites for supervision* category were more likely to be linked with negative experiences (see Table 12).

Table 12. Relation between supervision experiences and the affective value

| | | Affective value of the experience | |
|--------------------|---------------------------------------|-----------------------------------|------------------------------|
| | | Positive | Negative |
| Type of experience | Supervision of the research process | 31(14 %) | 42 (18.8%) |
| | Coaching | 25 (11.2%)* z= 4 | 11 (4.9%)* z= -4 |
| | Central prerequisites for supervision | 7 (3.1%)* z= -6.3 | 65(29.1%)* z= 6.3 |
| | Project management | 2 (1%) | 7 (3.1%) |
| | Supervisor choice | 23 (10.3%)* z= 3.8 | 10 (4.5%)* z= -3.8 |

Note, z= corrected standardized residuals

* $p < .01$

3.3.4 Students' strategies to deal with supervision-related difficulties

Analysis regarding the strategies students reported to deal with the experienced supervision-related difficulties resulted in three categories. The definition of each category referred to emotions, thoughts and/ or actions, in other words, how difficulties were perceived, felt and handled by students. The first category was problem-oriented, whereas the two other categories were strategy-oriented (Table 13).

Table 13. Categories of strategies

| Strategy | Definition | Frequency | Percentage |
|---------------------|--|-----------|------------|
| No strategy | Focus on the problem and emotional reaction, passivity, avoidance, denial. | 73 | 56.6 |
| Local strategy | Initiative to solve the problem, although actions performed accounted only for short-term solutions. | 35 | 27.1 |
| Regulatory strategy | Understanding of the problem, planning, self-motivation, autonomy for developing effective actions to deal with the situation. | 21 | 16.3 |
| | Total | 129 | 100 |

No strategy

Students (56.6%) in this category expressed themselves emotionally very affected by the difficulties experienced with supervision, without mentioning any useful strategy to handle the situation. It was common that students were solely focused on the problem and its consequences:

When after four years, my supervisor told me that he had never read my articles or thesis' chapters. I couldn't return to work with my thesis. I felt dead, and what I did is to become depressed. (P114)

I realized that my supervisor didn't know what my research project was about. That was an eye-opener to me. At the first moment I cried, then I accepted the situation and realized that I was alone in this challenge. (P383)

In their experiences, students included in this category also reported disappointment about how the supervision was conducted. Some of these students mentioned some very few and ineffective attempts intended to address the difficulties, but they did not succeed and quickly abandoned their attempts:

My supervisor told me that I was not going to be able to complete the thesis by the time he wanted, so he forced me to work more. I expressed to him my opposite opinion. (P113)

During the first semester, working with my first supervisor I felt very frustrated and sad that I wanted to drop out. By then, I tried to develop the project with all my strength but I didn't accomplish it. (P14)

It was also common that students comment on their intention to abandon their doctoral studies. They consider dropping out as the only way to escape the problems with supervision.

Local strategy

Students (27.1%) placed in this category also showed themselves very concerned about difficulties with supervision and expressed dissatisfaction with the research training. However, they were more proactive in handling the situation. They attempted to carry out some strategies that were quick and effective, though they account only for temporal or partial solutions. Therefore, their strategies were not useful to solve the real problem but lead them to manage some aspects of it:

The communication with supervisors is a little difficult; though they are willing to guide, they never have time neither they engage in a good conversation. This gave me freedom with the process but at the same time, I felt uncertain regarding whether what I was writing could be useful. So, I organized the sessions with the supervisor and moved forward with the research process, reporting periodically on my progress, though I don't think that the supervisor analysed it because when I presented the final product, he wasn't quite sure what was it about. (P714)

My supervisors didn't know how to defend the research work with the examiners, nor how to guide me through the doctoral program. I felt frustrated and disappointed, but I sought other people who could help me and I managed to complete and present the thesis. (P559)

Moreover, it became evident that students intended to have control over the situation.

I didn't have support from a supervisor who was expert in the topic and the methodology. I was not sure if I was conducting the research in a correct way. I felt uncertain and didn't know if I was doing a good thesis, so I applied for a research stay abroad. (P416)

Regulatory strategy

This category included 16.3% of the cases. In this case, the students' strategies implied first a clear understanding of the difficulties and then reflecting about the situation and possible alternative actions. Therefore, comments illustrated that getting an overall picture of the difficulties, as well as being aware of their own feelings, thoughts and patterns of actions was perceived as useful by the students, which shows they carried out a thorough evaluation of the situation before deciding on how to proceed. Students also showed they were able to move from experiencing negative feelings (e.g., disappointment, despair) to more positive feelings (e.g., calm, confidence) when applying an effective strategy that lead them to deal with the situation and regulate their performance but also their thoughts and feelings. Those students were also concerned about the situation, but they did not solely focus on the difficulties; they also emphasized how negative experiences and challenges could contribute to their learning and research development. The way in which students handled the difficulties with supervision was related to the development of an active agency:

When my supervisor abandoned me in the middle of the doctoral program, this gave me more autonomy and helped me to trust more in myself. When this happened, first I was in such despair; second, I worked compulsively without success; third, I calmed down and looked for other research perspectives. It was clear that without a supervisor I couldn't continue, but by changing the route, I could become more autonomous and this saved me! (P75)

I was not getting revision and feedback from my supervisor, so in the end, I had to ask for a change of supervisor because the progress with the thesis was very slow, due to the lack of adequate academic support. I learned that when things are not going well with your supervisor and you are putting all your effort, you should look for a change and not just wait because that causes delays in research plans. I contacted others researchers and asked them for methodological orientation. I also asked them if they could suggest supervisors who could be interested in my research topic. (P802)

Students described the importance of being deceived to achieve an effective and long-term solution; that is, they had to carry out strategies that could enable them to tackle the problem at its root.

3.4 Discussion

This study builds on previous research and expands our knowledge regarding how students experience supervision (Pyhältö et al., 2015) and what strategies are most effective in dealing with negative supervision-related experiences.

Results showed that almost 20% of the experiences students mentioned as the most relevant in their doctoral journey were related to supervision (Corcelles et al., submitted). The results also revealed a relation between supervision and satisfaction with doctoral studies, as mentioned by previous studies (Ives & Rowley, 2005; Zhao, Golde, & McCormick, 2007). Moreover, the results demonstrated a relation between the type of supervision experience and its affective value; receiving emotional support, having the opportunity to develop some kind of collaboration with the supervisor and unexpectedly being involved in the selection of supervisor seem to contribute to students' development and training as researchers. On the contrary, experiences linked to *Central prerequisites for supervision* appeared associated to the most dissatisfactory experiences, indicating that some supervisors neglect basic aspects of the supervisory role, such as engagement and presence, which, as research has demonstrated, increase the risk of student abandonment (Castelló et al., 2017; Pyhältö et al., 2015).

Regarding how students handle the supervision-related difficulties and negative experiences, results showed that a remarkable number of students lack appropriate strategies to address the situation. This clearly indicates both a lack of awareness regarding their own skills to solve problems effectively and a perception of themselves as non-agentic agents through the doctoral studies. Moreover, results note that this lack of strategies might influence students' decision of dropping out from doctoral studies. Strategies to address negative supervision experiences were associated to the increase of awareness regarding the situation and its implications, as well as to the ability of establishing and undertaking a plan. Students who showed themselves as strategic seem more confident and resilient to overcome poor supervision. This shows the importance of promoting students' self-reflection about their own skills, learning processes and weaknesses, together with training on how to regulate their thoughts, feelings and actions.

We also found significant relations between the affective values attributed to supervision-related experiences and some of students' characteristics. Particularly relevant was the relation between how students experience supervision and age, with the youngest being more likely to attribute a negative affective value to this type of experiences. This could be related to the fact that older students have more experience in dealing with difficulties and are able to develop more efficient solutions, an assumption that needs to be tested by future studies. Furthermore, the stage of doctoral studies showed to be significant in relation to the way in how supervision is experienced.

Chapter 4

Writing in doctoral programs: Examining supervisors' perspectives

Contents

| | |
|--|----|
| 4.1 Introduction | 81 |
| 4.2 Method..... | 83 |
| 4.2.1 Participants | 84 |
| 4.2.2 Data collection | 84 |
| 4.2.3 Data analysis | 85 |
| 4.3 Results | 86 |
| 4.3.1 The role of writing in doctoral training | 86 |
| 4.3.2 Characteristics of writing support offered by supervisors | 90 |
| 4.3.3 The relation between the role that supervisors attribute to writing and the type of writing support they offer to their students | 93 |
| 4.4 Discussion..... | 95 |

4.1 Introduction

In the last two decades, there has been a constant and growing interest in research on doctoral supervision. A considerable number of studies have focused on analysing students' perceptions of their supervisors' practices and on analysing those issues that characterize the relationships between the supervisor and the student to identify how supervisors' approaches, styles and activities affect doctoral students' trajectory (Barnes, Williams, & Stassen, 2012; McAlpine & Mckinnon, 2013; Overall, Deane, & Peterson, 2011; Zhao, Golde, & McCormick, 2007). To a lesser extent, studies have examined supervisors' own perceptions regarding their role, beliefs and experiences (Barnes & Austin, 2009; Franke & Arvidsson, 2011), resulting in the development of some explanatory frameworks to better understand and interpret the rationale of supervisors' practices and roles (Lee, 2008; Murphy, Bain, & Conrad, 2007).

These studies consistently highlight the complexity of supervisory activity, implying that establishing a particular type of relationship is shaped by a large and diverse range of activities. Participants have particular and not always explicit or compatible goals and expectations which, in turn, are interrelated with the varied practices and contexts in which supervisors and students participate (Halse & Malfroy, 2010). Supervisors' disciplinary backgrounds as well as their own doctoral experiences, conceptions and beliefs regarding their supervisory role have a particular influence on how this supervisory relationship develops and, therefore, on the development of students' trajectories. Additionally, research has demonstrated that in certain cases, the manner in which supervisory activities are developed may entail challenges and tensions for the supervisors themselves, particularly for novices in this role (Amundsen & McAlpine, 2009). Studying how challenges and tensions arise increases understanding of the relation between supervisory activities and students' trajectories and, in particular, promotes more effective proposals focused on *learning to supervise* (Turner, 2015). Writing is clearly one of the core activities in the interactions between supervisors and students because writing and publishing are critical activities for doctoral students. In some cases, supervising writing may develop into a challenge, particularly for students and supervisors who struggle with varied meanings and emotions related to writing in research genres throughout the doctoral programme (Aitchison, Catterall, Ross, & Burgin, 2012; Castelló, Iñesta, & Corcelles, 2013; Cotterall, 2011). Although studies

have repeatedly shown that research writing is extremely challenging for many students as well as for experienced researchers, studies focused on how supervisors help students write their theses are scarce. Little is known regarding the type of guidance supervisors offer to doctoral students not only to write their theses but also to write in the other complex related genres increasingly required as components of doctoral training (conferences and articles, among others). To contribute to expanding our knowledge of how writing is present in the supervisory relationship, this study focuses on examining supervisors' perspectives on doctoral writing.

Supervising writing

Research writing is a cognitive activity but is also social and situational and implies a highly specialized dialogical process in which students and supervisor engage throughout the doctoral journey across several genres. Moreover, learning to write across the doctorate is associated with helping students build their scholarly identities by the scientific discursive practices of disciplinary and professional communities (Aitchison et al., 2012).

Research conducted on writing has shown that offering feedback as a strategy enables doctoral students' development and learning, not only as writers but also as researchers (Castelló, Iñesta, & Corcelles, 2013). Studies centred on examining the nature and characteristics of supervisory feedback have noted how some supervisory feedback practices can *enhance a community's knowledge, create a sense of identity* (Paré, Starke-Meyerring, & McAlpine, 2011) and develop students' ability to regulate and create a feeling of agency in their research writing (Carter & Kumar, 2016; Stracke & Kumar, 2010; Wisker, 2016). Co-authorship practices between supervisor and student have also been revealed to be effective supports of doctoral writing that increase publication output and encourage a student's identity as a scholar (Kamler, 2008). We also know that the set of strategies that supervisors use to support writing varies over time; consequently, supervisors (and their students) shape their understanding and agency over writing throughout the doctoral journey (Stillman-Webb, 2016).

Accordingly, some authors have developed pedagogical proposals for supervising writing as a component of doctoral training (Kamler & Thomson, 2014) to improve learning and teach doctoral writing, which constitute a nurturing environment in which to improve doctoral student writing. Based on existing approaches to supervision, Lee and Murray (2015) developed a model for *supervising the writing component of the doctoral curriculum* that may help supervisors adopt an approach to supervising writing that is compatible with their current supervisory practices.

Although the relevance of the studies mentioned above is undeniable, the supervisors' conceptualization of writing and the type of writing support that supervisors should offer to their students remain understudied. Research in this area could provide a broader and deeper understanding of the relations between these factors. These relations are the focus of our study¹⁰, which draws on the analysis of supervisors' perspectives on doctoral writing by addressing the following questions:

- a) What role do supervisors attribute to writing in doctoral training?
- b) What type of writing support do supervisors attempt to provide to their students?
- c) What are the relations between the role supervisors attribute to writing and the type of writing support supervisors offer to their students?

4.2 Method

We applied a mixed-method design (Creswell 2014) in which the qualitative categorization of data was first developed to address the first two questions; then the qualitative results were followed by quantitative analysis to answer the third question of the study.

¹⁰ González-Ocampo, G., & Castelló, M. (2017). This study has been accepted with minor revision in *Higher Education*

4.2.1 Participants

Participants were 61 doctoral supervisors from the social sciences and humanities (36 women and 25 men; mean age, 51), from four different disciplinary backgrounds who worked in different Spanish universities. The amount of experience ranged from one to fifteen years (see Table 14).

Table 14. Participants' characteristics

| Discipline | Years of experience | | | |
|------------|---------------------|---------|----------|-------------|
| | 1 to 5 | 6 to 10 | 11 to 15 | 16 and more |
| Education | 11.5% | 11.5% | 3.3% | 3.3% |
| Philosophy | 1.6% | 1.6% | 3.3% | 4.9% |
| Psychology | 3.3% | 6.5% | 13.1% | 14.8% |
| Sociology | 9.8% | 3.3% | — | 8.2% |

4.2.2 Data collection

Data were collected by an open-ended survey to explore supervisors' perspectives concerning two issues: 1) the role of writing in doctoral students' training and 2) the type of writing support supervisors offer to their students. Participants were encouraged to write whatever they believed would provide an extensive portrait of their understanding of their roles in their doctoral students' writing. The last four questions of the survey collected background information (age, gender, discipline and years of experience as a supervisor). Participants had three weeks to complete the survey, and two reminders were sent to encourage their participation. Data were collected between November and December 2014. In accordance with the ethical principles governing any research in social sciences, all of the supervisors were informed of the study's aims and signed an informed consent form confirming their willingness to participate¹¹.

¹¹ This study was approved by the Commission on Ethics and Research (URL, Ref. 22022013)

4.2.3 Data analysis

Data analysis procedure followed the principles of grounded theory (Glaser & Strauss 1967) and included four phases. First, we read all of the information to obtain a sense of each participant's information and exclude those (few) comments that were not related to the goals of the study.

Second, the remaining information was read iteratively to identify emergent parental codes regarding both explored issues: the role attributed to writing and the type of writing support offered by the supervisors. All comments that referred to how supervisors understood writing, its aims and the role the supervisors considered writing to have in doctoral training were included under the parental code of *role*. Comments reporting the type of writing support and how the support was offered were listed under the parental code *type of writing support*. Subsequently, those codes were classified into thematic categories that were then discussed by the authors until consensus was reached.

Third, once thematic categories were established, two trained researchers independently analysed one-third of the answers (41 of the 122 answers for both parental codes and the *role* and *type of writing support*), and their level of agreement was assessed. In each category, the percentage of agreement was considered high, ranging from 89.72% to 100%. Finally, because the reliability of the system of categories was established, one of the researchers independently applied the reliability to the rest of the data.

Finally, in the fourth phase, all of the categories included in each parental code were crossed to examine interactions among them. The relations among the categories were analysed using the Chi-square test (SPSS, v23).

4.3 Results

4.3.1 The role of writing in doctoral training

Three different categories were established that accounted for the variability of supervisors' comments and understanding of the *role* the participants attributed to doctoral writing. Those categories can be differentiated on the basis of what supervisors consider was the *aim*, *meaning* and the *focus* of this activity (see Table 15).

Table 15. The role supervisors attribute to doctoral writing

| | Role | | | |
|----------------|--|--|--|---|
| | <i>Instrumental</i> | <i>Epistemic</i> | <i>Communicative</i> | <i>No clear role</i> |
| <i>Aim</i> | Writing is intended to produce good and appropriate academic text. | Writing is intended to promote learning processes. | Writing is intended to promote research communication and socialization. | Writing is an important but neglected activity. |
| <i>Meaning</i> | Writing is shaped by linguistic and discursive skills. | Writing is an epistemic activity | Writing is a tool to develop as a researcher. | — |
| <i>Focus</i> | Product (texts of quality). | Process to build knowledge. | Process to communicate knowledge. | — |

Doctoral writing as an instrumental activity

The first category refers to those supervisors who attributed an *instrumental* role to writing. In this case, nearly a majority of supervisors (46.5%) described writing as an activity primarily oriented towards *producing increasingly good and appropriate academic texts*. Thus, their interests and efforts were focused on the products of writing, the texts their students were able to produce. Supervisors' statements also referred to writing as a technical skill that may be improved by mastering its linguistic and

discursive components. Participants mostly referred to general aspects of writing such as the *appropriate use of academic language* or *thematic coherence*, although the supervisors did not specify how those aspects related to their understanding of *writing adequately*, as illustrated by these excerpts: *'[...]academic-scientific language should be used, and PhD students' texts are usually close to colloquial language when starting to write. They should practice and gradually learn how to write good texts'* (P51). *'In my opinion, it is essential to know how to write with clarity, making an adequate use of the research language in all text sections, in theoretical and contextual sections, in the methodological part, the results, and particularly in the conclusions'* (P22).

Supervisors in this category also complained about students' lack of necessary skills and knowledge to produce *good and appropriate academic texts*. Supervisors indicated that this lack of skills leads supervisors to struggle with several difficulties to help students' writing and progress. Consequently, participants suggested the need to develop training proposals on writing skills, particularly for those students who experience problems writing at the level expected of doctoral students. The following excerpts are representative of these claims: *'[...] Unfortunately, the majority of doctoral students have serious shortcomings in writing, in the ability to express through writing. We should not have admitted them as doctoral students. But we do it. And we are wrong'* (P26). *'If the student writes well and likes writing, there aren't problems, and everything works by itself. But, if the student doesn't like it and doesn't know how to write, it is a torment. We must teach them to write'* (P57).

Some supervisors perceive writing as a general skill that once learned can be applied to different contexts and situations, even to the doctoral scenario. Participants even asserted that mastering general writing ability helps PhD students progress towards their doctorates more easily, although in those cases, their idea of research writing was simply limited to the students' ability to produce the expected academic texts without mistakes, as these excerpts illustrate: *'Students who write correctly without any orthography mistakes, they are able to carry out their research more easily. It all adds up on written texts that make evident the progress'* (P47). *'[...] If they don't know how to transmit the ideas in a concrete and comprehensive way, no matter how good the content of the thesis is, it is not effective'* (P42).

Doctoral writing as an epistemic activity

The second category included comments of those supervisors who attributed an *epistemic* role to writing. Approximately a quarter of the supervisors (23.5%) referred to writing as a tool intended *to promote learning processes*, to enable knowledge construction on the research topic and to promote students' self-regulation. Thus, their comments emphasized that writing involves a complex process that must be learned and improved upon throughout the doctoral journey.

Within this category, supervisors indicated that learning how to write is crucial, is connected with knowing and managing the strategies involved in the composition process and involves activities such as planning, drafting or reading; in these cases, the quality of students' writing products, primarily the thesis, was perceived to be strongly related to the characteristics and the complexity of the writing processes developed. Therefore, the focus was not on products, but on processes, which, in turn, require the development of writing regulation strategies. Genre knowledge and understanding are also perceived to be epistemic opportunities, as evidenced by this comment: *'I think that writing is key in students' learning and in the thesis design, since it is directly related to the processes that are required to understand the methodological aspects of the research. The fact that students understand the academic genre in which their thesis is located has important consequences in the way the students think about the product that they need to build and the process that they need to undertake to accomplish their goals. Likewise, it would be important that students learn to use both writing and reading as tools through which they can reflect on the different products of the research process'* (P3).

Furthermore, supervisors indicated a positive relation between writing practices and research development: *'Writing articulates and regulates the knowledge construction that the novice researcher undertakes. It also evidences the progress and blockages that can occur during the research process'* (P17). *'Writing has an important role in students' development as researchers and in the construction of disciplinary knowledge'* (P10).

Doctoral writing as a communicative activity

Supervisors included in this category (10%) attributed a *communicative* role to writing. Their statements described writing as an activity that seeks to promote research communication and facilitate the socialization of doctoral students within their academic contexts. As in the previous category, here the focus is on writing as *a process*; however, in this case, that process only implies adjusting linguistic and discursive mechanisms to their own disciplinary communities to communicate knowledge. This leads supervisors to consider writing as one crucial *tool* with which doctoral students may *develop as researchers*. Their comments mostly reflected that writing enables researchers to share ideas and build connections with other academics, simultaneously acknowledging that authors must take a clear stance to create feasible communication and dialogic exchanges, as shown by the following example: *'Writing allows positioning authors' ideas within the research context and sharing or discussing them with colleagues from local and international ambits'* (P35).

Additionally, supervisors emphasized that writing encourages students to make contributions to their own disciplinary fields. As the following excerpt illustrates, supervisors stressed how important it is for students to know how to communicate in their fields: *'Through writing, students can share their ideas and present how they want to contribute to their disciplines. Writing allows sharing the thoughts and reflections over the research conducted'* (P8).

Writing as an important but neglected activity

A fourth category emerged from the data that included the remaining 20% of participants. Their comments referred to the importance of writing in doctoral education without providing any information regarding the role that writing plays in doctoral students' trajectory, except for noting that writing is often neglected. The following excerpt is quite representative and informative regarding the type of discourse some supervisors used when asked about the role of writing in doctoral training: *'I think that writing is important. [...] we have devoted decades training doctoral students without taking writing into account. Writing should be integrated into the doctoral programs, but this is still quite unusual'* (P30).

4.3.2 Characteristics of writing support offered by supervisors

The analysis of the practices and strategies that supervisors reported conducting to support their PhD students' writing also resulted in three categories that, as occurred with the role, account for the entire variability of comments related to the characteristics of writing support offered by supervisors. Those categories can be differentiated on the basis of the *type of support*, its *focus* and the *strategies* reported by supervisors (see Table 16).

Table 16. Categories of the type of writing support offered by supervisors

| | | Type of writing support | | |
|-------------------|---|--|---|--|
| | <i>Telling what to do</i> | <i>Revising and editing students' texts</i> | <i>Discussing students' processes and products collaboratively</i> | |
| <i>Focus</i> | Products: Text characteristics and conventions. | Processes: Revision strategies. | Processes: Knowledge and regulations regarding the research writing process. | |
| <i>Strategies</i> | Offering verbal instructions. Modelling. | Offering verbal instructions. Written feedback on partial products. | Developing collaborative revision. Co-authorship Written feedback on partial products and on processes. | |

Telling what to do

The first category included one-fourth of the comments regarding the type of writing support (26.8%), and that category was labelled *telling what to do*. Supervisors reported offering different types of instructions to their students regarding how the students are expected to write and what the students could or should do to write efficiently, improve their writing and finish their texts. The majority of these instructions were restricted to guaranteeing that texts were aligned with the disciplinary conventions and scientific characteristics; thus, support was primarily focused on text characteristics, conventions and disciplinary discursive resources intended to improve the final written product. Simultaneously, comments indicated that supervisors tended to maintain a sort of

distance from their students' writing process, as shown by the following excerpt: *'At the beginning, I spend a lot of time to clearly define the problem to avoid unnecessary referrals. In some cases, I have demanded (as they can do it) that they take courses to write academic texts; some of them have sought proof-readers to complete their thesis'* (P35).

Regarding strategies, supervisors in this group emphasized offering verbal instructions and suggestions regarding how texts should be written and having their students read and emulate exemplary texts. Consequently, many supervisors reported offering writing support by providing well-written texts to their students to offer the students models of *good writing* that students were expected to follow: *'I suggest that the students read "XXX", so that they can write as him'* (P57). *'I give them well-written theses and suggestions about how to write or to introduce tables, charts and figures'* (P61).

Revising and editing students' text

The second category refers to support focused on *revising and editing students' texts* and included comments in which supervisors reported helping their students revise their drafts or partial products and even acknowledged editing students' texts themselves. More than half of the comments regarding the type of support supervisors reported offering to their students were included in this category (64.3%).

The strategies supervisors included in this category reported offering verbal instructions to their students regarding how to improve their texts; however, supervisors mostly relied on written feedback on partial products. The primary rationale for offering this type of support was that revision helps identify the weaknesses of students' writing and improve writing strategies; thus, the focus was primarily on processes and fostering revision strategies to make texts progressively better in successive versions. Nevertheless, in many cases, revisions were mostly devoted to the use of linguistic resources and wording to improve specific portions of students' texts, as this excerpt emphasizes: *'When revising the drafts, I always mark in the texts the mistakes in wording or writing; besides, I stress to the students they should care about following the citation guidelines that we are using. I write detailed reports of their progress that include aspects of content and writing'* (P5). In some cases, supervisors acknowledged

introducing their own corrections (editing or wording) in their students' texts, as shown in this representative example: *'[...] Sometimes I make corrections; for instance, I correct punctuation or grammar. Sometimes I even write the sentence in the right way, or if the paragraph is not coherent, I outline it, so they can revise and correct it'* (P13). In all of those cases, strategies combine verbal instructions with oral and written feedback.

Discussing students' processes and products collaboratively

In the third category, the type of support reported by supervisors referred to *discussing students' processes and texts collaboratively*. Comments in this category appeared less frequently (8.9%) and reflected a type of support linked both to students' writing processes and products. In this case, the focus of supervisors' support was clearly intended to improve students' writing processes and learning. Supervisors were interested in making students aware of their own writing processes and learn to regulate those processes.

Most typical was supervisors' interest in discussing the strengths and weaknesses of students' writing. These collaborative discussions were intended to facilitate agreement regarding required changes and revisions of partial products or drafts. The focus was on improving writing processes and students' learning about their own writing. Ultimately, supervisors sought to help their students regulate the research writing process.

Strategies used by supervisors were devoted to developing collaborative revision, enhancing co-authorship and offering written feedback on partial products and processes, as shown in the following excerpts: *'[...] I need to analyse with the student the academic genre to make clear the meaning of every one of its components in the thesis as well as the relation they share. Afterwards, we will need to address writing strategies, so the student can regulate her writing by herself'* (P3). *'I intend for students not to stop writing at different points of the thesis, instead of leaving it as a final stage. I intend for them to think of writing as a process that needs to be improved in different moments of their progress'* (P10).

As mentioned, some supervisors in this category also emphasized promoting some collaborative writing activities such as writing groups and co-authorship, in which the supervisors work with their students to help students better understand the writing process. The following statement is representative of these comments: '*First we draft tables and charts, we revise authors, ideas... in the case of articles, we write them together*' (P29). '*On the research team, we have sessions in which each participant writes a text and the rest revise it and comment on it*' (P31). In explaining these strategies, supervisors clearly demonstrated their willingness to teach writing.

4.3.3 The relation between the role that supervisors attribute to writing and the type of writing support they offer to their students

To establish the relation between the role that supervisors attributed to writing and the type of writing support that the supervisors reported offering to students, we superimposed the categories of these two issues (parental codes) to identify interactions (see Table 17). We observed the following primary interactions:

- a) Sixteen of the 26 supervisors (61.5%) who identified writing as an *instrumental activity* supported their students' writing by *revising and editing students' texts* whereas 10 (38.5%) reported offering writing support to their students by *telling them what to do*.
- b) Conversely, we observed more diversity among the participants who considered writing to be an *epistemic activity*. Seven of the 13 supervisors (53.8%) included in this category reported supporting their students' writing by focusing *on revising and editing students' texts*; four (30.8%) reported offering writing support to their students by *discussing students' processes and products collaboratively*, and 2 (15.4%) reported doing so by *telling what to do*. One of the supervisors in this category extensively defined writing as a learning process but did not provide any information regarding strategies to support students' writing.

c) Four of the 6 supervisors (66.7%) who considered writing to be a *communicative activity* supported their students' writing by *revising and editing students' texts*; the remaining 2 (33.3%) offered support by *telling students what to do*.

d) Nine of the 11 supervisors (81.8%) who referred to writing as *an important but neglected activity* indicated supporting their students by *revising and editing students' texts*. Notably, one of the supervisors in this category reported *discussing the texts with the students collaboratively*, whereas another supervisor reported focusing on *telling what to do*.

The remaining 5 participants (8.92%) did not specify the strategies used to support their students' writing.

Table 17. The relation between the role of writing and the type of writing support offered to doctoral students

| | | Type of writing support | | |
|------|----------------------|---------------------------|---|--|
| | | <i>Telling what to do</i> | <i>Revising and editing students' texts</i> | <i>Discussing students' processes and products collaboratively</i> |
| Role | <i>Instrumental</i> | 10 (38.5%) 1.8 | 16 (61.5%) -0.4 | 0 z = -2.2 |
| | <i>Epistemic</i> | 2 (15.4%) -1.1 | 7 (53.8%) 0.9 | 4 (30.8%)* z = 3.2 |
| | <i>Communicative</i> | 2 (33.3%) 0.4 | 4 (66.7%) 0.1 | 0 -0.9 |
| | <i>No clear role</i> | 1 (9.1%) -1.5 | 9 (81.8%) 1.4 | 1 (9.1%) .0 |

Note. z: Typified residuals

* $p < .05$

Overall, the results indicate that *revising and editing students' texts* was the dominant type of writing support reported by the supervisors whereas *discussing students' processes and products collaboratively* appeared to be less frequently utilized. The results also indicated some contradictions between supervisors' perspectives on the role

of writing and the writing support the supervisors reported. For example, some supervisors attributed an *epistemic role* to writing but reported a type of writing support based on *telling what to do*. Something similar occurred with supervisors who attributed a *communicative role* to writing and mentioned offering a type of support based on *telling the students what to do*. In both cases, although supervisors considered writing to be a *process*, the participants reported that writing support focused on products and ensuring that texts were aligned with certain disciplinary and scientific characteristics.

Results also indicated that the type of support based on *discussing students' processes and products collaboratively* was significantly more common than expected among the supervisors who attributed an epistemic role to writing and was not mentioned by supervisors who attributed an instrumental role to writing.

No significant differences were identified within socio-demographic variables (gender, discipline and years of expertise) and the categories concerning *the role of writing* and *the type of writing support* as determined by Chi-square test.

4.4 Discussion

In this study, we examined supervisors' attitudes towards doctoral writing as an attempt to contribute to enlarging and deepening our knowledge of how supervisors understand and address writing during doctoral training. Despite the exponential growth of research on supervision, those issues remain overlooked; therefore, we were interested not simply in describing supervisors' perspectives on writing and the type of support supervisors offered their students but also in analysing the relations and interactions between the two issues. We believe that a better understanding of these relations is required to enhance the supervisory development and guidance of research writing, one of the most crucial competencies PhD students must develop during their doctoral training.

The results indicated that supervisors attributed three primary roles to writing during doctoral training: 1) *instrumental*, 2) *epistemic*, and 3) *communicative*. We also identified three different types of writing support that supervisors mentioned providing

to their students: 1) *telling what to do*, 2) *revising and editing students' texts*, and 3) *discussing students' processes and products collaboratively*. Notably, in both cases, some supervisors were unable to explicitly clarify the role of doctoral writing or the writing support provided.

Supervisors' perspectives on writing may be categorized into two groups, supervisors who were concerned about the final quality of the texts developed by the students and supervisors who were more interested in the development of students as research writers. In the first group, supervisors considered that *writing is intended to produce good and appropriate academic texts* and tended to offer a type of support based on *telling what to do* as well as on *revising and editing students' texts*. The second group, representative of understanding writing as a process-oriented activity, included the supervisors who stated that writing *aimed to promote learning processes and to support epistemic activity, or communication and socialization*. The preferred type of support offered by those supervisors was based on *discussing the text with the students collaboratively*. These results appear to indicate that product-focused writing supervisors tended to address students' writing difficulties by assuming a type of distance from students' writing processes and merely examining texts. Conversely, process-focused supervisors, particularly supervisors who attributed an *epistemic role* to writing, tended to stress that writing may be challenging; however, these supervisors assumed an active role in helping their students understand these challenges and articulate the writing process; that is, these supervisors appeared to feel a certain responsibility to teach their students how to write for the doctorate. Thus, it is reasonable to assume that the categories identified for both the *role* of writing and *type of writing support* are related to the type of supervisory style.

Furthermore, results regarding the type of writing support revealed that supervisory writing support generally involves only one-to-one interactions (supervisor-student). Only one participant mentioned encouraging the development of writing groups to support students' writing. This result implies that supervisors participating in this study clearly prioritize a dyadic supervisory relationship to support writing. The use of additional resources, which mostly indicated the use of model texts, was also frequently mentioned by supervisors, in accordance with recommendations from some recent

educational proposals to improve strategies for supervising writing (Stillman-Webb, 2016).

Surprisingly, results also indicated that in some cases, the role attributed to writing was not consistent with the writing support offered to students. This result may be related to the lack of awareness of many supervisors regarding how writing is supervised. As mentioned, some participants (20%) had difficulty identifying the role of writing in doctoral training and confessed to not having previously reflected on that issue. Although supervisors acknowledged that writing is one of the most important activities for doctoral students, some participants experienced difficulty describing the type of writing support offered. We think these difficulties and the lack of awareness the supervisors exhibited may be related to their own writing experiences and with the type of supervisory relationships that current supervisors experienced during their doctoral journeys. We have not explored those issues and therefore cannot address such issues with current data; however, we believe that these questions should be addressed in future studies. Results regarding the relation between the role of writing and the type of writing suggest that supervisors can be categorized primarily in one perspective or can combine more than one approach to supervising the different stages of writing (Lee & Murray, 2015).

Chapter 5

Supervisors were first students: Examining supervisors’ perceptions as doctoral students *versus* doctoral supervisors

Contents

| | |
|--|-----|
| 5.1 Introduction | 101 |
| 5.2 Method..... | 103 |
| 5.2.1 Participants | 103 |
| 5.2.2 Data collection | 103 |
| 5.2.3 Data analysis | 104 |
| 5.3 Results | 105 |
| 5.3.1 How did participants perceive and value the overall doctoral experience and the supervisory relationship when they positioned themselves as doctoral students or as supervisors? (RQ1) | 105 |
| 5.3.2 What were the most significant experiences regarding the doctoral experience and the supervisory relationship from participants’ perceptions, both as doctoral students and as supervisors? (RQ2)..... | 110 |
| 5.3.3 What are the relationships between participants’ perceptions when they positioned themselves as students or as supervisors? (RQ3)..... | 116 |
| 5.4 Discussion..... | 119 |

5. 1 Introduction

Supervision is essential to doctoral studies. It has been found to be central to promoting research engagement and productivity (Virtanen, Taina, & Pyhältö, 2016; Vekkaïla, Pyhältö, & Lonka, 2013), thereby ensuring quality in doctoral education programmes (Malfroy, 2005; Martinsuo & Turkulainen, 2011) and reducing abandonment intentions (Castelló, Pardo, Sala-Bubaré, & Suñe-Soler, 2017). Therefore, the type and characteristics of the relationship between students and supervisors play a critical role in supporting the doctoral journey, students' socialization and career trajectory development (Gardner, 2008, 2010; McAlpine & McKinnon, 2013; Moxham, Dywer, & Reid-Searl, 2013). Supervision is particularly relevant to promoting *academic community support* at different stages of doctoral students' journeys (Wisker, 2012) and influences the perceptions and practices of academic newcomers and experts. Perceptions about supervision have been shown to be a valuable source of advancing understanding of the varied meanings, purposes and strategies attributed to doctoral supervision (Barnes & Austin, 2009; Franke & Ardvisson, 2011; Vilkinas, 2008). This study aims to examine these perceptions and their variations when individuals position themselves as doctoral students or as supervisors.

Supervisors' learning and development

Research has shown that one important factor in how supervisors learn about their role has to do with the type of supervisory relationship that they experienced as doctoral students and throughout their career trajectory (Barnes & Austin, 2009; Delamont, Parry, & Atkinson, 1998; Stephens, 2014). Furthermore, the building of the supervisory relationship can also represent a demanding and stressful experience for some supervisors (Halse, 2011). This is especially true for new supervisors who, in many cases, lack adequate training. This lack results in notable tensions and challenges with which they struggle when trying to satisfactorily develop their role (Amundsen & McAlpine, 2009).

Continuing changes in research practices also pose challenges for supervisors, who need to adjust their strategies and activities to both students' needs and the demands of the academic context (Pearson & Brew, 2002). The type of challenges experienced and

especially the strategies used by supervisors to address them have also been associated with supervisors' learning and development in the process of supervision (Turner, 2015). This experience has led some researchers to claim that there is a need to develop reflective practices as a tool to increase supervisors' awareness regarding tensions and difficulties as well as their strategies to address them, that is, to increase awareness regarding their own supervision process (Spiller, Byrnes, & Bruce Ferguson, 2013) but also to analyse their own students' experience with supervision (Brew & Peseta, 2007; Feather & McDermott, 2014). More specifically, some studies have found that supervisors' previous experiences as doctoral students significantly affect the manner in which they conceptualize and implement the supervision process (Delamont, Parry, & Atkinson, 1998; Stephens, 2014). Moreover, when supervisors reflect on and learn from their own supervision approach, they use their skills and strategies to interact with their students more effectively (Lee, 2008). Therefore, examining supervisors' perceptions regarding their own doctoral experiences is particularly important because the nature of these perceptions will have implications for their supervisory strategies and relationships with doctoral students. Moreover, knowing more about the perceptions of supervisors regarding their own doctoral process could contribute to extending the knowledge about how supervisors construct their academic identity, which in turn could shed light on new paths in supervision development and educational implications for doctoral programmes.

In this study¹², the experiences of supervisors were examined from two perspectives: 1) as doctoral students and 2) as doctoral supervisors. We were particularly interested in answering the following questions:

RQ1. How did participants perceive and value the overall doctoral experience and the supervisory relationship when they were doctoral students or supervisors?

RQ2. What were the most significant experiences (either satisfactory or unsatisfactory) regarding the doctoral experience and the supervisory relationship from the participants' perspectives, both as doctoral students and as supervisors?

RQ3. What are the relationships between participants' perceptions when they position themselves as students or as supervisors?

¹² González-Ocampo, G., & Castelló, M. (2017). This study has been submitted to *Innovations in Education and Teaching International*

5.2 Method

5.2.1 Participants

A sample of 61 supervisors of the 300 supervisors who were initially contacted from different research-intensive universities in Spain agreed to participate in the study (response rate= 20.3%). All respondents were supervising doctoral theses in different disciplines in the Social Sciences and Humanities, and their experience as supervisors varied (See Table 18).

Table 18. Participants' characteristics

| Variables | Value | Frequency | Percentage |
|---------------------|-------------------------------|-----------|------------|
| Gender | Men | 25 | 40.9 |
| | Women | 36 | 59.0 |
| Age | 30 – 40 | 6 | 9.8 |
| | 41 – 50 | 26 | 42.6 |
| | 51 – 60 | 19 | 31.1 |
| | 61 – 70 | 10 | 16.3 |
| Discipline | Education | 17 | 27.8 |
| | Philosophy, Arts and Language | 12 | 19.6 |
| | Psychology | 24 | 39.3 |
| | Sociology | 8 | 13.1 |
| Years of experience | 1 to 5 | 16 | 26.2 |
| | 6 to 10 | 12 | 19.6 |
| | 11 to 15 | 15 | 24.5 |
| | 16 or more | 18 | 29.5 |

5.2.2 Data collection

Data were collected through structured narratives to capture detailed accounts of participants' experiences. These narratives were completed online and included four prompts aimed at collecting the participants' perceptions regarding two issues: 1) The characteristics of the overall doctoral experience and 2) the characteristics of the supervisory relationship. Participants were asked to describe their experiences with

these two issues from two positions: as *doctoral students* and as *doctoral supervisors*. Four questions about background information (*gender, age, discipline* and *years of experience as supervisors*) were also included. In accordance with the ethical principles governing any research in social sciences, all of the supervisors were informed of the study's aims and signed an informed consent form confirming their willingness to participate¹³.

5.2.3 Data analysis

A total of 162 narratives (two per participant, one as a student and one as a supervisor) were analysed following a three-step procedure. First, all narratives were read to identify text segments (smallest units of meaningful information related to the same theme) related either to the characteristics and the most significant aspects of the doctoral experience or to the supervisory relationship.

Second, text segments containing the descriptions of the affective or emotional assessment of the experiences (positive or negative) were listed under the parent code *affective value*. Text segments including the characterization of the experiences were listed under the parent code *type of experiences*. The information included in those parent codes was read iteratively to establish different thematic categories. Once agreement regarding categories was reached, two researchers independently categorized all the segments. Their level of agreement was assessed to ensure the reliability of the categorization system. Agreement was high, ranging from 0.82 to 0.90 in the categories related to affective value and from 0.78 to 0.83 in the categories related to type of experiences.

Third, we applied chi-squared tests (SPSS, v23) to explore the relations among the categories in terms of the participants' perceptions when they positioned themselves as students or as supervisors.

¹³ The study was approved by the Commission on Ethics and Research (Ref. 22022013).

5.3 Results

We present the results in three sections according to the study research questions. The first section includes the participants' perceptions of the overall doctoral experience and of the supervisory relationship. In the second section, we detail the type of significant experiences mentioned by participants both as doctoral students and as supervisors. Finally, in the third section, we introduce the relations found among participants' perceptions when they positioned themselves as students and supervisors.

5.3.1 How did participants perceive and value the overall doctoral experience and the supervisory relationship when they positioned themselves as doctoral students or as supervisors? (RQ1)

Three different categories were established to describe participants' perceived affective value of their doctoral experience and supervisory relationship: positive, negative or ambivalent (see Table 19).

Table 19. Categories of perceptions regarding the affective value of their doctoral experience

| Affective value | Characteristics |
|------------------------|---|
| Positive perceptions | Participants' comments describing their experiences as meaningful and satisfactory. |
| Negative perceptions | Participants' comments describing their experiences as not satisfactory or not very relevant. |
| Ambivalent perceptions | Participants' comments describing their experiences as both positive and negative. |

Overall doctoral experience as students and supervisors

When describing their experience as doctoral students, half of the participants (50%) considered it was mostly *positive*, whereas a third of them qualified it as *ambivalent*, and a smaller proportion (19.6%) valued it as a *negative* experience (see Figure 3).

Those who described the doctoral experience positively highlighted that it was invaluable for their academic career development: *'It was very satisfactory. It provided me an excellent developmental scenario as a researcher'* (P02). They also emphasized having a supportive environment, which facilitated their progress through the doctoral programme: *'[...] it was very formative, all the professors were really good since they took care of us and our concerns'* (P48). Some of the participants also referred positive feelings related to objective accomplishment: *'It [...] also implied a great joy when you see the improvements'* (P03).

In contrast, participants (19.6%) who perceived their doctoral experiences as *negative* tended to focus on the lack of relevance for their career preparation: *'It was not very good. The courses were quite conventional and the professors very repetitive [...]'* (P31). *Disappointment* and *loneliness* were also commonly mentioned feelings that appeared related to inadequate supervisory support: *'I felt very lonely. My supervisor never helped me throughout the thesis elaboration'* (P39). *'I completed the doctoral programme by myself, feeling completely alone'* (P52).

A third of participants (30%) qualified the experience of being a doctoral student as *ambivalent*. Although they recognized that their experience was valuable for their development as researchers, they expressed dissatisfaction regarding the supervisory support received or the amount and type of work they invested, as this representative example illustrates: *'It was a valuable experience because it contributed a lot to my preparation, but it was exhausting in terms of how demanding it was and of the scarce support that I had in some occasions. In the end, the result was gratifying, although I would have appreciated closer and more constant supervision'*(P01).

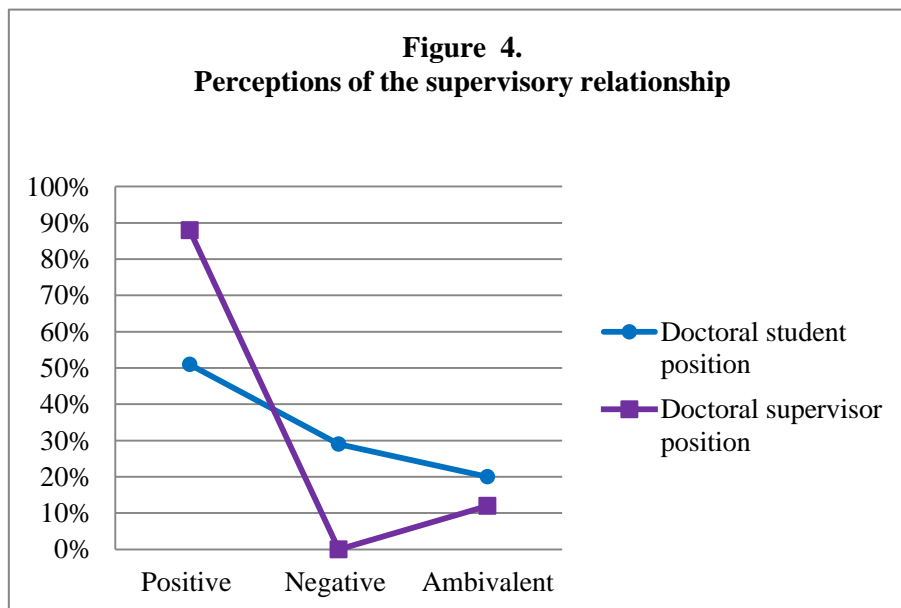
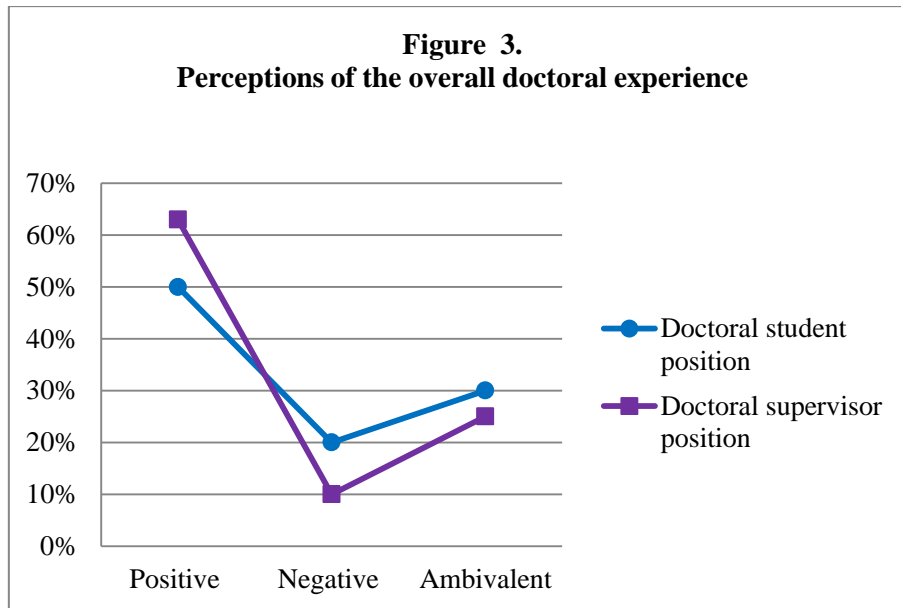
When participants described their overall experience as supervisors, the majority (63%) linked their satisfaction to the impact of these experiences on their own development as supervisors but also on doctoral students' training. Thus, the experience was mainly described as a mutual benefit for them and their students: *'It is a part of my work that is very nurturing because is about guiding students to build their own elements for their career. In the majority of the cases [...]it helps me to enrich and to develop myself. It is an experience of mutual growing'* (P04).

Those who perceived their experience negatively (10%) mentioned being dissatisfied, frustrated and exhausted when they coped with what they considered students' misunderstandings: *'It is a task that requires a lot of dedication, and you don't always feel understood by the student [...] Sometimes it is distressing to depend on students' response, you want to mark a rhythm and you do not always get it'* (P13).

On the other hand, 25% of the participants perceived the experience of being supervisor as ambivalent, in a similar manner and exhibiting the same reasons as when they positioned themselves as students: *'It has been a formative experience but also exhausting. It's not easy [...] it's a challenge'* (P01). Some of these supervisors also attributed some of the difficulties to students' characteristics, mainly autonomy: *'As supervisor, you can continue nurturing knowledge of the themes in which you are interested, that is quite positive, but the experience can be stressful and problematic because many times, the students have a lack of autonomy and unrealistic expectations about the role of the supervisor'* (P29).

Supervisory relationship as students and supervisors

Participants' perceptions regarding the supervisory relationship were more varied—and less positive—when they positioned themselves as doctoral students instead of supervisors (see Figure 4).



From the perspective of being a doctoral student, a large number of the participants (50.8%) referred to the supervisory relationship as positive. These participants highlighted having had collaborative and close relationships with their supervisors, which helped them feel more motivated towards the doctoral training, as shown in the following excerpts: *‘the relationship with my supervisor was hugely valuable, his support was key in my doctoral preparation [...] My supervisor encouraged me to trust, to ask about my doubts and to make joint decisions about the research doctoral project’*

(P03); *'I had a close relationship with my supervisor, mainly supporting the research but she also helped me to feel motivated in the hardest moments when I was blocked [...]'* (P48).

About a third of participants (28.8%) described the supervisory relationship as negative. They mentioned the lack of closeness and of research support, as well as the fact that their supervisors were not sufficiently prepared to conduct the doctoral thesis: *'My supervisor didn't have the theoretical or methodological knowledge to guide my work, I had to look for support from other experts on my topic [...]'* (P43). Moreover, loneliness was often the feeling associated with this kind of perception: *'I felt alone when I had to deal with the indifference of the supervisor [...]'* (P34).

A considerable number of the participants (20.3%) expressed an ambivalent perception of the supervisory relationship. On the one hand, they referred to the relationship as friendly and kind, though it did not fully meet their research work expectations: *'It was good, he is a wise man; however I would have preferred that he were more critical of my work. We carried out the work in a friendly environment, but academically, I felt lonely'* (P50). *'The relationship was good and cordial, but she was not very committed to the joint work; it seemed as if the commitment was only mine [...]'* (P01).

As mentioned, we found less variation in participants' perceptions when they positioned themselves as supervisors. In this case, a great majority of supervisors (87.9%) consistently referred to their relationship with supervised students as positive. They described varied strategies aimed at promoting the research development of their students (e.g., feedback, shared learning). They also showed concern about forging ties with the students: *'I would say excellent. I try to be available as much as I can to support them not only academically but also at a personal level [...] In almost all cases you ended up creating a personal relationship'* (P14).

A smaller group of participants (12.1%) described the supervisory relationship as ambivalent. They illustrated it as a cordial and kind relationship but challenging regarding students' commitment and progress. Thus, supervisors acknowledged the relevant role of the students in the relationship but also pointed to students' disengagement as key in the relationship failure, as shown by the following examples: *'I*

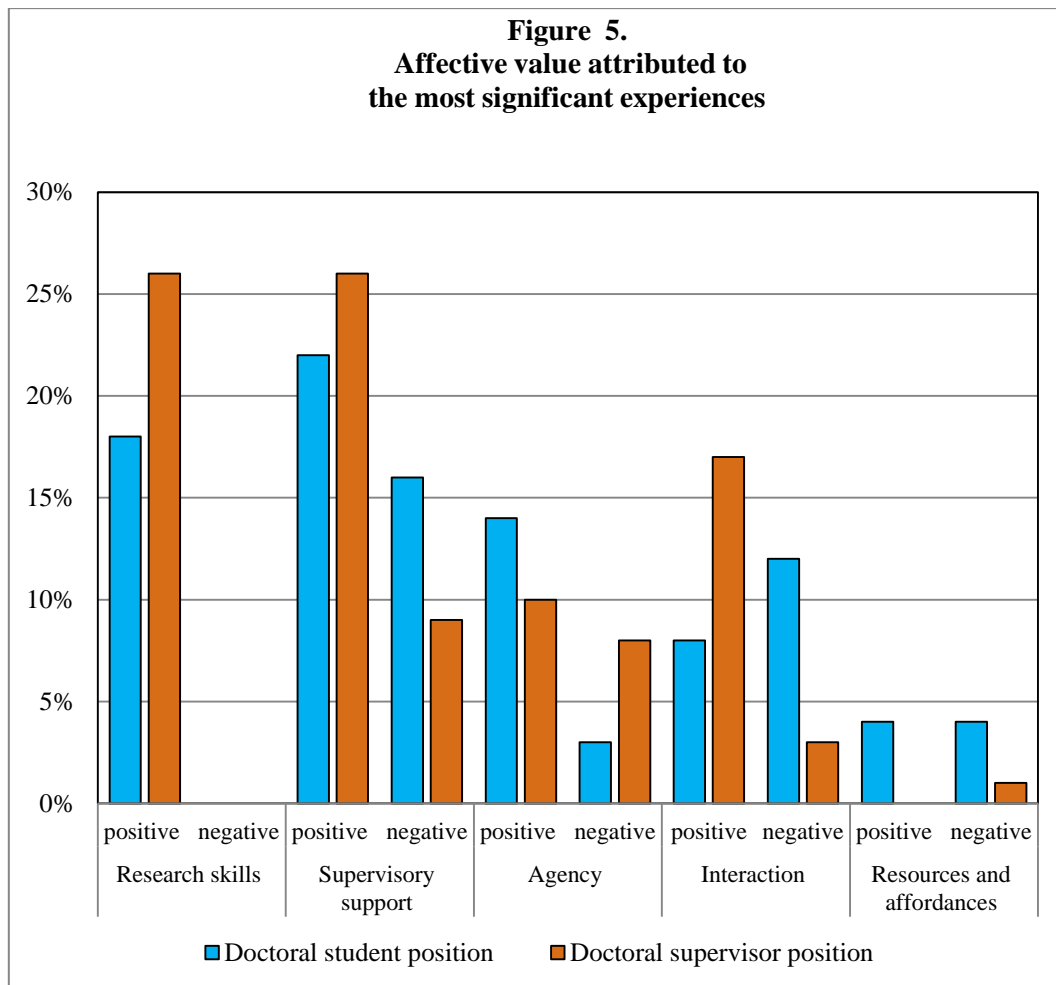
attend to the students' needs, but I don't require more from him if he/she doesn't show willingness [...] If there is commitment on his/her side, the relationship is closer and more productive' (P01). Surprisingly, none of the participants expressed negative perceptions of the supervisory relationship.

5.3.2 What were the most significant experiences regarding the doctoral experience and the supervisory relationship from participants' perceptions, both as doctoral students and as supervisors? (RQ2)

The experiences mentioned by supervisors were classified into five broad categories that accounted for the whole variability in participants' narratives. Table 20 displays these categories, their definition and the results regarding their frequency and percentages. Moreover, in their narratives, participants also comment on the affective value of the described experiences. As shown in Figure 5, negative and dissatisfactory experiences were more common from the position of doctoral students.

Table 20. Frequency of the type of experiences

| Categories | Definition | Doctoral student position | | Doctoral supervisor position | |
|---------------------------|--|---------------------------|------------|------------------------------|------------|
| | | Frequency | Percentage | Frequency | Percentage |
| Research skills | Participants' comments referring to the improvement and learning of varied disciplinary skills and researcher development. | 29 | 18 | 37 | 26.2 |
| Supervisory support | Participants' comments referring to supervisory guidance and support (emotional and academic) in carrying out the doctoral process. | 60 | 37.3 | 49 | 34.8 |
| Agency | Participants' comments referring to autonomy development, self-regulation and research engagement. | 27 | 16.8 | 25 | 17.7 |
| Interaction | Participants' comments referring to the development of relationships, particularly regarding the communication and work dynamics between student and supervisor. | 32 | 19.9 | 28 | 19.9 |
| Resources and affordances | Participants' comments referring to funding, quality of doctoral courses and time to complete tasks. | 13 | 8 | 2 | 1.4 |
| | Total | 161 | 100 | 141 | 100 |



Research skills

Comments included in this category emphasized participants' experience both as students (18%) and as supervisors (26.2%) in terms of its impact on their learning of a varied range of research skills (from statistical sophisticated techniques or data collection procedures to disciplinary ways of writing and communicating) that contributed to their development as researchers:

Now, I know that writing a thesis is a process of personal growing [...] But above all, it comes to my mind as an experience of learning and specialization, as well as an initiation to the Academy. (P61, as student)

This is a process of support, it is about providing resources and activities to help the students to develop as researchers. I give a lot, but I also receive a lot, and I enrich myself as a researcher and person. (P61, as supervisor)

Supervisory support

From the position of doctoral students, participants described supervisory support as one of their most important experiences (21.8%) related to the socialization within their academic community, especially when working in research teams and interacting with other researchers: *‘I had the possibility of sharing my research project with other colleagues who were part of the research team. The supervision was highly adjusted to my needs and expectations, it was a continuous process [...]’* (P35). Moreover, they believed that supervisory support involved more than guidance and help with academic issues; it also has to do with the establishment of affective bonds with the supervisor: *‘I had the privilege of having an excellent supervisor who gave me absolute confidence (and security); he knew how to support me regarding the key decisions’* (P24).

Some participants (15.5%) reported the support was not adequate or it was non-existent: *‘My supervisor didn’t help me at all when I was working on my thesis’* (P39). In other cases,, they considered the unavailability of the supervisor as problematic, as this lack of support posed a threat to ensuring successful and satisfactory doctoral processes: *‘No one was interested, [I felt] loneliness and a total lack of support, my supervisor had a good reputation, but I only saw him when he signed the thesis’* (P20).

When participants positioned themselves as supervisors, support was also indicated as one of the most significant aspects of their experience, and comments (26.3%) noted that supporting students is a practice embedded in the supervisory role: *‘The experience of supervising doctoral students implies a process of support in which you have to guide them (theoretically and methodologically) about the research process [and] make decisions [...] that comprise an enriching experience’* (P41). They also indicated their willingness to offer comprehensive and adjusted help: *‘[...] the support I provide relies on the characteristics of the students. I try to balance academic and emotional aspects’* (P23). A small percentage (8.5%) reported feeling dissatisfied with students’ reaction to the supervisory support: *‘Some cases have been disappointing, people who have not recognized the help and support you offered, or they’ve followed other research lines, which is valid, but it can be embittering after all the work invested’* (P31).

Agency

Participants' comments (13.7%) regarding their experience as students highlighted the development of autonomy, agency and self-regulation in their doctoral training. Agency was also related to research engagement and the management of stress and exhaustion: *'It was a key experience that helped me to engage with my professional development. It implied a huge commitment, involvement [...]'* (P03); *'As a doctoral student I always felt very clear about my goals, which helped me to build my research project and to maximize the theoretical and methodological work [...] this also helped me deal with stress'* (P05). They also suggested *agency* as a way of organizing and planning the work between students and supervisors: *'We both knew our strengths and weaknesses, so we could reach an adequate management of them. The general strategy had a good balance of support and autonomy'* (P17). A minority of the participants (3.1%) expressed difficulties and challenges to balancing doctoral studies and other activities: *'It was very stressful. I had to teach at the same time and that for me was very complicated'* (P54).

When describing their supervisory experiences (9.9%), participants referred to *agency* related to their professional development as well as the upgrading of their skills when supervising doctoral students: *'It is stimulating and enjoyable. It encourages me to develop through the most interesting activities of my profession and makes it easier to keep myself updated with the latest in areas of my interest [...]'* (P17). Supervisors also referred to the importance of promoting students' own development of *agency*: *'With the students I try to have a systematic work, but I also try to promote their autonomy, so they can feel free when they have to make certain decisions'* (P61). Some participants' comments (7.8%) also pointed to *agency* as a way to face the complex requirements of doctoral supervision, as well as the frustration they might represent.

Interaction

A slightly smaller percentage of the comments (8.1%) included in this category were related to the importance of having a good interaction and a confident relationship between student and supervisor when participants referred to their experiences as students: *'In my case, having a respectful relationship was very important because I*

had the opportunity to discuss my progress in the project and, at the same time, my supervisor was very respectful with my initiative, she was very flexible [...] personally, we established a bond beyond academia' (P10 as doctoral student). In other cases, participants (11.8%) referred to the interaction with the supervisor as non-satisfactory: *'It was distant; I think that I was not fully meeting his academic expectations'* (P09).

When participants positioned themselves as supervisors, a total of 17.1% of comments also highlighted this category as relevant, especially regarding the need for them to adjust to students' needs and characteristics: *'The relationship with my students [...] depends on the personality and characteristics of each of them; we try to develop a relationship of mutual growth [...]'* (P10 as doctoral supervisor). Only few participants (2.8%) claimed to be disappointed with the type of relationship developed with their students: *'The relationship I had with some students, it was not as close as I would have wished because the progress was rather slow [...] probably now I wouldn't agree to supervise those theses'* (P51).

Resources and affordances

When describing their experience as students, a small number of participants' comments referred to having access to different resources and managing affordances throughout the doctoral process. For some of those participants (4%), one of the most significant experiences was obtaining institutional funding to undertake the doctoral programme: *'It was very good. I had the fortune of having a doctoral grant that made it possible to focus exclusively on the research theme and let me carry out all the phases of the project'* (P14). A similar number of participants (4%) indicated a negative experience regarding the resources of their doctoral programs, more specifically they found the doctoral courses were not adequate: *'Very few courses helped me to develop research competences'* (P25).

When positioning themselves as supervisors, only a very small percentage of participants (1.4%) mentioned the lack of time as an aspect that hindered the accomplishment of the supervisory activities: *'Exhausting, it demands a lot of time to cover everything'* (P12); *'[...] there is a lack of some resources, there is not enough time to do everything; besides, this activity is not academically well appreciated'* (P33).

5.3.3 What are the relationships between participants' perceptions when they positioned themselves as students or as supervisors? (RQ3)

The results showed a relation between the participants' perceptions of the overall *doctoral experience* when they positioned themselves as students and of *the supervisory relationship* when they positioned themselves as supervisors ($\chi^2(1) = 7.719$, Cramer's $V = .368$, $p < .05$). Moreover, the results showed a relation between the perceptions of the *supervisory relationship* from the two positions, as doctoral students and as supervisors ($\chi^2(1) = 6.603$, Cramer's $V = .343$, $p < .05$). As shown in Table 21, those participants who reported positive perceptions of their overall experience as students and of the relationship with their supervisors were more likely to report positive relationships with their students when acting as supervisors. Moreover, the results showed that participants who reported negative perceptions of the relationship with their supervisors when they were students were more likely to describe the relationship with their doctoral students as ambivalent.

Table 21. Relationship between the perceptions of the doctoral experience and the supervisory relationship from the student's position versus the supervisor's position

| Student's position | | Supervisor's position | | |
|--|------------|---|-----------------|-----------------|
| | | Perceptions of the supervisory relationship | | |
| | | Negative | Positive | Ambivalent |
| Perceptions of the overall doctoral experience | Negative | - | 9 (75%) | 3 (25%) |
| | Positive | - | 28 (100%)* | 0 |
| | Ambivalent | - | 13 (76.5%) | 4 (23.5%) |
| | | | z = 2.8 | z = -2.8 |
| Perceptions of the supervisory relationship | Negative | - | 12 (70.6%)* | 5 (29.4%)* |
| | Positive | - | 27 (96.4%)* | 1 (3.6%)* |
| | Ambivalent | - | 10 (90.9%) | 1 (9.1%) |
| | | | z = -2.5 | z = 2.5 |
| | | | z = 2.0 | z = -2.0 |

Note, $z =$ corrected standardized residuals

* $p < .05$

The results also suggested a relationship between the two positions (doctoral student and doctoral supervisor) and the different types of experiences. Such a relationship referred to participants' satisfaction with the development of *Agency* and *Interaction*. As shown in Table 22, from the position of doctoral students, participants more often reported feeling satisfied with experiences related to *Agency* ($\chi^2(1)= 3.957, p=.047$), whereas when they positioned themselves as doctoral supervisors they were more likely to report feeling satisfied with those experiences associated with *Interaction* ($\chi^2(1)= 12.843, p=.000$).

Table 22. Relationship between type of experiences and the positions

| Position | Research skills | | Supervisory support | | Agency | | Interaction | | Resources and affordances | |
|---------------------|-----------------|------------------|---------------------|------------------|----------------|------------------|----------------|------------------|---------------------------|------------------|
| | Satisfactory | Not satisfactory | Satisfactory | Not satisfactory | Satisfactory | Not satisfactory | Satisfactory | Not satisfactory | Satisfactory | Not satisfactory |
| Doctoral student | 29 (100%) | – | 35 (58.3%) | 25 (41.7%) | 22 (81.5%)* | 5 (18.5%)* | 13 (40.6%)* | 19 (54.9%)* | 6 (46.2%) | 7 (53.8%) |
| | | | | | z= 2.0 | z= -2.0 | z= -3.6 | z= 3.6 | | |
| Doctoral supervisor | 37 (100%) | – | 37 (75%) | 12 (24.5%) | 14 (56%)* | 11 (44%)* | 24 (85.7%)* | 4 (14.3%)* | 0 | 2 (100%) |
| | | | | | z= -2.0 | z= 2.0 | z= 3.6 | z= -3.6 | | |

Note, z= corrected standardized residuals

* $p < .05$

5.4 Discussion

This study aimed to examine supervisors' perceptions of the doctoral journey and supervisory relationship from two positions, as doctoral students and as supervisors, as well as to look for relationships between perceptions from these two positions. To our knowledge, this is the first attempt to analyse these relationships in depth, and the findings can contribute to better understanding the role that doctoral experiences play in supervisors' development.

The results clearly revealed that participants hold more positive perceptions regarding their current experiences as supervisors, and thus they were less likely to perceive their supervisory practices as negative or ambivalent. Conversely, supervisors' perceptions of their experience as doctoral students were more varied, and thus ambivalent and negative perceptions appeared more frequently in their narratives. They were particularly critical of their supervisors, who were seen as sources of disappointment and loneliness. Overall, from the results, it seems that supervisors make efforts to overcome the difficulties they experienced as doctoral students and move towards the development of more efficient supervisory practices adjusted to students' needs. However, these results could also be related to supervisors' less self-critical perception of their own current role. It is surprising that they did not mention any negative and only a few ambivalent experiences, and in those cases, the negative aspects were consistently attributed to students' work and attitude.

Our results also confirm the complex relationships between supervisors' early career academic experiences and their subsequent supervision practices and development (Stephens, 2014; Lee, 2008). Supervisors who reported their own students' experience as mainly positive were also more likely to perceive the relationship with their students as beneficial for developing their researcher career. Simultaneously, an important percentage of supervisors who described their own students' experience as mainly negative reported themselves to be struggling with students' progress and attitude when talking from the supervisors' perspective or position.

The findings also indicate that supervisors' most significant experiences throughout the doctoral journey were related to *research skills*, *supervisory support*, *agency*, *interaction* and *resources and affordances*, which is consistent with previous research on doctoral students' experiences (McAlpine, Paulson, Gonsalves, & Jazvac-Martek, 2012; Pyhältö, Vekkaila, & Keskinen, 2015). What is new is that retrospectively perceived benefits related to *Agency* during the doctoral studies were associated by participants with research engagement and stress and reduced exhaustion. Moreover, the perceived benefits regarding the supervisory *interaction* were associated with the development of a balanced and efficient supervision process. These results lead us to understand how supervisors interpret and learn from their experience as students and are aware of what could bring difficulties and benefits to their students. However, supervisors probably overlook the negative and positive aspects that students may experience across the doctoral process. This marks the importance of clarifying expectations between students and supervisors as a necessary step to address tensions and difficulties that could affect the success of the doctoral journey. In addition, identifying the most significant experiences could help supervisors learn more about the practices and resources they implement to supervise students and, most importantly, to determine whether those strategies work as originally expected for both sides (students and supervisors). This could also provide insights into the support that supervisors may need to carry out their functions and activities (Turner, 2015).

Chapter 6

General Conclusions

Contents

| | |
|---|-----|
| 6.1 Research on doctoral supervision: what we have learnt in the last 10 years..... | 123 |
| 6.2 How do doctoral students experience supervision?..... | 124 |
| 6.3 Writing in doctoral programs: examining supervisors' perspective..... | 124 |
| 6.4 Supervisors were first students: Examining supervisors' perceptions as doctoral students <i>versus</i> doctoral supervisors | 125 |
| 6.5 Limitations..... | 126 |
| 6.6 Educational implications and future research..... | 127 |
| 6.7 Closing remarks..... | 129 |

The general objective of this thesis was to integrate knowledge gained from the conceptualization, practices and experiences on doctoral supervision and its implications for researcher development. To our knowledge, the present work constitutes the first attempt to investigate these issues in Spain. In this final chapter, we highlight the main conclusions, limitations and educational implications of the four studies developed. We also note the issues that are left for future research work. Finally, we make some closing remarks.

6.1 Research on doctoral supervision: what we have learnt in the last 10 years

The results from this first study emphasized three categories: (1) *perceptions*, (2) *pedagogy and the development of supervisors*, and (3) *conceptual models*, which all together draw the path that authors have taken to study supervision during the last decade. Based on these findings, some conclusions can be drawn:

Results show how examining perceptions is essential for deepening the understanding about the conceptions, experiences and practices on supervision. These results seem to reveal perceptions on supervision as an important indicator of the quality of doctoral programmes.

In general, the studies noted the relevance of promoting the socialisation of doctoral students to favour their doctoral research trajectory and their inclusion in disciplinary communities. Nevertheless, studies focused on these issues are still scarce. In this regard, we argue that exploring the role of supervisors in connecting students with their disciplinary communities can offer helpful insights to encourage to both students and supervisors to navigate through it.

The results suggested the importance of providing spaces and resources to encourage the educational development of supervisors. This points to the need of encouraging research on supervisors' development as a priority to improve the quality of doctoral education, and also as an opportunity to promote supervisors' career development. Research on this topic is significantly important as it can contribute to the development

and improvement of supervision programmes, especially for those who are newcomers and can face more difficulties due to the lack of expertise.

6.2 How do doctoral students experience supervision?

The results of this study corroborated our assumption that supervision is one of the most significant experiences, and perceptions about supervision ultimately influence the shaping of a doctoral student's journey. Doctoral students referred to a variety of supervision experiences that include being supervised when conducting the research process, being emotionally supported and encouraged, being helped in terms of funding and managing the doctoral process, and being involved in selecting the supervisors, which led us to better understand the relationship among how students experience supervision and satisfaction, background variables and strategies they are able to use to work through supervision-related difficulties.

Regarding the affective value attributed by students to their significant supervision experiences, negative supervision experiences stand out. Overall results indicated that poor supervision causes important problems in doctoral studies, affecting doctoral students' experience.

Concerning students' strategies for dealing with negative supervision experiences, results indicate that such strategies vary in terms of students' agency and self-regulation. In this sense, students' reflection over the problem, planning, motivation and autonomy is an essential ingredient for working efficiently through supervision problems.

6.3 Writing in doctoral programs: examining supervisors' perspective

The results indicate a variation in supervisors' conceptions about the role of doctoral writing and the strategies for supporting students' writing. A first conclusion can be drawn: supervisors' conceptions may range within two groups: those who perceived writing as more product oriented and those who indicated writing as more process oriented. In the first group, supervisors' conceptions were *instrumental*, and the support

was mainly based on *telling what to do* and on *revising and editing students' texts*. In the second group, supervisors' conceptions emphasized an *epistemic* and *communicative* role of writing, and the support was also focused on *discussing the text with the students collaboratively*.

Overall, results from this study emphasize the importance of supervisors' cognizance of how they understand and support writing as a component of the research training of their doctoral students. Moreover, a relationship emerged between the conceptions about doctoral writing and the strategies for offering writing support, which suggested that supervisors can approach the supervision of writing from two angles: 1) by focusing solely on one approach and 2) by combining writing approaches. From some supervisors' comments, we could assume that they can be very consistent regarding how they support writing in that the strategies they use can remain practically the same throughout the doctoral process.

6.4 Supervisors were first students: Examining supervisors' perceptions as doctoral students *versus* doctoral supervisors

Results from this study highlighted the relevance of recognizing that supervisors perceive some of the experiences of the doctoral journey differently according to the position that they assume. Moreover, a relationship between participants' student experiences and their current experiences and practices as supervisors was detected. This finding highlights the important influence of supervisors' own student experience over their subsequent supervisory practices.

Supervisors' perceptions about their own doctoral experiences both as students and supervisors indicate a range of significant experiences related to supervision from the development of research skills, the type and quality of the supervisory support, the development of agency, the interaction between students and supervisors, and resources and affordances for carrying out the doctoral studies. These categories integrated the most significant aspects that they considered to help or hinder the doctoral process. Overall, findings from this study provide support for the use of critical reflection practices as an important tool for enhancing supervisors' learning and practices.

6.5 Limitations

We acknowledge that our research has some limitations. First, data collection was mainly conducted through surveys, although, in some cases, the structure of the questions prompted extensive descriptions by the participants. In this sense, having the opportunity to use other instruments such as interviews or collecting other types of data such as recordings of supervision sessions could have provided a more nuanced portrayal of the conceptions, experiences and especially supervisory practices. We have already started to collect this type of data, and its analysis is one of our challenges for future studies.

Second, we recognize that the final number of works included in the review (chapter 2), after applying the inclusion and exclusion criteria, might not be enough to draw an extensive map of the overall research issues developed in this field, and interesting studies in languages or journals that were not considered could have been left out. However, we firmly believe that the studies included offer a representative picture of the main themes and purposes that lead the development of research on supervision, and we draw some possible themes for a future research agenda in this area.

Third, our participants (from studies 3 and 4) came from the social sciences and humanities (HASS); thus, the results cannot be extrapolated to other disciplinary fields because research has shown that supervisory experiences are sensitive to some contextual and cultural factors (Downs & Wardle 2007; Lea & Street 1998).

Fourth, the instruments used in studies 2, 3 and 4 allowed us to capture perceptions (from both students and supervisors) at one specific stage of the doctoral process. However, we acknowledge that using longitudinal designs would have enriched the explanation of the evolution and changes of the supervisory practices and conceptions over time. In addition, in these studies, supervision was examined only from one view, either from supervisors' or students' perspective, which represents only one side of the situation.

Fifth, in study 2, we examined only students' strategies to work through negative supervision-related experiences. Students must work through a wide range of other problems, which might also be determinant for developing their agency and autonomy. Further research is needed to better understand how doctoral students' management of negative doctoral experiences interplays with regulation, agency development and doctoral outcomes.

Sixth, although the number of participants in studies 3 and 4 allowed us to develop a mixed-method design, further studies should utilize larger, intentional samples to create a broader portrayal of supervisors' perspectives with different backgrounds and levels of expertise.

6.6 Educational implications and future research

Overall, the findings of the four studies indicate several benefits of supervision for researcher development. Contributions from this thesis provide some frameworks, such as *the role of doctoral writing and the type of supervisory writing support*, that could be a starting point for developing new research and enhancing the quality of supervisory practices. It also offers a methodological contribution since our mixed-method approach could be further developed to create a more comprehensive picture of doctoral supervision and researcher development.

Understanding the nature of the supervisory support may help improve supervisory practices and the interactions developed between students and supervisors. Moreover, understanding this process could offer insights that can contribute to enhance supervisors' training and doctoral programme development.

This work also recognizes the importance of supervision development in the construction of early research academic careers. Longitudinal studies are required to examine how learning to supervise is structured into doctoral training. This could be particularly significant, as a considerable number of postgraduates become supervisors as soon as they complete their doctoral programmes. Moreover, supervisors'

understanding of the conceptions and practices underlying their own positions on supervision should be the starting point of any educational or training proposal.

It is critical to develop studies focused on supervisors' identity development. Supervisors may face varied challenges in the construction of their academic identities. Therefore, we also consider particularly crucial to promote studies on identity development regarding not only how students develop as researchers but also supervisors' identities and their relationship with their distinct spheres of activity (research, teaching, non-academic positions or personal life).

Findings from the four studies included in this thesis allowed us to draw the following guidelines regarding future research on supervision:

- Future studies should consider examining the interplay among the conceptions, experiences and practices from both students' and supervisors' views. For instance, it would be interesting to contrast different interpretations, including supervisors' and students' perceptions and strategies to regulate difficulties and tensions related to supervision.
- Future research should also examine students' perceptions regarding how they understand and address writing throughout the doctoral journey and their expectations and experiences regarding supervisory writing. Moreover, longitudinal studies are required to better understand whether supervisory writing support remains constant or varies through the doctoral journey or because of different experiences that lead to developing combinations of perspectives or approaches. Understanding this process could also illuminate the factors involved in the shaping of the type of writing supervision that different supervisors develop.
- Further research including supervisors from disciplines other than social sciences and humanities could provide a broader picture of the most significant experiences in the doctoral journey and relationship with supervisor development.

- Moreover, as supervision is also influenced by institutional practices, studies including the perspectives of administrators could also provide new understandings regarding supervisor development. This can be particularly important for the promotion of supportive practices addressed to supervisors. It is also necessary to focus on supervisor learning since some of our findings indicated that supervisors have difficulties with agency development, specifically when they must balance the varied supervisory activities with other professional practices and also with personal life. In this sense, studies assessing the impact of new supervisor training might provide more insights for understanding the academic transitions that new supervisors should navigate.
- Longitudinal studies including the use of mixed methods also seem necessary to further analyse the interplay among supervisors, students and their related developmental contexts. These studies can offer a broader portrayal of the construction and re-construction of doctoral supervision over time.
- The relationship between students and supervisors after the completion of the dissertation should also be investigated to deepen the literature on identity formation and the academic transition process.

6.7 Closing remarks

It was almost 20 years ago when Delamont, Parry and Atkinson stated: “*Central to the problems facing supervisors is creating a delicate balance between dominating the student’s research and neglecting it. Too much control threatens the originality of the PhD and the autonomy of the novice researcher; too little can delay completion and even lead to total failure*” (1998, p.157). Although the literature on doctoral supervision has undergone significant contributions over recent years, this statement remains true. We are firmly convinced that this study offers much-needed insights into the difficulties and the benefits embedded in the supervision process. The results invite reflection on students’ and supervisors’ satisfaction with supervision in the Spanish context. Ultimately, we hope that by promoting supervision development, this thesis can

contribute to the quality of doctoral education and to encourage doctoral supervision as an ongoing learning process towards competent researcher development.

During this doctoral research journey, many times I found myself mirroring some challenges found in the literature about the doctoral experience and supervision. For my own trajectory, supervision has been essential to endure the doctoral process, as it has offered me diverse learning opportunities for guiding me in the recognition and construction of my own voice as a researcher. My understanding of supervision has been shaped by all these learning experiences from the different educational contexts in which I participated throughout my doctoral studies.

References

- Acker, S., Hill, T., & Black, E. (1994). Thesis supervision in the social sciences: managed or negotiated?. *Higher Education*, 28(4), 483-498.
- Aitchison, C., Catterall, J., Ross, P., & Burgin, S. (2012). 'Tough love and tears': learning doctoral writing in the sciences. *Higher Education Research & Development*, 31(4), 435-447.
- Aitchison, C., Kamler, B., & Lee, A. (Eds.). (2010). *Publishing pedagogies for the doctorate and beyond*. London: Routledge.
- Åkerlind, G., & McAlpine, L. (2015). Supervising doctoral students: variation in purpose and pedagogy. *Studies in Higher Education*, 1-13.
- Amundsen, C., & McAlpine, L. (2009). 'Learning supervision': trial by fire. *Innovations in Education and Teaching International*, 46(3), 331-342.
- Appel, M. L., & Dahlgren, L. G. (2003). Swedish doctoral students' experiences on their journey towards a PhD: obstacles and opportunities inside and outside the academic building. *Scandinavian Journal of Educational Research*, 47(1), 89-110.
- Baker, V. L., & Pifer, M. J. (2011). The role of relationships in the transition from doctoral student to independent scholar. *Studies in Continuing Education*, 33(1), 5-17.
- Barnes, B. J., & Austin, A. E. (2009). The role of doctoral advisors: A look at advising from the advisor's perspective. *Innovative Higher Education*, 33(5), 297-315.
- Barnes, B. J., Williams, E.A., & Stassen, M. L. A. (2012). Dissecting doctoral advising: a comparison of students' experiences across disciplines. *Journal of Further and Higher Education*, 36(3), 309-331.
- Bastalich, W. (2015). Content and context in knowledge production: a critical review of doctoral supervision literature. *Studies in Higher Education*, 42(7), 1145-1157.
- Bégin, C., & Gérard, L. (2013). The role of supervisors in light of the experience of doctoral students. *Policy Futures in Education*, 11 (3), 267-276.
- Benmore, (2016). Boundary management in doctoral supervision: how supervisors negotiate roles and role transitions throughout the supervisory journey. *Studies in Higher Education*, 41(7), 1251-1264.

- Bitchener, J., Basturkmen, H., & East, M. (2010). The focus of supervisor written feedback to thesis/dissertation students. *International Journal of English Studies*, 10(2), 79-97.
- Boehe, D. M. (2014). Supervisory styles: a contingency framework. *Studies in Higher Education*, 41(3), 399-414.
- Bøgelund, P. (2015). How supervisors perceive PhD supervision – And how they practice it. *International Journal of Doctoral Studies*, 10, 39-55.
- Brew, A., & Peseta, T. (2004). Changing postgraduate supervision practice: A programme to encourage learning through reflection and feedback. *Innovations in Education and teaching International*, 41(1), 5-22.
- Bruce, C., & Stoodley, I. (2013) Experiencing higher degree research supervision as teaching. *Studies in Higher Education*, 38 (2), 226-241.
- Carter, S., & Kumar, V. (2016). ‘Ignoring me is part of learning’: Supervisory feedback on doctoral writing. *Innovations in Education and Teaching International*, doi 10.1080/14703297.2015.1123104.
- Castelló, M. (2016). Escribir artículos de investigación. Aprender a desarrollar la voz y la identidad del investigador novel. En G. Bañales, M. Castelló & N. Vega (Coords.). (2016). *Enseñar a leer y escribir en la educación superior. Propuestas educativas basadas en la investigación* (pp. 209-232). Serie: Lenguaje, Educación e Innovación (LEI). Ediciones SM/CeIDEA/U.A.T, México.
- Castelló, M., Bañales, G., & Vega, N. (2010). Research approaches to regulation of academic writing: State of the art. *Electronic Journal of Research in Educational Psychology*, 8 (3), 22, 1253-1282.
- Castelló, M., Iñesta, A., & Corcelles, M. (2013). Learning to write a research article: Ph.D. Students’ transitions toward disciplinary writing regulation. *Research in the Teaching of English*, 47(4), 442-477.
- Castelló, M., Iñesta, A., & Monereo, C. (2009). Towards self-regulated academic writing: an exploratory study with graduate students in a situated learning environment. *Electronic Journal of Research in Educational Psychology*, 9 (3), 1107-1130.
- Castelló, M., McAlpine, L., & Pyhältö, K. (2017). Spanish and UK post-PhD researchers: Writing perceptions, well-being and productivity. *Higher Education Research & Development*, 1-15.

-
- Castelló, M., Pardo, M., Sala-Bubaré, A., & Suñe-Soler, N. (2017). Why do students consider dropping out of doctoral degrees? Institutional and personal factors. *Higher Education*, 1-16.
- Corbin, J., & Strauss, A. (2008). *Basics of qualitative research (3rd ed.): Techniques and procedures for developing grounded theory*. Thousand Oaks, CA: SAGE Publications.
- Corcelles, M., Cano, M. Liesa, E., González-Ocampo, G., & Castelló, M. (2017). Doctoral students' academic trajectory: what are the most significant events?. (submitted)
- Cornér, S., Löfström, E., & Pyhältö, K. (2017). The Relationships between Doctoral Students' Perceptions of Supervision and Burnout, *International Journal of Doctoral Studies*, 12, 91-106.
- Cotterall, S. (2011). Doctoral students writing: where' s the pedagogy? *Teaching in Higher Education*, 16 (4), 413-425.
- Creswell, J. W. (2014). *Research design: Qualitative, quantitative, and mixed methods approaches*. Los Angeles: Sage publications.
- Crossouard, B., & Pryor, J. (2008). Becoming researchers: A sociocultural perspective on assessment, learning and the construction of identity in a professional doctorate. *Pedagogy, Culture & Society*, 16(3), 221-237.
- de Kleijn, R. A. M., Meijer, P. C., Brekelmans, M., & Pilot, A. (2014). Adaptive research supervision: exploring expert thesis supervisors' practical knowledge. *Higher Education Research & Development*, 34(1), doi: 10.1080/07294360.2014.934331.
- Delamont, S., Parry, O., & Atkinson, P. (1998). Creating a delicate balance: the doctoral supervisor's dilemmas. *Teaching in Higher Education*, 3(2), 157-172.
- Deuchar, R. (2008). Facilitator, director or critical friend?: Contradiction and congruence in doctoral supervision styles. *Teaching in Higher Education*, 13(4), 489-500.
- Devine, K., & Hunter, K. H. (2016). PhD student emotional exhaustion: the role of supportive supervision and self-presentation behaviours. *Innovations in Education and Teaching International*, 1-10.
- Doloriert, C., Sambrook, S., & Stewart, J. (2012). Power and emotion in doctoral supervision: Implications for HRD. *European Journal of Training and Development*, 36(7), 732-750.

- Downs, D., & Wardle, E. (2007). Teaching about writing, righting misconceptions :"(Re) envisioning" first-year composition" as" Introduction to Writing Studies". *College Composition and Communication*, 552-584.
- Egan, R., Stockley, D., Brouwer, B., Tripp, D., & Stechyson, N. (2009). Relationships between area of academic concentration, supervisory style, student needs and best practices. *Studies in Higher Education*, 34(3), 337-345.
- Emilsson, U. M., & Johnsson, E. (2007). Supervision of supervisors: On developing supervision in postgraduate education. *Higher Education Research & Development*, 26(2), 163-179.
- Enders, J., & de Weert, E. (2004). Science, training and career: Changing modes of knowledge production and labour markets. *Higher Education Policy*, 17(2), 135-152.
- Erichsen, E. A., Bolliger, D. U., & Halupa, C. (2014). Student satisfaction with graduate supervision in doctoral programs primarily delivered in distance education settings, *Studies in Higher Education*, 39(2), 321-338.
- Feather, D., & McDermott, K. E. (2014). The role of new doctoral supervisors in higher education—a reflective view of literature and experience using two case studies. *Research in Post-Compulsory Education*, 19(2), 165-176.
- Fenge, L. A. (2012). Enhancing the doctoral journey: The role of group supervision in supporting collaborative learning and creativity. *Studies in Higher Education*, 37(4), 401-414.
- Franke, A., & Ardivissov, B. (2011). Research supervisors' different ways of experiencing supervision of doctoral students. *Studies in Higher Education*, 36(1), 7-19.
- Gardner, S. K. (2007). "I heard it through the grapevine": Doctoral student socialization in chemistry and history. *Higher Education*, 54(5), 723-740.
- Gardner, S. K. (2008). "What's too much and what's too little?": The process of becoming an independent researcher in doctoral education. *The Journal of Higher Education*, 79(3), 326-350.
- Gardner, S. K. (2010). Faculty perspectives on doctoral student socialization in five disciplines. *International Journal of Doctoral Studies*, 5, 39-53.
- Gardner, S. K., & Gopaul, B. (2012). The part-time doctoral student experience. *International Journal of Doctoral Studies*, 7, 63-78.

- Gatfield, T. (2005). An investigation into PhD supervisory management styles: Development of a dynamic conceptual model and its managerial implications. *Journal of Higher Education Policy and Management*, 27(3), 311-325.
- Gee, J. P. (2000). Discourse and sociocultural studies in reading. In M. L. Kamil, P. Mosenthal, P. D. Pearson, & R. Barr (Eds.), *Handbook of reading research* (Vol. 3, pp. 195–207). Mahwah, NJ: Erlbaum.
- Glaser, B., & Strauss, A. (1967). *The discovery of grounded theory: Strategies for qualitative research*. New York: De Gruyter.
- Golde, C. M. (1998). Beginning graduate school: Explaining first-year doctoral attrition. *New directions for higher education*, 101, 55-64.
- Golde, C. M. (2010). Entering different worlds. Socialization into disciplinary communities. In S. K. Gardner & P. Mendoza (Eds.) *On becoming a scholar: Socialization and development in doctoral education* (pp. 79-95). US: Stylus Publishing, LLC.
- González-Ocampo, G., Kiley, M., Lopes, A., Malcolm, J., Menezes, I., Morais, R., & Virtanen, V. (2015). The curriculum question in doctoral education. *Frontline Learning Research*, 3(3), 23-38.
- Grant, B. & McKinley, E. (2011) Colouring the pedagogy of doctoral supervision: considering supervisor, student and knowledge through the lens of indigeneity. *Innovations in Education and Teaching International*, 48(4), 377-386.
- Green, P. (2005). Changing Contexts for Research Education: Implications for Supervision. In P. Green (Ed.), *Supervising postgraduate research: Contexts and processes, theories and practices*, (pp.11-29). Melbourne: RMIT University Press.
- Green B. (2005). Unfinished business: Subjectivity and supervision. *Higher Education Research & Development*, 24(2), 151-163.
- Green, P., & Bowden, J. (2012). Completion mindsets and contexts in doctoral supervision. *Quality Assurance in Education*, 20(1), 66-80.
- Guerin, C. & Green, I. (2013) ‘Collaborative critique’ in a supervisor development programme. *Innovations in Education and Teaching International*, 50(4), 399-409.
- Guerin, C., Kerr, H. & Green, I. (2015) Supervision pedagogies: narratives from the field. *Teaching in Higher Education*, 20(1), 107-118.

- Guerin, C., Walker, R., Aitchison, C., Mattarozzi Laming, M., Chatterjee Padmanabhan, M., & James, B. (2017). Doctoral supervisor development in Australian universities: Preparing research supervisors to teach writing. *Journal of Academic Language and Learning*, 11(1), 88-103.
- Hakkarainen, K. P., Wires, S., Keskinen, J., Paavola, S., Pohjola, P., Lonka, K., & Pyhältö, K. (2014). On personal and collective dimensions of agency in doctoral training: Medicine and natural science programs. *Studies in Continuing Education*, 36(1), 83-100.
- Halbert, K. (2015) Students' perceptions of a 'quality' advisory relationship. *Quality in Higher Education*, 21(1), 26-37.
- Halse, C. (2011). 'Becoming a supervisor': the impact of doctoral supervision on supervisors' learning. *Studies in higher education*, 36(5), 557-570.
- Halse, C., & Malfroy, J. (2010). Retheorizing doctoral supervision as professional work. *Studies in Higher Education*, 35(1), 79-92.
- Hemer, S. (2012) Informality, power and relationships in postgraduate supervision: supervising PhD candidates over coffee. *Higher Education Research & Development*, 31(6), 827-839.
- Hopwood, N. (2010). A sociocultural view of doctoral students' relationships and agency. *Studies in Continuing Education*, 32(2), 103-117.
- Hutchings, M. (2015). Improving doctoral support through group supervision: analysing face-to-face and technology-mediated strategies for nurturing and sustaining scholarship. *Studies in Higher Education*, 42(3), 533-550.
- Ives, G., & Rowley, G. (2005). Supervisor selection or allocation and continuity of supervision: Ph.D. students' progress and outcomes. *Studies in Higher Education*, 30(5), 535-555.
- Jairam, D., & Kahl Jr., D. H. (2012). Navigating the doctoral experience: The role of social support in successful degree completion. *International Journal of Doctoral Studies*, 7, 311-329.
- Jazvac-Martek, M. (2009). Oscillating role identities: The academic experiences of education doctoral students. *Innovations in Education and Teaching International*, 46(3), 253-264.
- Kam, B.H. (1997). Style and quality in research supervision: the supervisor dependency factor. *Higher Education*, 34(1), 81-103.

-
- Kamler, B. (2008). Rethinking doctoral publication practices: writing from and beyond the thesis. *Studies in Higher Education*, 33(3), 283-294.
- Kamler, B., & Thomson, P. (2014). *Helping doctoral students write: Pedagogies for supervision*. London and New York: Routledge.
- Keefer, J. M. (2015) Experiencing doctoral liminality as a conceptual threshold and how supervisors can use it. *Innovations in Education and Teaching International*, 52(1), 17-28.
- Kiley, M. (2011). Developments in research supervisor training: causes and responses. *Studies in Higher Education*, 36(5), 585-599.
- Knox, S., Schlosser, L. Z., Pruitt, N. T., & Hill, C. E. (2006). A Qualitative Examination of Graduate Advising Relationships The Advisor Perspective. *The Counseling Psychologist*, 34(4), 489-518.
- Kobayashi, S., Grout, B., & Rump, C. Ø. (2013). Interaction and learning in PhD supervision—a qualitative study of supervision with multiple supervisors. *Dansk Universitetspædagogisk Tidsskrift*, 8(14), 13-25.
- Kobayashi, S., Grout, B. W., & Rump, C. Ø. (2015). Opportunities to learn scientific thinking in joint doctoral supervision. *Innovations in Education and Teaching International*, 52(1), 41-51.
- Kumar, V., & Stracke, E. (2007). An analysis of written feedback on a PhD thesis. *Teaching in Higher Education*, 12(4), 461-470.
- Lahenius, K., & Ikävalko, H. (2014). Joint supervision practices in doctoral education – A student experience. *Journal of Further and Higher Education*, 38(3), 427-446.
- Latona, K., & Browne, M (2001). Governmental report in ‘Higher Education Series’. *Factors associated with completion of research higher degrees, Department of Education, Training and Youth Affairs—Higher Education Division*, 37.
- Lave, J., & Wenger, E. (1991). *Situated learning: Legitimate peripheral participation*. Cambridge University Press.
- Lea, M. R., & Street, B. V. (1998). Student writing in higher education: An academic literacies approach. *Studies in higher education*, 23(2), 157-172.
- Lee, A. (2008). How are doctoral students supervised? Concepts of doctoral research supervision. *Studies in Higher Education*, 33(3), 267-281.
- Lee, A., & Boud, D. (2009). Framing doctoral education as practice. *Changing practices of doctoral education*, 10-25.

- Lee, A., & McKenzie, J. (2011) Evaluating doctoral supervision: tensions in eliciting students' perspectives. *Innovations in Education and Teaching International*, 48(1), 69-78.
- Lee, A., & Murray, R. (2015). Supervising writing: helping postgraduate students develop as researchers. *Innovations in Education and Teaching International*, 52 (5), 558-570.
- Lei, J., & Hu, G. (2015). Apprenticeship in Scholarly Publishing: A student perspective on doctoral supervisors' roles. *Publications*, 3 (1), 27-42.
- Lindén, J., Ohlin, M. & Brodin, E. M. (2013) Mentorship, supervision and learning experience in PhD education. *Studies in Higher Education*, 38(5), 639-662.
- Löfström, E., & Pyhältö, K. (2014). Ethical issues in doctoral supervision: The perspectives of PhD students in the natural and behavioral sciences. *Ethics & Behavior*, 24(3), 195-214.
- Löfström, E., & Pyhältö, K. (2015). 'I Don't Even Have Time to be Their Friend!' Ethical Dilemmas in Ph. D. Supervision in the Hard Sciences. *International Journal of Science Education*, 37(16), 2721-2739.
- Lovitts, B. E. (2001). *Leaving the ivory tower: The causes and consequences of departure from doctoral study*. Lanham, Md.: Rowman & Littlefield.
- Maher, M. A., Feldon, D. F., Timmerman, B. E., & Chao, J. (2014). Faculty perceptions of common challenges encountered by novice doctoral writers. *Higher Education Research & Development*, 33(4), 699-711.
- Maher, M. A., & Say, B. H. (2016). Doctoral supervisors as learners and teachers of disciplinary writing. In C. Badenhorst & C. Guering (Eds.). *Research Literacies and Writing Pedagogies for Masters and Doctoral Writers* (pp. 257-276). Leiden/Boston: Brill.
- Maher, D., Seaton, L., McMullen, C., Fitzgerald, T., Otsuji, E. & Lee, A. (2008). 'Becoming and being writers': the experiences of doctoral students in writing groups. *Studies in Continuing Education*, 30(3), 263-275.
- Mainhard, T., van der Rijst, R., van Tartwijk, J., & Wubbels, T. (2009). A model for the supervisor–doctoral student relationship. *Higher education*, 58(3), 359-373.
- Malfroy, J. (2005). Doctoral supervision, workplace research and changing pedagogic practices. *Higher Education Research & Development*, 24(2), 165-178.
- Manathunga, C. (2005). The development of research supervision: "Turning the light on a private space". *International Journal for Academic Development*, 10(1), 17-30.

-
- Manathunga, C. (2007): Supervision as mentoring: the role of power and boundary crossing. *Studies in Continuing Education*, 29(2), 207-221.
- Manathunga, C. (2011). Moments of transculturation and assimilation; post-colonial explorations of supervision and culture. *Innovations in Education and Teaching International*, 48 (4), 367-376.
- Manathunga, C. (2012). Supervisors watching supervisors: The deconstructive possibilities and tensions of team supervision. *Australian Universities' Review*, 54(1), 29-37.
- Manathunga, C., & Goozée, J. (2007). Challenging the dual assumption of the 'always/already' autonomous student and effective supervisor. *Teaching in Higher Education*, 12(3), 309-322.
- Maor, D., Ensor, J. D., & Fraser, B. J. (2016). Doctoral supervision in virtual spaces: A review of research of web-based tools to develop collaborative supervision. *Higher Education Research & Development*, 35(1), 172-188.
- Martinsuo, M., & Turkulainen, V. (2011). Personal commitment, support and progress in doctoral studies. *Studies in Higher Education*, 36(1), 103-120.
- McAlpine, L. (2013). Doctoral supervision: Not an individual but a collective institutional responsibility. *Infancia y Aprendizaje*, 36(3), 259-280.
- McAlpine, L., & Amundsen, C. (2009). Identity and agency: Pleasures and collegiality among the challenges of the doctoral journey. *Studies in Continuing Education*, 31(2), 109-125.
- McAlpine, L., Jazvac-Martek, M., & Hopwood, N. (2009). Doctoral student experience in education: Activities and difficulties influencing identity development. *International Journal for Researcher Development*, 1(1), 97-109.
- McAlpine, L., & McKinnon, M. (2013) Supervision – the most variable of variables: student perspectives. *Studies in Continuing Education*, 35 (3), 265-280.
- McAlpine, L., Paulson, J., Gonsalves, A., & Jazvac-Martek, M. (2012). 'Untold' doctoral stories: can we move beyond cultural narratives of neglect?. *Higher Education Research & Development*, 31(4), 511-523.
- McCallin, A., & Nayar, S. (2012). Postgraduate research supervision: a critical review of current practice. *Teaching in Higher Education*, 17(1), 63-74.

- Moxham, L., Dwyer, T., & Reid-Searl, K. (2013). Articulating expectations for PhD candidature upon commencement: ensuring supervisor/student 'best fit'. *Journal of Higher Education Policy and Management*, 35(4), 345-354.
- Mullen, C. A. (2003). The WIT cohort: A case study of informal doctoral mentoring. *Journal of Further and Higher Education*, 27(4), 411-426.
- Mullen, C. A., & Tuten, E. M. (2010). Doctoral Cohort Mentoring: Interdependence, Collaborative Learning, and Cultural Change. *Scholar-Practitioner Quarterly*, 4(1), 11-32.
- Murphy, N., Bain, J. D., & Conrad, L. (2007). Orientations to research higher degree supervision. *Higher Education*, 53(2), 209-234.
- Odena, O., & Burgess, H. (2015). How doctoral students and graduates describe facilitating experiences and strategies for their thesis writing learning process: a qualitative approach. *Studies in Higher Education*, 1-19.
- Olmos-López, P., & Sunderland, J. (2016). Doctoral supervisors' and supervisees' responses to co-supervision. *Journal of Further and Higher Education*, 1-14.
- Overall, N. C., Deane, K. L., & Peterson, E. R. (2011). Promoting doctoral students' research self-efficacy: combining academic guidance with autonomy support. *Higher Education, Research & Development*, 30(6), 791-805.
- Paré, A. (2011). Speaking of writing: Supervisory feedback and the dissertation. In L. McAlpine & C. Amundsen (Eds.) *Doctoral education: Research-based strategies for doctoral students, supervisors and administrators* (pp. 59-74). Netherlands: Springer.
- Paré, A. (2017). Re-thinking the dissertation and doctoral supervision/Reflexiones sobre la tesis doctoral y su supervisión. *Infancia y Aprendizaje*, 1-22, doi:10.1080/02103702.2017.1341102
- Paré, A., Starke-Meyerring, D., & McAlpine, L. (2009). The dissertation as multi-genre: Many readers, many readings. In C. Bazerman, D. Figueiredo, & A. Bonini (Eds.), *Genre in a changing world* (pp.179-193). West Lafayette: Parlor Press and Fort Collins: The WAC Clearinghouse.
- Paré, A., Starke-Meyerring, D., & McAlpine, L. (2011). Knowledge and identity work in the supervision of doctoral student writing: Shaping rhetorical subjects. In D. Starke-Meyerring, A. Paré, N. Artemeva, M. Horne, & L. Yousouba (Eds.). *Writing in Knowledge Societies* (pp. 215-236). Colorado: The WAC Clearinghouse and Parlor Press.

-
- Pearson, M. (2005). Framing research on doctoral education in Australia in a global context. *Higher education research & development*, 24(2), 119-134.
- Pearson, M. (2005). Changing Contexts for Research Education: Implications for Supervision. In P. Green (Ed.), *Supervising postgraduate research: Contexts and processes, theories and practices*, (pp.11-29). Melbourne: RMIT University Press.
- Pearson, M., & Brew, A. (2002). Research training and supervision development. *Studies in Higher education*, 27(2), 135-150.
- Petersen, E. (2007). Negotiating academicity: postgraduate research supervision as a category boundary work. *Studies in Higher Education*, 32 (4), 475-487.
- Petersen, E. (2014). Re-signifying subjectivity? A narrative exploration of 'non-traditional' doctoral students' lived experience of subject formation through two Australian cases. *Studies in Higher Education*, 39(5), 823-834.
- Platow, M. J. (2012) PhD experience and subsequent outcomes: a look at self-perceptions of acquired graduate attributes and supervisor support. *Studies in Higher Education*, 37 (1), 103-118.
- Pole, C. (1998). Joint Supervision and the PhD: safety net or panacea?. *Assessment & Evaluation in Higher Education*, 23(3), 259-271.
- Pole, C. J., Sprokkereef, A., Burgess, R. G., & Lakin, E. (1997). Supervision of doctoral students in the natural sciences: Expectations and experiences. *Assessment & Evaluation in Higher Education*, 22(1), 49-63.
- Pyhältö, K., & Keskinen, J. (2012). Doctoral students' sense of relational agency in their scholarly communities. *International Journal of Higher Education*, 1(2), 136-149.
- Pyhältö, K., Stubb, J., & Lonka, K. (2009). Developing scholarly communities as learning environments for doctoral students. *International Journal for Academic Development*, 14(3), 221-232.
- Pyhältö, K., Toom, A., Stubb, J., & Lonka, K. (2012). Challenges of becoming a scholar: A study of doctoral students' problems and well-being. *ISRN Education*, Retrieved January 2017 from doi:10.5402/2012/934941
- Pyhältö, K., Vekkaila, J., & Keskinen, J. (2012). Exploring the fit between doctoral students' and supervisors' perceptions of resources and challenges vis-à-vis the doctoral journey. *International Journal of Doctoral Studies*, 7, 395-414.

- Pyhältö, K., Vekkaila, J., & Keskinen, J. (2015). Fit matters in the supervisory relationship: doctoral students and supervisors perceptions about the supervisory activities. *Innovations in Education and Teaching International*, 52(1), 4-16.
- Royal Decree 99/2011 on the regulation of doctoral studies*. The Spanish Ministry of Education. Retrieved 10 December 2016. Available from: <https://www.boe.es/buscar/act.php?id=BOE-A-2011-2541>
- Rudd, E. (1986). The drop-outs and the dilatory on the road to the doctorate. *Higher Education in Europe*, 11(4), 31-36.
- Sala-Bubaré, A., & Castelló, M. (2017). Exploring the relationship between doctoral students' experiences and research community positioning. *Studies in Continuing Education*, 39(1), 16-34.
- Sambrook, S., Stewart, J., & Roberts, C. (2008) Doctoral supervision . . . a view from above, below and the middle!. *Journal of Further and Higher Education*, 32 (1), 71-84.
- Seagram, B. C., Gould, J., & Pyke, S. W. (1998). An investigation of gender and other variables on time to completion of doctoral degrees. *Research in higher education*, 39(3), 319-335.
- Soonga, H., Thi Tran, L., & Hoa Hiep, P. (2015). Being and becoming an intercultural doctoral student: reflective autobiographical narratives. *Reflective Practice*, 16(4), 435-448.
- Spiller, D., Byrnes, G., & Bruce Ferguson, P. (2013). Enhancing postgraduate supervision through a process of conversational inquiry. *Higher Education Research & Development*, 32(5), 833-845.
- Stephens, S. (2014). The supervised as the supervisor. *Education + Training*, 56(6), 537-550.
- Stillman-Webb, N. (2016). Writing beliefs and mentoring practices: Advisors perspectives on post/graduate writing instruction in the sciences. In C. Badenhorst & C. Guering (Eds.). *Research Literacies and Writing Pedagogies for Masters and Doctoral Writers* (pp. 257-276). Leiden/Boston: Brill.
- Stracke, E. & Kumar, V. (2010). Feedback and self-regulated learning: insights from supervisors' and PhD examiners' reports. *Reflective Practice: International and Multidisciplinary Perspectives*, 11(1), 19-32.

-
- Stubb, J., Pyhältö, K., & Lonka, K. (2011). Balancing between inspiration and exhaustion: PhD students' experienced socio-psychological well-being. *Studies in Continuing Education, 33*(1), 33-50.
- Torraco, R. J. (2005). Writing integrative literature reviews: Guidelines and examples. *Human resource development review, 4*(3), 356-367.
- Turner, G. (2015). Learning to supervise: four journeys. *Innovations in Education and Teaching International, 52*(1), 86-98.
- Vanstone, M., Hibbert, K., Kinsella, E. A., Pitman, A., & Lingard, L. (2013). Interdisciplinary doctoral research supervision: A scoping review, *The Canadian Journal of Higher Education, 43*(2), 46-67.
- Vekkaila, J., Pyhältö, K., & Lonka, K. (2013). Experiences of disengagement—A study of doctoral students in the behavioral sciences. *International Journal of Doctoral Studies, 8*(2013), 61-81.
- Vilkinas, T. (2008). An exploratory study of the supervision of Ph. D./research students' theses. *Innovative Higher Education, 32*(5), 297-311.
- Virtanen, V., Taina, J., & Pyhältö, K. (2016). What disengages doctoral students in the biological and environmental sciences from their doctoral studies?. *Studies in Continuing Education, 1*-16.
- Watts, J. H. (2010). Team supervision of the doctorate: Managing roles, relationships and contradictions. *Teaching in Higher Education, 15*(3), 335-339.
- Weidman, J. C., & Stein, E. L. (2003). Socialization of doctoral students to academic norms. *Research in higher education, 44*(6), 641-656.
- Wenger, E. (1998). *Communities of practice: Learning, meaning, and identity*. Cambridge University Press.
- Whitelock, D., Faulkner, D., & Miell, D. (2008). Promoting creativity in PhD supervision: Tensions and dilemmas. *Thinking Skills and Creativity, 3*(2), 143-153.
- Winchester- Seeto, T., Homewood, J., Thogersen, J., Jacenyik-Trawoger, C., Manathunga, C., Reid, A. & Hoolbrok, A. (2014). Doctoral supervision in cross-cultural context: issues affecting supervisors and candidates. *Higher Education Research & Development, 33* (3), 610-626.
- Wisker, G., Robinson, W., Trafford, V., Warnes, M., & Creighton, E. (2003). From Supervisory Dialogues to Successful PhDs: strategies supporting and enabling

the learning conversations of staff and students at postgraduate level. *Teaching in Higher Education*, 8 (3), 383-397.

Wisker, G. (2012). *The good supervisor: Supervising postgraduate and undergraduate research for doctoral theses and dissertations*. Palgrave Macmillan.

Wisker, G. (2016). Agency and articulation in doctoral writing: building the messy research journey into a well-constructed thesis. In C. Badenhorst & C. Guerin (Eds.). *Research Literacies and Writing Pedagogies for Masters and Doctoral Writers* (pp.184-201). Leiden/Boston: Brill.

Wisker, G., & Claesson, S. (2013). The impact of cross-disciplinary culture on student-supervisor perceptions. *International Journal of Doctoral Studies*, 8, 21-37.

Wisker, G., & Kiley, M. (2014). Professional learning: lessons for supervision from doctoral examining. *International Journal for Academic Development*, 19 (2), 125-138.

Wisker, G., & Robinson, W. (2014) Examiner practices and culturally inflected doctoral theses. *Discourse: Studies in the Cultural Politics of Education*, 35(2), 190-205.

Zhao, C. M., Golde, C. M. & McCormick, A. C. (2007). More than a signature: How advisor choice and advisor behavior affect doctoral student satisfaction. *Journal of Further and Higher Education*, 31 (3), 263-281.

Zhao, C. M., & Kuh, G. D. (2004). Adding value: Learning communities and student engagement. *Research in higher education*, 45(2), 115-138.

Appendix A: Doctoral supervisor survey

The aim of this survey is to gain knowledge about the experiences, practices and educational implications of doctoral supervision. As doctoral supervisor, your participation is key for achieving our aim. It would therefore be appreciated if you could provide in a broad manner all the information you consider relevant in each section.

*Required

Personal information

F

M

Age*

Discipline*

Years of experience as doctoral supervisor*

0-5

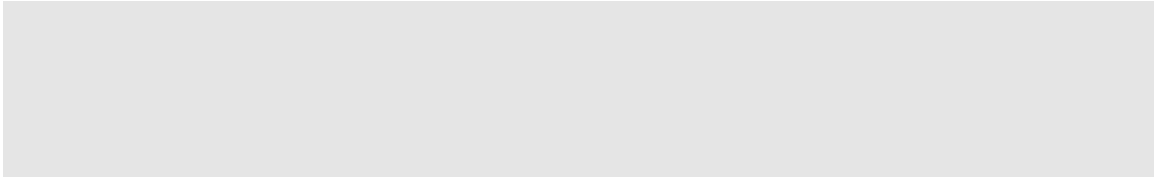
6-10

7-15

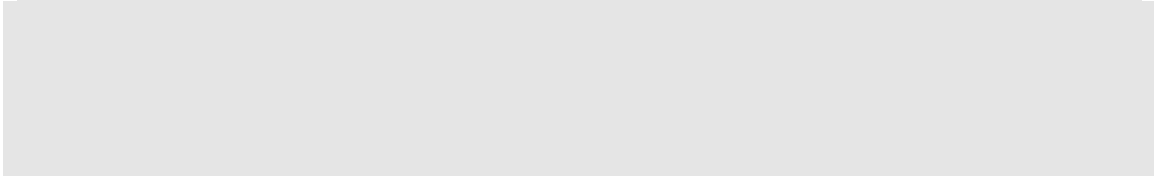
+15

1. How would you describe your experience as a doctoral supervisor? *

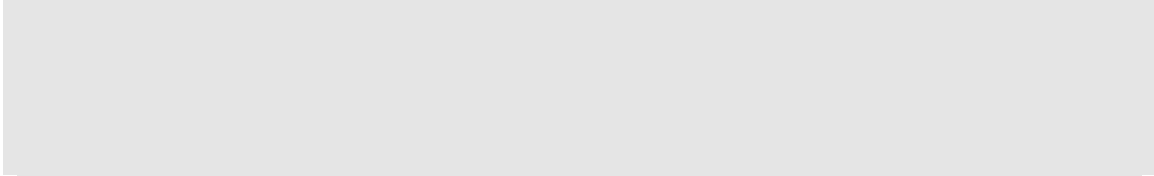
2. What kind of challenges have you faced as doctoral supervisor? How did you overcome them? *



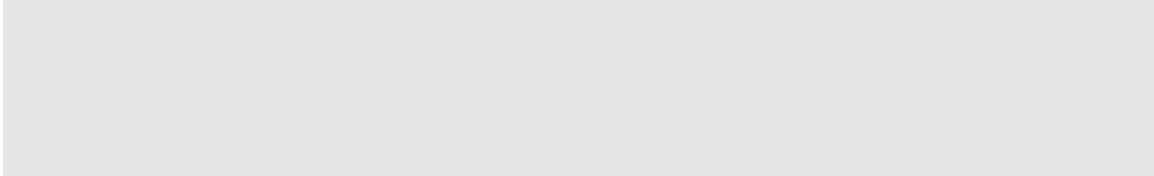
3. How would you describe your experience as a doctoral student? *



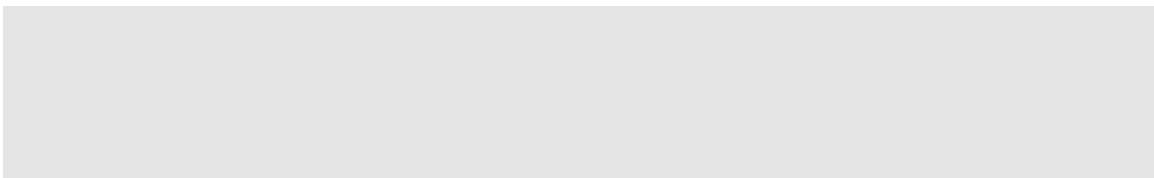
4. Explain how was the relationship with your supervisor? *



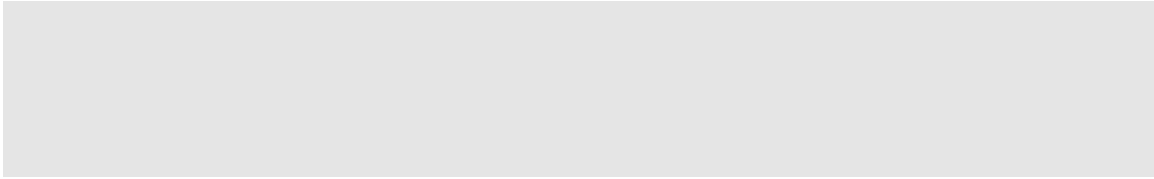
5. Explain how is the relationship with your doctoral students? *



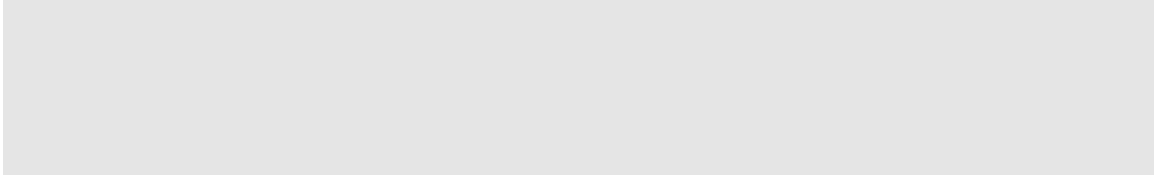
6. What are the aspects you consider are the most important in the development of the supervisory relationship? *



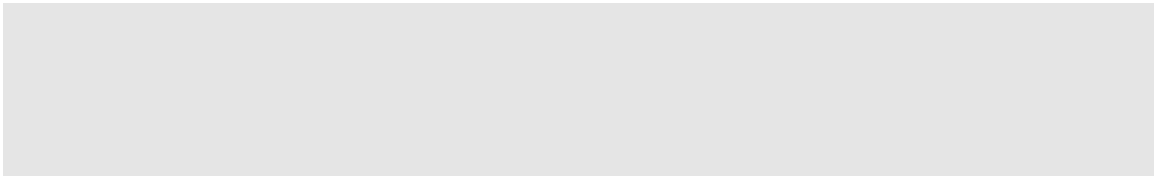
7. As supervisor what are the principal activities that you carry out? *



8. Explain what is the role of writing in doctoral students' training? *



9. Explain how do you supervise doctoral students writing? *



Thank you for your participation!

