Retheorising doctoral completions: Exploring the role of critical events, structure and agency

Shane Edward Dowle

Department of Business and Management

Royal Holloway, University of London

A thesis submitted in partial fulfilment of the requirements for the degree of Doctor of Philosophy (PhD)

Word count: 83,350

This thesis is dedicated to the memory of my Nan, Ivy Jacobs.

A strong and caring woman who inspires me every day.

Declaration of authorship

I, Shane Dowle, hereby declare that this thesis and the work presented in it is entirely my own. Where I have consulted the work of others, this is always clearly stated.

Signed:

Date: 10th May 2020

Acknowledgments

I am extremely lucky to have benefitted from the support, encouragement and good will of lots of people over the last five years. There are too many to name, but I would like to give a few people a very special mention.

I owe a debt of gratitude to my wonderful supervisors Professors Rosemary Deem and Pam Denicolo. My PhD has been a truly transformative experience thanks to your unerring support, incisive comments on my work, and freedom to pursue my ideas. I have learnt so much from you both. I would also like to thank my examiners Professors Paul Ashwin and Sally Barnes for the engaging, thought-provoking and validating viva experience. I am also grateful to Professor Jane Broadbent who so expertly chaired the viva.

I am also very grateful to so many of my colleagues at the University of Surrey for their support and encouragement. A special mention goes to Dr Kate Gleeson and Professor Chris France for their patience during periods of study leave, their genuine interest in the work, and their belief in me. Thank you.

I would also like to thank my sister- and brother-in-law, Helen and Christian McCracken, for their kind hospitality when I invaded their home three times during fieldwork.

Although I cannot name them, I am also extremely grateful to everyone who participated in this study. I was humbled by how open and willing you were to share your stories with me. I really hope that this work does justice to your experiences.

The biggest ‘thank you’ goes to my wife, Liz. You so patiently encouraged and supported me during this whole journey. Without you, I could not have done this.

And, to my two-year-old son, Harry, I hope that “Daddy’s story” will inspire you as much as you inspire me.

Thank you all.

Abstract

Lengthy times to thesis submission and low completion rates are perennial issues in doctoral education. Globally, there has been a burgeoning of policy interventions that have sought to shorten the timescale of full-time doctorates.

Despite being a long-standing issue, prior research into the factors that influence progress, submission and eventual completion of a doctoral degree has three limitations. First, it has neglected the tasks and content of the doctorate. Second, it has offered hyper-structural accounts, neglecting how doctoral researchers, and supervisors, also exercise agency. Third, it has over-relied on doctoral education socialisation as an explanatory theoretical model.

This thesis takes a fresh look at how progress to timely and successful submission is both enabled and constrained. A novel conceptual model has been used to frame the study by combining concepts from critical event theory, threshold concept theory and sociological theories of structure and agency. New data were generated via a case study of a research-intensive university. Data collection involved the use of a creative method from constructivist research – rivers of experience - and interviews with doctoral researchers, supervisors, Postgraduate Research Directors and administrators. Interpretations of the data were then also shared and validated through two national workshops involving participants from a range of UK universities.

The thesis seeks to make several contributions. First, the factors influencing timely submission are re-theorised using a new model, which considers both the situationally contingent and dynamic ways in which progress occurs. Second, the content and tasks involved in the doctorate are illuminated through a taxonomy of critical events and their features. Third, some significant effects of time pressure on the doctorate are revealed. Fourth, a theoretically and empirically informed conceptualisation of how doctoral researchers and supervisors exercise agency is provided. Fifth, the research identifies how major structural factors in the doctoral experience enable or constrain progress.

Table of Contents

Declaration of authorship **3**

Acknowledgments **4**

Abstract **5**

List of tables **8**

List of figures **9**

Glossary **10**

Chapter 1: Introduction **11**
- 1.1 Rationale for this research project 11
- 1.2 A note on terminology 13
- 1.3 Organisation of the thesis 14

Chapter 2: The context for submission and completion rates **17**
- 2.1 Introduction 17
- 2.2 A brief history of the UK doctorate 17
- 2.3 The knowledge economy and the 'race to complete' 20
- 2.4 Perspectives on timely submission and completion 23

Chapter 3: A literature review of the factors influencing thesis submission and degree completion **26**
- 3.1 Introduction 26
- 3.2 Doctoral researcher 27
- 3.3 Supervision 33
- 3.4 Department and Discipline 40
- 3.5 Institution 45
- 3.6 Summary of literature and research gaps 50

Chapter 4: Reconceptualising the factors that influence submission and completion **53**
- 4.1 Introduction 53
- 4.2 Defining and building a conceptual framework 53
- 4.3 Conceptualising the content and tasks of the doctorate 56
- 4.4 Responding to the challenges and opportunities within the doctorate 65
- 4.5 A conceptual model of doctoral researcher progress 73
- 4.6 Research questions 77

Chapter 5: Methodology **80**
- 5.1 Introduction 80
- 5.2 Construing constructivism 80
- 5.3 Stage one: Institutional case study 85
- 5.4 Stage Two: Validation workshops 111

Chapter 6: Critical events and doctoral researcher agency **117**
- 6.1 Introduction 117
- 6.2 What are the main critical events in the doctorate? 117
- 6.3 How does doctoral researcher's sense of agency influence timely submission? 130
- 6.4 Summary of findings 150

Chapter 7: Supervisor agency **152**
- 7.1 Introduction 152
- 7.2 Overview of findings 152
- 7.3 Epistemic-oriented agency 153
- 7.4 Self-efficacy-oriented agency 160
- 7.5 Relational agency 167
- 7.6 Summary of findings 171

Chapter 8: Structural components of doctorates 173
8.1 Introduction 173
8.2 How do progress reviews influence timely submission? 173
8.3 Doctoral Schools and timely submission 189
8.4 Summary of findings 198
Chapter 9: Perspectives on timely submission 200
9.1 Introduction 200
9.2 Overview of findings 200
9.3 Implications of funding conditions for institutions and individuals 201
9.4 Implications for doctoral researcher development and research projects 210
9.5 Instrumental supervision 214
9.6 Four-year funding model 216
9.7 Summary of findings 219
Chapter 10: Discussion 225
10.1 Introduction 225
10.2 Contributions to knowledge 226
Chapter 11: Conclusion 252
11.1 Introduction 252
11.2 Summary of contributions 252
11.3 Potential impact 254
11.4 Limitations and future research 256
11.5 Recommendations for practice 259
11.6 Reflections on the research process 268
References 272
Appendix 1 – Briefing pack for case study institution 285
Appendix 2 – Participant information sheet (Case Study Institution) 290
Appendix 3 – Consent form (Case study institution) 296
Appendix 4 – Interview guide example 298
Appendix 5 – Information sheet and consent form (Pilot) 302
Appendix 6 – Data analysis example (Doctoral researcher agency) 307
Appendix 7 – Questions used at UKCGE validation workshop 310
Appendix 8 – UKCGE consent form 312
Appendix 9 – SRHE information pack and consent form 314
Appendix 10 – SRHE workshop participant feedback 321
Appendix 11 – Shane’s river of experience 324

List of tables

Reference	Page number	Title
Table 1	15	Definition of key terms associated with submission and completion
Table 2	23	Policy interventions in the UK doctorate
Table 3	28	Literature review structure
Table 4	89	Submission rates by School
Table 5	90	Interview sampling criteria
Table 6	91	Interview sample by School and role
Table 7	92	Interview sample demographics
Table 8	97	Pilot interview sample
Table 9	109	UKCGE workshop sample
Table 10	110	SRHE workshop sample
Table 11	117	Summary of themes and subthemes for research question (i)
Table 12	129	Summary of themes and subthemes for research question (ii) – doctoral researchers
Table 13	152	Summary of themes and subthemes for research question (ii) – supervisors
Table 14	174	Summary of themes and subthemes for research question (iii) – progress reviews
Table 15	189	Summary of themes and subthemes for research question (iii) – Doctoral Schools
Table 16	199	Summary of themes and subthemes for research question (iv)
Table 17	249	Summary of gaps and research contributions

List of figures

Reference	Page number	Title
Figure 1	74	A conceptual model of progress through the doctorate
Figure 2	94	Generating interview questions
Figure 3	106	Thematic analysis process
Figure 4	118	PGR01-Med’s river of experience
Figure 5	124	A doctoral researcher’s river of experience from the SRHE workshop
Figure 6	127	A doctoral researcher’s river of experience from the SRHE workshop
Figure 7	219	PGR06 HumSoc’s River of Experience
Figure 8	246	A new theory for timely submission

Glossary

Acronym	Definition
AHRC	Arts and Humanities Research Council
CAQDAS	Computer Assisted Qualitative Data Analysis Software
CDT	Centre for Doctoral Training
DBIS	Department of Business Innovation and Skills
DTP	Doctoral Training Partnership
ESRC	Economics and Social Research Centre
EPSRC	Engineering and Physical Sciences Research Council
HEC	Higher Education Commission
HEFCE	Higher Education Funding Council for England
OFS	Office for Students
PCP	Personal Construct Psychology
PRES	Postgraduate Research Experience Survey
QAA	Quality Assurance Agency
RCUK	Research Councils UK
RDAP	Research Degree Awarding Powers
REF	Research Excellent Framework
SRHE	Society for Research into Higher Education
TA	Thematic Analysis
UKCGE	UK Council for Graduate Education
UKRI	UK Research and Innovation
UUK	Universities UK

Chapter 1: Introduction

This chapter explains the rationale for the project, defines some key terms, and provides an overview of the thesis structure.

1.1 Rationale for this research project

The objective of this PhD thesis is to understand how doctoral researchers can be supported and enabled to submit by their thesis by their institution's deadline.

My interest in this topic stemmed from my professional experience working in various professional services roles in a university, always with a focus on doctoral education. As I began to take on more responsibility for doctoral provision, I was struck by the proportions of doctoral researchers who did not submit their thesis by the regulatory deadline. I also grew concerned about the proportion of doctoral researchers who withdrew from their doctoral programmes before submitting a thesis. At the same time, other doctoral researchers were submitting prize-worthy theses in good time and having very successful viva voce examinations.

I began to collate and analyse more data on my own institution's track record. I started to question what might be happening underneath the figures I was seeing. I pondered why some doctoral researchers were able to submit their thesis on or before the deadline, whilst others took longer or did not complete at all. I wondered whether it related to the institutional frameworks for doctoral provision, the doctoral researcher's approach to their work, the relationship with supervisors, or something else entirely.

I consulted with experienced colleagues in other institutions about their submission and completion rates. I wondered if there was a 'magic bullet' approach I had somehow overlooked. The responses from colleagues based at other universities were that lengthy registrations and low completion rates were commonplace at doctoral level and a wicked problem to address. It was around this time that I also noticed how the issue of doctoral completions was becoming more public. The Higher Education Funding Council for England (HEFCE), since replaced by the Office for Students (OFS), had started to publish data on

institutional completion rates. In my own institution, the looming Research Excellence Framework (REF) 2014 census was focussing minds on how to maximise the number of doctoral degrees awarded.

I found this situation curious. On the one hand, there was a ramping up of pressure on institutions, supervisors and doctoral researchers to submit by hard deadlines. Yet, on the other hand, little was known within institutions about possible recipes for success. A conversation with one of my now supervisors, Prof Pam Denicolo, encouraged me to consult the academic literature on the topic. After doing some reading, Pam and I discussed what I had found, and we agreed that more research with a focus on practice would be beneficial. Such an approach might help to identify the factors that would enable doctoral researchers to cross the finishing line. Prof Rosemary Deem was very interested in the project too, and their encouragement convinced me to pursue the topic for a PhD. After some further discussions, and completing the application process, I registered for a PhD at Royal Holloway, University of London.

Looking back, my personal path into PhD study highlights why the topic of timely submission is worthy of research. The two main reasons for investigating this topic are:

Performance regimes: It is now a fact of life in the UK that all doctoral researchers' time to submission and degree outcomes are carefully monitored. For example, all research councils monitor how many of the doctoral researchers they fund submit within four years, although occasionally they permit a longer timeframe. If the proportion of doctoral researchers submitting within this timescale falls below a certain threshold, then an institution can be barred from accessing further funding from that council for a period of time. Institutions also collect data on the proportion of doctoral researchers submitting within the registration period. Often, these data are linked to key performance indicators and form a part of institutional strategies. Completions are important too, although they are harder to control as it depends, to some extent, on the availability of examiners to conduct viva voce examinations and sign off thesis corrections. In the REF, for example, the number of doctoral researchers that complete during the census period is evaluated. This is one of the metrics

that is used to allocate funding to institutions. In the UK context, then, doctoral submissions and completions are linked directly to access to funding.

Impact on individuals: Most importantly, every project that overruns and every non-completion can affect an individual's life. For example, full-time doctoral researchers who do not submit within their funded period might find themselves in financial difficulty. Similarly, if a doctoral researcher spends too long preparing their thesis it can prevent them from progressing with their career or other life projects. In some fast-paced disciplines, overrun might also result in the project findings being outdated, leading the doctoral researcher to fail their degree. Furthermore, the pressure to complete is also ignorant of the daily struggles involved in doctoral research, which have been linked to the rise in presentations of mental health conditions within the doctoral researcher population (Editorial 2018, Levecque et al. 2017).

Lovitts makes this point frankly: "The most important reason to be concerned…is that it can ruin individuals' lives" (Lovitts 2001, 6).

1.2 A note on terminology

Having considered the rationale for this project, I would like to define some of the key terms that are used throughout this thesis.

First, I have chosen to use the term 'doctoral researcher', rather than student, to refer to those undertaking a doctoral degree. The term 'doctoral' references the fact that they are involved in training for a recognised academic qualification. Also, the term 'researcher' respects the professionalism that doctoral researchers bring to their role and the fact that they are already early stage researchers. It also captures the key activity in which they are engaged: research.

Second, I use the term 'supervisor' rather than 'advisor' to refer to academics who guide doctoral researchers through their projects. Whilst I have some reservations about the term supervisor – it denotes operational control over an activity, which does not suit the nature of

doctoral research – it is commonplace in the UK context. Third, I use the term 'thesis' to refer to the final written output a doctoral degree. Whilst other countries use the term 'dissertation', thesis is more commonly used in the UK.

In the table below, I provide definitions of other key terms associated with the outcomes of doctoral degrees. These definitions are borrowed from Spronken-Smith, Cameron and Quigg (2017):

Term	Definition
Submission rate	Percentage of doctoral researchers who submitted within a specified timeframe, for example four years
Completion rate	Percentage of doctoral researchers who were awarded their doctoral degree, normally within a specified timeframe
Time to submission	Number of years from enrolment to submission of a thesis
Completion time, or time to degree	Number of years from enrolment to award of degree

Table 1: Definition of key terms associated with submission and completion

1.3 Organisation of the thesis

This thesis is comprised of 11 chapters. In the next chapter, Chapter 2, I position my research project within its broader historical and policy-based context. I do this by providing a brief history of the UK doctorate, examining how the knowledge economy accelerated policy interventions into the doctorate. I also evaluate different perspectives on the use of submission and completion rates as performance metrics. The chapter identifies the first research gap:

- the need to update our understanding of the consequences of the time pressure associated with the doctorate by drawing on a range of views, including doctoral researchers themselves.

In Chapter 3, I evaluate existing empirical research on the factors that influence progress, submission and completion. The chapter makes three key arguments: i) that timely submission and subsequent completion are influenced by a multitude of factors; ii) that the existing literature is under-theorised (where theory is used, there is an over-reliance on educational socialisation theory); and iii) the tasks and content of the doctorate are largely overlooked. Thus, the chapter concludes by identifying the following gaps in the literature:

- it has neglected the tasks and content of the doctorate;
- it has offered hyper-structural accounts, neglecting how doctoral researchers, and supervisors, also exercise agency;
- it has over-relied on doctoral education socialisation as an explanatory theoretical model.

In Chapter 4, I focus on building a conceptual framework to address the research gaps listed above. The chapter explains what I mean by a 'conceptual framework'. It then presents a unique conceptual model drawing on concepts from the following theories: critical event theory; threshold concept theory; and sociological theories of structure, agency and reflexivity. The chapter concludes by stating the project's research questions, as follows:

- What are the perceptions of key actors in doctoral education about how the following influence timely submission:

    i. Critical events in the doctorate?
    ii. Doctoral researchers' and supervisors' sense of agency?
    iii. The major structural elements of doctoral programmes?
    iv. Perceptions of the importance of timely submission?

In Chapter 5, I focus on transforming the research questions above into a researchable enquiry. I consider the research paradigm within which this research project operates -

constructivism. I then explain, justify and reflect on the two stages of data collection and analysis: an institutional case study (Stage One) and two validation workshops (Stage Two).

In Chapters 6 to 9, I present the findings from my empirical work as they relate to each research question. Chapter 6 focusses on critical events in the doctorate and doctoral researchers' sense of agency. In Chapter 7, I present the findings on supervisors' sense of agency. In Chapter 8, I focus on the major structural elements of doctoral programmes, namely, progress reviews and Doctoral Schools. In Chapter 9, I then consider the perceptions of the importance of timely submission.

In Chapter 10, I discuss the findings and evaluate their originality in light of the existing literature. I argue that the research project makes the following contributions to knowledge:

- the factors influencing timely submission are re-theorised using a new model, which considers both the situationally contingent and dynamic ways in which progress occurs;
- the content and tasks involved in the doctorate are illuminated through a taxonomy of critical events and their features;
- Some significant effects of time pressure on the doctorate are revealed;
- a theoretically and empirically informed conceptualisation of how doctoral researchers and supervisors exercise agency is provided;
- the research identifies how major structural factors in the doctoral experience enable or constrain progress.

In Chapter 11, I conclude the thesis by summarising its main contributions, discussing its potential impact, highlighting some areas for further research, and making some recommendations for practice. The thesis closes with my personal reflections on the research process.

Chapter 2: The context for submission and completion rates

2.1 Introduction

In this chapter, I position my research project within its broader historical and policy-based context. I do this by: i) providing a brief history of the UK doctorate; ii) examining how the knowledge economy accelerated policy interventions into the doctorate, which raised the profile of submission and completion rates; and iii) evaluating the different perspectives on the use of the submission and completion rates as performance metrics.

2.2 A brief history of the UK doctorate

The doctorate was very slow to arrive in the UK. The University of Oxford hosted the first DPhil registration in 1917, and the first conferral followed two years later. Universities on the continent had moved much more quickly in embracing research degrees. Wilhelm von Humboldt is credited with establishing the model for the contemporary doctorate. As Minister for Education, he created a doctoral degree that allowed scholars to specialise and to use their research to inform teaching. Other countries on the continent quickly adopted the Humboldtian model. France established its first doctoral programme in 1810, the Netherlands followed in 1815, and Switzerland established its doctorate in 1833.

The early period of the doctorate is often characterised as being free of interference from outside the academy (Taylor 2012). Yet it is significant that pressure to institute a research degree in the UK was politically, rather than academically, motivated. Simpson (1983) identifies how the introduction of a home-grown research degree was a means of diverting migrant doctoral researchers away from studying in Germany. Taylor (2018) also points out how the First World War led to a realisation that research would be fundamental to the war effort and in gaining a competitive edge in the post-war economy. Throughout its first century of life, then, the doctorate has always been something of an object of policy.

Bogle (2017) divides the first 100 years of the UK doctorate into four stages. Stage One (1917 – 1945) was the initiation phase. During this stage the Northern and London-based universities followed Oxford’s lead and established doctoral programmes. Numbers rose

steadily, with 2345 doctorates being awarded in the 1920s, almost doubling to 4308 in the 1930s (Simpson 2009).

During Stage Two (1945 – 1970), the number of registrations and awards dipped in the aftermath of the Second World War, with only 3069 PhDs conferred in the 1940s (Simpson 2009). In the following three decades, there was modest growth in the number of registrations and awards. However, many of the doctoral degrees started during this period were never finished. This was a consequence of the doctorate not yet being a pre-requisite for entry into an academic career and expectations that the thesis itself would be a magnum opus, making a major contribution to the discipline (Deem and Dowle 2020).

Numbers rose significantly during the Third Stage (1970s – 2003). HESA figures reveal how the number of doctorates awarded during this stage increased from 4815 in 1975/76 to 14,115 in 2000/01. It was also during this stage that concern about completion rates of doctoral degrees came to the fore. There was a challenge to the expectation that a doctorate ought to be a magnum opus and would, therefore, take as long as was needed to complete. To tackle low completion rates, the Winfield Report (Winfield 1987) recommended two alternative tracks through the doctorate: i) a knowledge-based doctorate, focussing on the scale of the contribution to knowledge and with a longer timescale for completion; and ii) a training-based doctorate, supporting the development of research skills and a publication-worthy thesis. In the end, the knowledge-based doctorate largely vanished, and the training model was adopted, though Winfield did not recommend this. The shift to a training model prompted universities to alter their regulations during the 1990s so that a thesis was judged on what could be submitted within three to four years of full-time study with methods training being taken in parallel.

The actions that universities took to improve timely submission and completion came under closer scrutiny during this period. The research councils began monitoring institutions' submission rates for funded doctoral researchers, imposing sanctions if an institution failed to meet the threshold level (Collinson and Hockey 1995). Completion rates were also monitored following the establishment in 1986 of the UK-wide Research Assessment Exercise

(RAE), later retitled as the Research Excellent Framework (REF). For each REF cycle, data on institutions' doctoral completions formed part of the assessment criteria (REF 2019).

During the Fourth Stage (2003-present), the number of registrations and awards ballooned. According to HESA, there were 112,815 doctoral researchers enrolled in the UK in 2018/19, 42% of whom came from the EU or further afield, and 29,330 doctorates were awarded that year.

During this stage there were also radical changes to the structure and purpose of doctoral programmes. The *SET for Success* review (Roberts 2002) heralded in the era of researcher development. The review recognised that opportunities in academe were limited and that most doctoral researchers would not find employment in the academy. More recent figures corroborate that view. Mellors-Bourne, Metcalfe, and Pollard (2013) found that 56% of doctoral researchers were leaving academia within six months of graduation. To better prepare doctoral researchers for a range of careers, the Roberts review recommended that universities be allocated extra funding to pump prime generic skills training provision. That funding has since come to an end, but its legacy continues as UK universities now commonly provide skills training as part of their doctoral offer.

It was also during this period that funding models for doctoral programmes shifted towards a more cohort-based, training-centred, multi-disciplinary approach. The major research councils in the UK now allocate funding through Doctoral Training Partnerships (DTPs) or Centres for Doctoral Training (CDTs). Funded schemes operate on a cohort model designed to reduce isolation, facilitate the formation of networks, and support better completion rates. Doctoral programmes have also become more organised and structured with the establishment of institution-wide Graduate Schools, latterly Doctoral Colleges/Schools. Doctoral Colleges/Schools oversee progression and provide training, often with a view to ensuring timely and successful completion (Smith McGloin and Wynne 2015, Denicolo et al. 2010). Many universities also participate in multi-institutional Doctoral Training Partnerships, yet melding together different organisational cultures is challenging (Deem, Barnes, and Clarke 2015).

Although late to arrive in the UK, the first 100 years of the doctorate have seen a significant expansion in numbers; shifts in its purpose, expectations and delivery; changes to funding models; and, an emphasis on reducing timescales for completion. In the next section, I explore in more detail why the duration of doctoral programmes and completion rates have become a core feature of doctoral education policy.

2.3 The knowledge economy and the 'race to complete'

Concerns about high rates of non-completion and lengthy registrations are longstanding issues in doctoral education. Almost 60 years ago, Lord Robbins first drew attention to the excessive time that doctoral researchers dedicated to preparing a thesis. Robbins worried that spending too long on doctoral research would be damaging for research itself and might dissuade talented researchers from entering the academy (Robbins 1963).

The issue gained significant visibility during the intervening decades. Completion rates and project duration were no longer a 'hidden crisis' (Lovitts and Nelson 2000) but became explicit policy matters. Some commentators argue that the advent of the knowledge economy was responsible for driving a tighter relationship between doctoral education and policy (McAlpine 2017, Green and Usher 2003).

The knowledge economy refers to a recognition of the role of knowledge in catalysing economic growth. The OECD asserted that the economies of its member states are "more strongly dependent on the production, distribution and use of knowledge than ever before" (OECD 1996, 9). The knowledge economy prioritises two aspects of knowledge: i) its creation, application and dissemination; and ii) the human capital within whom knowledge is embodied (Hancock, Hughes, and Walsh 2017). Because universities play an important role in knowledge generation and training the future workforce, they are considered vital to the knowledge economy (EUA 2009).

Unsurprisingly, doctoral education has continued to become intertwined with the knowledge economy discourse. Doctoral researchers are recognised as being especially highly skilled

human capital and their research projects contribute to the creation of knowledge (HEFCE 2003). Balaban (2016) has traced how the conceptualisation of doctoral researchers has changed over recent decades. Whilst they were once considered 'stewards of the discipline' - responsible for the upkeep of their academic field - they are now considered 'leaders'. As leaders, doctoral researchers are perceived to be highly skilled entrepreneurs capable of generating new knowledge and converting that knowledge into a viable economic or social enterprise (Balaban 2016). They also have a role to play in helping knowledge flow across organisations and using their high level problem solving skills (Hancock and Walsh 2016). Furthermore, doctoral graduates are well-placed to connect universities and businesses in order to create profitable innovations (Garcia-Quevedo, Mas-Verdú, and Polo-Otero 2011).

This conceptualisation of doctoral researchers is often instrumental, focussing on their potential for economic utility. It is important to note, however, that not all doctoral researchers accept or identify with the knowledge economy discourse (Hancock, Hughes, and Walsh 2017). Also, not every doctoral researcher is motivated by career aspirations in deciding to undertake a doctoral degree (Guerin, Jayatilaka, and Ranasinghe 2015). Similarly, there is an unevenness in how doctoral researchers interact with policy challenges and interventions (Ashwin, Deem, and McAlpine 2015).

Nevertheless, the knowledge economy narrative dominates at the policy-level. It is impatient for highly skilled doctoral researchers and the potential applications of their research. As a result, there has been a much greater emphasis on efficiency within doctoral education. Lengthy registrations and non-completion are considered undesirable. As two supervisors put it:

"[We work] in a context where the emphasis is placed firmly on successful, timely completion. The race to complete is on and contributing to the knowledge economy…must now not only be significant but timely too" (Green and Usher 2003, 44)

Within the UK, expectations about the duration of doctoral degrees and completion rates have become embedded and reinforced through multiple policy documents. The table below

summarises the key policy interventions in, or affecting, the UK doctorate that have cemented firm deadlines for thesis submission or encouraged high completion rates.

Year	Policy
1987	Winfield report
1996	Harris review of postgraduate education
1999	QAA Code of practice: Section 1: Research degrees
1999	Bologna declaration introducing three degree cycles: Bachelors, Masters, and Doctoral
2001	RCUK Joint Skills Statement
2002	Roberts report: Set for Success
2003	HEFCE: Improving standards in postgraduate research degree programmes
2004	EU Dublin descriptors – degree level descriptors and European Qualifications Framework
2005	EU Salzburg Principles – a set of principles for innovative doctoral training
2009	UUK: Promoting the UK doctorate: opportunities and challenges
2010	ESRC: Doctoral Training Centres
2010	DBIS: Review of postgraduate education
2011	EU Salzburg II – refinement of the principles for innovative doctoral training
2012	HEC: Postgraduate education: an independent enquiry
2013	QAA: Chapter B11: Research Degrees
2015	QAA: Characteristics statement: Doctoral degree
2016	AHRC Doctoral Training Partnerships (DTP2): Call specification
2018	EPSRC: Centres for doctoral training
2019	UKRI Training grants: Standard terms and conditions of training grants

Table 2: Policy interventions in the UK doctorate

The table emphasises just how central concerns about doctoral degree duration and completion rates are to policy. The documents in Table 2 cover a range of aspects of doctoral education including regulatory frameworks, quality assurance practices, standards, purpose of doctoral education, format of delivery, and funding. All of them take into account degree duration and completion.

One consequence of the proliferation of policy interventions on the doctorate is that degree timescales and completion rates have become metricised and publicly accessible. For example, up until its dissolution in 2016, the Higher Education Funding Council for England

(HEFCE[1]) published league tables of UK institutions' completion rates (HEFCE 2013, 2012, 2007, 2005), which attracted media attention (Jump 2013, Shepherd 2007). HEFCE paused publication of these tables in 2013 owing to some universities gaming their algorithm. Similarly, some of the research councils regularly publish their submission rate data (AHRC 2020).

The heightened surveillance of submission and completion metrics and its public accessibility can impact the reputation of a university's doctoral provision. Consequently, submission and completion rates now form a part of the day-to-day performance management of doctoral programmes. For example, academic appraisals commonly draw on submission and completion rates for individual supervisors, graduating doctoral researchers can be a criterion for promotion, and doctoral researchers themselves have to regularly report on their progress through progress reviews.

Submission and completion rates are the ubiquitous measure of the efficiency of doctoral training in UK universities. In the next section, I consider some perspectives on the use of those metrics.

2.4 Perspectives on timely submission and completion

The use of submission and completion rates as measures of the UK doctorate's fitness for purpose has been criticised in the literature.

In the years following the Winfield and Harris reviews, scholars raised concerns about the possible effects of metricising submission and completion rates. On submission rates, Collinson and Hockey (1997, 1995) were concerned that constrained timescales for a doctorate might result in the submission of a sub-standard thesis in order to meet the four year cut off. They argued that this might lead to examiners taking on a proto-supervisory role to raise the quality of the thesis to the expected standard.

[1] HEFCE was responsible for distributing public money for teaching and research. It closed in 2018 and its functions were taken on by the Office for Students (for teaching) and UK Research and Innovation (for research)

Delamont, Atkinson, and Parry (1997) have critiqued the application of submission rate metrics to all doctoral researchers. They argue that the measure is not sensitive to the different processes through which research happens. They were particularly scathing about attempts to transfer the critical mass model to the social sciences, which they considered would be ineffective at increasing submission rates and irrelevant to social sciences disciplines. In earlier work, Delamont (1989) also critiqued submission rates for homogenising the doctoral researcher population. For Delamont, it assumes that all doctoral researchers are in their early 20s, geographically mobile, funded and male. This led to a concern that submission rates would discriminate against older, female, less mobile and self-funded doctoral researchers - possibly creating barriers to access.

Responsibility to the public purse has also been raised in relation to submission and completion rates. In light of the knowledge economy debate, Enders (2004) argues that submission and completion rates do not inform funders or the public about what doctoral researchers go on to do. Other data are needed to verify the contribution of doctoral researchers to the knowledge economy. Collinson and Hockey (1997, 1995) commented that submission rates, in particular, do not inform about whether or not a doctoral researcher actually went on to achieve their degree, though very few discontinue after submission. They also suggest that the measure is of limited value for part-time doctoral researchers. This is because part-time researchers tend not to be funded by the public purse and might not be driven by purely career or economic motivations in pursuing a doctorate.

More recently, Bossier and Eleftheriou (2015) have raised concerns that more is being asked of doctoral researchers. Alongside the demands of a research project and production of a thesis, doctoral researchers are required to engage with skills training but firm deadlines for thesis submission persist. McCormack (2005) has also shown how the performance-driven model of doctoral research portrays non-completion as a failure. She uses interview data to show how some researchers have reconstructed their experience of withdrawing from their programmes as a positive retelling of their lives. For her participants, the point of withdrawal from the degree marked the beginning of a new and successful chapter in their lives. It is

sometimes the case that withdrawal from a doctoral degree is for positive reasons, for example, getting a dream job, starting a family, or even deciding that research is not a good fit for a future career.

The majority of the literature cited in this section is decades old and not all of it is based on empirical work. Furthermore, none of the critiques referenced here have been followed up in a systematic way to see if their predictions came to pass. Also, the voice of the doctoral researchers themselves is largely absent from the debate. This identifies the first research gap in the literature on submission and completion rates:

- Research Gap 1: There is a need to update our understanding of the consequences of the time pressure associated with the doctorate by drawing on a range of views, including doctoral researchers themselves.

Whilst this chapter has focussed on the UK context, the knowledge economy narrative and the pressure for timely completion of doctorates apply across the globe. Elsewhere, governments have enacted policies to encourage the timely completion of doctorates including in the US, Australia, Sweden, Netherlands, Spain and Russia.

Despite being a long-standing and widespread policy matter, timely completion of a doctorate is stubbornly difficult to achieve. A recent survey by the European Universities Association found that just under half the institutions it surveyed struggled to secure completion of a doctorate within the four year, full-time duration agreed under the Salzburg Principles (Hasgall et al. 2019). In the next chapter, I explore this in more detail by evaluating the literature on the factors that influence thesis submission and completion of a doctorate.

Chapter 3: A literature review of the factors influencing thesis submission and degree completion

3.1 Introduction

This chapter reviews the literature on the factors that influence thesis submission and degree completion. I make three key arguments:

First, I argue that there is no magic bullet guaranteeing timely submission and completion of a doctorate. Instead, a multitude of factors are involved, including situational and contextual factors, and they are considered a 'multidimensional problem' (Castello et al. 2017, 1054).

Second, I argue that existing studies tend to be under-theorised or over-rely on education socialisation theory as the explanatory model. This paints an overtly socialised and hyper-structural picture of the doctoral experience, which obscures how different actors exercise agency.

Third, I concur with other researchers that the tasks and content of the doctoral experience have received scant attention (van Rooij, Fokkens-Bruinsma, and Jansen 2019, Devos et al. 2017, Bastalich 2015). This is an important oversight given that eventual completion is dependent on the tasks associated with thesis preparation.

These three arguments apply mainly to the literature that focusses on timely submission and completion of doctoral degrees. Throughout this chapter, I occasionally refer to literature on the broader doctoral experience to provide context. However, I should make it clear that the arguments I make are not directed at that broader literature.

I have structured this literature review using the top-level factors from McAlpine and Norton's (2006) integrative framework for doctoral completion. Those top-level factors are: i) the doctoral researcher; ii) supervision; iii) the department and discipline; and iv) the institution. McAlpine and Norton's (2006) model also includes a fifth factor - society and supra society – which I discussed in the previous chapter.

A summary of this chapter's main sections and sub-sections is provided in the table overleaf to help orientate readers.

Section	Sub-section
Doctoral researcher	• Sociodemographic and contextual academic factors • Meaning and self-efficacy • Work-life balance
Supervision	• Supervisory style • Intervention vs autonomy • Relationship fit
Department and discipline	• Academic socialisation • Access to communities
Institution	• Structural reforms to doctoral programmes

Table 3: Literature review structure

3.2 Doctoral researcher

This section covers the literature on the relationship between doctoral researcher-centric factors and submission/completion.

3.2.1 Sociodemographic and contextual academic factors

A sizable body of literature has used various quantitative methods to explore how doctoral researchers' sociodemographic characteristics (for example, age, gender, and residency) and contextual academic factors (for example, registration mode, funding type, prior degree classifications, and academic discipline) influence submission and completion.

These studies typically use existing data from student record databases, allowing them to report on outcomes for whole cohorts of doctoral researchers. The sample sizes involved tend

to be very large meaning that the findings can be reliably generalised to the doctoral researcher population.

Regarding sociodemographic characteristics, studies consistently find that younger doctoral researchers are more likely than their older peers to submit a thesis by their institutional deadline and complete (Wollast et al. 2018, Park 2005, HEFCE 2005, Wright and Cochrane 2000). International doctoral researchers are also reported to complete in greater proportion and at a faster rate than their resident peers (Spronken-Smith, Cameron, and Quigg 2017, Jiranek 2010, Rodwell and Neumann 2008, Park 2005) but not in all cases. One Belgian study found that Belgian nationals were more likely to complete their doctorate than international researchers (Wollast et al. 2018). Outcomes based on gender are inconclusive. Some studies found no statistically significant difference in completion rates based on gender (Wollast et al. 2018, van de Schoot et al. 2013, Wright and Cochrane 2000, Seagram, Gould, and Pyke 1998). Others have reported that women take longer to complete their doctorate than men (Kyvik and Olsen 2013, Jiranek 2010) and are at a higher risk of non-completion (Castello et al. 2017).

Regarding contextual academic factors, part-time doctoral researchers are consistently found to be less likely to complete their doctorate when compared to their full-time peers (Spronken-Smith, Cameron, and Quigg 2017, Castello et al. 2017, HEFCE 2005, Park 2005) but they work at a faster full time equivalent rate (Rodwell and Neumann 2008, Wright and Cochrane 2000). Funding status is also found to correlate positively with both submission and completion (Wollast et al. 2018, Spronken-Smith, Cameron, and Quigg 2017, van der Haert et al. 2013, Lariviere 2013, Jiranek 2010). This is especially so when doctoral researchers are funded to focus on their research without requirements to undertake additional duties, such as teaching (van der Haert et al. 2013, Valero 2001, Seagram, Gould, and Pyke 1998), and the funding package covers the entire duration of the doctoral project (Maloshonok and Terentev 2018, Wollast et al. 2018, Geven, Skopek, and Triventi 2017).

Prior academic attainment, especially at Master’s level, also influences completion. A high Master’s degree classification raises the probability of completion (Wollast et al. 2018, van

der Haert et al. 2013, Wao and Onwuegbuzie 2011). Similarly, Wright and Cochrane (2000) found that within the science-based subjects, a first class or upper second class honours undergraduate degree positively correlated at a statistically significant level with submission of the thesis within 4 years.

Discipline of study is also reported to influence both submission and completion rates. Typically, STEM researchers have higher completion and submission rates than researchers in the social sciences and humanities (Wollast et al. 2018, Spronken-Smith, Cameron, and Quigg 2017, van der Haert et al. 2013, Rodwell and Neumann 2008, Park 2005, Seagram, Gould, and Pyke 1998, Booth and Satchell 1995). However, it is not made clear by these studies whether this relates to how research is carried out in different disciplines or a consequence of STEM doctoral researchers tending to be younger.

The findings from these studies give the impression that timely submission of a thesis and successful completion are more likely when a doctoral researcher is young, full-time, funded to work on research only, has a strong academic record and is researching in STEM. For some researchers, sociodemographic and contextual academic factors are conceptualised as risk factors. Wollast et al. (2018), for example, found that the accumulation of three more risk factors increases the likelihood of non-completion by up to 50%.

However, I argue that the explanatory power of these studies is limited because the variables included in statistical models tend to be selected out of convenience – being readily available in university registry databases - rather than driven by a clear theoretical position. A closer look at some of the results presented in these studies indicates that sociodemographic and contextual academic factors offer only a very partial explanation of what leads to timely submission and completion.

That limitation is highlighted by van Rooij, Fokkens-Bruinsma, and Jansen's (2019) work. They surveyed over 800 doctoral researchers in the Netherlands. When they included just the sociodemographic and contextual academic factors in their regression model, they could account for just 11% of the variance in the data. Wright and Cochrane's (2000) regression

model also returned statistically significant, but very low, R^2 values for these factors. Similarly, Wollast et al. (2018) reported weak effects (Cramer's V). This is a strong indication that factors other than socio-demographic and contextual academic ones have a more important role to play in enabling timely submission and degree completion.

Furthermore, these studies do not shed light on the possible reasons why, say, younger doctoral researchers complete in greater number than their older counterparts. The circumstances and contextual factors that might have a role to play in supporting thesis submission and degree completion are largely absent from these studies.

Emerging literature from the discipline of educational psychology has started to move beyond the lack of a clear theoretical position in these studies by exploring the role of the concepts of meaning and self-efficacy in completion.

3.2.2 Meaning and self-efficacy

Scholars from the discipline of educational psychology have highlighted how the task and content of the doctoral experience have received scant attention (van Rooij, Fokkens-Bruinsma, and Jansen 2019, Devos et al. 2017). An emerging body of literature has begun to address this gap by exploring how doctoral researchers attribute meaning to the tasks they engage with, how they experience self-efficacy in relation to doctoral tasks, and how those two concepts influence completion.

Devos et al (2017) conducted a novel interview study in Belgium, comparing the experiences of completers and non-completers. Their approach offers rich insights into doctoral researchers' experiences, which cannot be gleaned from the studies cited in section 3.2.1 above. They found that timely completion is enabled when doctoral researchers are working on projects that are progressing well, are meaningful, and where the influence of external stressors is manageable.

The importance of finding meaning in the project is reinforced by two larger scale studies too. Castello et al (2017), for example, surveyed 724 Spanish doctoral researchers. Their

qualitative analysis of free text comments highlighted that c.20% of their sample considered withdrawing from their project when the work ceased to be meaningful. Similarly, Cantwell et al. (2017) surveyed 1390 doctoral researchers in Australia. Their cluster analysis found that doctoral researchers fell into three different categories reflecting their level of engagement with doctoral tasks: constructively engaged, struggling to engage, and disengaged. The more engaged researchers in their sample found meaning in the complexity and difficulty inherent in doctoral tasks and believed their project to be achievable. Such a perspective on doctoral work stimulates a positive emotional response to day-to-day tasks and is regarded as an enabler of progress (Cantwell et al. 2017, Devos et al. 2017).

These studies draw attention to the importance of finding meaning in doctoral tasks and its influence on completion. Importantly, Cantwell et al. (2017) did not find that sociodemographic and academic contextual factors had a significant effect on levels of engagement. This finding further diminishes the significance of some of the studies cited in Section 3.2.1. above.

The concept of self-efficacy has also begun to receive attention in relation to doctoral tasks. Self-efficacy is broadly conceptualised as a belief that doctoral researchers can mobilise the right behaviours and resulting actions to achieve a goal (Bandura 1997). An international survey of doctoral researchers (Overall, Deane, and Peterson 2011) reported that research self-efficacy encourages intrinsic motivation toward doctoral-related tasks, heightening the sense of meaning in doctoral work. Studies from other fields of education have found that practices such as making plans and sticking to a consistent writing schedule can lead to timely submission and completion (Kiley 2015, Lindsay 2014, Gardner 2010). Nevertheless, self-efficacy can become stunted when researchers exhibit self-sabotaging behaviours such as overcommitting, busyness, perfectionism and procrastination; all of which provide a convenient excuse for slow progress (Kearns, Gardiner, and Marshall 2008).

There is much value in investigating the tasks and content of the doctorate, given their importance to completion. The educational psychology literature has made useful advances into this territory with its focus on meaning and self-efficacy. Perhaps owing to its disciplinary

orientation, that literature does not always take into account the effects of situational and social factors. For example, it can be difficult in the contemporary higher education climate to control external stressors, which Devos et al. (2017) considered to be an important factor for completion. Similarly, factors outside the project might conceivably influence how doctoral researchers experience meaning and self-efficacy. For example, a doctoral researcher's project might quickly become obsolete in fast-paced disciplines, data collection might fail, there might be a change of supervision, and so on.

There is scope, then, for more work to be conducted on the tasks and content of the doctoral experience and their effect on timely submission and completion. Work focussing on the effects of situational and social factors would be a useful complement to the studies cited in this section.

3.2.3 Work-life balance

The struggle to find a satisfactory work-life balance has also been found to compromise timely submission and degree completion. The increasing demands being placed on doctoral researchers come from a variety of sources. First, studies outside the UK have found that taking on a doctorate alongside extensive work and family commitments can place significant strain on doctoral researchers (Maloshonok and Terentev 2018, Castello et al. 2017, van de Schoot et al. 2013). The effect of these demands can be exacerbated when the programme structure does not provide adequate support for doctoral researchers with additional responsibilities, thus increasing the probability of non-completion (Gardner 2008).

Second, the workload associated with the doctoral experience itself has received attention. There is concern about the level of expectation placed on doctoral researchers who need to engage with a variety of tasks in addition to research activity and thesis preparation (Duke and Denicolo 2017, McAlpine 2017). This situation reflects the increasing demands being made of the academic labour force more generally (Kyvik 2012).

Van Rooij, Fokkens-Bruinsma, and Jansen's (2019) extensive survey draws our attention to the damaging effects of a heavy workload. They found that an unmanageable workload was

the most significant factor for reducing satisfaction with the doctorate, slowing progress, and increasing the likelihood of non-completion. The increasing demands on doctoral researchers are having a sinister effect through the rise in mental health conditions amongst doctoral researchers (Levecque et al. 2017).

Third, the terms and conditions of funding packages impact work-life balance and the likelihood of timely completion. Whilst having funding increases the likelihood of timely completion, doctoral stipends are barely adequate to make ends meet (Deem and Dowle 2020). A Russian study found that funding inadequacies were forcing doctoral researchers to take on additional paid work, which compromised thesis progress (Maloshonok and Terentev 2018). A Belgian study uncovered how international doctoral researchers are often overlooked for the most desirable funding packages, making do with short-term or uncertain packages (Laufer and Gorup 2018). However, a good funding package does not necessarily protect against the presentation of a mental health condition (Levecque et al. 2017).

Funding duration is also a concern. Where the funding duration is shorter than institutional timescales for completion, it risks placing doctoral researchers in a position of financial precarity during an unfunded period, which contributes to late stage non-completion (Wollast et al. 2018).

Having considered doctoral researcher-centric factors, I will now consider another dimension in the doctoral experience: supervision.

3.3 Supervision

Supervision is a critical factor in any doctoral researcher's experience. In the UK, doctoral researchers are surveyed about their experience via the Postgraduate Research Experience Survey (PRES). PRES results repeatedly show that doctoral researchers' satisfaction with supervision influences their confidence in submitting on time (Turner 2015, Bennett and Turner 2013, Hodson and Buckley 2011, Kulej and Wells 2009). The importance of supervision applies in other countries too. In Spain, for example, the most frequently cited negative

experiences in the doctorate concern the doctoral researcher-supervisor relationship (Corcelles et al. 2019).

In this section, I explore the research literature on the relationship between supervision and timely submission and completion. In general, the literature on doctoral supervision neglects the tasks and content of the doctorate and does not consider in detail how supervision is a reflective act (Bastalich 2015).

3.3.1 Supervisory Style

The literature presents a mixed picture of how supervision is carried out. Some studies emphasise the reflective nature of supervision, which evolves based on different doctoral researchers' needs at different points in their programme (Gurr 2001). Other studies present doctoral supervision as fairly static and determined by structural factors outside the doctoral researcher-supervisor interaction.

One example of the latter is the literature on the broader doctoral experience that concerns supervisory styles. In a well-cited, but fairly small scale interview study (n=12), supervision is theorised as a practice that aligns to five typical styles (Lee 2008): i) a functional approach that intends to develop the doctoral researchers' project management skills with a view to submitting a pass-worthy thesis; ii) enculturating practices that intend to integrate the doctoral researcher into the broader disciplinary community; iii) a critical thinking approach that intends to develop a doctoral researcher's capacity for questioning, critique, analysis and evaluation; iv) emancipatory tactics that are intended to encourage self-development; and v) developing a quality relationship that uses emotional intelligence to motivate and nurture.

There is some evidence that the pressure of performance regimes and increased surveillance of supervisors' work is leading supervisors to adopt more functional, directive styles (Halse 2011, Deuchar 2008, Holligan 2005). The trend toward functionalism is mirrored in more recent research (Lindsay 2014, Amunsden and McAlpine 2011). Lindsay (2014), in particular, found that doctoral researchers in her sample favoured supervisors adopting a quasi-project manager role through chasing doctoral researchers for work and advising when it had reached

the quality threshold for submission. Surprisingly, her participants rarely discussed other styles identified by Lee (2008), such as critical thinking, which might be constraining the type of learning experienced in the doctorate.

The argument for supervisors tending toward a dominant style, possibly as a result of increased monitoring of supervisory work, is unconvincing. First, the two studies that make this point most emphatically rest on very small sample sizes of 12 supervisors (Lee 2008) and 8 doctoral researchers (Lindsay 2014) in single institutions. It is curious that the latter study was not followed up by a validating study with supervisors. The extent to which these findings can be generalised to all supervisors is, therefore, limited. Second, the concept of styles is also problematic. As Bastalich (2015) points out, innovation in supervision is contingent on the social context. No supervisor has just one style. Indeed, supervisors may call on all the styles that Lee (2008) identifies, and others, depending on the situation.

Other studies highlight the importance of reflective practice in supervision. Halse and Malfroy (2009), for example, argue for the professionalisation of supervision. They consider doctoral researchers' progress to be enabled when supervisors develop good habits of mind. Such habits involve consideration of and responsiveness to a doctoral researcher's needs, close interest in their work, constructive feedback and, most importantly, the capacity to learn from experience and apply that learning in new situations. Deuchar (2008) concurs, arguing that uncritical adoption of a stylistic approach is unlikely to meet a doctoral researcher's needs and can become a source of tension within the supervisory relationship, frustrating progress. The 'How To' literature on supervision (Denicolo, Duke, and Reeves 2020, Kamler and Thomson 2014, Delamont, Atkinson, and Parry 2004) reinforces this approach by encouraging reflection and adaptation to enable timely submission and completion.

Of course, it is not easy to be reflective about supervision. As Kyvik (2012) points out, the demands made of academics are rising and time for contemplation might, therefore, be squeezed.

In summary, some literature argues that there are multiple supervisory styles and the rise of accountability regimes is encouraging functionalism as the dominant style. This presents supervision as a fairly static practice. Other literature argues for a more reflective approach to supervision that changes over time and between doctoral researchers. In both cases, the situationally contingent nature of supervision lacks detailed consideration.

3.3.2 Supervisor relationship fit

The concept of relationship fit has been used to explain timely submission and completion. Unfortunately, the literature tends to present fit in a static way – either it exists, or it does not – and as having a structuring effect on the doctoral experience.

For example, the likelihood of a productive relationship is thought to be raised when there is an alignment between the doctoral researcher's and supervisors' academic interests and methodological approaches (Valero 2001, Golde 2000). A misalignment has been found to generate tension in the relationship and raise the prospect of non-completion or delayed submission (Keefer 2015, Ives and Rowley 2005).

Kyvik and Olsen (2013) suggest that disciplinary norms can affect academic fit. In STEM, they argue, supervisors have more of a vested interest in the PhD project because it furthers their own research agendas, standing in the field, and co-authoring with doctoral researchers is commonplace. In other disciplines, the idea for the project tends to be doctoral researcher-led meaning that the research topic may only be of tangential interest to the supervisors. This raises the possibility of misalignment between academic interests and research approaches, which might thwart progress.

Other researchers have presented fit as being dynamic rather than pre-determined. Pyhältö, Vekkaila, and Keskinen (2015), for example, surveyed 1184 doctoral researchers and 431 supervisors in Finland. They found that fit was important for promoting resilience, satisfaction and progress. Importantly, they identified that it can be worked at throughout the doctorate.

Other studies have highlighted the role of dialogue and trust in establishing fit (Denicolo, Duke, and Reeves 2020). An open dialogue encourages doctoral researchers to share experiences and to alert supervisors to any difficulties, both academic and personal, that they might be experiencing. Research findings encourage supervisors to be attentive to the emotional state of their doctoral researchers. This is particularly important for encouraging dialogue because doctoral researchers experience complex and shifting emotionality throughout their degree (Wisker et al. 2013, Green and Bowden 2012). Where issues can be discussed in an open and constructive way, it enables supervisors to take a preventative and interventionist approach to facilitate the early identification and resolution of problems (Manathunga 2005). Timing is also important. A fit in the relationship between the supervisors and doctoral researcher is much more likely if expectations can be discussed, documented and negotiated at the outset (Moxham, Dwyer, and Reid-Searl 2013). Trust also underpins a good fit between doctoral researchers and their supervisors. Where supervisors are trusting of their doctoral researchers it can bolster researcher confidence in their approaches and nourish a constructive relationship (Devos et al. 2015).

3.3.3 Intervention vs autonomy

A classic dilemma in the supervisor literature, which can influence progress, is deciding when to intervene in a doctoral researcher's project and when to step back. Too much intervention can limit the development of a doctoral researcher's independence and autonomy. Too little intervention can leave the doctoral researcher struggling (Gurr 2001, Delamont, Parry, and Atkinson 1998). It is not clear from the literature how and when supervisors make decisions to intervene. Supervisors' own experiences of being supervised are sometimes considered relevant (Amunsden and McAlpine 2011, Delamont, Parry, and Atkinson 1998). It is also possible that the discipline may play a role when, for example, a doctoral researcher's work affects the outcome of a larger research project.

A good example from the broader doctoral research literature of the intervention/non-intervention dilemma is feedback on work. Delamont, Parry, and Atkinson's (1998) ethnographic research with supervisors shows how supervisors agonised over the extent to which they should intervene with the production of the written thesis. If supervisors are too

involved, then it might rob the doctoral researcher of the opportunity to take ownership of the work. Conversely, if supervisors are too distant, then doctoral researchers might struggle to progress with the thesis.

Yet the feedback that supervisors provide on written work is not just a question of frequency and quantity. It is complicated by theories of power relations (Guerin and Green 2013, Doloriert, Sambrook, and Stewart 2012), which might be wrapped up with gender relations and ethnicity, and is linked to doctoral researchers' identity development and socialisation into disciplinary norms (Paré 2011, Crossouard and Pryor 2008).

By focussing on the complexities of feedback in team supervision scenarios, Guerin and Green (2013) draw our attention to the effects of power differentials in how doctoral researchers respond to feedback. Their interview study showed how supervisors were regarded by doctoral researchers as occupying a superior position and were seen as representing the disciplinary community. In some cases, this led doctoral researchers to be overly deferential or to interpret negative feedback as a personal critique, symbolising exclusion from the disciplinary community.

Doloriert, Sambrook, and Stewart (2012) concur with the negative emotions doctoral researchers often experience when grappling with the feedback, but their survey found that supervisors do not perceive themselves as being as powerful as doctoral researchers think they are. The authors are not clear whether this reflects supervisors taking power for granted, rather than the absence of a power differential. Interestingly, Doloriert, Sambrook, and Stewart (2012) found that the method of feedback delivery influenced how doctoral researchers respond. The most common form of feedback delivery - notes and comments on written work - was perceived by doctoral researchers to be the least empowering. Doloriert, Sambrook, and Stewart (2012) posit that supervisors favour this delivery method because of its efficiency, and regard it as a response to the time pressure within the doctorate. However, alternative models are not suggested.

Paré (2011) and Crossouard and Pryor (2008) conceptualise feedback on writing as a process of socialising doctoral researchers into the knowledge, history, values and beliefs of the academic discipline. Those researchers draw on the communities of practice theory of legitimate peripheral participation (Lave and Wenger 1991) to argue that feedback is a mechanism for inducting doctoral researchers into the accepted customs of the discipline. Consequently, feedback becomes bound up with doctoral researchers' sense of identity and sense of belonging within an academic community (Paré 2011). Given that so much is at stake in the act of giving feedback, it is striking that Doloriert, Sambrook, and Stewart (2012) and Paré (2011) have identified how underprepared supervisors feel about giving feedback. In Doloriert, Sambrook, and Stewart's (2012) study, just 31% of the sample had attended training about feedback. Consequently, supervisors and doctoral researchers often lack a shared technical vocabulary to discuss writing, which leads to vague, confusing and often misunderstood feedback on work (Paré 2011). Fortunately, the guidance and advice available to supervisors on the topic of feedback is improving (Denicolo, Duke, and Reeves 2019).

Nevertheless, doctoral researchers are not just passive recipients of supervisor feedback and nor are they always cowed by power differentials. As Guerin and Green (2013) noted, doctoral researchers can still exercise agency in how they respond to feedback by adopting practices such as carefully documented responses or by quietly dropping comments with which they disagree.

The frequency of supervisory meetings has also been reviewed in the context of intervention and autonomy. Doctoral researchers who perceive that they have frequent contact with their supervisors were less likely to consider withdrawing from the doctorate indicating that frequent supervision protects against non-completion (Pyhältö, Vekkaila, and Keskinen 2015). Similarly, regular contact between supervisors and doctoral researchers has been found to reduce burnout and combat non-completion (Cornér, Löfström, and Pyhältö 2017). Earlier work by Hockey (1997), warns against being too prescriptive about supervision. His research with supervisors in the social sciences showed that supervisory contact ebbed and flowed throughout the degree. In the earlier stages, supervision is intensive, it is then dialled back in

the mid-stage so that doctoral researchers experience autonomy, and intensifies once more during the write up.

In summary, the literature has been attentive to the supervisor-doctoral researcher relationship and its impact on progress. The focus has so far been on the structural dimensions of supervision - style, fit and degree of intervention. These aspects of supervision are considered structural because they can have a constraining or enabling effect on doctoral researchers' projects. Some research explored in this section conceptualises supervision to be a more dynamic act that centres on reflective practice and adaption of approaches to respond to different situations. With the exception of work on feedback, the supervisory literature continues the theme of neglecting the tasks and content of the doctorate.

In the following section, I explore another dimension of the doctoral experience: the influence of the department and discipline on submission and completion.

3.4 Department and Discipline

The literature considers the doctoral researcher's academic department and discipline to be important dimensions of the submission and completion conundrum. For Golde (2005), the department is the control centre of the doctoral experience because, she argues, it has jurisdiction over policies that affect doctoral researchers' day-to-day life and it is shaped by disciplinary norms. Golde's (2005) argument is now outdated because it does not reflect contemporary doctoral education in the UK, which is spatially dispersed (doctoral researchers may be supervised across departments, institutions, or organisations). Also, not all policy decisions affecting doctoral researchers are made at the departmental level. Nevertheless, the department is still an important centre of activity in the doctoral experience.

3.4.1 Academic socialisation

The effect of the department and discipline on completion rates has been explored by relying heavily on education socialisation theory. In this context, education socialisation, refers to the "process through which an individual learns to adopt the values, skills, attitudes, norms, and knowledge needed for membership in a given society, group or organization" (Gardner 2010,

63). Proponents of an education socialisation approach argue that doctoral completion can be explained by gauging the extent to which doctoral researchers adopt the customs and practices of their department and discipline (Sinclair, Barnacle, and Cuthbert 2013, Gardner 2010, Golde 2005, Golde 2000).

The concept of fit is used once more to explain why some doctoral researchers find it difficult to socialise into the culture of their department and disciplines. Golde's (2005) interview study in the US describes how non-completion is more likely when there is a poor fit between the expectations of the department and the doctoral researcher, and when doctoral researchers do not perceive academic life to be compatible with their own life goals. The paper conceives that cultures and ways of working in disciplines and departments are fairly static. Neither does it consider how those engaged with multi-disciplinary work might experience additional hurdles to integration. From this perspective, cultures of disciplines and departments exert a structuring effect on the doctoral researcher's experience, indicating that misalignment can be a challenge to timely completion.

The literature also identifies how the presumed tacit nature of research activity impedes socialisation. The literature suggests that the rules of the research game are rarely made explicit and constitute a hidden curriculum (Jackson 1968). Doctoral researchers are challenged to tune their ear to the different expectations made of them and learn how to operate to meet those expectations (Delamont, Atkinson, and Parry 2000).

The organisation of research activity within disciplines has been argued to make a difference to how tacit knowledge circulates. Delamont, Atkinson and Parry's (2000) close up ethnography revealed how socialisation and the reproduction of knowledge creation practices are facilitated in disciplines that operate under group research models, for example, lab-based sciences.

In other disciplines, such as social sciences and humanities, where critical mass is less relevant (Delamont 1989), socialisation becomes more of a challenge and experiences of isolation are more common. At its most constrained, the doctorate is experienced as an autonomous

pursuit where the opportunity for intellectual exchange is limited to interactions between the doctoral researcher and supervisory team (Keefer 2015). In these disciplines, the three structural enablers of socialisation that Weidman and Stein (2003) refer to – participation in scholarly activities; peer interactions; supportive departmental environment – are harder to come by.

I argue that the 'tacit nature of research' argument is now less relevant. Most of the references that use this are quite old. Since their publication, many books have attempted to make the hidden rules of research much more explicit and transparent (see for example (Rugg and Petre 2020, Phillips and Pugh 2015)). Those publications are also intended to have wide appeal across disciplines.

Elsewhere, arguments have been made to promote a training-centred approach to doctoral education, particularly in the social sciences and humanities. This approach has been argued as a means of reducing academic isolation, enabling socialisation, and promoting completion (Hockey 1991). Nevertheless, support networks established through training seldom survive if the programme is dependent on front-end only formal training in the programme (Pilbeam, Lloyd-Jones, and Denyer 2013).

Disciplinary norms are not the only features of departments thought to enable socialisation and completion. Other research has pointed out common features amongst departments with high completion rates that transcend disciplines such as a collegial environment, active involvement of doctoral researchers in departmental activities, concern for doctoral researchers' wellbeing, and supporting researchers in raising concerns or questions (Gardner 2010, Gardner 2009, Valero 2001). Similarly, departments with low completion rates also exhibit common features unrelated to the discipline, for example, negative attitudes toward doctoral researchers (Valero 2001), perhaps because not all academics enjoy supervision.

Despite the widespread use of socialisation as an explanatory model for doctoral completions, its ongoing usefulness is debated. For some researchers, socialisation is a universalising theory that conceptualises doctoral researchers as an homogenous body of full-time, well-

funded individuals progressing to an academic career (Acker and Haque 2015). It fails, therefore, to take account of the experiences of different groups of doctoral researchers, particularly minority groups and different ethnic groups (Espinoza 2018, Williams et al. 2016) and those with disabilities.

Furthermore, socialisation risks overplaying the role of academic structures, which presents doctoral researchers as occupying a rather passive position (Pervan et al. 2015). The doctoral experience becomes characterised as a process of uncritical assimilation into static norms and values (Antony 2002). Socialisation is a theory that is guilty of downward conflation (Archer 1988) because it suggests that the enduring norms of the department and discipline act upon and shape the helpless doctoral researcher. It does not, therefore, take into account the capacity of doctoral researchers to be active agents in their doctoral education who are capable of shaping and influencing their doctoral experience (Hopwood 2010) and who hold and act on values of their own. Based on these critiques, socialisation appears to have limited explanatory potential for making sense of completion in the contemporary UK doctorate. This is because doctoral education is now diverse, spatially dispersed, and multi-purpose.

3.4.2 Access to communities

Doctoral researchers' access to different communities has also been considered in relation to the department and discipline. Doctoral researchers come into contact with multiple communities throughout their doctorate. Those communities might be located within the doctoral researcher's office space, laboratory or department; assemble at conferences; cross institutions in the case of Doctoral Training Partnerships (DTPs); materialise in training events that cut across disciplines; or be virtual, digital communities (Janta, Lugosi, and Brown 2012).

Access to different communities has been found to enrich the doctoral experience. Corcelles et al. (2019) uncovered how the social dimension of the doctorate is considered the most rewarding for some doctoral researchers. Their participants emphasised the importance of having access to communities to receive expert feedback, communicate research, and interact with other researchers. It was the wider research community, outside the immediate departmental setting, that was perceived to offer the most value. Similarly, Pilbeam, Lloyd-

Jones, and Denyer (2013) have highlighted how peer communities provide opportunities for research problems to be discussed, progress to be benchmarked, and emotional support to be found during difficult periods. Peer communities tend to form quickly, with the strongest ties made between doctoral researchers who are studying in the same mode (i.e. full-time or part-time) and who enter in the same cohort (Pilbeam and Denyer 2009). Those studies were based on data collection from a part-time, professional doctorate and not all doctoral programmes operate in cohorts in any real or sustained sense.

Despite the perceived benefits of having access to numerous research communities, the literature indicates that not all communities exert a positive influence on timely completion. Both Lovitts (2001) and Golde (2000), for example, found that social integration is a positive feature of doctoral researchers' overall experience, but it does not protect against decisions to withdraw from a doctorate. Whilst others speak to the positive effects of social integration (Corcelles et al. 2019, Pilbeam, Lloyd-Jones, and Denyer 2013, Pilbeam and Denyer 2009), there is scant evidence that it has any significant influence on submission and completion.

Integration into *academic* communities, however, is considered to be a more effective means of reinforcing progress and reducing the prospect of non-completion (Devos et al. 2017, Lovitts 2001, Golde 2000). Yet PRES results always show that doctoral researchers do not feel sufficiently integrated into the academic life of their department (Bennett and Turner 2013) and that this can be particularly challenging for international doctoral researchers (Deem and Brehony 2000). Castello et al. (2017) support this perspective by using survey data to show that difficulty integrating into the immediate academic community (supervisors and department) and broader communities (discipline) was the second most frequently cited reason for considering withdrawal from a doctoral programme.

Not all groups of doctoral researchers enjoy the same levels of access to academic communities. Part-time and international doctoral researchers have been identified as two groups that face some of the most difficult challenges in this regard. Part-time doctoral researchers, for example, are often based off-campus, struggle to attend on-campus events, and find it difficult to build relationships with academic staff because of long periods away

from the department, all of which reinforces structural isolation from important communities (Gardner 2008, Deem and Brehony 2000).

International doctoral researchers are also disadvantaged. Despite the evidence that international doctoral researchers are more likely to submit and complete their doctorate in a timely manner, this is not because the odds are stacked in their favour. Laufer and Gorup's (2018) work shows how international doctoral researchers are vulnerable to social exclusion owing to their lack of familiarity with both the host nation's cultures and academic norms. The sense of exclusion is further exacerbated when international doctoral researchers perceive that academic and social communities are indifferent to their needs (Manathunga 2005, Deem and Brehony 2000). Difficulties in accessing academic communities can, therefore, hamper efforts to submit a thesis by the institutional deadline.

In summary, integration into academic communities is considered an enabler of progress and completion of the doctorate. However, not all doctoral researchers have the same levels of access to communities, which indicates the presence of social and structural barriers for some groups. Traditionally, integration into a given community has been theorised using a socialisation framework. Yet integration is a sociological, rather than individualised experience. The education socialisation approach has been critiqued for being a universalising and reductive theory, which reduces the doctoral experience to identifying, internalising and assimilating to pre-existing structural norms. In so doing, it does not take into account the spaces in the doctoral experience for the exercise of agency.

I now consider the influence of the institution, or organisation, on submission and completion.

3.5 Institution

Within the contemporary UK higher education landscape, there has been a drive to improve the structure and organisation of doctoral education. The desire to reform doctoral education stems from concern about low submission and completion rates, marginalisation of doctoral researchers compared to undergraduates, and growing global competition for doctoral

researchers (Denicolo et al. 2010). In the UK, these reforms have tended to be led at an institutional – or even national - rather than departmental level (Smith McGloin and Wynne 2015, Denicolo et al. 2010). In this section, I consider the impact of greater organisation of doctoral education on submission and completion rates.

3.5.1 Structural reforms to doctoral education

A significant development in UK and European doctoral education is the expansion of distinct organisational entities with responsibility for the co-ordination, promotion and administration of doctoral programmes (Deem and Dowle 2020). In both the UK and European context, these organisational entities have become much more widespread during the last decade as universities have taken on institutional-level responsibility for doctoral researchers (Hasgall et al. 2019, Smith McGloin and Wynne 2015, Denicolo et al. 2010).

Despite the growth in these organisation entities, there is an unevenness in both their responsibilities and structure across and within different Higher Education systems. Generally, their principal foci will include one or more of: improving progression, submission and completion rates; improving the attractiveness of research degrees to prospective applicants; improving the quality of doctoral education and the doctoral researcher experience; promoting interdisciplinary work; improving supervision; representing graduate issues; increasing the number of doctoral researchers; delivering skills training across disciplines; preparing doctoral researchers for a variety of career trajectories; overseeing inter-institutional training programmes, for example Doctoral Training Partnerships; and managing quality assurance for doctoral programmes, for example monitoring the progress of doctoral researchers and managing programme oversight (Baschung 2020, Hasgall et al. 2019, Smith McGloin and Wynne 2015, Denicolo et al. 2010).

The structure of these organisational entities also differs. In the UK, for example, 83% are located at the institutional level, compared to 76% in 2009 and 67% in 2004 (Smith McGloin and Wynne 2015). In Europe, the organisation is more mixed with most entities being located at the disciplinary level (64%) and/or the faculty level (52%) (Hasgall et al. 2019) but with institutional entities being present in some countries too (Baschung 2020, Nyhagen and

Baschung 2013). This is indicative of a general ceding of power and control, especially in the UK, over how doctoral education is organised away from the department to the institution.

Terminology also differs within and between different Higher Education systems. The organisational entities responsible for doctoral education use different terms to refer to themselves including, for example, Graduate Schools (which tend also to subsume responsibility for Master's programmes), Doctoral Colleges, Doctoral Schools and Doctoral Academies. Following Hasgall et al's (2019) survey, I will use 'Doctoral School' as a catch-all term for any organisational entity which has one or more of the responsibilities outlined above.

Despite the expansion of Doctoral Schools in the UK, there has been minimal research to date into the effectiveness of how they operate, and the impact Doctoral Schools have had on doctoral researchers' progress, submission and eventual completion. With a few exceptions (Baschung 2020, Nyhagen and Baschung 2013), the relationship between Doctoral Schools and thesis submission and completion lacks clear theorisation. Geven, Skopek, and Triventi (2017), for example, have explicitly criticised the research literature on the doctorate for not investigating the impact of policy reforms on submission and completion rates. There have, however, been some reviews of broader reforms in doctoral education, for example Bartholomew's (2015) review of ESRC's Centres for Doctoral Training (CDT), though that review did not focus on submission and completion rates.

A UK-based exception is a paper by Humphrey, Marshall, and Leonardo (2012), which measured the impact of the introduction of three reforms at Newcastle University on submission rates using a cohort comparison. Their study found that three aspects of the reforms singularly and collectively improved the chances of timely submission: i) submission of a Project Approval Form at the start of the PhD, which outlines the project plan and objectives; ii) engaging with research training and completing the assessment; and iii) being supervised by a team. In combination, these factors increased the probability of timely submission from 15% to 70%.

Improvements to completion rates have been identified at the institutional and national level in other countries. Although not tested empirically, two papers (Spronken-Smith, Cameron, and Quigg 2017, Kyvik and Olsen 2013) speculate that improvements might be attributable to the tighter organisation and monitoring of doctoral programmes through: admissions standards; progress monitoring procedures; submission of a research proposal at an early stage of the programme; introduction of skills training; research agreements between candidates and supervisors; presence of a Doctoral School overseeing doctoral programmes; reduction in the number of papers and word count required for a thesis; and use of supervisory teams.

Based on data acquired from the Doctoral School in the highly selective Italian European University Institute, Geven, Skopek, and Triventi (2017) examined the effect of two sets of reforms on time to degree and overall cohort completion rates. The first set of reforms involved structured training in theory and research methods; progress presentations by doctoral researchers; interim submission deadlines – research agenda at the end of year one, two thesis chapters by the end of year two, and a thesis draft by the end of year three; and a hard deadline for submission at the end of year seven. A second tranche of reforms was later introduced which shortened the thesis deadline to five years but provided an additional year's funding on the condition that thesis chapters were submitted at progress checkpoints. These reforms had a positive effect on time to degree by improving the probability of submission within 4 – 6 years. Completion rates also improved by between 10 to 15 percentage points after the first wave of reforms and between 9 and 20 percentage points after the second wave.

A similar effect was observed at the University of Split Medical School in Croatia after three sets of reforms were introduced covering recruitment (use of selection criteria and acceptance of interdisciplinary backgrounds); programme regulations (biannual progress reviews and assessments); and curriculum (research and transferable skills training, research plan requirement). Although still low, these reforms increased completion rates to 29% within 5 years, compared to 9% and 5% for the School's other research programmes (Vidak et al. 2017).

Across these studies, a series of reforms had been introduced at the same time, making it difficult to disentangle the effects on submission and completion of individual structural changes. The studies do not give a clear picture of which reforms are most likely to improve submission rates. Also, the quantitative approach taken does not shed light on why some reform packages improve submission and completion rates, and correlations are not couched within a clear theoretical framework. Nevertheless, these studies indicate that greater structuring of doctoral education is having a positive effect on completion rates and reducing time to degree.

Caution should be exercised, however, in adopting and implementing these reforms without paying due attention to the local context. There are lessons to be learnt in this regard from the experience of Russia's Project 5-100. Maloshonok and Terentev (2018) investigated the impact of reforms in Russia to upskill doctoral researchers. They found that completion rates were compromised by the introduction of too much training, which left little time for practical research experience; limited supervisory capacity to support new cohorts of doctoral researchers; lack of funding, leaving doctoral researchers to take on part-time paid work to make ends meet; and publication requirements that delayed thesis submission.

There are also invisible effects of institutional reforms, which are not reflected in statistical analyses. A good example is the experience of progress reviews. Whilst all of the reforms discussed in this section included some form of monitoring of doctoral researcher progress, suggesting that it is good practice (Di Pierro 2007, McAlpine and Norton 2006), the ways in which this intervention plays out on the ground is much more nuanced. For some doctoral researchers, progress reviews are perceived to be of limited benefit and are treated as a superficial box ticking exercise (Budd et al. 2018). This might be the effect of social learning, which distances the use of reviews from institutional aims (Mewburn et al. 2014). Others have observed how the implementation of progress reviews created confusion about its purpose; led to problems being deliberately concealed from the prying eyes of Doctoral Schools; and is not a transparent reporting mechanism but influenced by gender dynamics (Mewburn et al. 2014, Mewburn, Cuthbert, and Tokareva 2014).

In summary, there has been a drive to improve the organisational structure of doctoral education in the UK and further afield. Reforms have been introduced that tighten admissions criteria to doctoral programmes; provide research and other skills training; monitor and review doctoral researcher progress, including explicit planning and objective setting; have clear deadlines for assessment and thesis submission; and use supervisory teams. Increasingly, the introduction of reforms and delivery of training is overseen by an institutional, rather than departmental, Doctoral School.

Although the effect of individual reforms is unclear, collectively, the structural organisation of doctoral education appears to be reducing time to degree and improving overall completion rates. What remains opaque across this literature is the theorising of why these reforms are having those effects. Again, a very clear picture of the structures of doctoral education is provided, but the associated content and experiences of doctoral researchers, supervisors and others in working with these reforms is underexplored.

3.6 Summary of literature and research gaps

In this chapter, I have evaluated the research literature that has investigated the factors influencing thesis submission and completion rates. I have made three key arguments throughout:

First, I have argued that there is a multitude of factors that influence submission and completion - it is a multidimensional problem (Castello et al. 2017). To help understand the multidimensional nature of the issue, I have structured the chapter around McAlpine and Norton's (2006) nested model. Their model provides a useful heuristic for conceptualising the top-level factors, namely: doctoral researchers; supervisors; department and discipline; institution; and society and supra-society (the last factor was discussed in the previous chapter) and acknowledging that they interrelate.

I have also argued that within each top-level factor, there is a further assortment of factors that influence the probability of timely submission and eventual completion. Taking

supervision as an example, I showed how a combination of the following all influence progress through the doctorate: reflexivity about supervisory style; close work with doctoral researchers to establish a good fit; and consideration about when to intervene and when to allow for autonomy.

Second, I have argued that the existing literature on submission and completions tends to be under-theorised. Where theory is used, there is a tendency to rely on education socialisation theory, which presents an overly socialised view of the doctoral experience. A good example of this is the literature that has explored the influence of the department and discipline on submission and completion. That work risks overplaying the role of academic structures. In so doing, it presents doctoral researchers as passive agents and reduces the doctoral experience to a process of uncritical assimilation into fixed practices.

Furthermore, the balance of the literature is tipped toward an exploration of the structural factors that influence submission and completion, leaving the experiences of the key agents involved in the doctorate underexplored. (By 'structural', I refer to factors external to doctoral researchers that enable or constrain their actions. This is discussed in more detail in the next chapter). A good example is the literature on structural reforms to doctoral education. That work has observed how a range of reforms to the doctorate including admission criteria, training, monitoring and review of progress, deadlines, and supervisory teams are having positive effects of completion rates. It does not, however, investigate how key agents work with those reforms to enable those positive outcomes, nor if there are any unintended consequences that might hinder progress.

Third, I have argued that the content and tasks associated with the doctorate have been neglected. The literature on doctoral researchers emphasises the multidimensional nature of factors affecting submission and completion. It covers which sociodemographic and contextual academic factors influence submission and completion, as well as other structural factors such as funding and commitments outside the doctorate that impact work-life balance and wellbeing. There is also some emerging literature from educational psychology that has

explored meaning and self-efficacy from the doctoral researcher perspective. However, there is still scant detail about the social and situational content of the doctorate.

This leaves three additional research gaps in the literature:

- Research Gap 2: There is a need to understand more about the content and tasks involved in pursuing a doctorate. In so doing, I can enrich our knowledge of how doctoral researchers experience learning that enables progress, as well as identify some of the hurdles that might inhibit timely submission and completion;
- Research Gap 3: There is a need to investigate how doctoral researchers, and those who support them, respond to the opportunities and challenges within the doctoral experience. In so doing, I can further our knowledge of how the actions of key agents within the doctorate enable or constrain progress. Any account of agents' actions must also give due regard to the influence of structural factors. Yet plugging this gap will restore some balance to the research literature, which has tended to focus on structural, over agentic, accounts of submission and completion.
- Research Gap 4: The ongoing usefulness of education socialisation theory as an explanatory model is limited. There is a need to revitalise our theoretical perspectives so that we can better understand the relationship between i) the content and tasks of the doctorate; ii) responses of agents to that content; and iii) the structuring of the doctoral experience.

In the next chapter, I draw together insights from four theoretical perspectives (critical events in education, threshold concepts, and structure and agency) to provide a conceptual framework for this project. The next chapter concludes with the research questions that guide the remainder of the study.

Chapter 4: Reconceptualising the factors that influence submission and completion

4.1 Introduction

This chapter reconceptualises the factors that influence timely submission and completion into a novel conceptual framework. The framework lays the foundations for an empirical enquiry to address the research gaps identified in the previous chapters.

The chapter has five sections. In Section 4.2, I briefly define ‘conceptual framework’ and outline the work it does for this research project. In Section 4.3, I consider the first set of concepts used in the conceptual framework: critical events and threshold concepts. In Section 4.4, I consider how the concepts of structure, agency and reflexivity can be used to inform the project. In Section 4.5, I bring the different concepts together into a novel conceptual framework. In Section 4.6, I state the research questions that will guide the empirical stage of the project.

4.2 Defining and building a conceptual framework

The research literature is often unclear about what distinguishes a ‘conceptual framework’ from a ‘theoretical framework’. Both terms are often used interchangeably, which can be a source of confusion for new researchers (Green 2014). Throughout this chapter, I deliberately use the term ‘conceptual framework’, rather than ‘theoretical framework’, because it better reflects the type of work that the concepts I use do for my research project. Before outlining those concepts, I will first attempt a definition of a ‘conceptual framework’ and explain why it is appropriate for this project.

First, the purpose of a conceptual and theoretical framework differs. A theoretical framework is normally used when the purpose of the study is to verify the theory’s explanatory power. The theory becomes the focal point of the study and the study’s purpose is to test the theory’s validity (Imenda 2014, Rocco and Plakhotnik 2009). A conceptual framework, on the other hand, will likely integrate concepts from different theoretical work (Rocco and Plakhotnik 2009) to investigate a specific research problem in a specific context (Imenda 2014). The research problem is the study’s main focus, not the theory. Jabareen (2009) has likened a conceptual framework to a ‘plane’ of linked concepts that provides a basis for *understanding*

a research problem, rather than generating causal *explanations.* Nevertheless, this still involves testing data against the concepts.

Second, there are sometimes differences in methodology. According to Imenda (2014), a quantitative research design tends to be favoured when testing theory because it can allow for generalisation beyond the immediate research problem, although qualitative approaches are sometimes used when the study's purpose is to test out and elaborate the theory (Rocco and Plakhotnik 2009). A conceptual framework, however, normally favours a qualitative or mixed methods research design because its focus is on developing an understanding of a specific research problem in a specific context (Imenda 2014). There are exceptions, however.

Based on this distinction, I use the term 'conceptual framework' throughout this chapter because research on submission and completion rates is under-theorised and the dominant theory – education socialisation – is problematic. Consequently, there is no theory of submissions and completions that is ripe for testing. My project is better served by linking together different concepts into a 'conceptual framework'. This will help to bring new light to understanding timely submission/completion. It will also help to generate new theory that could be tested in future studies.

Before setting out the key features of my conceptual framework, I will briefly explain how it evolved throughout the project. Although the structure of my thesis might give the impression that my conceptual framework has followed an orderly and linear path through the research lifecycle, the reality was a lot messier.

Early in the PhD, I proactively sought a theoretical framework that would give causal explanations of doctoral researchers' progress. I started with socialisation, perhaps as a result of its dominance in highly cited papers in my field, but I became disenchanted with its limitations. Socialisation was clearly operating as a theoretical framework and various papers were testing its validity (see, for example, (Gardner 2010, 2008, 2006)). To my mind, the engagement with socialisation was not subject to adequate critique as it ought to be. Its explanatory power was being taken for granted and I was uncomfortable with how it constrained interpretations of doctoral researchers' and academics' agency.

I was also reading papers that explored perspectives on the use of submission and completion rates as a performance measure. The perspectives in these papers led me to consider the suitability of performativity (Usher 2006, Lyotard 1984) as a theoretical framework. Performativity theory sent a stark message about the efficiency driver in research and its impact on the nature of knowledge production and academic labour. However, it did not help me get to grips with how doctoral researchers progress through their degrees. I was also resistant to its core 'do or die' message, which again presented a hyper-structural view of the doctorate, obscuring how individuals exercise agency. I realised that I needed something that would balance structural and agentic accounts of human action.

This led me to a third theoretical framework, relational emergence (Elder-Vass 2014, 2010, 2007, 2005). Emergence theory was attractive because, at the time, I was thinking through the multi-dimensional nature of doctoral researchers' progress toward completion. I was conscious that there were lots of factors impinging on the doctoral experience and I needed a way of bringing them together and examining how different combinations might lead to different outcomes. I was preoccupied with how progress emerged from those different factors and emergence offered a theoretical framework for thinking through those combinations. Whilst relational emergence was very attractive and neat at the theoretical level, once I had collected and analysed my pilot data, I concluded that it was too generic to give me any meaningful insights into my research problem.

As I was collecting and analysing the data from the institutional case study, I became increasingly aware of the importance of doctoral researchers', supervisors' and others' reflections and actions in responding to the situations they encountered. I noticed patterns of situations, reflections and responses across the data, which made me think more carefully about agency. I was attracted to institutional work theory (Lawrence, Suddaby, and Leca 2010) because it recognised that whilst social structures act on us, we also have agency to maintain, disrupt or create new structures. This was enlightening and offered a counternarrative to the heavily structured accounts I had been reading.

However, institutional work theory over-relied on the temporal conceptualisation of agency (Emirbayer and Mische 1998). Temporal agency refers to how people act with intention by considering past-oriented habitual actions, present-oriented reflections on the matter at hand, and future-oriented alternative courses of action. This did not clearly fit my dataset, possibly because doctoral researchers' past experiences rarely prepare them for doctoral study (Lovitts 2005), and it is not always obvious if an action will lead to a good outcome. Institutional work theory did, however, provide a springboard into other accounts of structure and agency and their situationally contingent nature.

I now consider those concepts in more detail.

4.3 Conceptualising the content and tasks of the doctorate

In the previous chapter, I identified the following research gap concerning the content and tasks of the doctorate:

- Research Gap 2: There is a need to understand more about the content and tasks involved in pursuing a doctorate. In so doing, I can enrich our knowledge of how doctoral researchers experience learning that enables progress, as well as identify some of the hurdles that might inhibit timely submission and completion

So far, the tasks and content of the doctorate have predominantly been explored from an educational psychology perspective. Scholars have focussed on the relationship between timely completion and finding meaning in doctoral-level tasks (Cantwell et al. 2017, Devos et al. 2017) and self-efficacy (Overall, Deane, and Peterson 2011). I argued that this perspective is very informative, but it does not adequately cover situational and social factors.

A different set of concepts is needed to bring a social perspective on the content and tasks of the doctoral experience. In what follows, I combine concepts from critical event (Woods 1993) and threshold concept (Meyer and Land 2003) theories to achieve that objective.

4.3.1 What can 'critical events' and 'threshold concepts' tell us about the content and tasks of the doctorate?

Critical event theory (Woods 1993) and threshold concept theory (Meyer and Land 2003) were conceived decades apart. Despite significant overlap between them, no research, as far as I can tell, has linked the two theories.

Both theories, I argue, are appropriate for exploring the content and tasks of a doctorate in a way that aligns with the aims of this project. I am interested in how doctoral researchers can make progress through their degrees so that they are enabled to submit their thesis by the institutional deadline and complete. Critical event and threshold concept theories are both concerned with stages of progress. They both provide useful conceptual tools for isolating and identifying how learning that underpins progress is experienced, as well as account for how structural conditions might enable or constrain that learning. To make this discussion less abstract, I will now set out the key concepts associated with each theory.

Starting with critical events, Woods (1993) described how our education is marked by infrequent yet profound moments where real learning, beyond the superficial and instrumental, occurs. He describes these moments as "flashpoints that illuminate in an electrifying instant some key problematic…and which contain, in the same instant, the solution" (Woods 1993, 357). These "flashpoints" spring forth, uncontrolled and unplanned for, from critical events, that is, integrated and focussed programmes of activity that may last for weeks or even years.

Woods (ibid.) characterises these incidents as 'critical' because they represent a transformative experience for the person. For Woods (ibid.), a transformative experience encompasses developing new attitudes towards learning, new understandings of self, new relationships with others, and acquiring new knowledge and skills. Through a transformative experience, learners exhibit capabilities and achievements of which they never before thought themselves capable. Critical incidents also have profound and transformative effects on those who support learning. A critical incident can reinforce an educator's sense of

professional identity and protect against the nefarious effects of unpopular policies on their work. This effect is achieved by reigniting a sense of joy and pleasure in their profession.

Woods' (ibid.) conceptualisation of a transformative experience is possibly a symptom of the historical context in which his theory developed. Written only a few years after the introduction of the National Curriculum and based on constructivist, ethnographic research in schools, there were widespread concerns about teachers losing influence over the teaching profession and the erosion of morale. Critical event theory provided an antidote to the rigidly compartmentalised, assessed and performance managed school regime instigated by the 1988 Education Reform Act.

Woods' (ibid.) acknowledgement of how performance management affected teachers' labour is similar to the impact of new managerialism on academic labour (Deem, Hillyard, and Reed 2007, Deem and Brehony 2005, Deem 1998). Woods (1993) considers what structural conditions are needed to enable moments of transformative learning through a six stage model: i) conceptualisation: the idea, the vision; ii) preparation and planning: setting aims and objectives, recruiting people; iii) divergence: getting lost in experiment and creativity; iv) convergence: selecting the 'products' that best serve the enterprise; and v) consolidation: writing it up, producing posters, presenting the work; vi) celebration: marking the end of the event.

Of course, the freedom for educators to put such a structure in place can be constrained by the exigencies of performance regimes. Those regimes swallow up time by emphasising instrumental and superficial activity or impression management (Goffman 1990) that may not lead to the desired transformative learning (Mewburn et al. 2014, Mewburn, Cuthbert, and Tokareva 2014, Ball 2003).

The concept of a transformative educational experience is also at the heart of threshold concept theory. In their introduction to the theory, Meyer and Land (2003) describe how progress with learning is enabled through transformative moments, which can potentially

change a person’s relationship with subject knowledge, or even how they come to view the world; they write:

“A threshold concept can be considered as akin to a portal, opening up a new and previously inaccessible way of thinking about something. It represents a transformed way of understanding, or interpreting, or viewing something without which the learner cannot progress. As a consequence of comprehending a threshold concept there may thus be a transformed internal view of subject matter, subject landscape, or even world view” (1).

Once a student has experienced this transformation, they may be permanently changed. It has been suggested that the transformation is irreversible and the learner cannot return to the relationship with knowledge that pre-existed the threshold crossing (Kiley 2009, Meyer and Land 2003).

Threshold crossing has received some research attention at doctoral level. Applications of the theory at doctoral level have identified that the core concepts and skills that doctoral researchers must acquire are not tied to a single discipline. Instead, they are generic features of a doctoral education. They are thought to transcend disciplines and be rooted in the knowledge creation process. Researchers have identified some threshold concepts at doctoral level, which include: formulating arguments, theorising (!), situating work within the literature, articulating a personal contribution to the relevant field, doing systematic and rigorous analysis, and understanding the methodology and methods being worked with (Kiley and Wisker 2009, Trafford and Leshem 2009). Other examples might also include autonomy and critical thinking. However, those authors do not discuss why those aspects of a doctoral education are considered ‘concepts’ rather than ‘abilities’ or ‘skills’. It has been argued that it is more accurate to consider threshold crossing as being related the acquisition of clusters of abilities or skills that differ from person to person, but is not reducible to the acquisition of those abilities or skills (Rowbottom 2007). Nevertheless, Kiley (2009) suggests that threshold crossing constitutes a ‘rite of passage’ through the doctorate. Once a threshold is crossed, the doctoral researcher’s relationship with knowledge, and perhaps worldview, can be altered.

Another feature common to both critical event and threshold concept theory is the sense of unease and unfamiliarity that is thought to precede a transformative moment. Woods (1993)

emphasises that transformative moments are tinged with strangeness, mystery and unfamiliarity. Meyer and Land (2003) call this knowledge ‘troublesome’. Wisker and Robinson (2009) and Wisker and Bengsten (2019) have likened this experience to the Gothic, where normality becomes unsettled, yet the strangeness offers a portal into a different way of seeing the world. Whilst these two perspectives embrace strangeness as a part of learning, others have warned that such strangeness can derail doctoral researchers’ progress and cause them considerable stress (Keefer 2015, Kiley 2009).

This perspective has much in common with the idea of a disorienting dilemma presented in other transformational learning theory (Mezirow 2000). Consistent across these theories is the idea that the underlying constructs of the way we view the world have to be challenged for transformative learning to occur. This is often a disorienting, troubling and uncomfortable moment, but is necessary for learning that is not just instrumental or superficial.

Doctoral researchers who experience the discomfort associated with this period of acute unease and unfamiliarity are said to be in a liminal state. During this period of liminality, doctoral researchers can get stuck on a certain point and fail to make progress. Some will employ tactics such as mimicry, or ‘faking it until they make it’, but this is not consistent with transformative learning and may leave a doctoral researcher unable to progress (Kiley 2009). Other doctoral researchers may become more withdrawn and isolated, experiencing a drop in confidence, or even a sense of misalignment between themselves and what research entails (Keefer 2015).

Threshold concept and critical event theory overlap in their consideration of transformative experiences and how those experiences can be preceded by moments of unease. However, they differ in who identifies what constitutes a threshold concept or critical events. For threshold concepts, it is largely supervisors, who are also researchers, who identify them. For critical events, it is the individuals who experience them. The person-centric nature of critical events makes them particularly useful for this study. Critical event theory goes further than threshold concepts theory by considering aspects of a person’s life and educational experience other than the relationship with knowledge. Those concepts, which are useful for

considering the content of the doctoral experience, are: temporal unconsciousness, communitas, and perception of self in relation to others.

Woods (1993) argues that critical events tend to be accompanied by an experience of temporal unconscious. In other words, the experience of time is thought to function differently during critical events. Time does not drag or make those involved count down the minutes to the cessation of the task. Instead, the work becomes absorbing, and time is created where it was not thought to exist. Learners make more of the time available within normal working hours, because of how deeply involved and engaged they become. Learners will also voluntarily work on a task in their own time, not because they are forced to, but because they are so engaged with the activity. Time seems to multiply, and more is accomplished than can often happen in routine work.

Woods (ibid.) also argues that critical events are marked by a relational element he calls 'communitas'. Communitas can be a liberating social experience where hierarchies are flattened and strong bonds form between individuals. Woods (ibid.) identifies five key features of communitas: i) Group affective ties characterised by camaraderie, affection and caring; ii) Discovery of others – breaking down barriers and finding out new things about other people; iii) Levelling of hierarchy – gaining a knowledge of a person that transcends social roles; iv) Mutual support – support from the group that encourages self-confidence, risk taking, and pushing people beyond what they thought themselves capable; v) Expansive – people reach out to others based on their skills and potential to contribute rather than look inwards.

A second relational element to critical events concerns the changed sense of self in relation to others. Through critical events, learners might be more likely to work and learn from each other, experience an improvement in self-image, be less concerned about failure, and gain confidence. Respect of each person's contribution to the group can grow which is thought to inspire team members and raise the potential of the group.

In summary, critical event theory and threshold concept theory share two similar conceptual elements:

- **Transformative experience** – new and irreversible relationships with knowledge, learning, skills and other people are generated. Once experienced, one's perception of the world is thought to be changed;
- **Unease and unfamiliarity** – threshold crossing and experiencing a critical incident are likely to be preceded by a period of unease and unfamiliarity. Whilst the sense of strangeness can be celebrated and embraced as a part of the learning process, it may lead doctoral researchers to experience a state of liminality.

Three other concepts were identified from critical event theory:

- **Temporal unconsciousness** – time burgeons, and more is accomplished, as the doctoral researcher becomes absorbed in the task;
- **Communitas** – a liberating relational experience where hierarchies are levelled and new bonds form;
- **Self in relation to others** – the sense of self changes, skills and contributions are recognised and there is a sense of collective capability.

These five concepts provide a useful 'plane' for understanding the content and tasks of the doctorate. They will inform data collection and analysis by providing clues for patterns of features to look out for in the data. In so doing, I can piece together the types of critical events that occur within the doctorate that present both opportunities and challenges for progress.

Whilst I consider these five concepts as very helpful for my project, I will now respond to some of the criticisms of critical event and threshold concept theories.

4.3.2 Criticisms of critical event and threshold concept theories

Every conceptual framework has its limitations. Whilst I have argued for using a combination of concepts from critical event theory and threshold concept theory to investigate the tasks and content of the doctorate, it is important to be aware their potential weaknesses. The key criticisms considered are: i) applicability to doctoral-level research; ii) issues with measurement; and iii) person-centricity.

Critical event theory has not been applied to research into the doctoral experience before. This might raise questions about the suitability of the theory and its associated concepts for making sense of progress at doctoral level. As previously noted, critical event theory has its roots in ethnographic research that was conducted in three primary schools. Woods (ibid.) wanted to verify if his findings were applicable at a higher educational level, which led him to conduct further work in a secondary school. However, he did not conduct fieldwork using this theory in higher education.

Nevertheless, I argue that the concepts he draws on are likely to be salient at doctoral level. Two of the five concepts (transformative experience and unease/unfamiliarity) overlap with threshold concept theory, which has been applied at doctoral level. Threshold concept theory has been used to identify some concepts of 'doctorateness' that relate to the knowledge creation process (Kiley and Wisker 2009, Kiley 2009, Trafford and Leshem 2009). Similarly, fieldwork has been undertaken on the doctoral experience to investigate the unease and unfamiliarity that precede a threshold crossing moment (Keefer 2015, Wisker and Robinson 2009, Kiley 2009).

The other three concepts (temporal unconsciousness, communitas, and self in relation to others) have not been applied explicitly at doctoral level. They do, however, intersect with debates about doctoral education. For instance, the experience of time as compressed, strained and accelerated due to heavy academic workloads is attracting attention in the literature (van Rooij, Fokkens-Bruinsma, and Jansen 2019, Duke and Denicolo 2017, Levecque et al. 2017), as discussed in Chapter 3. This sense of time poverty is very different, however, to how Woods (1993) conceived it. Yet it does raise interesting empirical questions about the scope for slow scholarship (Berg and Seeber 2017) within the doctorate. Furthermore, the concepts of self in relation to others and communitas link to debates about the growing importance of the role of community in the doctorate (Denicolo, Duke, and Reeves 2020, Hopwood 2010) beyond the doctoral researcher-supervisor dyad.

In summary, the concepts drawn on in critical event and threshold concept theory have, between them, sufficient relevance at doctoral level to warrant their application in this project.

The second critique concerns the difficulty with measuring threshold concepts and particularly in identifying when somebody has experienced a critical incident. The critique stems from definitional problems with threshold concepts. Meyer and Land (2003) have been criticised for using tentative language to define critical incidents, for example 'likely' and 'probably' (O'Donnell 2010), in their founding paper. This has cast doubt on the ontological status of threshold concepts (O'Donnell 2010, Rowbottom 2007). Furthermore, reviews of the broader literature on threshold concepts have identified a lack of purpose built tools to measure threshold crossing and the poor quality reporting in some papers of the methods used to identify threshold concepts, pointing to a possible lack of rigour (Nicola-Richmond et al. 2017).

The third critique concerns the person-centric nature of threshold crossing (and experiences of critical incidents). In simple terms, what might be a transformative experience for one doctoral researcher, might not be for another. This raises questions about whether it is the concept/incident that is causing the effect or something else. O'Donnell (2010), for example, suggests that factors such as students' abilities, motivations for study, and previous experiences might exert some influence.

To my mind, the second and third critique are ontological questions that speak to the paradigmatic perspective researchers take when investigating the world. I would venture that these two critiques are underpinned by positivist perspective that threshold concepts and critical incidents exist 'out there' and, as such, they can be isolated and measured. Failure to do this casts doubt on their existence.

I discuss my own ontological position in more detail in the next chapter. For now, though, I will make it known I do not find the person-centric nature of threshold concept/critical event theory, or the lack of quantifiable measurements, as problematic as others. If we accept that

people are capable of identifying if a moment has been transformative for them, then that transformation forms a part of that person's reality and can be said to have an ontological status. Empirical observation of this transformation does not necessarily need to be quantified but can be identified through individuals' own descriptions of their experience. In other words, the existence of a critical event is determined by the individual's own experience.

In this section, I have justified the use of concepts from critical event theory and threshold concept theory to investigate the tasks and content of the doctoral experience. I now consider how individuals respond to the tasks and content with reference to the concepts of structure, agency and reflexivity.

4.4 Responding to the challenges and opportunities within the doctorate

In Chapters 2 and 3, I identified two research gaps, as follows:

- Research Gap 1: There is a need to update our understanding of the consequences of the time pressure associated with the doctorate by drawing on a range of views, including doctoral researchers themselves.

- Research Gap 3: There is a need to investigate how doctoral researchers, and those who support them, respond to the opportunities and challenges within the doctoral experience. In so doing, I can further our knowledge of how the actions of key agents within the doctorate enable or constrain progress. Any account of agents' actions must also give due regard to the influence of structural factors. Yet plugging this gap will restore some balance to the research literature, which has tended to focus on structural, over agentic, accounts of submission and completion.

To address those gaps, this section draws on theories of structure, agency and reflexivity. I bring some conceptual clarity to what I mean by the terms 'structure' and 'agency' and consider the mediating role of 'reflexivity'. I then review how those concepts have been used in relation to the doctorate.

4.4.1 Defining 'structure', 'agency' and the mediating role of 'reflexivity'

As already discussed, the literature on submission and completions tends to rely on structural accounts of human action in explaining how progress is enabled or constrained. In contrast, the perspective I take is much more person centric. I do not share the view that doctoral researchers (and those that support them) are lumps of clay moulded (or not) into competent researchers through a process of socialisation. As Archer (2007) has pointed out, accounts of socialisation are exaggerated because they indicate that society gets to us first and determines our actions. Instead, Archer (2007) considers human action to be a dialectical process that kicks in as soon as we become self-conscious. In making our way through the world we weigh up our desired courses of action against the constraints and enablers of our social context. Structure and agency both have a role to play. We do not, of course, have complete free will to do as we please and assume any role we would like to. Structural factors always influence, but do not always determine, our actions (Archer 2003).

In order to better understand the role of structure and agency, a working of definition of each concept is needed. Following Ashwin (2012), I have opted for a minimal definition of each term to allow them to be recontextualised and elaborated by my research findings. Archer (2007, 2003, 2000) is useful here. She defines agency in terms of the degree of governance that humans exercise over their own lives. Things do not just happen to us, but each person has a 'constellation of concerns' out of which we develop concrete courses of action to realise those concerns. Humans are active, we initiate actions. Archer (2007) understands these actions to be 'projects'.

Structure, on the other hand, refers to social or cultural factors that are external to us and act as constraints or enablers to our projects. These factors may encourage or curtail our endeavours, but they are not deterministic. Archer (2003) gives the illustrative example of how individuals born within the same social milieu can take different paths in life and go on to occupy different roles.

Archer (2012, 2007, 2003) has developed a third concept which is relevant to the discussion of structure and agency, namely, reflexivity. Reflexivity operates as a mediator between

structure and agency. It refers to our internal conversations, i.e. the conversations we have with ourselves that might involve mulling over a problem, planning something, imagining, deciding, reliving, prioritising, imaginary conversations with others, budgeting and clarifying (Archer 2003). Archer (2007) summarises reflexivity as:

"the mental ability, shared by all normal people, to consider themselves in relation to their (social) contexts and vice versa. These deliberations form the bases on which people determine future courses of action" (4)

In other words, reflexivity mediates structure and agency. It is through these internal conversations that the effects of structural factors are considered, fallibly, and under our own descriptions, and courses of action are determined. Reflexivity is not uniform and operates in different ways (see Archer 2003 for a discussion of the four types of reflexive).

In summary, agency refers to the projects we embark on. They might be mundane, everyday activities or grand life course projects, such as undertaking a doctorate. Structure refers to the factors that constrain or enable a project. Reflexivity is a mediator between structure and agency that influences our courses of action.

Whilst Archer gives a clear conceptual definition of structure, agency and reflexivity, I need to point out a paradigmatic diversion between her conceptualisation of structure and agency and the one that is adopted in this thesis.

Archer's account is informed by a critical realist, stratified model of the social world, which imbues people, structures and cultures with emergent properties, which have an ontological status. The position adopted in this thesis follows Ashwin (2012) by being more concerned with epistemology than ontology. What this means in practice is that structure and agency are considered ways of characterising processes that occur as doctoral researchers navigate their doctoral experience. The act of characterising a process as structural or agentic is an epistemological one that rests with the researcher depending on the focus of their research problem. As Ashwin (ibid.) points out, agentic descriptions of processes will focus on how

those processes are shaped by the projects of agents. Structural descriptions, on the other hand, will focus on examining how a process operates as an enabler or inhibitor of projects.

In applying these concepts to teaching and learning in higher education, it follows that different understandings of the same process can be generated by researchers depending on whether their focus is on agency or structure. As Ashwin (2008) has argued, in teaching and learning interactions, the role played by each actor structures the encounter. What might be an agential act for one actor, can be construed as structuring by the other. In the case of the doctorate, it is plausible that during a supervision, what the supervisors consider to be agentic might have a structuring effect on the doctoral researcher's experience, for example, the 'projects' they will be dedicating their time to in the week after the supervision. Similarly, academics' views on thesis deadlines and the value of measuring submission and completion rates, might affect how they supervise doctoral researchers. These are relevant points for addressing Research Gap 1.

Ashwin (ibid.) goes on to argue that by thinking of structure and agency as conceptual lenses through which to view teaching and learning processes, our attention is drawn to their situationally contingent nature. That is a helpful pointer for the conceptual framework being developed in this chapter because it invites us to think through how relationships between structure and agency shift over time and between situations. Ashwin's (2012) appraisal of the mainstream higher education literature on the teaching and learning environment resonates with my critiques of the overly structured accounts of the doctorate. In both cases, a static picture of the learning context emerges, which does not consider the dynamic, changing and sometimes unpredictable ways these interactions can play out.

Before considering in more detail how the concepts of structure, agency and reflexivity have been applied to the doctorate, I would like to summarise the main points made so far in this section.

I referred to Research Gap 1, which concerns views about time pressure in the doctorate, and Research Gap 3, which concerns how doctoral researchers, and those who support them,

respond to the opportunities and challenges within the doctoral experience. I drew on the concepts of agency (our projects and actions), structure (social and cultural factors that constrain or enable our projects) and reflexivity (mediation between structure and agency) as a conceptual response to those gaps. In so doing, I have been careful to ensure that agency is not overlooked as it has tended to be in the literature on the doctorate. I do not prioritise ontology in handling these concepts. Instead, I view those concepts as epistemological lenses through which researchers view processes at play in teaching and learning interactions. This is a helpful perspective because it draws attention to how structure and agency are situationally contingent and change over time and between situations.

4.4.2 How have the concepts of structure, agency and reflexivity been applied to the doctorate?

The concepts of structure, agency and reflexivity are seldom used in an explicit way in research about the doctorate. This might surprise us because, as Ashwin (2012) argues, using those concepts can enrich our understanding of teaching and learning interactions by shedding light on how those interactions are shaped by both social and cultural factors (structure) and the actions of academics and students (agency). The lack of explicit use of structure and agency might be the result of interactions between supervisors and doctoral researchers being less visible than those of taught students. It might also be the result of a lack of crossover between research on teaching and learning and research on the doctorate.

Whatever the reason, it is curious that research on the doctorate rarely explicitly employs the concept of structure, given that it has tended to take a hyper-structural perspective on progress. An example of this perspective is the literature on reforms to doctoral education, discussed in Chapter 3. That literature reports how a multitude of policy driven changes to the doctorate including admission criteria, training, monitoring and review of progress, deadlines, and presence of supervisory teams are having positive effects on completion rates. It does not, however, investigate how key agents work with those reforms to enable those positive outcomes, nor if there are any unintended consequences that might hinder progress.

A further example is the literature on supervision. Some aspects of supervision are presented in the literature as static and structural, especially the literature on supervisory styles and relationship fit. In the former, the rise of accountability and performance management regimes is argued to be conditioning supervisors to adopt a more functionalist, quasi-project management style (Lee 2008). Concern has been raised that this is reducing the time spent on developing other important doctoral-level threshold concepts such as critical thinking. In the case of fit, there is a risk that the literature presents the relationship between the doctoral researcher and supervisor as pre-determined by disciplinary norms – either there is an alignment in academic interests and approaches or there is not, which is not helpful for inter-disciplinary work.

Despite the dominance of structural accounts of progress at doctoral level, some research literature has started to consider the role of agency. Two agentic types emerge: relational agency and knowledge-creating agency. Both types are consistent with the preceding discussion on structure and agency because they conceptualise agency in relation to the social, structural context. In other words, they are concerned about the relationship between agency and the social world and there is no artificial separation between them.

Within the doctoral literature, the most common conceptualisation of agency is relational agency based on work by Edwards (2011, 2005). Relational agency refers to the capacity of an individual in a professional setting to align their thoughts and actions with those of others to interpret problems and to respond to those interpretations. It involves recognising other people as a resource, eliciting their interpretation to expand the object of focus and to negotiate aligned action. In other words, other people offer a different perspective on a problem and by considering and responding to those perspectives, new avenues for action are opened up. Edwards (ibid.) points out that individuals stand to gain from recognising what is important to others and that relational agency is a capacity that can be developed.

Relational agency has been adapted in the research literature on the doctorate, as a way of accounting for doctoral researchers' integration into or isolation from scholarly communities (Pyhältö and Keskinen 2012, Hopwood 2010). Relational agency is understood as the capacity

of doctoral researchers to work with others to open up ways of responding to complex research problems. It involves expanding the object of activity, in this case research, by recognising the motives and resources of others, interpreting them, and aligning one's own interpretations with the responses of others involved (Pyhältö and Keskinen 2012).

It offers a refreshing alternative to socialisation theory because it considers both agentic and structural components of the doctoral experience. It treats doctoral researchers as active agents in their research journeys, capable not just of adapting to the social conditions they encounter but also embracing their capacity to construct the context for their own learning (Pyhältö and Keskinen, ibid.).

The application of relational agency to the doctorate takes into account the many and varied relationships that doctoral researchers cultivate during their doctoral degrees. Those relationships are often geographically dispersed and spread across timespans, some pre-dating the doctoral experience (Hopwood 2010). Relationships are also established across a range of different arenas from smaller research groups and office spaces, to departments and faculties, to conferences and journals (Pyhältö and Keskinen 2012). Relational agency is reported to be exercised in a number of ways, for example: i) serving academic and emotional needs; ii) enhancing doctoral researchers' reflexive capability by influencing their learning, emotions and behaviour; iii) providing sites of negotiation and struggle where disciplinary norms and managerialist interventions in the doctorate might be resisted or renegotiated (Hopwood 2010).

Most significantly for this project, relational agency has been linked to progress through the doctorate. Pyhältö and Keskinen (2012) surveyed 669 doctoral researchers from across a range of disciplines in the Finnish doctoral system. They found that doctoral researchers with a sense of active relational agency in relation to their scholarly communities were much less likely to experience negative emotions during the doctorate and were less likely to consider withdrawing. A sense of active agency was not found to be linked to a particular discipline nor did it correspond to year of the programme. Strikingly, the study found that just one third of

the sample (30%) considered themselves to be active agents. This is a concern given the role of agency in reinforcing progress and wellbeing through the doctorate.

It is not clear how widely Pyhältö and Keskinen's (ibid.) findings apply outside the Finnish context because there are no comparable studies and their survey instrument has not been used or adapted in other countries. Also, Finnish doctoral researchers do not pay fees, the system is not always selective at admission, and projects may take a longer time to finish. Nevertheless, given the range and diversity of communities with which doctoral researchers interact, it is likely that relational agency will have some role to play in aiding our understanding of submissions and completions in the UK context. Therefore, I have retained it for the conceptual model developed in this chapter.

The second application of agency to the doctorate concerns knowledge creating agency. Knowledge creating agency was coined by Hakkarainen et al. (2013) from their interview study with 13 doctoral researchers on a high prestige Finnish doctoral programme in Medicine or STEM. Hakkarainen et al. (ibid.) recognised the importance of doctoral researchers' interactions with communities on effecting progress and timely completion. They investigated individual and collective forms of agency by choosing programmes that typified the community approach to research. Of course, this creates an immediate limitation concerning the generalisability of their findings given that they were generated from a very unique case (two high prestige programmes in Medicine and STEM, in one institution, in one country). This could have been partly remedied by also collecting data from a contrasting case, where collective research is less prevalent. Their study does, however, provide a rich insight into how knowledge creating agency operates within this particular configuration.

There is overlap in this work with the concept of relational agency. Hakkarainen et al. (ibid) also found that a collective approach to research expanded the object of study (research problem) and linked doctoral researchers' projects to the efforts of the wider community. That community provided a source of inspiration, encouragement and validation of the individual doctoral researcher's work. Their study was, however, based on Medicine and

STEM disciplines where a group approach to research is more prevalent than in other disciplines (Delamont, Atkinson, and Parry 2000).

The concept of knowledge creating agency extends beyond relational concepts. It also draws on Bandura (1997) to highlight how research involves regular setbacks and failures. By learning how to recover from those setbacks in meaningful and creative ways, doctoral researchers develop a sense of self-efficacy and belief in their competencies, enabling a perceived sense of control over the knowledge creation process (Hakkarainen et al. 2013). The authors also found that individual self-efficacy is reinforced where a sense of collective efficacy, enacted through distributed agency, is perceived to be operating (Hakkarainen et al. ibid.). In other words, being part of a prestigious and well-regarded community heightened the doctoral researchers' belief that they too could be a capable researcher.

In summary, research on the doctorate seldom applies the concepts of structure, agency and reflexivity in an explicit way. I have shown that much of the literature on the doctorate presents a hyper-structural account of progress and that agency has been neglected in all but a few studies. Where agency has been considered, it has been done so with reference to structural factors and does not create an artificial divide between people and their social context. Two types of agency have been identified so far: relational agency and knowledge creating agency. Relational agency concerns the capacity of doctoral researchers to work with others to respond to complex research problems. Knowledge creating agency concerns how doctoral researchers develop a sense of self-efficacy in dealing with setbacks inherent in the research process. It is reinforced by access to high performing and well-regarded communities.

In the next section, I bring together the concepts discussed hitherto into an integrated conceptual model for investigating how doctoral researchers progress to timely completion.

4.5 A conceptual model of doctoral researcher progress

In Chapter 4, I identified the fourth research gap, as follows:

- Research Gap 4: There is a need to revitalise our theoretical perspectives so that we can better understand the relationship between i) the content and tasks of the doctorate; ii) responses of agents to that content; and iii) the structuring of the doctoral experience.

This section addresses Research Gap 4 by bringing together the different concepts discussed so far - critical events, structure, agency and reflexivity - into a coherent and integrated conceptual model.

A good way to achieve that goal is through a diagrammatic representation of the conceptual model, as follows:

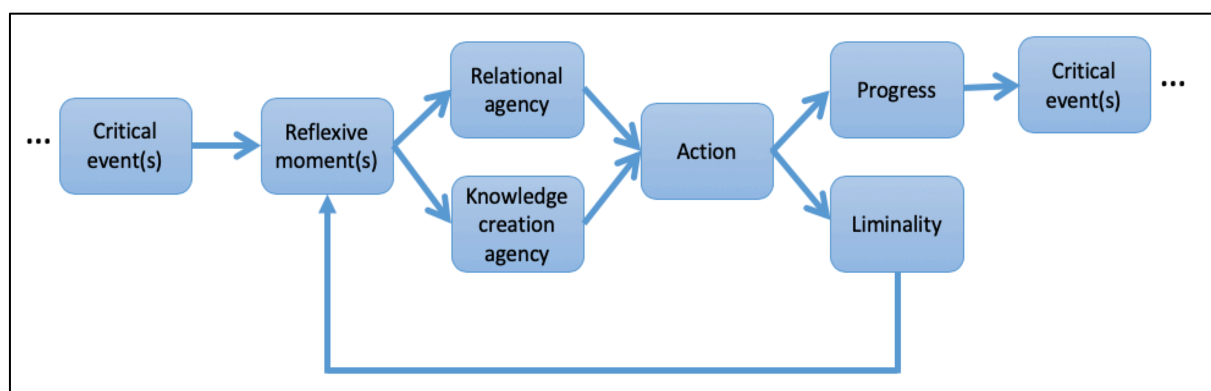


Figure 1: A conceptual model of progress through the doctorate

Figure 1 combines the concepts discussed so far into a coherent conceptual framework. Its purpose is to provide a plane of linked concepts that serves as a basis for understanding how progress is enabled, or not, through the doctorate. The model accounts for the situationally contingent and dynamic nature of progress. I will now explain the key features of the model in detail, and give a worked example based on the literature.

The model begins and ends with three dots to emphasise how this is a continuous, iterative process throughout the doctorate. The first box concerns 'critical events'. These are moments in the doctorate that provide opportunities for progress, but they may also involve significant challenges for doctoral researchers. Little is known from the literature about the nature of

critical events at doctoral level – there is no existing taxonomy to draw on. However, critical event and threshold concept theory provide clues about the effects of critical events that we can observe empirically. A critical event is likely to involve one or more of: a transformative experience; a period of unease and unfamiliarity; an experience of temporal unconsciousness; a feeling of communitas; and a change in the sense of self in relation to others.

I have chosen to use the term critical events, rather than threshold concepts, because critical events are not just concerned with a relationship with knowledge, as threshold concepts are, but they reach into other aspects of doctoral researchers' lives. Those other experiences are bound up with how doctoral researchers learn and so are also likely to have an impact on progress. Also, in my conceptualisation of critical events, I consider them to be predominantly structural, rather than agential. In other words, critical events can enable *or* constrain courses of action.

The next step after critical events is 'reflexive moment(s)'. When doctoral researchers are confronted by a critical event, they must consider possible courses of action to navigate that event. This requires reflexivity. Doctoral researchers consider the relationship between themselves and their social context, and vice versa, to determine future courses of action.

The reflexive moment then leads to two types of agentic modes: relational agency or knowledge creation agency. Relational agency concerns the capacity of doctoral researchers to work with others to respond to complex research problems. Knowledge creating agency concerns how doctoral researchers develop a sense of self-efficacy in dealing with setbacks inherent in the research process. It is reinforced by access to communities.

Both types of agency lead to 'action', that is, attempts to realise a project from our constellation of concerns.

In some cases, these courses of action will lead to 'progress' where the positive effects of critical events might be observed, for example, a transformative experience or a change in

the sense of self in relation to others. This will then take doctoral researchers on to the next 'critical event' where the process starts again. However, doctoral researchers are now more experienced and have moved closer to crossing the threshold of doctorateness. The next 'critical event' may also bear more of the doctoral researchers' mark since actions in tackling prior critical events may well influence how a new critical event is perceived.

In other cases, 'action' may not lead to 'progress', but instead will lead doctoral researchers to experience 'liminality'. Here, doctoral researchers are likely to be experiencing unease and unfamiliarity with the 'critical event'. They will not yet have crossed the threshold or passed through a portal to begin to see things differently. They are likely to experience being stuck, they might engage in mimicry of other researchers, they might become withdrawn or isolated, experience a lack of confidence, or consider that research is not for them. This is the step where progress is slow and timely submission, or even completion of a doctorate, are jeopardised. In Figure 1, there is an arrow leading back from 'liminality' to 'reflexive moment(s)'. This is because doctoral researchers will need to think differently about how to address the 'critical event' confronting them if they are to make progress.

To make the example more concrete, I will now revisit the model using a fictitious vignette informed by the literature.

Amelia is a full-time student starting the third year of her PhD in Medicine. She is researching the effects of a new treatment for an infectious disease, which is being tested in a lab on cells collected from patients. Amelia has generated a lot of data through her experiments and is now confronted with a 'critical event' of how to carry out a systematic and robust analysis of her data.

She has several 'reflexive moments' in which she deliberates about her analysis. She is perplexed by the quantity of data her experiments have generated and she is unsure about what statistical method would be most suitable and would lead to a meaningful contribution. Unable to decide on how to analyse the data, Amelia resolves to exercise 'relational agency' by discussing it at her next supervision, hoping that her supervisors will work with her on

addressing this complex research problem. She takes 'action' by discussing data analysis with her supervisors and they suggest some statistical methods that might be useful. However, Amelia is still struggling to select a statistical method and gets overwhelmed by the statistical reports she is now producing. She finds herself experiencing 'liminality'. She becomes withdrawn and her confidence is knocked.

Despite this setback, Amelia continues to have 'reflexive moments' about her analysis. She realises that she is stuck and that she is not making any 'progress'. She decides to exercise 'relational agency' differently, this time by enlisting the help of a statistician who works in another group in the department. She takes 'action' by arranging a coffee with the statistician to talk through her data analysis woes. When asked what question she is trying to answer with the data, Amelia realises that she had got so absorbed by the data she had neglected her research questions. Following this conversation, Amelia is able to make 'progress' by returning to her research questions and selecting samples and analytical tools that help her to answer those questions. Her view of the research process is transformed. This then leads Amelia to the next 'critical event' in her project when she has to review her research questions to ensure that they are still current and valid before undertaking further analysis.

4.6 Research questions

This chapter has so far focussed on developing a conceptual framework in response to four gaps in the literature. In the final section of this chapter, I focus on stating the research questions that will underpin the empirical stage of this project.

As a reminder, the four research gaps are:

- Research Gap 1: There is a need to update our understanding of the consequences of the time pressure associated with the doctorate by drawing on a range of views, including doctoral researchers themselves.
- Research Gap 2: There is a need to understand more about the content and tasks involved in pursuing a doctorate. In so doing, I can enrich our knowledge of how

doctoral researchers experience learning that enables progress, as well as identify some of the hurdles that might inhibit timely submission and completion;

- Research Gap 3: There is a need to investigate how doctoral researchers, and those who support them, respond to the opportunities and challenges within the doctoral experience. In so doing, I can further our knowledge of how the actions of key agents within the doctorate enable or constrain progress. Any account of agents' actions must also give due regard to the influence of structural factors. Yet plugging this gap will restore some balance to the research literature, which has tended to focus on structural, over agentic, accounts of submission and completion.
- Research Gap 4: The ongoing usefulness of education socialisation theory as an explanatory model is limited. There is a need to revitalise our theoretical perspectives so that we can better understand the relationship between i) the content and tasks of the doctorate; ii) responses of agents to that content; and iii) the structuring of the doctoral experience.

In order to address these four research gaps, the remainder of this study will be guided by the research questions set out below. Against each question, I have mapped which research gaps it seeks to address:

What are the perceptions of key actors[2] in doctoral education about how the following influence timely submission of a thesis:

i. Critical events in the doctorate? (Research Gaps 2 & 4)
ii. Doctoral researchers' and supervisors' sense of agency? (Research Gaps 3 & 4)
iii. The major structural elements of doctoral programmes? (Research Gaps 3 & 4)
iv. Perceptions of the importance of timely submission? (Research Gaps 1 & 4)

[2] 'Key actors' refers to: doctoral researchers, supervisors, doctoral programme directors and professional services staff who support doctoral researchers.

The research questions focus on timely submission, rather than timely completion, because completion is often affected by factors that are outside the control of key actors. Examples include examiner availability for viva voce examinations, administrative hurdles, correction periods and so on. Timely submission is also the key performance indicator of choice for the UK Research and Innovation (UKRI) organisation and so submission rates receive greater attention in the UK than do completion rates.

In this chapter, I have set out the research gaps and developed a conceptual model to address those gaps. Both the research gaps and conceptual model have been converted into research questions that will underpin the empirical stage of this project. In the next chapter, I set out how data will be collected and analysed in order to answer those research questions.

Chapter 5: Methodology

5.1 Introduction

In this chapter I focus on transforming the research questions presented at the end of the preceding chapter into a researchable enquiry. I start by considering the research paradigm within which this research project operates before moving on to explain, justify and reflect on the two stages of data collection and analysis: an institutional case study (Stage One) and two validation workshops (Stage Two).

5.2 Construing constructivism

This project is underpinned by a constructivist orientation. In what follows, I discuss the central tenets of constructivism and explain why it is a rich and revelatory paradigm for my project. I also share my reflections on working with constructivism to bring to life what I consider to be its main affordances and challenges.

5.2.1 What is constructivism?

At its heart, constructivism is an inclusive research paradigm that seeks to understand people's internal worlds and meanings.

Constructivists take the position that people create their own reality and that each person's sense of reality is unique to them. By striving to understand the world from a person's perspective, researchers are rewarded with unique insights into how and why a person thinks and behaves as they do (Denicolo, Long, and Bradley-Cole 2016). Constructivism aligns, therefore, with a relativist ontological position. In other words, constructivists resist claims that reality is singular, embracing, instead, the idea of multiple realities distinguishable at the level of the individual (Denzin and Lincoln 2005).

For constructivists, then, the focus of research inquiry is on the individual's experience. Constructivists hold that each person's sense of reality is composed of constructs, understood as the units that make up the sense of self. People use those constructs when responding to new situations. If, for example, a new experience and our constructs appear to align, then our

constructs are likely to be reinforced. If, however, there is a misalignment, then the continued efficacy of that construct is challenged, and we can respond in ways that either maintain or adapt the construct system (Denicolo, Long, and Bradley-Cole 2016). This is important for researchers because it strengthens awareness of our own assumptions, opening us up to new insights about our research.

Some have criticised constructivism for going too far in its acceptance of multiple realities, or even eschewing the idea of reality altogether (See Patton (2002) for a summary of those perspectives). Such critiques of constructivism tend to target a radical or extreme version of the paradigm. I should clarify that I do not subscribe to radical constructivism or philosophical idealism (Crotty 1998). I, too, share concerns about any rejection of the real world 'out there'. My own views align most closely with Personal Construct Psychology (PCP). PCP does not resist the idea of a real world but concedes that it is unknowable. Thus, the focus of constructivist inquiry is on people and their experiences.

I now consider why constructivism is a particularly rich paradigm for making sense of the enablers and inhibitors of progress through the doctorate.

5.2.2 Why is the constructivist paradigm relevant for this research project?

There is a strong alignment between the conceptual model discussed in the preceding chapter and the constructivist paradigm. Constructivism serves as a useful guide for converting the conceptual model and resultant research questions into an empirical inquiry. I will argue this point more closely with reference to constructivism's methodological position, and how it aligns with the concepts of critical events, structure and agency discussed in the previous chapter.

First, constructivism offers a helpful way of identifying critical events in the doctorate. The key concepts that I identified from the literature on critical events require that research participants reflect on their experiences in order to determine if an event was critical to them and their doctoral experience. Without exploring the ways in which research participants

attribute meaning to those events, the research would lack the evidence to understand how critical events are experienced.

Second, a constructivist approach is consistent with the conceptualisation of structure and agency in the previous chapter. Rather than take a critical realist perspective which asserts that structural and agentic factors exist ‘out there’ and have unique inherent properties, the position adopted here is that structure or agency exist in the eye of the beholder. As stated in the previous chapter, the same process might be construed as structural or agentic depending on the interest of the researcher. For example, in universities, governance of doctoral degrees could be interpreted from a structural perspective – they are codified into operational documents and handbooks – or agentic perspectives – how people interact with governance mechanisms to realise their projects.

That perspective also extends to research participants who give an account of a structural or agentic phenomenon. We will see in Chapter 8, for example, how progress reviews are construed by some participants to be enablers of progress, whereas others write them off as a bureaucratic waste of time. Furthermore, constructivism, particularly PCP, is non-deterministic in how it views the actions of people. It maintains that people always have a choice in how they respond to a situation, even in the most trying circumstances. Constructivism rescues agency, therefore, from overly structured accounts of a phenomenon.

Third, constructivism emphasises the dynamic and continuous process through which people interact with the world, and both learn and change as a result. By understanding people’s construct system and recognising that it is malleable, it opens up the possibility for educational experiences to be transformative. For this project, constructivism helps in getting to grips with how doctoral researchers are changed by their experience, and how that change can lead to thesis progress.

Fourth, regarding methodology, constructivism is consistent with inductive approaches to research design. In other words, it seeks to develop new understandings and new theories of a phenomenon through close work with empirical data, rather than test out existing theory

(Gill and Johnson 2010). Given the absence of a convincing theory of how doctoral researchers progress to timely submission, taking a constructivist-informed, inductive approach to data analysis seemed suitable for theory generation.

Having considered why constructivism is useful for this project, I will now share some reflections on working with the paradigm.

5.2.3 Affordances and challenges of working with constructivism

I came to constructivism part-way through my research project. I found that it made the process of collecting and analysing data immensely rewarding. In particular, I was struck by how fruitful the person-centric approach to data collection was in eliciting deep and rich insights into an individual's take on the doctoral experience. This had advantages over a number of other paradigms.

For example, prior to working with constructivism, I had been thinking about my project from a critical realist perspective. I was attracted to critical realism's neat underpinning philosophy and how, at the conceptual level, it sought to identify the structures and mechanisms at work in the real world (Bhaskar 2008, Collier 1994).

However, as I began testing interviews, I found it very difficult to say anything convincing about how the real world that critical realism referred to operates. I could not gain direct access to that world, only the subjective experiences of research participants. I struggled with making inferences about the nature of structures, properties and mechanisms in the real world from interview data (O'Mahoney and Vincent 2014). I was also concerned that critical realism risked decentring the person from the data collection process. I was concerned that participants might think I was not interested in them and their experiences, but something outside the context of our interaction. This, I felt, might lead to thin, superficial data being generated. I later found out that these are not uncommon problems. Other doctoral researchers had abandoned critical realism in favour of an interpretivist tradition for similar reasons (McLachlan and Garcia 2015)

Constructivism offered a solution to my dilemma. Whilst PCP does not reject the idea of a reality ‘out there’, it recognises each person’s internal world as a reality. Whilst we can never access a person’s reality directly, we have access to people, and they can give the most authentic accounts of their unique experiences. Furthermore, constructivism’s person-centric approach creates favourable conditions for encouraging participants to share their experiences, thoughts, and meanings.

The second benefit of constructivism is its commitment to quality in research. More radical forms of constructivism have been criticised for risking an ‘anything goes’ approach. In response, constructivists have established clear criteria to ensure that research projects adhere to a robust design and that data collection and research outcomes are open to scrutiny (Denicolo, Long, and Bradley-Cole 2016, Denzin and Lincoln 2005). Those criteria are:

- **Credibility**: Commitment to showing how the research design will give access to meanings provided by participants. The data need to be credible to those who provide it and read about it;
- **Confirmability**: Other researchers and/or participants confirm the research’s authenticity;
- **Dependability**: The methodology is delivered with integrity and transparency;
- **Transferability**: The design, methodology, tools and techniques are transferable to other settings, with insights provided to help other researchers. Also, findings can be transferred to similar contexts for further exploration and confirmation.

As with any research paradigm, constructivism also has its challenges. A common one is the paradoxical act of data analysis. Constructivism emphasises the individual and is committed to understanding the world from that individual’s perspective. However, as soon as researchers analyse data, we bring to bear our own perspectives and experiences.

There are two approaches to managing this challenge. The first is to be conscious of the double hermeneutic (Smith, Flowers, and Larkin 2009). In other words, recognising that as researchers we interpret the participant’s interpretation of their world. Therefore, when we

look for patterns of meaning across datasets and interpret those data, we need to be clear that we are not presenting a facsimile of a person's reality. Rather, we are presenting our interpretation of their interpretation. For me, reference to the double-hermeneutic provides a clear and honest account of what knowledge claims from constructivist research rest on.

The second approach is to closely observe the quality criteria described above. Researchers should take care to design credible research and tightly ground data analysis in participants' accounts yet acknowledge that there are varied ways of achieving this. For example, while participant accounts are central to the data analysis, it is both the researcher and their theories which guide the data analysis. Similarly, thought should be given to the confirmability criterion through testing out our interpretations with research participants and/or with others who are knowledgeable about the research topic (Denicolo, Long, and Bradley-Cole 2016). I discuss how I applied the quality criteria in Section 5.4 later in the Chapter.

A further challenge of constructivism is putting aside our own assumptions as researchers, known as 'bracketing'. Bracketing our own perspectives to help us see how the world from our research participants' perspectives makes conceptual sense, since our aim is to understand participants' experiences. However, the act of bracketing is fraught with challenge. In practice, it is not easy to disregard our own construct systems and we may not always be conscious of our own assumptions. I had two demanding interviews – discussed in Section 5.3.5 – where my own construct system was challenged during the research process.

In the next section, I move on to method by discussing the approaches to data collection and analysis.

5.3 Stage one: Institutional case study

In this section, I provide an explanation and a justification for the first stage of data collection and analysis for the project: an institutional case study. I will first clarify my approach to case study before considering the methods of data collection and analysis. I will also share my reflections on the research process, as well as cover the ethical considerations running through my research. Limitations of the approach are also considered.

5.3.1 What type of case study research is this project?

My project focusses on the phenomenon of how doctoral researchers make progress through their doctorate so that they are enabled, or not, to submit their thesis on time. I selected the case study method because I was aware of its general advantages as summarised in (Cohen, Manion, and Morrison 2011). For example, I was attracted to the idea of case study outputs being accessible to a range of readers, which I thought would facilitate my project in making a difference to practice. I also thought that a major benefit of case study method was that it could identify unique features of a phenomenon and embrace surprising insights that might be critical to understanding doctoral completions in more detail. These aspects to case study, I felt, would be helpful for theory building to counter the often theory-light approaches used in the literature. The case study method is also particularly suited to investigating phenomena over which the researcher has little control and in which multiple variables are in operation. Both those criteria apply for this project: I cannot manipulate events through my research, and, in Chapter 3, I showed how progress through the doctorate is a multi-dimensional problem. As with all methods, there are also disadvantages to using case study. The main limitations to case study research are issues with sampling within the case and the ability to extend findings beyond the case itself. I discuss both of these limitations in more detail in Section 5.3.8, including how I attempted to minimise their effects on the project.

Researchers using the case study method also need to be aware that there is no consensus on the optimal way to do case study research. Indeed, the term 'case study' itself is contested in the research methods literature. There are divergent views about the optimal epistemological orientations toward case study research; what constitutes a 'case'; how to design a case study; and how to collect, analyse and validate case study data (Yazan 2015). Given the variety of approaches available to researchers, I define my approach to case study as an: 'instrumental, interpretive, single-institution case study'. That definition requires some unpacking.

The first two terms – 'instrumental' and 'interpretative' - refer to the purpose of the case study. The term 'instrumental' is borrowed from Stake (1995). It describes a scenario in which

the phenomenon under investigation is of primary interest to the researcher, with the case itself being of secondary interest. In this scenario, the case provides an opportunity to gain insight into a particular phenomenon or issue in its real-world context (Stake 2005). My project aligns with an instrumental case study because my primary focus is the phenomenon of timely submission. The case itself provides the real-world context in which the different factors that influence timely submission play out.

The term 'interpretive' is borrowed from Merriam (1998). It describes case study research where the purpose is to develop conceptual categories for phenomena that lack theorisation. In interpretive case study, the data generated are interpreted and conceptualised through inductive analysis to create new theory – much like the constructivist approach discussed earlier. Interpretive case study chimes with an objective of this research project, which is to refresh our theoretical perspective on timely submission.

The third term - 'single-institution' - concerns the boundary of the case study. As Hamilton and Corbett-Whittier (2014) have noted, a key feature of case study research is to specify what the case is by drawing boundaries around it. For this project, the case is a single institution, and so this research has adopted a single-case design. Within the single case, there are also embedded units of analysis (Yin 2014). Given the constructivist orientation of this research project, I consider each participant in the project to be an embedded unit of analysis.

In the next section, I discuss the sampling criteria used for selecting the case and how the case study institution was recruited to the project.

5.3.2 Sampling criteria and recruitment of 'the case'

Concern about timely submission is widespread in institutions that award doctoral degrees. This made the task of selecting a suitable institution for the study difficult because there were more than 100 possibilities in the UK.

In order to narrow the options, I applied sampling criteria that would lead me to information rich cases (Merriam 1998). Those sampling criteria were:

- Holds Research Degree Awarding Powers (RDAP);
- Offers doctoral programmes in a broad range of subjects;
- Participates in the Research Excellence Framework (REF);
- In receipt of UK Research and Innovation funding for doctoral programmes;
- Has more than 1000 doctoral researchers;
- Not connected to my workplace through a Doctoral Training Partnership.

In applying the above criteria, I aimed to maximise the chances of selecting an information rich case study. I also wanted to ensure that I had no substantive professional connection with the case. I was concerned that a close professional connection might inhibit frank conversations, despite assurances about confidentiality.

I identified two possible institutions for the case study. Access negotiations with the first institution became protracted as it was on the cusp of a significant review of its PGR provision. In the end, the institution decided that the research project could not be accommodated at that time, and negotiations fell through. I accepted the outcome because I was concerned that my research would have picked up the anxiety and uncertainty from the restructuring, and the findings would have had limited transferability to other institutions.

I received a very warm response from the next institution I contacted. Through a professional contact, I was able to get access to the institutional Director of Doctoral Programmes. Prior to a Skype meeting, I supplied a copy of the briefing pack (Appendix 1) so that the Director was well-informed about the research project. The follow-up Skype meeting covered the objectives of the project, research design, my needs, possible benefits for the institution, and answered her questions. After this meeting, the Pro Vice-Chancellor Education granted permission for the institution to participate in my research.

I then engaged in a form of snowball sampling (Patton 2002) to identify three departments willing to host me. The Director put in me in touch with the Graduate Dean from each of the institution's Colleges. I supplied each Dean with the briefing pack and followed up their questions by Skype or email, depending on their preference. Through each Graduate Dean, I was then able to negotiate access to three Schools covering a range of disciplines. I had a Skype or telephone meeting with the Director of PGR for each participating School, again

providing the briefing pack to ensure they were well informed about the research and had an opportunity to ask questions.

The three Schools that agreed to participate in the study were:

- The School of Medicine (Med)
- The School of Humanities and Social Sciences (HumSoc)
- The School of Chemistry (Chem)

It was agreed that I would undertake three data collection visits to the institution. I made three, week-long visits to the institution during the summer of 2018.

In the next section, I discuss how data were collected within the case study design.

5.3.3. Data collection: documents, rivers of experience and interviews

I wanted to familiarise myself with each School before going on site so that I understood the scale of each School's doctoral researcher population, what their submission rates were, how their doctoral programmes were structured, any key initiatives they had in place, and what they perceived as their key strengths and challenges.

To get acquainted with each School, I had access to the following documentation, some of which are public, and others were provided by the institution.

- School websites
- Institutional review by the Quality Assurance Agency (QAA)
- REF 2014 environment reports
- Regulations
- Codes of practice
- PRES[3] results
- Submission rate data
- Doctoral programme reviews

[3] PRES stands for the Postgraduate Research Experience Survey. It is an annual survey co-ordinated by AdvanceHE, which explores doctoral researchers' experiences of, *inter alia*, supervision, research culture, development of research skills, mental health, and satisfaction with their programme.

These documents were useful for orientation. I formed a picture of an institution that had a rich history of delivering PhD programmes across a broad spectrum of disciplines; it had an impressive track record in research, as evidenced by its performance in REF 2014 and a positive QAA report; it had a sizable doctoral researcher population in the 1000s; and it had made timely submission of doctorates an institutional key performance indicator. In fact, when I visited the institution, a target had been announced to raise submission rates across all Schools to 95% of full-time cohorts submitting within 4 years of registration.

I was careful, though, not to draw any firm conclusions about the institution from the documents I had read because documents are rarely straightforward reflections of educational practices on the ground (McCulloch 2011). Nevertheless, the institution's focus on submission rates made it something of a unique case (Yin 2014), but I thought that would be useful for surfacing some of the issues around timely completions that might otherwise be hidden.

Regarding submission rates, data per School fell within a range of 25% - 97%. The submission rates[4] for the three Schools I visited were:

School	Submission rate (%)
Med	89.2
HumSoc	71.0
Chem	81.6

Table 4: Submission rates by School

The three Schools had amongst the highest submission rates compared to cognate disciplines in the rest of the institution. At the time of the visit, Med was on an upward trajectory - 95% of its most recent cohort had submitted within four years. I was aware that undertaking fieldwork in Schools with high submission rates might limit data on the inhibitors of timely submission. To minimise this risk, I designed the interviews to solicit both positive and

[4] Calculated as the proportion of full-time students submitting within four years of registration averaged across three cohorts.

negative experiences of progress. I will now discuss those data collection methods in more detail.

The main data collection method was semi-structured interviews, including a creative method known as 'rivers of experience'. Given that the research questions are predominantly 'how' questions, focussed on research participants' experiences, I decided that interviews would be a suitable method. As Brinkmann and Kvale (2015) note, interviews are particularly adept at providing insights into research participants' lived worlds and for exploring 'how' and 'why' research questions.

In deciding who to interview, I followed King's (2004) advice by including a range of roles in the sample. This provided a variety of insights from individuals who interacted with the doctoral experience in different ways. The following criteria were applied to the purposive sample:

Participant type	Criteria
Doctoral researcher	• Full-time • In second year or above • Aim for balance of international/UK and gender
Supervisor	• Supervised at least two students to timely submission • Worked at the case study institution for at least 3 years
PGR Director	• Interview person in post
Administrator	• Interview person in post
Institutional lead for PGR	• Interview person in post

Table 5: Interview sampling criteria

The criteria were developed to recruit participants who had enough experience to provide detailed, information-rich accounts. Regarding doctoral researchers, I focussed on those studying full-time because the measures of submission and completion rates discussed in

Chapter 2 tend to focus on full-time doctoral researchers. Also, full-time doctoral researchers seemed more likely be more closely connected to the institution than some part-time researchers and probably more focused on prompt submission because of funding or visa requirements. Doctoral researchers in the second year or above were selected because they would likely have had lots of experiences to reflect on. I also wanted to include a mix of doctoral researchers in terms of domicile and gender to gain as wide a range of perspectives on progress as possible. This would facilitate the identification of common experiences and any important differences.

A potential limitation of the sample of doctoral researchers is that I did not interview those who actually had or had not submitted on time. I chose this approach because completers, and non-completers would have been difficult to recruit, having already left the institution. More importantly, they would be disconnected from the current state of affairs in the institution and would not have been able to provide up-to-date insights.

The criteria for supervisors were applied to prioritise experience of supervision and familiarity with the case. I also interviewed the administrator, PGR Director, and Institutional Lead for PGR as they tend to have a grasp of the institutional strategy and policy, and deal with a wide range of matters in running doctoral programmes.

A blanket email was sent out by the PGR Director or administrator in each School to recruit participants. The email included a copy of the information sheet (see Appendix 2). Doctoral researchers were offered a £20 Amazon voucher in return for their participation. There was no incentive for other groups (I discuss the use of this incentive in Section 5.3.6). Anybody interested in participating was sent a copy of the consent form (see Appendix 3) in advance and I arranged a time to interview them. Staff at the institution provided a quiet, comfortable and confidential room for me to hold the interviews.

The sample for the institutional case study was as follows:

Participant	Med (N)	HumSoc (N)	Chem (N)	Total (N)
Doctoral researcher	5	5	4	14
Supervisor	4	4	1	9
PGR Director	0	1	1	2
Administrator	1	1	0	2
Institutional Lead	1	0	0	1
Total	11	11	6	**28**

Table 6: Interview sample by School and role

Demographic information about each participant category is summarised below:

	Gender (%)		Domicile (%)	
Participant	Female	Male	UK	International
Doctoral researcher	64	36	64	36
Supervisor	45	55	88	12
PGR Director	0	100	100	0
Administrator	50	50	100	0
Institutional lead	100	0	100	0

Table 7: interview sample demographics

Whilst the sample of participants included a good range of roles and mix of demographic characteristics, there are two limitations. First, doctoral researchers identifying as male were under-represented, which might be influenced by the choice of discipline in the sample. It is always a risk when relying on self-selection methods that the sample may not be as evenly

balanced as desired (King, Horrocks, and Brooks 2019). Second, because the sampling strategy focussed on recruiting for experience, the sample does not include novice doctoral researchers and supervisors, whose experiences may differ from those reported in this thesis.

Moving on from the sampling strategy and actual sample composition, I will now consider the interview technique in more detail.

As I had never conducted a semi-structured interview study in my previous academic training, I wanted to ensure that I was well prepared before going into the field. I found it helpful to bear in mind two principles from Fielding and Thomas (2016) as I prepared for data collection: i) that questions should be open ended to capture spontaneous responses and reduce interview bias; and ii) that the questioning technique should elicit underlying meaning, attitudes and beliefs, rather than superficial description. This advice focussed my attention on both the interview guides, and my own interviewing technique.

Regarding interview guides, I actively built in the good practice recommended by other scholars (King, Horrocks, and Brooks 2019, Fielding and Thomas 2016, Brinkmann and Kvale 2015). I ensured that all interviews started with an explanation about the project and covered ethical considerations. I used ‘warm up’ questions to help participants feel comfortable and to build rapport, and I used ‘warm down’ questions so that participants left feeling positively about the encounter. All questions were clear and intelligible to the participant, and only one question was asked at a time. I also carefully planned probes to elicit deeper insights. An example interview guide is provided in Appendix 4.

In crafting the interview questions, I followed Brinkmann and Kvale’s (2015) advice to organise the interview guides around the research questions, ensuring that the interview questions are jargon-free. To create the interview guides, I wrote down the research questions, and then brainstormed possible interview questions. I wrote drafts of the interview questions and discussed them with my supervisors for feedback. The table below shows an example of the outcome of this process. This example shows how I explored supervisors’ perceptions of doctoral researchers’ agency:

Research question	Interview questions for supervisors
What are the perceptions of key actors in doctoral education about how doctoral researchers' sense of agency influences timely submission?	1. Can you think of a PhD student (or a number of PhD students) of yours whose progress has really pleased you? What was it, do you think, that enabled them to make such good progress? 2. Similarly, can you think of a PhD student (or a number of PhD students) of yours whose progress has been slow? What was it, do you think, that led them to make slow progress? 3. What are the attributes you think doctoral researchers should possess that enable them to make good progress with their projects? Probe: why are those attributes so important, do you think? 4. Similarly, based on your experience, can you think of any attributes of doctoral researchers that might slow down progress? Probe: why do you think those attributes slow researcher down?

Figure 2: Generating interview questions

Whilst I was convinced that semi-structured interviews would increase the chances of encountering novel insights into timely submission over other types of interview, I was concerned that the structure of the interview guides might inadvertently preclude

participants from mentioning other salient topics (Cohen, Manion, and Morrison 2011). To compensate for this limitation, I decided to include a creative method in the interviews. As others have noted, creative methods are useful for minimising the influence of the researcher in the interview (Brooks, Lainio, and Lažetić 2019), thus reducing the interviewer effect on the data produced.

The creative method I incorporated is known as 'rivers of experience', a constructivist technique for eliciting perceptions of life experiences. The 'rivers of experience' technique was first devised by Pope and Denicolo (1990) as a means to understand individuals' personal career journeys. In its earliest incarnation, the method was known as 'career snakes' and was deeply rooted in constructivist philosophy. The technique was based on the idea that our individual construct systems evolve over time and are influenced by past experiences. By reflecting on our biographies, our construct systems can be brought to the surface and challenged, with emancipatory results for the individual. Denicolo and Pope (2001) observed that the 'career snakes' method was particularly adept at enabling participants to identify particular incidents that were especially significant in influencing their practice and professional identity. Their participants reported that the technique empowered them to shake off the negative effects of past influences because those effects were the result of how they had interpreted the incident.

Over time, the 'career snake' method evolved into the 'rivers of experience' method. This was due, in part, to some participants having a fear of snakes, but also because the 'rivers' metaphor seemed to be richer for eliciting and making sense of critical incidents that occur along our life journeys (Bradley-Cole and Denicolo 2020).

The method itself is very straightforward for participants to use. It is described in some detail in Cabaroglu and Denicolo (2008), but essentially involves research participants drawing a winding 'snake' or 'river' and marking an event that was critical to them against each bend. I was struck by how simple and accessible, yet revelatory, the method is. I adapted the method for my project by asking doctoral researchers to envisage their doctoral experience as a river and against in each bend in the river to mark a significant event that affected their progress

– good or bad. Participants were provided with instructions and an example on how to create a river of experience in the information sheet.

I was aware of some disadvantages of using creative methods. A common issue, for example, is that participants can be put off if they feel they lack artistic ability (Brooks, Lainio, and Lažetić 2019). Rivers of experience avoid this problem because the river can be anything from a simple, winding line with a brief description of an event to an intricate depiction, drawn in fine detail. Researchers using rivers of experience are advised to be conscious of the structure imposed by the river metaphor (King, Horrocks, and Brooks 2019). I did not consider this a significant issue because the river metaphor was very effective for my topic. It was particularly useful for tracking events and changes over time (Burnard 2016); participants really played with the metaphor by drawing logs and dams to represent obstructions to progress, smooth straights to represent periods of accelerated progress and so on. This is consistent with others' observations about the richness of the river metaphor (Bradley-Cole and Denicolo 2020, Denicolo and Pope 2001). It also facilitated active participation in the interview, putting the participant in the driving seat, and giving them ownership of how their experiences were conveyed (Sutcliffe, Burr, and King 2016, Cabaroglu and Denicolo 2008).

With the interview guides drafted, I wanted to test them and my own interview technique before commencing the case study. To those ends, I undertook a pilot study at the University of Surrey, where I am an employee.

5.3.4 Pilot

The decision to undertake the pilot study at the University of Surrey was driven by the immediate access I had to a suitable pool of participants with whom I could test the interview guides and my own interview approach. By collecting pilot data in my own institution, I was conscious that people already held a view of me and might be more inclined to provide socially desirable answers (Fielding and Thomas 2016). I was particularly concerned about this at the time of the pilot because I was employed in the Quality Enhancement and Standards department. It was conceivable that staff, in particular, might be hesitant about sharing

experiences with me that would not ordinarily find their way into reports and evaluations out of concern about possible repercussions.

To address these concerns, I made it clear in the information guide and consent form (see Appendix 5) that participation in the interviews was voluntary and all data would be treated confidentially. I also committed not to use the data in any publications or outputs from the thesis. I repeated this information at the start of each interview and during the interview itself if I sensed that a participant was withholding a potential insight.

Recruitment to the pilot was straightforward. I worked with PGR Directors who recommended some doctoral researchers and supervisors. I also interviewed the institutional lead for PGR at the time and a senior administrator. The pilot study sample comprised the following:

Role	N
Doctoral researchers	3
Supervisors	2
Institutional lead for PGR	1
Senior administrator	1

Table 8: Pilot interview sample

The doctoral researchers I interviewed were based in three departments (English, Sociology and Chemistry), both supervisors were based in the English department. The institutional lead and senior administrator had a University-wide remit.

To facilitate my own development as a qualitative researcher, I was inspired by work on critical self-reflection (see (King, Horrocks, and Brooks 2019) for a good summary). I wanted to ensure that I was present, self-aware and thoughtful about the research process. To achieve this, I took a series of steps after each interview, as follows: i) during the pilot phase I asked for participant feedback about the interview and their thoughts on my approach; ii) I wrote down my immediate thoughts about both the content of the interview and how I experienced the interview in a research diary; iii) I listened back to the interview recordings

several times to get a sense of how the interview worked as a whole and to critique my own questioning; iv) I shared transcripts with my supervisors and asked for their feedback.

The following reflections stood out:

Use of a creative method: The pilot interviews indicated that the interview guides were well-designed. Participants understood the questions, and the open structure of the questions allowed my participants to share their own unique experiences. However, I found that the questions concerning how doctoral researchers made progress through their doctorate required a lot of probing and thoughtful questioning on my part to elicit experiences that were rich in detail. I decided after the second interview that I would pilot the 'rivers of experience' approach. That interview generated data that were more surprising, insightful and rich than I had achieved with the semi-structured interview approach alone. I was also pleased with the decision to ask participants to create their river of experience prior to the interview. It meant that participants had reflected before we met and the interview itself was strongly participant-led. Based on the pilot, I changed the design of the case study interviews to incorporate rivers of experience.

Changes to interview guides: Perhaps because I was nervous that I would draw a blank in the interview, or not know how to prompt or probe responses, I packed a lot into the initial guides. They were dense, which made it difficult to move around the guide when participants talked about topics in a different order to the guide (which happened in every interview). The simplified structure allowed me to keep track more easily of what had been covered and to be more present for my participants.

Probing: Probing can be challenging in an interview. I was concerned about closing down talk that might be salient to my project or over-probing during less relevant talk. After the second interview, I consciously embedded the habit of keeping the research questions in mind. This helped me to judge the relevance of interview talk by probing with questions such as: "how did that affect your progress?". This helped to judge if the line of inquiry was relevant, allowing me to politely move the talk on if it was not.

Managing different professional identities: During the pilot, a participant disclosed some advice they had received from a fairly senior academic which, to my mind, was toxic. In the interview, I allowed my work identity to emerge and I verbalised a professional judgement about the advice the participant had received. This conflict of identity troubled me after the interview, and I discussed it in a supervision. The discussion with my supervisors helped me to differentiate my work responsibilities from my responsibilities as a researcher. We discussed tactics about how to manage this, primarily by using questioning as a way to probe how the participant experienced the event, by asking, for example "how did you feel about that advice?". I later used that approach during a challenging moment in a case study interview.

Feedback from participants: After each interview, I asked for feedback from my research participants. The feedback I received was positive. Participants reported that they felt at ease talking with me and they felt comfortable disclosing personal and sensitive experiences. Many participants commented that they liked the loose structure of the interviews and were pleased that my style was dextrous enough to follow the flow of the talk, making the encounter feel natural and authentic. One participant commented that they liked the way I probed and that my questioning technique helped him to think more deeply about the matters we were discussing. In fact, during the pilot and the case study interviews, several participants asked to have a copy of their transcripts as they appreciated the opportunity to tell their story and wanted a memento of their doctoral experience.

In summary, the pilot interviews were worthwhile and I echo the advice of others to pilot interview guides before embarking on the main study (Brinkmann and Kvale 2015). As a result of the pilot, the research design changed, the interview guides were modified, and I learnt a lot about effective interviewing practice.

5.3.5 Reflections on data collection in the case study

I continued with critical self-reflection during the case study interviews. In what follows, I share some of my key reflections:

Working with rivers of experience: As noted above, the incorporation of rivers of experience into the research design made a significant difference. It allowed for unexpected experiences to be shared during the interviews, which enriched the data set. The interviews were also more participant-led, which helped with rapport building and comfort with the interaction. Some unexpected issues did come up, which I had not encountered in the literature.

For example, when analysing rivers of experience, I did not think the river itself provided sufficient data to understand the participant's experience. I found it helpful to consider both the river *and* the interview transcript in parallel when analysing the interview data. The analysis process was facilitated by the approach I took to interviewing. I asked participants to talk me through their whole river so that I could get a holistic sense of their journey. Whilst participants were talking, I made notes of key points and any questions I had. I then followed these up with probes to get deeper insights into their experiences. The combination of the river and the detailed interview talk meant that I had a rich understanding of the participant's experience.

I also had one issue when a participant had misunderstood the instruction on the information sheet. In the participant information pack, I decided to include an example river of experience from an unrelated project on the doctorate. This, I thought, would give participants free rein over how they produced their rivers. One participant mistook the example river as being relevant to my project and so covered their route to the doctorate, rather than experience on the doctorate itself. This generated irrelevant data for the project. In future, I would use an example river from the project (with permissions) or one from a totally unrelated project to minimise any scope for confusion.

I also had to reflect on how to conduct interviews when participants did not complete a river prior to the interview. Fortunately, I had planned for this scenario and had some back-up questions built into the interview guide. The back-up questions ensured the interviews were still useful, but the interviews that included a river yielded much richer data.

Overall, the research design was strengthened by the use of rivers of experience. In retrospect, I also regret not asking supervisors to produce a river of experience. I decided not to ask them because I was concerned that it might affect recruitment by asking busy people to do a task prior to the interview and then give up a further 1.5 – 2 hours to participate in the interview.

Adapting interview guides: As with the pilot, I continued to adapt the interview guides as data collection progressed. For example, it became clear from participants' rivers of experience and insights from supervisors that the institution had put a focus on progress reviews to support timely submission and was investing in its Doctoral School. These appeared to be significant to the case study and so I added interview questions to explore them in more detail, rather than use the more generic questions about the department and institution.

Would-be interviewers: I had two challenging interviews. The participants had characteristics consistent with would-be interviewers (King 2004) in that they asked me direct and challenging questions about the research project and me.

In one case, the participant had asked my opinion about deadlines for research degrees and, in a very matter of fact way, conveyed that they did not agree with premise of my project. I remember feeling that that moment could have derailed the whole interview. However, I referred to a lesson learnt from the pilot interview and was able to avoid being drawn into giving an opinion on a topic in case it biased the interview. Instead, I responded by probing the participant, which led to a very rich conversation about the impact of deadlines. That moment from the transcript is reproduced here:

Participant: Can I ask something about your project?

Shane: Of course.

Participant: Because, if I understand it correctly, your whole point is to find out what helps students to submit on time.

Shane: Yes.

Participant: How do you feel about the whole idea of having a deadline?

Shane: That's actually something I'd quite like to discuss as a part of this interview with you.

Participant: Because I don't find this helpful at all. In a way your whole project is based on a premise that I don't really agree with.

Shane: Tell me more about that.

In the second case, I was initially very uncomfortable with a participant's views about funding and any institutional attempts to organise doctoral education. Whilst I did not agree with the participant's romanticised recollection of their 'sink or swim' experience of their PhD, they did eloquently argue concerns about the effects of performance regimes and progress monitoring.

On reflection, I think that my discomfort in these two interviews was because two of my identities - researcher and profession – came into conflict, and because one experience fundamentally challenged the project's existence. Professionally, I have had responsibilities for structuring doctoral provision and evaluating the University of Surrey's performance against benchmarks. Before collecting data, I had not realised that my own construct system meant that I construed deadlines for a doctorate and greater structuring of doctoral programmes as generally positive developments. However, the efficacy of this construct system was challenged by these two interviews. I think these two experiences were important for me because they taught me to acknowledge and challenge my own assumptions.

<u>Sensitive topics</u>: I worked hard at being an effective interviewer and I think this is reflected in how open research participants were with me. I found each and every interview a privilege and enjoyed spending time learning about my participants' worlds. This also brought home

to me the immense responsibility researchers have to their participants. I felt this most acutely when participants revealed deeply personal experiences, for example bereavements, illnesses and so on. I never underestimated how important it was to handle those moments sensitively and compassionately.

Two interviews stood out in this regard. In both cases, the doctoral researchers had experienced very difficult personal circumstances. I found it helpful to give participants time to share their experiences at their own pace and at a level they were comfortable with. I also made an effort to show that I was actively listening to what was being said and by later referring back to specific examples. I also checked that both participants were comfortable sharing that information with me. In both cases, I got a sense that they were comfortable with this approach from their demeanour. One participant moved from having arms folded and making minimal eye contact to physically opening up during the interview. The other participant chose to share an amusing story related to her family, which conveyed a sense of trust in the encounter.

Unsolicited positive feedback: I was encouraged by the unsolicited positive feedback I received from research participants. The majority were really grateful to have had the opportunity to participate in the research and to share their stories. There was also a great deal of interest in the project and participants were keen to be kept informed as it unfolded. As with the pilot, a lot of participants asked for a copy of their transcript because they wanted a record of this important moment in their life histories. For me, it was an immense pleasure to be able to help participants tell their story. Feedback from one participant really spurred me on. This participant was a senior and experienced qualitative researcher in the social sciences. After our interview, she complimented my competent interview style, especially the clarity of the questions and how well they elicited relevant material from her supervisory experiences. She also asked for a copy of the consent form I had developed for use in their future research projects. As a newcomer to fieldwork, I was immensely grateful for this validation.

5.3.6 Ethics

As discussed above, I felt a strong sense of responsibility to my research participants. I took seriously my responsibility to conduct the whole research process in an honest, transparent and respectful way. One way I sought to achieve this was through my approach to critical self-reflection in the research process to ensure that I was present, self-aware and thoughtful throughout.

In addition, I also carefully considered how I would build sound ethical practices into my research design, namely: informed consent, confidentiality, and consequences of the interview (Cohen, Manion, and Morrison 2011). In fact, the process of going through ethical review, although slow, was useful, for ensuring that these three elements were built into the research.

Regarding informed consent, I developed information sheets about the research that were provided at every stage of the recruitment process. Copies of the information sheet for the case study institution and individual participants are provided in Appendices 1 and 2. The information sheets covered the purpose of the research and its objectives in clear, simple language. They also emphasised that participation was voluntary and that the participants had the right to withdraw at any time. I also felt it was important that participants understood how their data would be treated and what outputs were intended from the project.

The information sheets also provided reassurances about confidentiality and how I would take measures to ensure that participants would not be identifiable and linked to any quotations from the interviews. All transcribed interviews were carefully combed to remove any identifiers and participants have all been given codes that depict their role, departmental affiliation and a unique number. I chose to use a code rather than a pseudonym because a pseudonym might inadvertently reveal something about a person or might lead to misidentification of a participant. After the interview, I asked each participant if they were still content for me to use the data we generated. I also offered to send a copy of the transcript should they want to check it and suggest amendments. Only two participants got back to me with fairly minor typographical errors in the transcriptions.

I also thought about consequences of the interview in terms of the participants' welfare. I discussed and reflected throughout on how to handle sensitive matters, particularly in light of the rise of mental health presentations in doctoral researchers (Levecque et al. 2017). The interview guides were designed with participants' welfare at the forefront of my mind. That is why the interview guide has warm-up and warm-down questions, so that participants left my interview in good spirits. I also took some time to consider how I would respond if it came to light that somebody was at risk of harm, or at risk of harming themselves. In the end, I adopted the protocol recommended by the British Psychological Association. Fortunately, I never had to test this during the fieldwork.

It is also worth noting that I provided a £20 Amazon voucher as a thank you to doctoral researchers for participating in the research. I was fortunate to have access to a research fund in my department, which could be used to fund research materials. I recognise that this fund is a privilege and I cannot guarantee that I would be able to fund an incentive in future research projects.

Some concerns have been raised about the use of incentives for recruitment purposes, as they may encourage people to participate for the wrong reasons. Others view payment as an appreciative gesture that shows respect for participants giving up their time (Holloway and Jefferson 2012). I thought that was particularly relevant for doctoral researchers who are mostly not in receipt of lots of money. I am also sceptical that any doctoral researcher would sell their soul for a £20 Amazon voucher. On balance, I think that the value of this incentive aligns with the rule of thumb that incentives should not be so enticing as to encourage people to do things they would not ordinarily do (King, Horrocks, and Brooks 2019).

I will now move on to discuss the approach to data analysis.

5.3.7 Data analysis: Thematic analysis

I found data analysis to be a challenging, yet exciting part of the research process. I did not think of analysis as a distinct stage in the research project, but rather a continuous reflexive

process embedded in the whole project. Brinkmann and Kvale's (2015) advice to consider data analysis from the outset is sage. I recognised that all decisions taken during the research process affect analysis, including the literature consulted, the theoretical concepts used, and research questions posed.

Despite being prepared for data analysis, it is still daunting. This really hit home for me when I typed up the final transcription and realised that I now had 475 pages of text to interpret. To manage the vast quantity of data, I used NVivo12 for Mac. I attended training on the software through the CAQDAS network, and found it to be flexible for creating codes, retrieving transcripts and developing themes.

Of course, NVivo does not analyse the data for researchers. At the heart of qualitative data analysis is the researcher and the analytical approach chosen. I chose to use Thematic Analysis (TA) (Braun and Clarke 2019, Braun and Clarke 2013, 2006) to analyse the data because it was well-suited to the constructivist paradigm. For example, Braun and Clarke (2019) hint at the double-hermeneutic when they describe their approach as centring on stories, creativity and meaning making, rather than finding evidence of truth 'out there' in the data set. Their observations about the importance of reflexivity, the fluidity in developing analytical themes, and the messiness in the research process (Braun and Clarke 2013) all resonated with my own experience.

In Figure 3 below, I summarise the steps involved in TA:

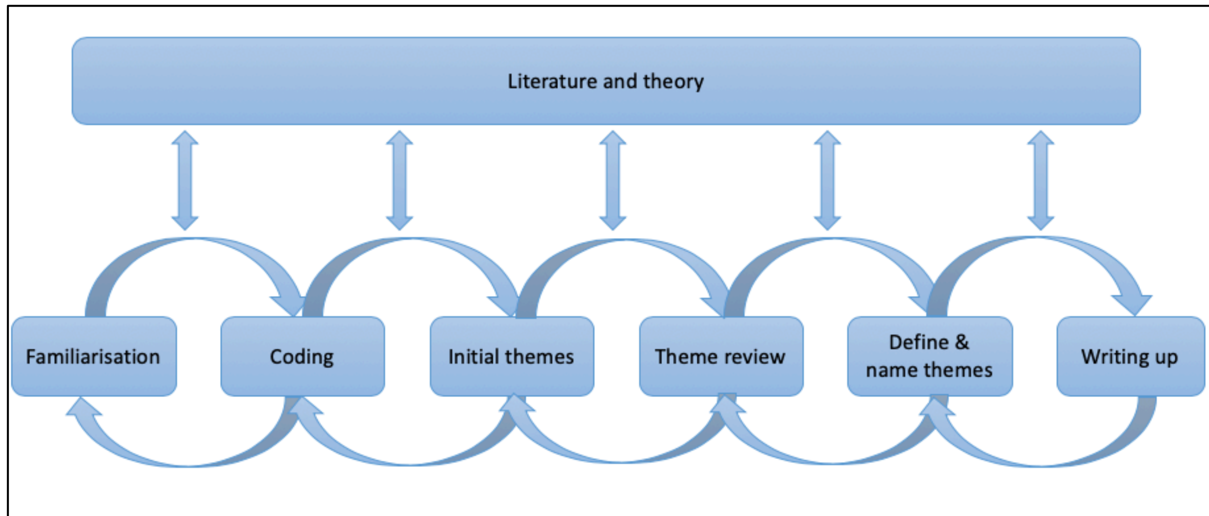


Figure 3: Thematic analysis process

There are three elements to Figure 3. The box at the top represents the literature and theory I read alongside data analysis. This was not fixed. As discussed in Chapter 4, I moved around theoretical concepts as my interpretations of patterns within the data evolved. The boxes in the middle represent the six stages of data analysis (discussed in more detail below). The arrows between the six stages convey my reflexivity in the process. I moved between stages of data analysis in a fluid and iterative way. Creations of new themes would lead me backwards to re-evaluate the foundations of my thematic constructs and forwards to ensure they were cogent. The vertical arrows represent the continuous process of comparing and contrasting themes with the extant literature to really focus on what was novel about my interpretations.

The steps involved in data analysis were as follows:

i) Familiarisation: This involved getting up close and personal with the data. This was achieved by noting down thoughts and reflections immediately after an interview, transcribing data, reading and re-reading transcriptions, and listening back to the audio files. I generated lots of notes of impressions, ideas and leads to follow up.

ii) Coding: This stage involved creating pithy labels for chunks of data guided by the research questions. It was carried out inductively, except for the research question concerning critical

events. For that question I used *a priori* codes to help interpret where a critical event might have occurred for a participant. In creating codes, I aimed to capture conceptual, as well as semantic, aspects of the data. I started by coding broadly – to avoid excluding data that might be relevant. I then reviewed the codes to create a more parsimonious set.

iii) Searching for initial themes: The themes I created were my own analytical constructs but also influenced by the theoretical concepts I was working with. In identifying themes, I looked for coherent and meaningful patterns in the data that addressed the research questions. The rivers of experience were helpful with this because each bend on the river marks a critical event for that participant. This provided a concise, yet revealing, entry point for identifying possible themes.

iv) Reviewing themes: This stage involved checking to see if the themes told a compelling and convincing story about the data. I defined the key dimensions of each theme and how they related together to begin generating new theoretical insights. The saliency of themes to the research questions was kept under review in deciding whether to collapse, split, or abandon a theme.

v) Define and name themes: Here I wrote an analytical summary of each theme. I focussed on what story the theme told, how it fitted the overall data, and how intelligible the theme was.

vi) Writing up: I found writing to be a very helpful part of polishing and reflecting further on the themes. It was through writing that I got new insights into how themes related to each other to tell a story about the data and generate new theory for understanding timely submission.

In Appendix 6, I provide an example of the codes and themes created through this process to give a more concrete sense of what went on during the data analysis process.

I now consider the main limitations of my approach to case study research.

5.3.8 Limitations

The two main limitations of the single institution case study concern: i) sampling within the case; and ii) issues with generalisability beyond the case. I will consider each of these in turn.

Sampling within the case: I prioritised experience and familiarity with the case study institution in my sampling strategy. I wanted to ensure that doctoral researchers and supervisors had enough experience in their roles to be able to share rich experiences about both the enablers and inhibitors of timely submission. The approach meant that novice supervisors and doctoral researchers were excluded from the sample. Consequently, it is not clear if the findings from this project reflect the experiences of novice supervisors and novice doctoral researchers.

Generalisability: Single case study designs have been critiqued because of the impossibility of statistical generalisability of the findings and uncertainty about the transferability of findings to contexts outside the case (Cohen, Manion, and Morrison 2011, Merriam 1998). Because I intend for the findings from this project to be relevant to all UK universities that award doctoral degrees, I needed to address this limitation. I decided that the research would benefit from a second stage of data collection involving participants outside the case study institution. I adopted two workshop format events to generate new data and share findings from the single institutional case study, which would help to make theoretical, if not statistical, generalisations. Those events are discussed in more detail in the following section.

However, Stage Two of the research design does not address statistical generalisability. Because a qualitative research design had been adopted, the findings cannot be interpreted as applicable to the general population. Further statistical testing would be required to make such knowledge claims. Nevertheless, this research could raise awareness for others engaged in doctoral education in that they can consider the relevance of the results for their context and be alerted to previously unconsidered issues.

5.4 Stage Two: Validation workshops

Two workshops were arranged to explore the relevance of the findings beyond the case study setting. The first workshop was integrated into the April 2019 UK Council for Graduate Education (UKCGE) conference held in Dublin, Ireland. UKCGE is an independent national charity that aims to champion and enhance postgraduate education. The UKCGE conference was chosen because it brought together a wide range of individuals from numerous institutions who are involved in the delivery of doctoral programmes. The overall sample of participants who attended my workshop is as follows:

Role	N
Supervisors	14
Researcher Developers	5
Administrative role	12
Total	31

Table 9: UKCGE workshop sample

Whilst staff were well represented at the UKCGE event, there were no doctoral researchers involved as the organisation is aimed at university staff. This necessitated a second validation event, this time held at the Society for Research into Higher Education's (SRHE) London office, at a Postgraduate Issues Network event on 17th May 2019. SRHE is a UK-based international learned society concerned to advance understanding of higher education and has a special section for doctoral and other early stage researchers.

The sample for the workshop was as follows:

Role	N
Doctoral researcher	7
Supervisor	4
Administrative role	2
Total	13

Table 10: SRHE workshop sample

Between them, the two workshops covered a good spread of roles and institutional affiliations. The sample was broad enough to test how well findings were transferable to other settings and experiences.

5.4.1 Planning the workshops

In planning both workshops, I had to bear in mind the time available, how to keep the content relevant to participants' practice, and try not to influence data generation by reporting my research findings too early. I also had to ensure the research was carried out ethically.

For the UKCGE event, I was conscious that I only had one hour in which to deliver the workshop. I decided that to make best of use of the time, I would build the workshop around questions of agency and structure. I designed four questions that were written in accessible language (see Appendix 7 for the questions). I also decided to ask participants to self-sort into groups so that they could consider the question they were most interested in, thus increasing the likelihood of richer accounts. A spokesperson for each group then fedback in plenary and I facilitated the discussion.

In the publicity for the event, I made it clear that participation would involve making a contribution to research. I made sure to emphasise this at the start of the session, covering confidentiality, voluntary participation and circulating a consent form, which summarised the main points (see Appendix 8 for a copy of the consent form).

For the SRHE event, I had a whole day at my disposal and could communicate with participants prior to the event. I decided that it would be viable to incorporate rivers of experience from all participants, including staff. The event commenced with sharing rivers of experience in groups of the same role, e.g. groups of supervisors, doctoral researcher etc, and then feeding back key similarities and differences in groups. The event then went on to address the same questions as those posed at the UKCGE event. The day concluded with my sharing the project results to date and a discussion of the findings. The information pack that was sent to participants prior to attending the event is provided in Appendix 9, along with the consent form.

5.4.2 Conducting the workshops

I was fairly new to workshop facilitation prior to holding these events. I recall feeling very nervous before each event about whether I could manage large groups, keep the flow of conversation going, and keep to time. I was equally anxious about the workshop outcomes, particularly if the new data generated did not resonate with my interpretations from the institutional case study. Fortunately, I found that many of the skills I had acquired in interviewing – building rapport, probing, working with creative methods – all came in useful.

I discovered that I was adept at managing people in a larger group. I put advice about being warm, an active listener, personable, and able to put the group at ease into practice (King, Horrocks, and Brooks 2019). For example, in the SRHE event, I was aware that participants might be sharing very personal and sensitive experiences from their rivers of experience. I wanted to ensure that the group had a level of trust and comfort in me, as well as each other, before we started. I decided to start the session with a round of introductions, asking each participant to share the first record/tape/CD/download they bought. This is a good strategy for developing trust, as often the disclosure is just the right level of embarrassing to encourage group bonding. The participants seemed to enjoy this icebreaker, and the follow-on discussions about rivers of experience were deeply revealing.

All my participants appeared to be very respectful of each other. In one event, I got a sense when circulating that one participant was dominating the discussion. To manage this, I gently intervened on the table to invite other participants into the discussion: “that’s very interesting. Does that reflect others’ experiences?”.

As with the pilot interview studies, I asked for feedback from participants to help me gauge how effective my workshop facilitation skills were and where I might need to improve. The feedback from both events was very positive. Feedback summaries are provided in Appendix 10. One participant asked permission to run a similar workshop using my format in their own institution as part of their suite of supervisor training.

5.4.3 Credibility, confirmability, transferability and dependability

As noted, constructivism applies four criteria to assess the quality of research: credibility, confirmability, transferability, and dependability. Stage 2 was designed to maximise each of these, whilst compensating for the limitations of the single case study research.

Regarding credibility, I shared my initial findings after new data had been generated at the SRHE workshop. Participants confirmed that the findings resonated with their experiences-particularly the key features of the theory I had developed: types of critical events, the role of institutional structures, and how agency of doctoral researchers and supervisors is enabled and constrained. Of course, they did not use that sociological language, but I interpreted their experiences as aligning with those concepts in unique ways and tested this through further probing.

Regarding confirmability, I compared and contrasted the data from the workshops through another round of TA. The workshops generated a further 34 pages of transcript, which I analysed using the *a priori* themes from the institution case study for the purpose of data triangulation (Patton 2002). I was particularly interested in any chunks of data that did not fit the themes. Most of the data aligned with existing themes, reinforcing my interpretations from the case study. Some parts of the transcripts provided new insights. In most cases, those insights were interpreted as belonging to the sub-sub-theme level and did not challenge the overall integrity of the existing theme structure. Rather, they added a more detailed level of nuance.

One passage from the transcript helped me to make sense of some codes from the single institution case study. I had a group of codes that seemed to coalesce around a theme, but I was unsure how they fitted together. A participant at the UKCGE event unpicked the phrasing of one of my questions about how doctoral researchers approach problems. The participant pointed out that doctoral researchers sometimes lack a coherent approach. In that moment, I understood how the other themes fitted together, which led me to create a new sub-theme of 'liminality' and to consult a new literature.

Regarding transferability, I am aware that my findings cannot be generalised. I do, however, think there is evidence from the workshops that the findings have salience outside the single institution case study. Having gathered more data from a broad sample, the integrity of my analysis held up and the findings resonated with participants who were not affiliated to the case study institution.

Finally, regarding dependability, I hope that the detailed, open and reflective discussion in this chapter reassures readers that this project has been conducted to a high level of transparency and integrity.

In the next four chapters, I present the findings from the project in detail. The themes and sub-themes I present are usually accompanied by a single quotation from the data to help bring the findings to life. I chose to pick just one quotation or example River of Experience that was representative of a wider set of quotations to preserve word count. I would also add that when I present the findings, I refer to data collected and analysed in both the institutional case study setting and the two validation workshops. As noted above, the approach I took to analysing the data from the validation workshops was different to how I analysed the single institutional case study data because the latter relied on comparing the new data to the *a priori* themes that I had already developed. I should, therefore, also make it clear that when I use a quotation or River of Experience from either validation workshop, I am not giving it the same weighting as data generated and analysed as part of the single institutional case study. Instead, I use those quotations and Rivers of Experience because they provide a clear, accessible and immediate illustration of the more general finding I wish to convey.

The remaining chapters are organised as follows: Chapter 6 considers types of critical events in the doctorate and doctoral researcher's agency. Chapter 7 considers how supervisors exercise agency to support timely submission. Chapter 8 considers the main structural components of the UK doctorate. Chapter 9 then focusses on contemporary perspectives on submission rates. In Chapter 10, I then discuss these findings, including their contributions. The themes and quotations presented in the results chapters give a flavour of life in the case

study institution, and, I would venture, will be recognisable to readers working in other institutions too.

Chapter 6: Critical events and doctoral researcher agency

6.1 Introduction

In this chapter, I present the results from data analysis concerning two research questions, as follows:

- What are the perceptions of key actors in doctoral education about how the following influence timely submission of a thesis:

  i. Critical events in the doctorate?
  ii. Doctoral researchers' sense of agency?

In Section 7.2, I present the findings that relate to critical events. In Section 7.3, I then present how doctoral researchers respond to those critical events through exercising their agency.

6.2 What are the main critical events in the doctorate?

The thematic analysis of the data reveals four main types of critical events in the doctorate. They are: i) epistemic critical events; ii) temporal critical events; iii) relational critical events; and iv) personal critical events. Each type of critical event involves at least two of the concepts discussed in Section 4.3.1., and all can lead to doctoral researchers experiencing a transformative moment and periods of unease.

The table below summarises each type of critical event and its key features:

Theme	Sub-themes
Epistemic critical events	• Transformative • Periods of unease and the unfamiliar
Temporal critical events	• Transformative • Periods of unease and the unfamiliar • Temporal (un)consciousness
Relational critical events	• Transformative • Community • Self in relation to others • Periods of unease and the unfamiliar
Personal critical events	• Transformative • Periods unease and the unfamiliar

Table 11: Summary of themes and subthemes for research question (i)

6.2.1 Epistemic critical events

Epistemic critical events refer to those aspects of the doctoral experience that emerge from the practices associated with knowledge creation. In other words, epistemic critical events occur during the process of 'doing' research. There were lots of examples in the dataset of doctoral researchers experiencing transformative moments during epistemic critical events, which enabled them to progress with their projects. However, for many doctoral researchers, their project experiences were laced with unfamiliarity and uncertainty. The river of experience from one doctoral researcher participant captures both those aspects of epistemic critical events well:

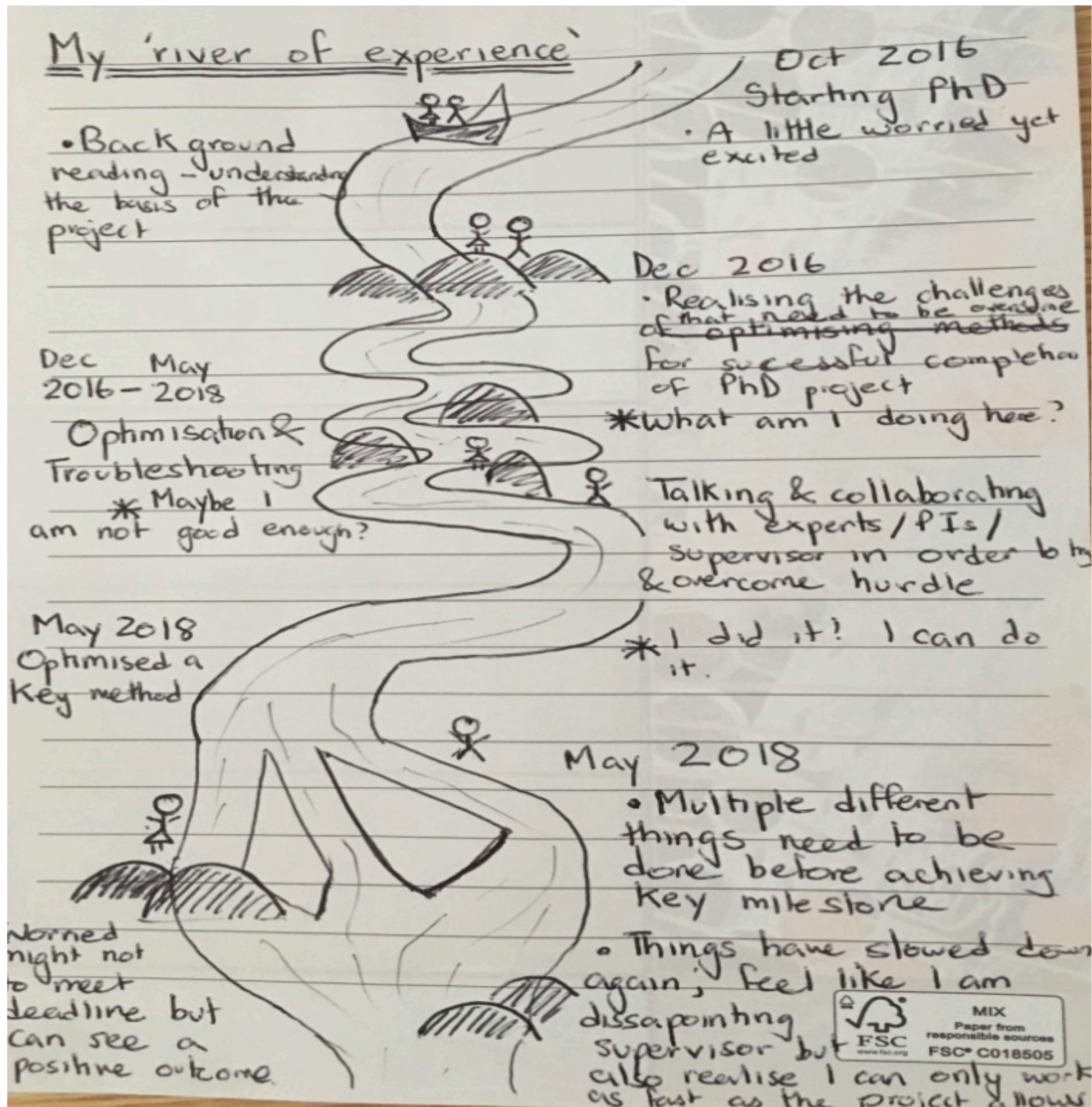


Figure 4: PGR01-Med's river of experience

Some the bends in the river of experience in Figure 4 capture several interesting epistemic critical events, which typify many of the feelings of unease and unfamiliarity that participants discussed in interviews. For example, this doctoral researcher is aware of 'the challenges that need to be overcome for a successful PhD project' but she wrestles with the volume of difficulties that keep emerging from her experimental work – in this case the 'optimisation and troubleshooting' techniques she is using - and she struggles with the unpredictable pace of the experimental work: 'things have slowed down again; feel like I am disappointing supervisor'.

These epistemic critical events cause her considerable distress, and she has experiences consistent with the discussion of liminality in Section 4.3.1. In this case, she questions both her capabilities and the decision to do a PhD in the first place: 'maybe I am not good enough?', 'What am I doing here?'.

Nevertheless, these experiences coalesce into flashpoints in her experience. She experiences transformative moments, after which real progress occurs with her project. In Figure 4, this doctoral researcher marks out a point in May 2018 when she overcomes a hurdle by enlisting the help of a range of experts. This approach proves successful and she exclaims: 'I did it! I can do it'. As a result of this experience, her confidence grows and her relationship with research changes. She begins to view knowledge creation very differently and starts to feel much more comfortable with the uncertainty inherent in epistemic critical events.

The transformative moments this doctoral researcher experienced are elaborated further in the following interview extract:

As it [the PhD] progressed you start seeing hurdles, you start seeing rocks, you start seeing barriers that will be difficult to cross…So, just deciding [what to do] it's like flipping a coin, you don't know whether it's right or wrong, you just do it. But it's frustrating when it doesn't work and when your supervisor is like you need to get it going…It's good and bad because I'm like if he doesn't have the answers who do I go to? But it also has helped me realise it's ok not to have the answers myself. Because if he doesn't know whether its right or wrong its ok for me not to know if it's right or wrong. I think that's helped me realise the PhD is more like a diary of lab events rather than you're actually writing and resulting and reporting and stuff like that. So it's more like these are things we tried, these worked, this didn't work.
PGR01 MED

As noted previously, experiences of unease and unfamiliarity that precede a transformative moment were consistent with many doctoral researchers' experiences of epistemic critical events. The data indicate that those challenges appear to be fundamental to the doctoral

experience. If epistemic critical events were too easy, then they would cease to be *critical* and might rob the doctoral researcher of the opportunity for personal and intellectual growth. One supervisor reflects on this below:

But I think a PhD is a step up from doing a degree, in that there's not a way through that should be just getting all the paperwork done on time…Because a PhD should be quite an open-ended thing, and there should be struggles, and there should be things you can't solve very quickly. And you think 'oh, I'll get this done in a week', and it takes six months. And if you're not happy with those sorts of problems, you're not really enjoying the PhD as much as you can.
SUP11-CHEM

6.2.2 Temporal critical events

The second type of critical event identified in the data are temporal critical events. Temporal critical events refer to the experiences of balancing the many and varied requirements of the doctorate. As discussed in Chapters 2, 3 and 6, the requirements of a doctoral degree have mushroomed in recent decades. The doctoral experience now comprises both the formal, codified requirements for conferral of the degree (i.e. completion of a programme of research under the guidance of a supervisory team, written up as a thesis and assessed) and enrichment requirements to make the most of the experience and invest in personal futures (i.e. engaging with a range of value-adding and career enhancing professional development opportunities including training, conference presentations, publications, teaching, outreach, internships, placements and so on).

The dataset included a lot of examples of the struggle to balance the formal and enrichment requirements of a doctorate. Participants commented on how it was technically possible to focus solely on the thesis and its submission, but such an approach would be incredibly career-limiting and was not considered a realistic prospect. One doctoral researcher, for example, was very concerned about how becoming a father and struggling to afford childcare had led him to miss out on many enrichment requirements. The impact of this on his future weighed heavily on his mind:

Networking I haven't done…I haven't been able to go to the visiting seminar series here. So sort of the networking aspect, it's just not happened. Publishing papers, probably not going to happen until mid-way through next year, if that early. So, yeah, there is a sort of issue there and also the other things, training for careers outside of academia, which is also necessary. For a number of reasons, I haven't been able to get involved with that.
PGR08-HumSoc

Consequently, there was a sense of acute time consciousness expressed by most participants across the dataset. Doctoral researchers now find themselves in a pressure cooker-like environment where increasing demands are made of their time, which they have to prioritise and balance. Confronting temporal critical events is further complicated by the firmer regulatory or funder expectations for thesis submission, which enforce tighter deadlines and add to the pressure in the doctoral experience and doctoral researchers do not always feel empowered to deal with this pressure, one participant said:

it's not easy to live with this pressure, you know, you feel that your fund will finish soon and then you haven't secured any other funds. And you have to deal with this, with family, with your experiments, with daily life, and it's not easy but…you don't have any choice. I mean you have to just keep doing your experiments …analysing your results and, you know, hope… that the University will accept to extend my fund. It's not easy, it's not easy, you know. It's pressure, pressure, every day, every day, but no choice, I mean you can do nothing.
PRG12-Chem

Unsurprisingly, temporal critical events can lead doctoral researchers to experience unfamiliarity and unease. Participants attributed this effect to the fact that doctoral researchers are in the process of learning about research as they do it. Consequently, they have no benchmark for gauging how long certain activities should take, which makes planning activities challenging. This was discussed at the SRHE validation workshop:

The challenge is…about how to have realistic expectations. So we want to have them, but actually it's not until you go through it that you realise what is realistic. 'Are you actually going

to write a chapter in that length of time? How long is your analysis going to take you? And it… just took a long time, I think.
SRHE Validation Workshop

Although rare, there were some examples in the dataset of doctoral researchers experiencing time unconsciously, as they became absorbed by their work. In the example below, a doctoral researcher describes a critical event from her river of experience when she loses herself in data collection and experiences joy in rediscovering a long-forgotten archive:

And then the [archive] data collection that took place over a 5-month period. That was probably the most enjoyable part of my PhD because it was so hands-on and finding things for the first time. It was big shelves. I had to wear a hard hat, I had to have a torch and some of it was literally crawling in the dark finding these books and I just loved it. It was amazing. So that was another part… I enjoyed it so much.
PGR07-HumSoc

Similarly, learning how to prioritise and balance activity across the doctorate did, in some cases, lead to transformative experiences. There were some examples of doctoral researchers who made the effort to make time for seeking out development opportunities and new experiences. For those doctoral researchers, this approach awakened new skills and opened up new career trajectories. This is reflected in the following interview excerpt from a doctoral researcher:

I get involved in lots of other stuff so that I'm not just at my desk all day…Sometimes I worry that that takes up too much time…But my attitude is like, because I teach…and I teach with the Brilliant Club[5]…I work with teens and this is an opportunity to go in and teach teens about [my research] and it would be stupid not to take this opportunity. I'm getting my research out there, so if it slows me down on actually working the PhD, it's something I really enjoy and I don't mind if it takes me an extra year to write up the PhD. I can do other things at the same

[5] The Brilliant Club is a UK-based charity that exists to increase the number of pupils from underrepresented backgrounds progressing to highly-selective universities. They do this by mobilising the PhD community to share its academic expertise with schools.

time because I don't think I would make it if I was just focused on writing constantly, I have to mix it up.

PGR02-Med

6.2.3 Relational critical events

The third type of critical event are relational critical events. Relational critical events are concerned with fostering productive working relationships with significant others in the doctoral experience to enable progress. Examples of significant others include supervisory teams, mentors, peers, academics based in their School, researchers met through conferences and social media, and so on.

Consistent with the literature discussed in Chapter 3, the relationship between a doctoral researcher and their supervisor is critical for supporting progress. The river of experience that follows illuminates the features of relational critical events very well:

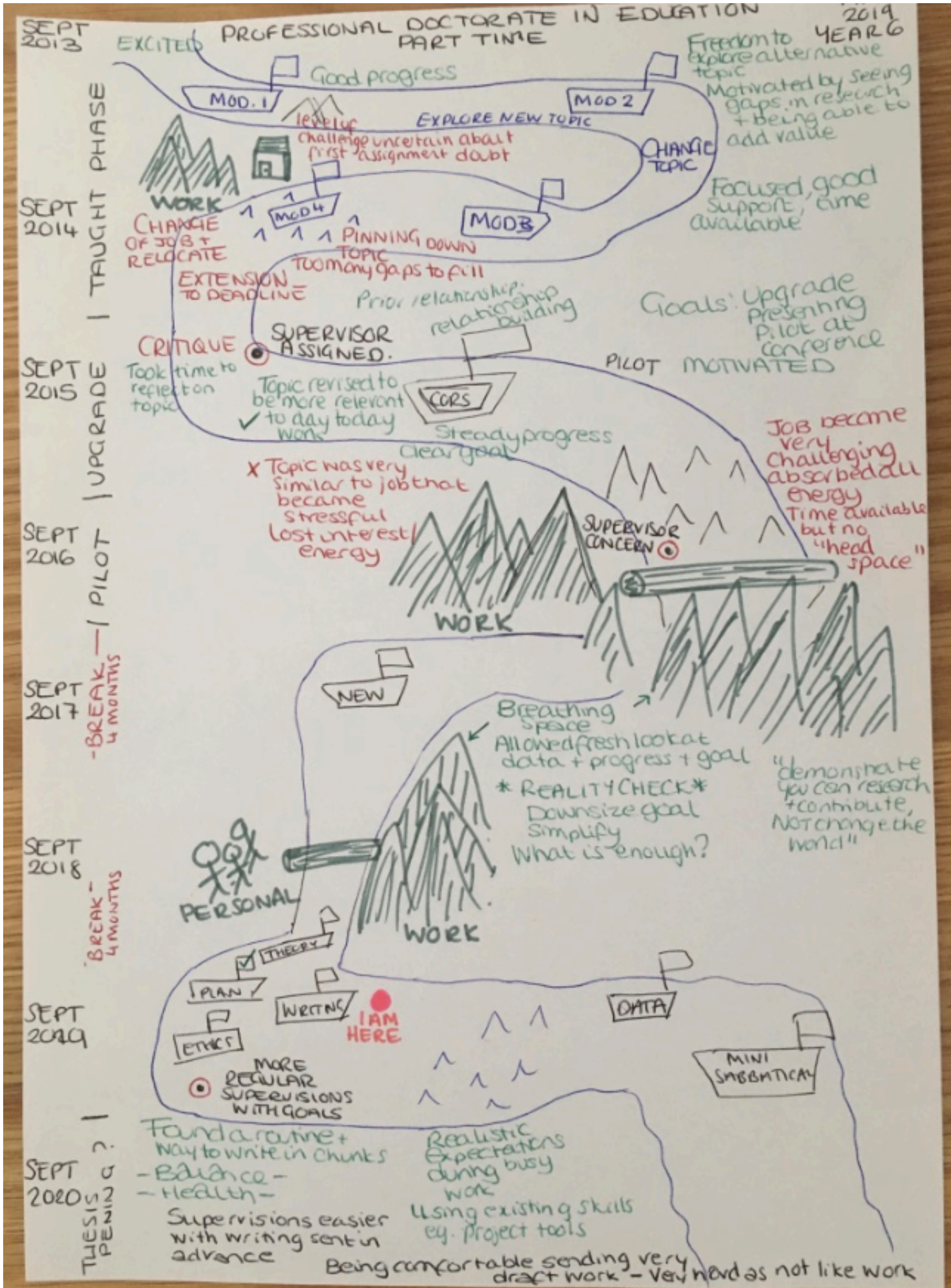


Figure 5: A doctoral researcher's river of experience from the SRHE workshop

This doctoral researcher experienced a difficult period in her project shortly after her supervisor was assigned in September 2015. Her research focus was too close to her day job, which, at the time had become very busy. In the end, it 'absorbed all energy' and left 'no headspace' for the doctoral researcher to progress her thesis. Fortunately, both this doctoral researcher and her supervisor had focussed on 'relationship building', which enabled an open and honest conversation when the project hit a stumbling block, as depicted by the mountain range and log that act as barriers in the river of experience. The relationship enabled a transformative moment because it moved the doctoral researcher to take some time out. This gave her some much needed 'breathing space' to refresh her project objectives and reset her perception of the doctorate. She now aims to 'demonstrate you can research and contribute. Not change the world'.

As noted, doctoral researchers can engage with a wide network of people during their doctorates. Those networks can become a rich source of help and guidance to enable progress. The data showed how some doctoral researchers can experience a change in how they perceive their community, or communities**,** and their role within these. The data showed how, for some doctoral researchers, a sense of belonging emerges, hierarchies are flattened, and they experience a growth in confidence in the value of their contributions. Such moments can, of course, be preceded by a period of unease or unfamiliarity. These features of relational critical events are reflected in the account below from a doctoral researcher. Here, she discusses a relational critical event when she was representing her project team with very senior industry partners interested in commercialising her research:

I was the only female. It was all older men that have worked in the chemical industry for 40 years. 'Hello, I'm a second year PhD student'. But once we got started, I thought 'I've got as much place in this meeting as any of them. I know more about this project than they do because I'm the one that's been working on it'. At first I felt a bit nervous, but once we started discussing the project I didn't really feel nervous anymore because I know this project well, if not better than anybody else here. It's little things like that. Those experiences have really

helped me. It might initially take you out of your comfort zone, but you need to get out of your comfort zone in order to develop.
PGR13-Chem

Relational critical events can also change the perception that doctoral researchers hold of themselves in relation to others. As in the doctoral researcher's experience above, the changing sense of self can be very positive and reinforce confidence and belonging to a community. However, at the SRHE validation event, participants noted that certain assumptions appear to be made about doctoral researchers at an institutional level. Those assumptions can lead some groups of doctoral researchers to feel marginalised when they do not perceive themselves to align with those assumptions:

We also all experienced some kind of sense of marginality whether that was being a doctoral student in the first place, being part time versus being full time, being of a different age or career stage, changing disciplines, feeling somehow kind of exterior to various things which ties into experiences of unsupportive institutional processes or institutional assumptions about what PhD students are, what they want, where they're going that we didn't necessarily always feel applied to us.
SRHE Validation Workshop

6.2.4 Personal critical events

The fourth type of critical event are personal critical events. Personal critical events concern how doctoral researchers' personal lives and doctorates are interwoven - each blends with and affects the experience of the other. Given that doctoral researchers tend to be older, it is much more likely that they will be experiencing the multifaceted complexities of adult life. Of course, big life events might derail progress, but they can also precede transformative moments. The river of experience shared below is a particularly informative example of this:

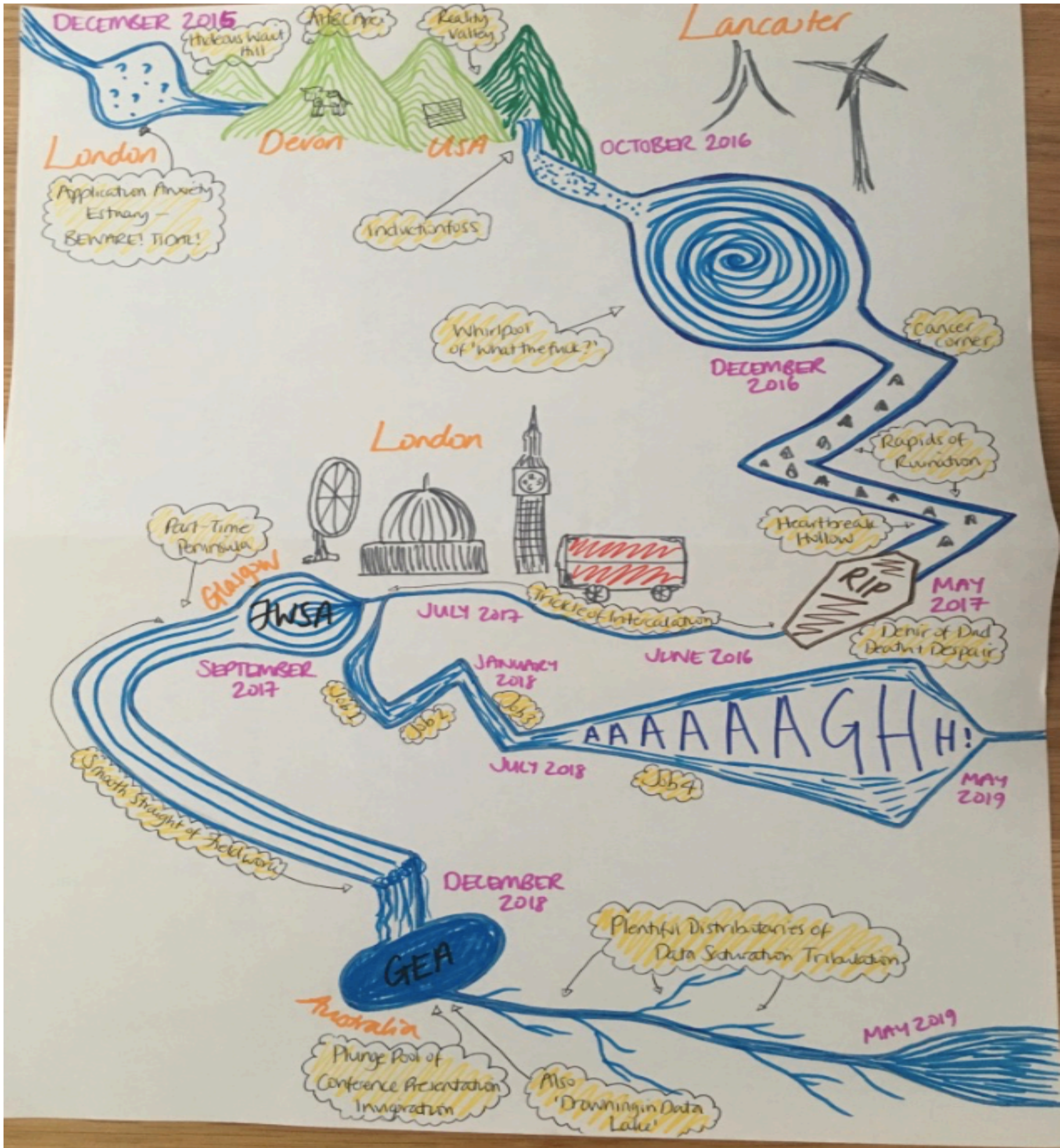


Figure 6: A doctoral researcher's river of experience from the SRHE workshop

This doctoral researcher's experience of the doctorate has been accompanied by several significant life events. They include disruptive moves between cities and countries, a transfer from full-time to part-time status, three job changes, and a bereavement, which is heartbreakingly described on the river of experience as the 'denier of Dad death and despair'. But these experiences do not quash her spirit. Instead, she comes through these distressing moments and makes progress with her thesis. Her river of experience depicts how some of these periods of unease in her personal life are followed by fulfilling experiences in her

doctoral work, such as the ‘smooth straight of fieldwork’, the ‘plunge pool of conference presentation invigoration’ and the ‘plentiful distributaries of data saturation and triangulation’.

In a further example below, another doctoral researcher discusses how the doctorate reinforced her bond with her family. In this example, the doctoral researcher experienced a number of setbacks with her experimental work, which precipitated several periods of acute self-doubt accompanied by bouts of depression and anxiety. For this doctoral researcher, her family became important cheerleaders who kept her going when she was experiencing unfamiliar challenges with her doctorate. It was her family’s continued support and encouragement that sustained her through the low points:

I can definitely say that I don’t think I would have gone half as far as I have if my mum hadn’t [short pause] She’s been, what would I call it? Aggressive encouragement (laughs)…The fact that I don’t want to fail for them either. That’s been a huge thing as well. Because my parents invested part time and money in my education, I can’t fail because it’s a waste. So I want to make them proud and keep going.
PGR04-MED

The data highlight that doctoral research does not take place in a vacuum but is bound up with doctoral researchers’ lives and identities. It is not uncommon for doctoral researchers to experience challenges, difficulties and moments of joy in their personal lives, which affect how they relate to their doctoral research. Whilst many of these experiences create new obstacles to overcome, in negotiating changes of circumstances, doctoral researchers achieve inspiring feats that bring pride and joy to others. This is eloquently captured in the reflections of a supervisor below:

I think supervising PhD students has been one of the most pleasurable things of my career and continues to be. I love it. And I feel really proud of the work that the students produce, often in adverse circumstances, they win through, you know. My student who has just submitted,

and she's done it part time, she's got a new baby and I'm just so proud that she finished it and it's excellent.

SUP09-HumSoc

Having presented the four main types of critical event in the doctorate, I will now consider how doctoral researchers might respond to those critical events. I do this by considering how doctoral researchers exercise their agency in ways that can both enable and constrain progress.

6.3 How does doctoral researcher's sense of agency influence timely submission?

The thematic analysis of the data reveals four broad ways in which doctoral researchers exercise agency to navigate critical events. They are: i) epistemic-oriented agency; ii) self-efficacy-oriented agency; iii) relational agency. A fourth theme, liminality, was also identified.

The table below summarises each theme and its corresponding sub-themes:

Theme	Sub-themes
Epistemic-oriented agency	• Deliberating about inputs • Deliberating about the knowledge creation process • Deliberating about the bigger picture
Self-efficacy-oriented agency	• Ownership • Time management • Work ethic • Self-care
Relational agency	• Academic relationships • Affective relationships
Liminality	• Lack of coherent approach • Lack of ownership • Over-reliance on others • Lack of reflection • Lack of self-confidence and self-belief

Table 12: Summary of themes and subthemes for research question (ii) – doctoral researchers

6.3.1 Epistemic-oriented agency

Epistemic-oriented agency refers to how doctoral researchers exercise agency in order to navigate epistemic critical events. It is characterised by a process of reflexive deliberation. This involves deliberation about the inputs to their research projects; deliberation about the knowledge creation process; and deliberation about the bigger picture of their projects. I now explore each of these sub-themes in more detail.

6.3.1.1 Deliberating about inputs

The data analysis showed how doctoral researchers encounter many inputs into their doctoral research as it unfolds. Inputs include the existing literature, guidance from other researchers, discussions with peers, critiques from assessors at progress reviews, feedback from supervisors, and so on. Here, I focus on the example of feedback from supervisors to show how doctoral researchers might exercise their epistemic-oriented agency by deliberating about and acting on inputs into their research projects.

The interview talk about one type of input – feedback - is insightful because it captures the many and varied responses of doctoral researchers to feedback. The analysis indicates that doctoral researchers' relationship with feedback exists on a spectrum with unreflective acceptance of feedback at one extreme and bullish disregard at the other. Neither of these extreme responses is supportive of progress towards timely submission. In the except below, a supervisor discusses her concerns about doctoral researchers who take feedback personally and are overly defensive:

you'll go through the feedback and every point you make, they'll give you a defence of why they've done it that way or whatever. That's the massive alarm bell for me. If I'm giving comments and they'll say, "Oh well, I decided to put that reference in because of…" "I decided not to put any more references in there because of…" I just think, oh, you're not getting this at all. So I think there's a continuum for seeing the comments as so much about criticising you, which isn't what they're intending to do at all, that you need to defend yourself against them and actually not take them on board and put them into your writing at all.

SUP06-HumSoc

At the other end of the spectrum, concerns were raised about doctoral researchers who blindly follow what their supervisors say without reflecting on their feedback and responding to it in a more considered way. For supervisors, this risked transferring ownership of the project from the doctoral researcher to the supervisor and demonstrated a lack of reflexivity, as one supervisor comments:

he really struggled with the conceptualisation of the project and in the end, I found myself sort of... I felt that I was stepping over the mark in the advice I was giving, I was actually giving him a framework, giving him a methodology, telling him what to do and it was almost... a kind of painting by numbers exercise. I'd made the picture and he was filling it in. I felt uneasy about that and actually in the end he had a lot of problems, health problems and other familial problems and he eventually went back…he hadn't finished it
SUP09-HumSoc

Nevertheless, there were many examples in the data of doctoral researchers exercising epistemic-oriented agency to make sense of the feedback they received. In such cases, doctoral researchers' deliberations about and responses to feedback were nuanced and evolving. Doctoral researchers discussed how they came to liken feedback to a critical friend who was offering suggestions and ideas on how to improve the work. When doctoral researchers had developed this relationship with feedback, it reinforced their sense of agency because they "know what to do with [the feedback]" [PGR06-HumSoc]. The account below from a doctoral researcher captures the evolving process of deliberating about feedback:

I sent it [my work] to her and a postdoc in my group and they both did feedback and…when there's like track changes and it was like that whole thing at the side and I was like wow. And what's funny is I changed some of the things which she'd put in and sent back to her again and she was like' change this to this'; what I'd originally written. So I was like OK so actually you're making suggestions but I don't have to change it because actually it didn't really make much sense to me to change some of the stuff…so that was quite a thing as well. And also I

think like reading it, noting as they go along something that may make sense later on where I actually covered the thing, so putting it in twice doesn't make sense if you know what I mean. So, yeah, it was quite interesting getting that feedback because some of it was useful, some of it I was like so what I wrote in the first place was actually fine
PGR05-MED

6.3.1.2 Deliberating about the knowledge creation process

The data analysis also showed how doctoral researchers exercised epistemic-oriented agency by deliberating about the knowledge creation process. As previously noted, the doctorate is the first time that many doctoral researchers will experience a large research project and their prior academic training is rarely adequate preparation for it. Consequently, much of the doctorate is characterised by learning as you go. This results in some tasks taking longer than expected as doctoral researchers have to learn the ropes, as well as execute the task. This is reflected in the extract below from a doctoral researcher:

I think…you're just expected to do things at a faster rate than people can when they're just learning how to do something. So I think that's part of the problem. And I think that's quite hard to say to like your supervisor. I can't actually do that thing that you asked me to do by that time.
PGR05-MED

Whilst deliberating about the knowledge creation process can be slow, the data captured many examples of how doctoral researchers exercise agency to handle it better. One tactic discussed by doctoral researchers involved allowing yourself to be surprised by what you find and following where the research process takes you:

it was just looking at the data…it was kind of more of a case of just following what the data was showing…So yes, it was kind of a joint decision just to try and focus more on just following what the results said. And I guess that's the nature of a PhD or any sort of research project really, is that you can have aims at the start and things don't always work out as you expect but that isn't always a bad thing and I just think you've got to follow what the results say.

PGR03-MED

A similar tactic was also discussed by doctoral researchers in the humanities for whom the act of thesis writing became the medium through which their thoughts, ideas and overall arguments were clarified:

it was me who made all the sort of the major decisions about the thesis, which is good and right. I sort of think it did involve a bit of just flailing around for a bit until things took shape. I don't really know how I dealt with it to be honest. I just kept on doing things until it all started to take a bit of a clearer shape, and kept on hammering at it until it all made sense.
PGR08-HumSoc

Spending time on problem solving activities is another way that doctoral researchers deliberated about the knowledge creation process. Doctoral researchers described many epistemic critical events where they had to think through problems as they arose and trial different approaches to find a solution. This is a highly reflexive activity that involves taking a step back from the task at hand, thinking through the different factors impinging on the problem, and working them through systematically. One supervisor regarded this as a doctoral threshold concept:

But there are people who will never be able to take one step back and really think about what they are doing, what the experiment tells them, how you could interpret the results, what the issues with the experiment is. Is that actually the best way to do it? Are there any controls that are missing? Can you interpret the results in a completely different way and then based on the results, what's the next logical thing to do? And some people have that right from the beginning and some people develop that during their PhD and some people never get it. It's just that everyone is different. But you need that kind of independent thinking.
SUP03-MED

The data also showed that doctoral researchers deliberated about the knowledge creation process by recording and reflecting on the decisions they made throughout their projects.

Those reflections could enable doctoral researchers to justify and defend their work more convincingly. This is an evaluative mental activity through which doctoral researchers become aware of the benefits and drawbacks of their decisions, yet it leaves them well placed to present a convincing, evidence-based rationale for taking a certain path. In the account below, a doctoral researcher reflects on how the difficulties she encountered with her project have left her with a deeper understanding of the eventual trajectory her research took:

But I think initially it was a bit terrifying, not knowing what to do, but I think if anything they [supervisors] just made me just think a bit more. Which I'm also glad about, because I also know people that don't really have to think about what they're doing and just do X, Y and Z because they've been told to…But at least like I have to think about what I was doing a bit. And everything I've done experimentally, I can justify as why I've done it. Because like I thought about doing it. So I think it would have been nicer to have it all happen a bit quicker, especially in my first year, but I think now I'm not necessarily in a worse position for it.
PGR11-CHEM

6.3.1.3 Deliberating about the bigger picture

The data also showed how epistemic-oriented agency is enacted by doctoral researchers making deliberate efforts to link their everyday tasks to the broader objectives of their research project. By deliberating about the bigger picture of their research, doctoral researchers can be enabled to grasp the wider relevance and implications of their findings. This is reflected in a doctoral researcher's account of a typical supervision:

it'll be like 'well, what does it mean?' So I'll explain some like complicated thing and he'll be like 'yeah, but what does it mean?' And I'll be like that's a good point. So when you're like 'it seems like older children have a worse reaction time or whatever', he'll be like 'well, why is that important?' So it is good to be challenged in that way.
PGR05-MED

Across the data set, participants highlighted the importance of writing for making sense of their research. Yet writing is a very complex task that is emotionally charged, as one doctoral researcher notes:

I'm working more slowly than I should and a lot of that's to do with me and sort of my general panic about writing any words ever.
PGR09-HumSoc

Writing, therefore, requires doctoral researchers to exercise agency in multiple ways to get words down on a page. Doctoral researchers discussed various methods for facilitating writing including snack writing, that is using small allocation of time to write a few paragraphs; feasting, which involves dedicating large chunks of time to writing; creating slide decks to summarise the main arguments of each thesis chapter; and accepting the first drafts of work will require a lot of editing. Many doctoral researcher participants discussed how trying to write perfectly from the outset was an impediment to progressing with writing. Doctoral researchers discussed how allowing themselves to write imperfect and messy first drafts could enable them to manage some of the emotion and self-doubt associated with doctoral-level writing:

And they tell you as well from the very start, "Just make sure you start writing as soon as you can," but it's easier said than done…I think you have to learn that actually sometimes you have to do something that's not great and it's not going to be great, but you just have to do it anyway...And even looking back…with this chapter especially, which was going…I was very grateful for it because I think at that time I needed just some space to do some stuff and see how it works, and it didn't work out, but the process of it was really, really useful anyway. I just kind of brought it back and did something else and it worked. It was a very, very useful experience
PGR06 Hum-Soc

6.3.2 Self-efficacy-oriented agency

Self-efficacy-oriented agency refers to how doctoral researchers exercise agency in order to navigate temporal critical events. The key features of self-efficacy-oriented agency are approaches to time management; sense of ownership of the research; and self-care management. Self-efficacy-oriented agency was found to be strengthened when doctoral researchers have a strong sense of self-belief in their competencies as a researcher.

6.3.2.1 Time management

As noted in Section 6.2.2, the contemporary doctoral experience comprises much more than just the research project and a thesis. Across the dataset, doctoral researchers expressed how the need to pro-actively prioritise the different demands on their time was a source of stress and anxiety. To balance those competing demands, participants emphasised the importance of time management. For my participants, time management was viewed as critical to managing the formal requirements of their doctorate (thesis and research) alongside the enrichment career-enhancing activities with which they engage. One supervisor shares his reflections on the centrality of time management:

I think probably more than in the past, the student's ability to organise their lives because these days doing a PhD, in recent years, involves doing a lot of activities outside the PhD of all different kinds, from teaching to publication and even placements. So they have to be incredibly organised, they have to have that ability to organise their time, time management, I hate that phrase, but organising their time in the most productive sort of way, which isn't at the detriment to the core of what they're doing, which is the PhD.
SUP08-HumSoc

However, exercising self-efficacy-oriented agency is not straightforward. If doctoral researchers are too rigid about how they manage their time, then it straightjackets the research project and converts a potentially transformative educational experience into an instrumental one, as one supervisor notes:

But then of course PhDs are about getting tangled up in things sometimes, so they need to be able to let go and get lost sometimes and let that happen and not panic about it.
SUP06-HumSoc

The data indicate that time management is a delicate art in the doctorate. It involves the conscious prioritisation of different activities. That prioritisation was thought to influence future possible careers, and so time management was treated seriously by participants. Consequently, doctoral researchers discussed a number of tactics that they used to organise their time. Full-time researchers, in particular, advocated for treating the doctorate like a full-time job and working a standard 9 to 5 day, although that is not possible for all activities, for example, fieldwork. Elsewhere, doctoral researchers used multiple tools to aid planning including daily to-do lists, Gantt charts, and planning apps. Those tactics helped to break down the doctorate into smaller, more manageable stages.

At the SRHE validation event, one group described how careful time management helped to impose a structure on a largely fluid and unstructured process:

I think one of the key things which helped is actually taking a work approach to it so a nine to five approach...And having a bit of structure I suppose really, trying to put a structure around something which is very ongoing and difficult. And no one's going to give you that structure so you kind of have to do that for yourself.
SRHE Validation Event

6.3.2.2 Ownership

Self-efficacy-oriented agency can be strengthened when doctoral researchers have a sense of ownership over the research project. For my research participants, the sense of ownership tends to be characterised by a recognition that the research project belongs to the doctoral researcher and that it is ultimately their responsibility to take it forward. The idea of ownership was discussed in detail at the SRHE validation event. In particular, one group discussed how perceiving that ownership rests with the supervisor, rather than with the doctoral researcher, can constrain self-efficacy-oriented agency. There are sometimes

tensions involved in ownership though, especially in STEM where the supervisor tends to also be the Principal Investigator on a project and is accountable to funders. Of course, the stage of the thesis can also be an influencing factor, but the group emphasised that the faster the doctoral researcher accepts responsibility for at least their part of the project, the more likely they are to submit on time:

One of those issues is the ownership of research and one of the common features of these rivers [of experience] is who owns the research and how quickly that ownership takes place. So when students come in thinking, 'ah, it's my supervisor or my research centre's research', that's fine, if you believe that, but in reality your supervisor will think, 'no, it's your research and you have to control this and the quicker you actually identify that you're the owner of the research I think the better it is'. The better outcomes I've seen are the people who quickly identify themselves as the owner of the research.
SRHE Validation Event

Participants also perceived that a good sense of ownership of the work enabled self-efficacy-oriented agency to be practised in a number of ways. For example, supervisors and professional services participants discussed how doctoral researchers with a strong sense of ownership exhibited a positive work ethic by, for example, being present on campus, treating the doctorate like a full-time job, contributing to the life of department by being a representative, presenting work and so on. Of course, this is not always possible for part-time doctoral researchers, who may live away from campus and have commitments that prevent them from accessing campus-based events. A supervisor discusses the importance of work ethic in the excerpt below:

So, it's not always obvious how these things are going to pan out, but quite often, you know, a trait that is obvious, that really gets exposed in practical research, is work ethic. If someone doesn't have a consistent good work ethic, they'll get found out quite quickly. I'm pretty relaxed with people, as long as they put the effort in, and all that kind of stuff, but I think, quite often, a student will start to struggle if they're not committing themselves to it and not

putting in the hours. I'm not saying extreme hours, I'm just saying normal, standard working hours, but it has to be a consistent effort week after week.
SUP12-Chem

Passion for the research was also thought to be a good indicator of ownership. Supervisors, in particular, discussed how doctoral researchers who spoke passionately about their work tended to be more motivated to confront and overcome problems. Such passion can also help to sustain doctoral researchers through periods of uncertainty, as one supervisor comments:

If you can see that it lights their eyes up when they're talking about their subject matter. I've got a very good student at the moment, unfortunately she's not supervised by me but I'm her mentor. And she's doing her PhD on [topic] and it's just fascinating what she's doing. And you can see she's really committed to improving and you just think yeah, bloody hell, this is great. And it's, you know, she's had papers accepted, she's given oral presentations at conferences, she loves it and I feel very blessed to have her as my mentee really and see her come on like that.
SUP09 HumSoc

6.3.2.3 Selfcare management

Across the dataset, participants emphasised the importance of prioritising self-care during the doctorate. This was seen as essential for protecting wellbeing and mental health. Participants in this project were very aware of the increasing concerns about doctoral researchers' mental health and they recognised that some aspects of the doctoral experience might trigger episodes of anxiety and/or depression. The features of the doctoral experience they referred to included: constant critique, long periods of uncertainty, feelings of not belonging, acute time pressures, precarious job prospects, and the constraints of the funding regime (discussed in more detail in Chapter 9).

Doctoral researchers, in particular, reflected on the importance of self-care for helping to protect against issues with wellbeing and mental health. They often discussed the benefits of building in downtime to their schedules. By taking some time away from their projects,

doctoral researchers perceived that they could maintain a healthier work life balance, avoiding burnout, and manage some of the symptoms of stress and anxiety. For many doctoral researchers, giving themselves permission to take time off from their doctorate required a forceful exercise of agency in ways that sometimes went against the prevailing culture. In the following interview excerpt, a doctoral researcher describes how the culture in her lab made some people feel guilty for working standard hours:

There are people who are like 'I've been in the lab this weekend I didn't get out till half seven last night'. I'm like that's the not the way to live your life… There's definitely some people in the lab that make you feel extremely bad that you go home at 4 or 5 o' clock and they're there still. But then there's other people who do go home and then they enjoy their life; like 'bye. See you tomorrow'.
PGR04-MED

Participants also discussed how taking breaks from their research helped them to resolve some research-related problems. In the example below, a doctoral researcher talks about how watching the film 'Thor' in the cinema inspired a solution to lab-based problem:

So we were kind of at a standstill and we had no idea how to make it better because we've exhausted all our options…And it just wasn't working and we went to watch Thor and there's this like scene in Thor…he's there, he said that I take my hammer and I spin it really really really fast and that gave me the ability to fly. At that moment, I don't know what happened, a lightbulb just went off, maybe I should just spin the virus and the cells together and it will increase the efficiency at which the virus entered the cells and that was the moment. That was the breakthrough. As simple as that.
PGR01-MED

How doctoral researchers used the physical workspace available to them was also perceived to be important to self-care practices. Participants discussed, for example, how having a designated space for doing research helped to draw a boundary around the doctorate. Participants discussed how this prevents the doctorate from bleeding into other aspects of

life. For part-time researchers, it also helped to curb feelings of guilt because it helped others to recognise that when in their doctoral space, there is implicit permission to be a doctoral researcher and do research. Of course, though, not all doctoral researchers have access to a private space. The potential for designated space to help with self-care is discussed in the excerpt below from the SRHE validation event:

having a space at home, an office space, so somewhere which is very defined for you to do this work or we were talking about having an office space where you do this. And how difficult it can be to actually prevent it seeping into other aspects of your life if you don't have that space really. It's not necessarily something you're going to sit down and do when you're watching TV or when you're doing something essential with other people. So how do you prevent that happening if you don't have a space where you can do this.
SRHE Validation event

The data also suggest that self-belief is an important feature of self-care and underpins self-efficacy-oriented agency. Despite its importance, the data indicate that self-belief is very hard to maintain during a doctorate. Participants enumerated many examples of when they were lacking in self-belief. Those examples included blaming themselves for projects not progressing, questioning the value of their work, feeling inadequate compared to others, doubting their abilities, and so on. The following excerpt depicts the emptiness a doctoral researcher felt during a moment when his self-belief was slipping away:

It was just so many things piling up together. I didn't think I was getting on well. I didn't think I was doing well with my work. I felt I was really behind and I didn't feel I could progress. I didn't feel I could actually produce a thesis out of the whole thing. I didn't think it was worthwhile. I didn't think there was anything in my work that was actually worth pursuing.
PGR06-HumSoc

When doctoral researchers find themselves in this liminal space, when their self-belief is at a low ebb, it can be very difficult for them to come through it and make progress with the thesis. In some cases, doctoral researchers found that accessing professional help from a counselling

service was very beneficial. In some very serious episodes, doctoral researchers shared with me how they had been prescribed medication to manage the symptoms of depression and anxiety. Other doctoral researchers managed in different ways to quieten their doubts, lean into the discomfort, and persevere. Some doctoral researchers accepted the uncertainty and doubt coursing through the doctoral experience, but made a concerted effort to bracket it off, place it to one side, and continue. Although this approach did not always deliver a swift resolution, it could sometimes be a significant, transformative moment. In some cases, doctoral researchers recognised that after coming through a trying period, they found a more satisfactory equilibrium with their research and made progress. One doctoral researcher describes her experience of this:

So I might have like ten ideas but in reality I have only enough reagents to do one. Maybe two. So that's frustration coming in, then it leads to 'maybe it's not for me, I'm worried, maybe somebody else should do my project', things like that. Then you finally do it, you get it done and you're like yay I can do it, I was worried for no reason.
PGR01-MED

6.3.3 Relational agency

The third theme, relational agency, refers to how doctoral researchers learn how to work with significant others in the doctoral experience to navigate both relational and personal critical events. The key features of relational agency are fostering productive working relationships with other academics, and industrial partners, where relevant, and nurturing personal relationships.

6.3.3.1 Academic relationships

The data analysis substantiated the importance of the relationship between the doctoral researcher and their supervisors to enable progress with the research project. Doctoral researchers discussed how their relational agency was enabled when they felt empowered to articulate their needs honestly, without fear of judgement. Whilst this might appear a straightforward thing to do, the data highlighted some common barriers to open communication between doctoral researchers and their supervisors. Examples of barriers

included: a fear that voicing a perceived issue with supervision might damage the relationship; power imbalances in the relationship that might leave the doctoral researcher in a vulnerable position if they speak up about concerns; and a reluctance to reveal knowledge gaps or weaknesses in case supervisors consider the doctoral researcher not to be up to the task.

Despite the potential difficulties in holding open conversations, there was evidence in the dataset of the effectiveness of such conversations. When doctoral researchers could communicate their needs to supervisors, it was perceived to help supervisors better understand what their doctoral researcher is experiencing and to make constructive suggestions. In the excerpt below, an international doctoral researcher reflects on how open discussions with his supervisors helped him to get the advice he needed to improve his work:

You reach a point 'oh I haven't got anything'; you think 'oh that's a waste of time to do nothing and I have to do more and more'. I think that's normal, that's perfectly normal… probably the best way is to sit down with their supervisors and say 'look…I need more support up at this point, this point, this point'. Or probably you know, supervisors they can you know, identify the weaknesses, or the strengths…the most important thing is the weaknesses because they have to improve their skills on specific areas. So I think that's the best way, sit with the supervisors, discuss their weaknesses and try to improve.
PGR12-Chem

Participants also discussed how relational agency could be enacted through the use of more formal techniques such as documenting the discussions and outcomes of supervisory meetings. It was standard practice in the case study institution for doctoral researchers to write minutes of each supervision meeting. This was perceived to be an enabler of progress because it helped to ensure that both supervisors and doctoral researchers had a common understanding of the project's direction. One doctoral researcher described how her record of meetings prevented going over old ground and retrying unsuccessful approaches with the project:

So I write like [notes], and which my supervisor sees, he's noticed that I've done two different colours. So my thoughts are in like blue for example and his thoughts or input are in red so when he asks me a question so 'how come we didn't do this?', I can just flick back and say 'oh last time you mentioned this', and he has seen this, and now he doesn't even have to wait for me to say 'oh I said that last' and he's like 'oh damn it, I said that last time, I can see that there'.
PGR01-MED

Doctoral researchers also exercised their relational agency in very shrewd ways by acting on their supervisors' strengths and weaknesses. Some doctoral researchers spotted how these could be exploited to further their own agendas and support their own progress. In the example below, a doctoral researcher reflects on how she used her supervisors in different ways to meet her different needs:

I've got better at manipulating their strengths and weaknesses…I know things that she'll do and he'll do, and I try to play that to my advantage…I think with (laughs) it sounds bad really. I know that…he doesn't take as much kind of detailed interest. If you ask him something he'll be like, 'yeah, that's fine'. Whereas she'll go into in depth, looking at things. So if I need like funding to go to a conference I usually go to him because he'll just sign off the form without reading it.
PGR07-HumSoc

Of course, supervisors are not the only researchers that doctoral researchers encounter. They will also interact with a wide network of people who can provide input, guidance and suggestions about their doctoral work. Examples of typical interactions noted in the dataset include postdocs, researchers within the institution where the doctoral researcher is based, researchers across doctoral training partnerships, researchers in industry, researchers working within the field but based at different institutions, acquaintances made during a conference, mentors, and so on. These networks are a rich source of support for doctoral researchers, but doctoral researchers need to be able to exercise their relational agency so that they know how to identify and approach other researchers.

In STEM disciplines, the structure of the research group facilitates access to other researchers who can help to resolve day-to-day issues and to pass on knowledge to new doctoral researchers. This approach was most evident in the Medicine and Chemistry Schools where, typically, doctoral researchers would be based in a lab and have access to postdoctoral researchers. Doctoral researchers commented on how they felt much more comfortable asking 'silly questions' of postdoctoral researchers because they were much closer in terms of career stage. Access to knowledgeable postdocs was perceived to be quite an efficient method for resolving problems with research, as one participant comments:

the post doc we've got on our project, he's like a lot friendlier. Like he's the sort of person I could just say, I know it sounds silly, but it's probably more of a safe environment in a sense, like I could say something stupid to him and it would be fine. He'd say, "Oh, that's stupid", or, "That's great." So I think that's actually good, so like he'd definitely be my first point of call and he's a very helpful person to have around.
PGR11-Chem

Whilst there are benefits to the group research approach, the model does not translate easily into non lab-based disciplines. This is primarily due to different funding models and funding availability, academic traditions, and projects being doctoral researcher-led rather than supervisor-led. Nevertheless, there were numerous alternative opportunities for researchers to interact, for example, seminars, thesis writing groups, presentations of work in progress, and peer mentoring relationships. However, the data indicate that doctoral researchers need to be very pro-active in recognising and taking advantage of an opportunity that will support their progress when it presents itself. In the example below, a supervisor describes how one of his doctoral researchers failed to exercise her relational agency to learn from an expert in a statistical method that was causing her difficulty:

So we were in a seminar, the guy who we want to do the statistical analysis is right there in front of us giving the talk. She's sitting in the front row. All you have to do is go up to him afterwards…We got to the end of the seminar, out of there like a flash. I'm thinking what? So

then when I saw her later on and I said you know that doctor so and so was at the thing and you could've asked him 'oh yeah I forgot'. What are you forgetting? The guy's giving a seminar about statistics and that's where you're stuck in your project and you forgot
SUP02-MED

The data also showed how the exercise of relational agency to form connections with other doctoral researchers could be a facilitator of academic progress. Relational agency has the potential to increase the peer networks that doctoral researchers have access to, which enable peer learning. Participants pointed to the value of peer networks in helping newer doctoral researchers get an understanding of effective practices for managing their research and expectations. Peers are also a rich source of knowledge and experience who can provide help in tackling a problem, as one supervisor commented:

And so, what I say in my introduction is look if you're going to ask a professor about a technique it will be really difficult because it's always hard to get hold of them. But if you can go and ask one of your fellow students how to do this particular technique, it's fantastic. So you should talk to each other all the time.
SUP02-MED

Participants also discussed how peer networks are useful for benchmarking progress. Often, it was through conversations with their peers that doctoral researchers recognised how much they had learnt, as one doctoral researcher said:

I remember very clearly after the first year going, "I really don't know what's going on." I certainly didn't. I'd only just collected my data. I didn't have any clue of which direction my thesis might go. So I still felt like, oh, I really don't know what's going on. But you have a new student start and you think, actually, you know, they ask all those questions and I can answer them, so probably I have learnt something in the process.
PGR06-HumSoc

6.3.3.2 Affective relationships

In addition to academic relationships, relational agency can also be used to nurture relationships with those who provide much needed emotional support during the doctorate. Participants frequently commented on how it is helpful for doctoral researchers to maintain a circle of friends and supporters with whom the good moments can be shared, and who can provide a shoulder to cry on during difficult times, creating a shared agency for enabling doctoral researchers to submit on time. Of course, many academic relationships can grow into friendships and perform a dual role and so there is some overlap between affective and academic relationships.

Nevertheless, participants discussed how they tended to seek emotional support from their relationships outside the research environment. These relationships could act as a form of distraction from research, allowing doctoral researchers to switch off from the demands of their doctorates. The people involved in those relationships tended not to be researchers. By being positioned outside the research environment, they were perceived to help doctoral researchers maintain a healthy sense of perspective about their work. Ultimately, these relationships can remind doctoral researchers that they are not defined by their research:

my other housemates…don't do PhDs and they just have jobs and I think sometimes that's quite nice to just go home to and have like someone who is also not doing research. I think sometimes when you spend so much time with other PhD students, you all stress and then you stress each other out and then you get more stressed and more stress. So sometimes it's nice to have someone who has no stresses, or as much as they can be. Not nice, but they can be like, "Oh, just don't stress." I think sometimes that's good, to surround people who aren't – who also don't just really know what you're doing, which is quite nice, so you don't have to talk about it.

PGR11-Chem

Affective relationships are also a means of emotional support. Recourse to individuals who can provide sympathy and encouragement can help to arm doctoral researchers with the emotional fortitude to sustain them through difficult times. In the example below, a doctoral

researcher briefly describes how the encouragement from her family helped her to overcome a liminal moment in her doctorate:

that's always been very intimidating to work with people like that but then when I go home and tell my mum that she's like 'well surely you feel privileged to work with these people'. And I'm like 'No. Because I don't think I should be there'. And she's like 'but you are there. You should just enjoy working with these really intelligent people who do really good stuff'.
PGR04-MED

6.3.4 Liminality

Interlaced with the other themes described throughout this chapter are liminal moments. As discussed in Section 6.2, all critical events involve periods of unease and unfamiliarity. Similarly, the ways in which doctoral researchers exercise the three different types of agency can be accompanied by moments where self-belief and self-confidence are lacking. The data also show how liminal moments can manifest in other ways, for example, through the perceived absence of a coherent approach to research, an over-reliance on others to solve problems, a lack of ownership, and unreflective perseverance with approaches.

Some doctoral researchers who experience liminality might find that they are regularly stuck on problems and struggle to exercise epistemic-oriented agency, self-efficacy-oriented agency, or relational agency in ways that enable progress. They tend to over-rely on their supervisors for instruction and direction and have difficulty moving the project forward, as one supervisor comments:

When they completely depend on you telling them what to do. That's a technician's job. So I can write a protocol for someone and they do the experiment and they give me the data and I analyse it and some people just don't manage to do that.
SUP03-MED

Similarly, liminality was also evident in a lack of ownership for what happens in the project. Blame was a common feature. Lack of progress will likely be attributed to events outside the

control of the doctoral researcher or the finger pointed at the supervisor, as one supervisor comments:

they simply will not accept that the fault lies with them. You know, it has to be somewhere else, it has to be the way they're being supervised, or it has to be the way they're being treated or that it's not sufficient. You know, pieces of kit have broken down. There's always some other reason or factor for the poor, kind of, level of performance.
SUP12-Chem

A further characteristic of liminality is unreflective perseverance with fruitless approaches because they might be comfortable and familiar. Several examples were provided including reading research literature without evaluating it, continuing with experiments when they will not work, not taking feedback on board, being sloppy with research or time management. The 'carry on regardless' approach can be very damaging for progress because it eats up time without delivering any further value or benefit for the project.

Of course, liminality is rarely a permanent state and it can often precede transformative moments when doctoral researchers make significant breakthroughs with their projects. Liminality should not be used as a means to write-off a doctoral researcher, but rather as an invitation to ask questions and enquire about what might be underpinning it. Those enquiries might help to pinpoint the source of the doctoral researcher's struggles – the critical event they are dealing with – and help with scaffolding them in that moment to exercise agency.

In the next chapter, I discuss how supervisors can exercise their agency to help doctoral researchers submit on time. Before that, I summarise the key findings from this chapter.

6.4 Summary of findings

- Through a thematic analysis of the data, four main types of critical events in the doctorate were identified. They are: epistemic critical events, temporal critical events, relational critical events, and personal critical events

- Critical events can present opportunities for transformative and agentic experiences that might enable progress. They can also present challenging moments for doctoral researchers when periods of unease and unfamiliarity are experienced. Whether a doctoral researcher's progress is enabled or constrained partly depends on how the doctoral researcher exercises agency.
- Three main types of agency were identified: i) epistemic-oriented agency, which tends to be directed towards navigating epistemic critical events; ii) self-efficacy-oriented agency, which tends to be directed towards navigating temporal critical events; and iii) relational agency, which tends to be directed towards navigating relational and personal critical events.
- Another theme was also identified – liminality. Liminality describes doctoral researchers who feel marginal, are stuck and whose progress is slow or lacking. It is linked to the periods of unease and unfamiliarity sometimes experienced during critical events.

Chapter 7: Supervisor agency

7.1 Introduction

In this chapter, I present the results from data analysis concerning the following research question:

- What are the perceptions of key actors in doctoral education about how the following influence timely submission of a thesis:

  ii. Supervisors' sense of agency?

In Section 7.2, I give a brief overview of the findings. In the remaining sections, I unpack each theme in detail and provide examples from the dataset to substantiate my analytical constructs.

7.2 Overview of findings

The thematic analysis of the data reveals that supervisors exercise agency according to the same pattern as doctoral researchers. The same agentic modes were identified through data analysis, namely: i) epistemic-oriented agency; ii) self-efficacy-oriented agency; and iii) relational agency.

The following table summarises each theme and its corresponding sub-themes:

Theme	Sub-themes
Epistemic-oriented agency	• Developing reflexive researchers • Unblocking stuck researchers • Intellectual investment in project
Self-efficacy-oriented agency	• Planning and regular review • Prioritising activity • Making use of support networks
Relational agency	• Reflecting on the relationship and adapting approach • Regular contact • Empowering openness • Rediscovering joy in research

Table 13: Summary of themes and subthemes for research question (ii) - supervisors

7.3 Epistemic-oriented agency

Epistemic-oriented agency concerns the intentional actions that supervisors take to help their doctoral researchers navigate epistemic critical events. It involves deliberate attempts to help doctoral researchers to deliberate about the inputs into their projects, the knowledge creation process and see the bigger picture, as well as overcome moments of liminality. The main features of epistemic-oriented agency are: developing reflexive researchers; unblocking stuck researchers; and supervisors' intellectual investment in the project.

7.3.1 Developing reflexive researchers

One of the ways in which supervisors exercised their epistemic-oriented agency was through a process of constructive questioning. Participants discussed how constructive questioning was thought to encourage ongoing reflections by doctoral researchers about inputs into their projects, the knowledge creation process and seeing the bigger picture. Typically, constructive questioning involved asking 'why' questions to draw out the decision-making process and accustom doctoral researchers to explaining their approach to research. Supervisor participants were cognisant of the need to temper questions so that they are commensurate with the research stage, starting gently in the early stages and gradually increasing the intensity of the questioning.

Supervisors discussed how the intended outcome of constructive questioning is to help their doctoral researchers clarify muddled thinking about their research. It can, therefore, be a good tactic for helping doctoral researchers who are experiencing a moment of liminality. In the interview excerpt below, a supervisor describes how he will use constructive questioning to help an overwhelmed doctoral researcher:

It's basically to reset him…he's got a lot of data and he's thinking what statistical method shall I use and blah, I got to do all these comparisons, and he's just overwhelmed with it. And so I have to take him back to think of 'what question are you asking'. 'Are you comparing A with B?' Because what you've just shown me is that you're comparing A to Z with all combinations in between. But, actually, you only want to compare A with B and A with D. So how can you do that with the stats that you've got?
SUP02-MED

Doctoral researcher participants also commented on the benefits of constructive questioning. They discussed how constructive questioning can sometimes push doctoral researchers outside their comfort zone, but they were aware of how it could also enable them to develop their own epistemic-oriented agency. As one doctoral researcher notes:

They always give me the opportunity to say what I think is happening, to talk through the results. They always give me the chance to say where I think we should go next. And sometimes they're almost like mini-vivas, like they put me on the spot a few times and they ask questions I might just have in a viva, that kind of thing. So, yes I found that helpful to be fair, even though at the time it kind of feels like, "Why are they asking me this?" I guess, sometimes it's cruel to be kind. I guess, they put you on the spot, but it does help the way you think and the way you progress as well.
PGR03-MED

Another feature of epistemic-oriented agency was to request regular written outputs from doctoral researchers. Supervisors across all disciplines discussed the benefits of seeing regular

written pieces from their doctoral researchers. They discussed, for example, how regular writing provides a tangible measure of progress because doctoral researchers can see the word count climb and thesis chapters appear. Supervisor participants also observed how regular writing provided them with a window onto how their doctoral researchers were thinking, which facilitated the identification of any research-related issues. As one supervisor comments:

I get them writing straight away because I want to diagnose what's going right, can they write, what needs to be done and so they write their plan and then we decide together what they're going to start writing. And often it's a chapter in the middle of the thesis, so start in the middle and have a 5,000 word draft of that central chapter and then work from there.
SUP09-HumSoc

Participants also discussed how the act of giving feedback was an important feature of supervisors' epistemic-oriented agency. Supervisor participants were very reflective about how they gave feedback. Most were conscious of the need to make deliberate efforts to help their doctoral researchers engage differently with feedback at doctoral level, and not just rely on written comments. They mentioned how feedback is different during a taught degree, when whole cohorts would be working on the same assessment and students typically give in only their best work, not a rough draft, and they can discuss grades and comments with their peers. At doctoral level, the circumstances in which feedback is delivered change. Every doctoral researcher is working on a unique project with its own idiosyncratic challenges and work is not graded numerically.

To help their doctoral researchers establish a new relationship with feedback, supervisors discussed the importance of having conversations with doctoral researchers about feedback to avoid an agentic disconnect between giving feedback (supervisor) and responding to feedback (doctoral researchers). Through those conversations, the differences between feedback at taught and doctoral levels are highlighted and supervisors' expectations about how the doctoral researcher should engage with their feedback are clarified.

One supervisor gave a very insightful account of how she prioritised discussions about feedback with her doctoral researchers. For this supervisor, she hoped that her feedback would help her doctoral researchers to be more critically self-aware. She conceptualised doctoral researchers' responses to feedback as existing on a spectrum, with passive acceptance at one extreme and defensiveness at the other. Whenever she became aware of doctoral researchers exhibiting behaviours consistent with either extreme, she would intervene. Her interventions typically involved a conversation about the act of feedback, covering its purpose and intended outcomes. She would also discuss the importance of depersonalising feedback so that it is always directed at the work, not the individual. The following excerpt captures the essence of her approach:

I remember one particular student at one point, I said, "Okay, we need to really change the way we're doing supervisions. When I'm giving you comments, I'm not telling you my view. I'm giving you advice. And I'm not telling you that you've done something wrong." So I went right back to the basics on, "What's this feedback about? It's not about us having a contest. It's about you getting some new input into your writing." And it made for much shorter supervisions because it literally meant the student wasn't spending loads of time trying to defend what was there so that they could stay the same and not improve and not change. So yeah, I think getting them to that stage is sometimes about completely taking everything apart and just going "right, why am I giving you feedback? It's not because I like to do it [laughter], and it's not because I think you've got anything wrong. It's because I'm invested in making your work more effective." So I think those sorts of conversations can be really helpful in trying to think what's this process about.
SUP06-HumSoc

As discussed in Chapter 3, supervisor participants in my study also experienced the classic supervisor dilemma of when to exercise agency through action and when to exercise agency through inaction. Deciding on when to intervene and when not to was thought to involve a risk assessment. Supervisors were aware that too much intervention risks leaving the doctoral researcher overly dependent on them and less likely to develop the skillset of an independent researcher. On the other hand, too little intervention can leave the doctoral researcher

floundering. In the extract below, a doctoral researcher explains how her supervisor's intervention was critical for enabling the research project to progress:

I'd say the time pressures all came from my supervisors. They were the ones constantly reminding me, you've only got three years, crack on, get this done by this date. So it was more from them than from me. Because I'm kind of a laid back person, I would have coasted along and to now, when I've got 5 months left and gone 'oh crap!'. Whereas now I've been out of the lab since September last year. I've just been doing data analysis and writing my thesis. So to be fair having them going 'you need to do this by this date and this date' has been really helpful.
PGR04-MED

7.3.2 Unblocking stuck researchers

The sub-theme of unblocking stuck researchers describes how supervisors exercise epistemic-oriented agency to help doctoral researchers overcome moments of liminality.

The data indicate that a common stumbling block for doctoral researchers is not having a clear idea of the standard of a doctoral-level thesis. Supervisor participants acknowledged the importance of taking deliberate action to help their doctoral researchers gain an understanding of thesis requirements. To achieve this, supervisors felt an onus to give their doctoral researchers a frame of reference for judging what is enough for a thesis. Part of this intervention from supervisors involves deliberate action to scope out what should be included in the thesis, whilst recognising that research is a fluid activity and there are always more avenues to explore. In the quotation below, a supervisor discusses how he helps his doctoral researchers to frame their contribution in the context of the fluidity of research:

Because some people say 'Well, I'm not going to finish until I've got this problem solved'. And you say 'Well you're never going to solve the problem, there's always going to be loose ends, and you're always going to write at the end of the chapter 'Well we could have done this, and if I had more time, I would have done this'. But what we've found so far is … and state what your results are'.

SUP11-Chem

Supervisor participants also recognised the importance of prioritising and dedicating enough time for their doctoral researchers. Supervisor participants lamented how it can be difficult to make time for their doctoral researchers owing to the multiple pressures they are under. They were very aware, however, that by not dedicating enough time to their doctoral researchers, a problem could fester, a doctoral researcher could spend too long stuck in a liminal moment, and project timescales might dilate. One supervisor reflects on the challenge inherent in making enough time for doctoral researchers:

The only times that has not worked well is when I was trying to do it too quick. Because you've got a diary, and I've got a lecture to do, and you think oh I've got ten minutes, I'll just talk to them for that ten minutes, and then I'll go and do my lecture. And you think oh my time management has been really good, but they feel short changed, because you've not taken the time to do it properly. And that's the only time I've had problems with students who have said that this supervisor isn't any good

SUP11-Chem

Supervisor participants also indicated that a little humility can go a long way. Supervisors discussed how it was important to acknowledge their own limitations and to pro-actively seek out the expertise of others to plug those gaps. Feedback from progress review panels was one such opportunity for soliciting feedback from other academics (discussed in more detail in Chapter 8), although lots of examples of other informal interactions were described in the data.

Though stories of supervisors rejecting feedback from other researchers were shared, other supervisors were diligent in seeking out and considering others' points of view. For some supervisors, feedback from other researchers was a useful reminder that a doctoral-level project is time-bound. Many supervisors were excitedly engaged with their doctoral researchers' projects, and progress review panels were helpful for keeping a focus on the final output – the thesis. In the example below, a supervisor describes how the review process can

make a contribution to shaping the thesis and keeping both the doctoral researcher and supervisor on track:

The whole thing has actually been useful. Having a structure, as a supervisor, to sit down with a student and think about so what are your three chapters? It's actually pretty useful. Not many supervisors do it that way and you have to force them…They put them [doctoral researchers] on various projects and just let them play in the lab and some things work and some things don't work. But there's a difference between having just someone in the lab and someone who needs to write up a thesis and defend it. Because these people they also have to do all the boring control experiments and justify why they did this and why they did that, and so they have to write that up in a chapter even if it's completely unpublishable because it's just boring negative data and controls. And so for a student it's a completely different way of working. And as a PI, of course, you want to focus on the exciting bits that result in an exciting paper. And it's a bit annoying then that you have to focus on all the boring details to fill the empty holes to make it into a thesis. So it's a completely different process.
SUP03-MED

7.3.3 Intellectual investment in the project

The thematic analysis also showed that epistemic-oriented agency can be facilitated when supervisors have an intellectual investment in the doctoral researchers' project. Participants discussed how this investment helped to keep them motivated to support the project and how it could spark their own intellectual passions. This is reflected in the account below from a supervisor who compares his experiences of supervising 'inherited' projects and ones he selected himself:

Well, I think there has to be a shared intellectual interest for a start. Sometimes you can find yourself supervising somebody whose work you're maybe not that concerned about and you may not even be an expert in the field. I've had that experience myself with a couple of students, who also were given to me by other colleagues, as it were, when they left. Which was fine, up to a point, but not at all ideal. So I think having that shared common interest is

what leads to the excitement and the pleasure of the project, really. If you can share that, that's good.
SUP08-HumSoc

It is likely that that a shared interest in the project is more difficult to achieve in social sciences and humanities disciplines because the project itself tends to be generated by the doctoral researcher. This means that a shared interest is not always in the gift of an individual supervisor. However, intellectual investment in the project can enable supervisors to help their doctoral researchers navigate epistemic critical events more easily. This is because they tend to be more deeply engaged with the work and have a stake in it. A deeper familiarity with the research project enables supervisors to quickly understand the nature of the problems their doctoral researchers face and help them work towards a resolution. This is reflected in the following comment from a supervisor:

I have to be totally intellectually embedded in their projects so I know. I mean it's a problem when they say, 'oh the experiment's not worked' and then you've got ten people in the lab and it's like, 'oh which experiment?'. But it's to get back on top of things within a couple of sentences and then be able to just talk about the nitty-gritty.
SUP05-MED

7.4 Self-efficacy-oriented agency

The second type of agency identified by my thematic analysis is self-efficacy-oriented agency. The dataset suggests that supervisors exercise self-efficacy-oriented agency to help their doctoral researchers navigate temporal critical events. As discussed in Chapter 6, doctoral researchers can experience considerable pressure when trying to balance the formal requirements of the doctorate against the many enrichment requirements. Supervisors have a very important role to play in enabling their doctoral researchers to manage those pressures.

The data suggest that self-efficacy-oriented agency is most effective when supervisors i) support their doctoral researchers with planning their activities and they keep those plans

under constant review, and ii) when they help their doctoral researchers with prioritising activity within the broader doctoral experience. Self-efficacy-oriented agency was also thought to deliver more efficient benefits when iii) supervisors made good use of the support networks available to them.

7.4.1 Planning and regular review

One of the ways in which supervisors exercise self-efficacy-oriented agency is by helping their doctoral researchers to plan the overall approach to their research project and to keep that plan under regular review. Participants discussed how planning research was much easier when there was a common understanding of expectations about the timing of outputs. Participants discussed how those timings need to be realistic and viable. Many doctoral researchers described how unfeasible timescales can become a source of stress and anxiety for them, as in the example below:

We see the end goal, there's a rocky path, like there's only one path to go towards him but for me, when I see it, I can see the rocks and like the hurdles and the rapids and everything whereas he can only see the finish line…So…the deadline that he sees, I don't see it yet. I do think it's gonna happen before the end of my second year but not as fast as he thinks it's gonna happen. I think he's just running in months, like weeks, and I'm running on months kind of. So like he has a speedboat, I have like a paddle
PGR01-MED

The data showed some evidence that realistic planning of activity is helped when supervisors have some understanding of how their doctoral researchers approach work. In the example below, a doctoral researcher discusses her mixed feelings regarding her supervisor's emphasis on deadlines. On the one hand, the doctoral researcher perceived the demands to represent a lack of trust, but, on the other hand, she acknowledges her own tendency to procrastinate:

I think we work quite differently so I think my supervisor is very much sit down, just get it done where I procrastinate, panic. Eventually get it done. So, sort of managing that difference and

now she's pushing me to do it because she knows my general mode of working is not really feasible in the long term. Sometimes there can be a little bit of power struggle and it's like 'I'll send you the thing when I've written it. Why can't you just trust me to write it?' But then at the same time, she's completely right not to trust me to write it, sometimes.
PGR09-HumSoc

Supervisor participants also thought that making the effort to plan the project at a very early stage was beneficial. At the case study institution, there is a requirement for a project plan to be completed within the first three months of a doctoral researcher registering for the degree. Supervisor participants used this requirement to encourage their doctoral researchers to pin down the focus of the thesis early on and to create a framework for the project. In the example below, a supervisor attributes the non-completion of a PhD to a lack of planning:

Within the first three months they have to re-write their project plan in quite a lot of detail and often that means a total re-write because the proposal and the plan often are very different. So getting that right at an early stage is really important, I learnt that from my experience with this student who never actually finished because I inherited him…from a colleague who retired and they hadn't really sat down at the beginning of the project to plan it, it was all very woolly and diffuse from the start. And that was fatal really for the project.
SUP08-HumSoc

Though project planning had become more institutionalised at the case study institution, supervisor participants emphasised the importance of not being too rigid with plans. Because research rarely goes to plan, it is important to be flexible with plans and adapt them in response to new situations. Participants discussed how plans could change daily depending on how experiments or fieldwork were panning out. Supervisor participants also discussed how they frequently questioned doctoral researchers' plans to prevent them from wasting time on activities that did not advance the overall project, as in the example below:

it was my supervisors that were like 'this isn't working, you need to stop doing this and we need to do something else'. Whereas I would have just kept going at it until it worked with dogged determination. So definitely my supervisors were like 'if it doesn't work by this date, that's it, we'll cast it aside and do something else'…It wasn't a nice feeling cause it felt like I'd failed but at the same time it was a waste of my time to keep going at it. It was good that they had got me to stop and move on.
PGR04-MED

Some supervisor participants, mainly in STEM, discussed how planning a doctoral researcher's activity around the structure of the thesis could help doctoral researchers to link their day-to-day activities to the bigger picture. In the example below, a supervisor discusses how she ensures that her doctoral researchers are clear about the project objectives and how she encourages them to map their research activities against a chapter in the thesis:

They know what the end product is going to look like, or in my head what it's going to look like, so that they've got an opportunity to claim it from the start. So the first thing is making sure…that the student knows that that first year programme of work is geared towards that first probationary review, that they will have sufficient content for that probationary review, but at whatever meeting I have with the student, then the content that they bring, as in results, is mapped onto a specific chapter, so that they can see what they're doing is completely relevant and will be included within the thesis.
SUP04-MED

7.4.2 Prioritising activity within the broader doctoral experience

Another feature of self-efficacy-oriented agency is the actions that supervisors take to help their doctoral researchers balance the competing demands of the broader doctoral experience.

Generally, supervisor participants in the study were aware of the range of opportunities available to doctoral researchers, but they had a variety of opinions about the enrichment requirements. Stories were shared of some supervisors actively discouraging doctoral

researchers from taking up opportunities. Others discussed the importance of playing an active role in helping doctoral researchers to select the best training opportunities for them. The latter approach tended to be the most helpful for enabling progress with the thesis because doctoral researchers could make judicious choices about which activities to engage with. This can be a helpful approach for keeping a healthy balance of activity within the broader doctoral experience, as one supervisor describes:

One of my PhD students at the moment… I've just had to say to him you can't spend your whole PhD on all of these other wonderful things; the PhD needs to be the central thing that you're doing. Cause he's intellectually interested, competent and intelligent, he gets involved in a lot of other projects. And then I get the constant stream of emails saying 'oh I need another couple of weeks, I've been really busy doing this'. I have had to be firmer and say you need to pick one of these extra things and really spend a year now on your thesis and finish on time. But I think again that there's a sense of having a PhD is not enough to have an academic job, certainly, so you have to do conferences, organising, public engagement, publishing, which some students are doing but the PhD is slipping further back as a priority as a result of that. It's a definite problem.
SUP10-HumSoc

Supervisor participants also discussed how they can help doctoral researchers prioritise activity better when they can develop the doctoral researcher's capacity for self-evaluation of their skills. Again, constructive questioning was thought to be useful for aiding their doctoral researchers in identifying the skills that they had already developed to an advanced level and those that would benefit from further development. Supervisor participants also discussed the importance of taking a long-term view about skills development and encouraging doctoral researchers to spread their training over the duration of the doctorate, as one supervisor reflects:

If they want to do a few courses, that's fine. But I also slightly worry when I see people…and they've got a list of so many courses and you kind of think, do you really need to do all these? And do you need to all that now? Can't that one wait until you're in your third year? They're

just like 'I wanna learn, I wanna learn I wanna learn'. And it doesn't quite work like that. I think when people go on courses they're often quite disappointed because it wasn't quite what they wanted, didn't match their needs, wasn't the right level or something.
SUP01-MED

A common concern amongst supervisors in helping their doctoral researchers to balance the competing demands on their time was the doctoral researcher's mental health. Supervisors tended to be aware of the increase in pressures on doctoral researchers and the uncertainty about their future careers. Consequently, supervisors sometimes took an active role in encouraging their doctoral researchers to take regular breaks and build in time away from the doctorate, as in the example below:

Like he often talks about holiday. Like one time he, I was so burned out and he's like, and I was talking to him about the project and he's looking online for places for me to go for a holiday.
PGR01-MED

The data also indicate that supervisors can help their doctoral researchers to select the right training for them when they consider what their doctoral researchers' career goals are. Doctoral researcher participants appreciated their supervisors' advice when it was perceived to be supportive of their career ambitions. Conversely, when supervisors were not aware of, or ignored, doctoral researchers' career intentions, it could become a source of tension in the relationship. This excerpt below shows how a doctoral researcher and her supervisor clashed because of a difference of opinion about post-PhD careers:

She's sort of gone through university and come straight into an academic job and I've come to the conclusion that I don't want that. But she is like thesis, thesis, thesis, publish, publish, publish and I'm sort of like, teaching, outreach. Let's do this because this is where I'm going... If I can do both that would be good. I don't think she's quite accepted that once I'm done with this, I think I'm off.
PGR09-HumSoc

As previously noted, there were reports of some supervisors deliberately preventing their doctoral researchers from accessing training. In other cases, there were reports of supervisors being laissez-faire about it. Either approach was perceived to be potentially damaging for the doctoral researcher's career post-doctorate, as one administrator notes:

In one area of the school, I've had several students who were told, work on your thesis, don't be publishing anything, just concentrate on getting it done and then they go to apply for academic jobs and because they haven't had anything published, they're screwed. Or they go, what's this? I say that's the [Doctoral School] programme, have you not been using it? Oh no.
ADM02-HumSoc

7.4.3 Making use of support networks

The data also suggest that supervisors can exercise self-efficacy-oriented agency more effectively when they make use of the support networks available to them. The data show how this can be a very efficient way for dealing with issues because supervisors could call on a range of experienced colleagues. In fact, the case study institution had a good support network in place for supervisors. Supervisor participants often mentioned the support offered by the Postgraduate Research Director in each School, as well as the dedicated support provided by an administrator. The local network provided an expedient route through which academic and pastoral problems could be addressed. The value of having dedicated administrative support was highlighted by a supervisor as being a critical factor in contributing to one School's very good submission rates:

We have very good administrative support in the shape of [administrator] who…is just very sharp and is fantastic really, and everyone is lucky, including students, that she is as she is. I think well my job would be ten times more difficult and onerous if it weren't for her, that's for sure. And I think the students obviously benefit from it in all sorts of ways because she supports them in lots of different respects.
SUP08-HumSoc

Whilst the supervisor participants acknowledged the benefits of using support networks, there were reports of lots of supervisors not taking advantage of this support. The data indicated that supervisors may choose not to seek out support because it might be perceived as an admission of failure and undermine their status. In the excerpt below, a supervisor compares his willingness to use support networks but questions whether all supervisors would be as comfortable doing so:

Personally I've really good relationships with the PGR office…I would just drop them an email and I've got one student, the first one that I'm a little worried about at the moment and I'm going to see how the next report goes and I might end up just chatting to them a bit more about it...And now, does everyone do that? Does everyone feel they can?...They should do. SUP05-MED

7.5 Relational agency

Another way in which supervisors exercise agency is through relation agency. Relational agency concerns the deliberate actions that supervisors take to foster productive working relationships with their doctoral researchers, whilst respecting professional boundaries. Relational agency can encourage progress by helping doctoral researchers to navigate both relational and personal critical incidents.

7.5.1 Reflecting on the relationship and adapting approach

Consistent with the literature discussed in Chapter 3, relational agency tended to be most effective when supervisors reflect on the relationship with their doctoral researchers and adapt their approach accordingly. A good starting point is to ensure that there is a common understanding about what to expect from the relationship at the outset. This is particularly important now that team supervision is common practice in UK universities. Doctoral researchers need to understand what they can expect from each of their supervisors and what each supervisor's role is with respect to the project. Supervisor participants discussed the importance of holding open conversations so that expectations could be stated explicitly and, where expectations were not aligned, a compromise position could be reached:

We also did that, sit down, and I said what I thought a supervisor should do, and whether a meeting of ten minutes was as valuable as a meeting of an hour, in my opinion…and then she told me what she thought a supervisor would do. And then we came to some sort of median ground.
SUP11-Chem

Supervisor participants also commented on how being reflective and adaptive about the relationship was facilitated when they felt they could get along with their doctoral researcher. Supervisor participants discussed how this heightened their level of personal investment in the individual and motivated them to make the doctoral experience productive and satisfying. In the excerpt below, a doctoral researcher reflects on the benefits of her supervisors' person-centric approach:

When I was looking for my PhD a lot of people said to me not only do you look for a project you are interested in, you also look for supervisors you can work with. I can say really that's been one of the bigger issues than what you research, is how you get on with your supervisors and the relationship that you have with them. Cause I have needed them when personal things have happened and, you know, but then I've also needed them to give me a good kick up the arse and then I've also needed that 'oh, everything will be ok' kind of thing. So I've needed all of that really and from both of them I've gotten that.
PGR04-MED

7.5.2 Regular contact

Supervisors' relational agency was thought to be enabled by maintaining regular contact with doctoral researchers. This was perceived to be a helpful mechanism for keeping effective oversight of both the research project and the activities with which the doctoral researcher is engaged. Regular contact was also thought to generate a sense of rhythm and momentum throughout the research project and nurture a productive working relationship between the supervisor and the doctoral researcher. Of course, contact with supervisors has a different rhythm in lab-based projects where the doctoral researcher and supervisor may see each other daily. In the arts, humanities and social sciences, supervisions tend to take place at pre-

arranged times. Both approaches can be beneficial as long as expectations are clear and aligned.

It was a requirement at the case study institution that all supervisions are formally logged, and the frequency of engagement is monitored at progress reviews. Whilst not all supervisors responded positively to the institutional surveillance of their interactions with doctoral researchers, others were sympathetic to a regularised meeting frequency for supporting progress. One supervisor commented on how documenting meetings was useful for checking doctoral researchers have understood the discussion and that there is clarity about follow up actions:

I think I probably used to do it before it was an institutional requirement, get the students to do a summary of the meeting and to feed back that summary to me. So it's actually just changed, the way we officially are doing it now. So the way I always used to do it was the student would straight away after the meeting write up a log of the meeting, what we talked about, in as much detail as they want to, what they're doing next, so it's down on a piece of paper, when they're next meeting, those kinds of things. And then they would send it to me and I would edit it if necessary. Again I think this is fairly standard practice but I think it makes a really big difference. And it's another thing that, had I encountered it probably as a student, I would have thought, oh, what a waste of time, but as a supervisor I can see it's immensely valuable in making sure we're all on the same page. It keeps it in my mind as well, which is nice.
SUP06-HumSoc

Similarly, supervisors exercised relational agency by prioritising time and space for their doctoral researchers. This tended to involve making themselves available between formal meetings for quick fixes and to discuss any urgent matters. This approach was considered valuable for keeping a sense of momentum and for creating a structure in which a productive working relationship could flourish:

I basically have the philosophy they can…come and talk to me. If I'm in the office they can come and talk to me about anything that's on their mind really. So we have a formal meeting every week. But then apart from that they can come and talk to me and we'll try and sort something out. I don't want it to sort of be festering, I don't want an issue festering.
SUP02-MED

7.5.3 Empowering openness

Another aspect of relational agency is the actions that supervisors take to empower their doctoral researchers to be open and disclose issues that are on their mind. Owing to power differentials in the relationship, it can sometimes be challenging for doctoral researchers to be open about issues that they might be experiencing, especially if they relate to the supervisory relationship. Also, the relationship changes over the course of the doctorate. The data show that supervisors exercise relational agency through a variety of strategies to create the right conditions to empower doctoral researchers to discuss problems openly. Some examples include simple acknowledgment of the difficulties associated with a project so that progress-related issues are depersonalised; taking an interest in doctoral researchers and seeking to understand more about them; and making sure any agreed action in response to a problem is followed up. The positive effects of relational agency are captured in the example below:

Sort of the first few months of my project…the PhD was quite daunting, I had a period of mental ill health. I'd had depression for a while before that and it sort of precipitated quite a bad time of it…To say that supervisors were very supportive when I did reveal it to them, so no worries there…I feel like I can be open with them. I don't conceal things from them, I don't feel like I need to keep things from them, I think if I'm struggling or if I need to take a bit longer to do things I can just tell them and it's fine.
PGR08-HumSoc

Supervisor participants also commented about how they should be aware of their own limitations and not overstep their professional boundaries. This is particularly important for

recognising when the doctoral researcher would benefit from more specialised support from trained individuals, as in the example below:

now I think about it, several of my students, I have said, "Oh, do you think maybe you should have a chat with somebody from the counselling service?" And they have without exception taken that up and found it really positive…I think actually there's quite a good system for supporting students in that respect here outside the schools, which I think is probably right.
SUP06-HumSoc

7.5.4 Rediscovering joy in research

The data also indicate that relational agency is strengthened when supervisors adopt strategies that help their doctoral researchers to rediscover the joy of research. Some supervisor participants discussed how they made a concerted effort to talk openly about the positive aspects of research, without downplaying the very real challenges involved. One supervisor, for example, had enlisted the help of an enthusiastic alumnus to share his positive experiences of the doctorate during the induction. Other supervisors discussed how they encouraged their doctoral researchers to focus on the positive aspects of the doctorate such as the thrill of discovery, the excitement of developing new ideas, and doing interesting work. Many supervisors considered these aspects of the doctorate to be potentially transformative. Supervisors found it easier to help doctoral researchers find joy in their work when they were reminded of why supervision itself can be so rewarding. As one supervisor describes:

I like seeing them change in their academic abilities, their outlook on life and stuff like that. I like seeing them, I like to see what they can produce. I like the friendships that it can come with…Even the supervisory teams they can be quite… a good way to kind of link with colleagues as well in a supportive atmosphere. Yeah, it's good.
SUP02-MED

7.6 Summary of findings

- The data analysis showed that supervisor agency followed the same pattern as doctoral researcher agency.

- Through a thematic analysis of the data, three types of supervisor agency were identified: i) epistemic-oriented agency; ii) self-efficacy-oriented agency; and iii) relational agency.
- As with doctoral researchers, epistemic-oriented agency tends to be directed towards helping doctoral researchers navigate epistemic critical events. Self-efficacy-oriented agency tends to be directed towards helping doctoral researchers navigate temporal critical events. And relational agency tends to be directed towards helping doctoral researchers navigate relational and personal critical events.

In the next chapter I consider the effects on timely submission of two structural processes within the doctorate: Progress reviews and Doctoral Schools.

Chapter 8: Structural components of doctorates

8.1 Introduction

In this chapter, I present the results from data analysis concerning the research question:

- What are the perceptions of key actors in doctoral education about how the following influence timely submission:

    iii. The major structural elements of doctoral programmes?

The chapter is divided into two sections: Section 8.2 focusses on progress reviews and Section 8.3 focusses on Doctoral Schools.

8.2 How do progress reviews influence timely submission?

In this section, I present the results concerning how progress reviews can influence progress towards timely submission. However, before presenting the findings, I would like to clarify what I mean by 'progress review' and describe how the review system operated at the case study institution.

In the UK, all universities are required by the Quality Assurance Agency's (QAA) Quality Code to have clearly defined procedures for monitoring the progress of doctoral researchers. The main purpose of a progress review, as described by the QAA, is to maximise the likelihood of the doctoral researcher completing their degree within an appropriate timescale. The requirement for a progress review process is common to all UK institutions, but there is variation in how different institutions choose to implement it.

At the case study institution, there was a very rigorous approach to progress monitoring and a significant amount of staff and doctoral researcher time was dedicated to the process. For full-time doctoral researchers, progress is monitored on a six-monthly basis. The first progress review of each year focusses on a skills analysis and an update to the research plan. The second progress review is much more formal. It requires that doctoral researchers submit

examples of written work, which are reviewed by an independent, expert panel. Doctoral researchers are required to undergo progress reviews until they submit their thesis or leave the programme.

Participants at the validation workshops reported that their institutions also have progress review processes in place. Consistent with QAA requirements, all participants reported that their institution had at least an annual progress review mechanism in place that involved academics who were not part of the supervisory team. A common feature of the review protocol in participants' institutions was an 'upgrade' or 'transfer' examination as in some universities incoming doctoral researchers are initially registered as MPhil students and must undergo a mini viva to upgrade to PhD, or a 'confirmation' when registered for the doctoral award from the outset. This examination usually takes place somewhere between one year and two years after commencing full time study and requires doctoral researchers to submit written work and have an oral examination.

The thematic analysis showed that progress reviews can, to some degree, enable doctoral researchers to submit their thesis by the institutional deadline. They were not without issues though. I now look in detail at how progress review structures influence progress.

8.2.1 Overview of findings

Through a thematic analysis of the data, I identified three broad themes that capture the different ways in which progress reviews influence progress towards timely submission. Those themes are: i) enabling progress; ii) perceptions of usefulness of reviews; and iii) barriers to transparency. Each theme, and its sub-themes, are summarised in the table below:

Theme	Sub-themes
Enabling progress	• Identifying problems from critical events • Supporting doctoral researchers' epistemic and self-efficacy-oriented agency • Supporting supervisors' relational and epistemic-oriented agency
Perceptions of the usefulness of reviews	• Acting on issues • How reviews are described • Variation in review panels
Barriers to transparent reporting	• Concealment of issues • Covert conversations about progress

Table 14: Summary of themes and subthemes for research question (iii) – progress reviews

8.2.2 Enabling progress

The theme of 'enabling progress' uncovers some of the ways in which progress reviews can help doctoral researchers to deal with a critical event by enabling both their and their supervisors' sense of agency. The sub-themes give detailed accounts of how progress reviews can: i) identify problems from critical events; ii) support doctoral researchers' epistemic and self-efficacy-oriented agency; and iii) support supervisors' relational and epistemic-oriented agency.

8.2.2.1 Identifying problems from critical events

The data analysis revealed that progress reviews can be an effective structure for identifying some of the difficulties that doctoral researchers might be experiencing. There was evidence in the dataset that the review process can pick up on some of challenges that relate to all four types of critical event discussed in Chapter 6. Conversations with panel members were thought to be particularly adept at surfacing some the problems a doctoral researcher may be grappling with. A supervisor who had lots of experience serving as a panel member commented:

we pick up some cases where there are issues…with the relationship with the supervisor and the students, issues with the design of the project, technical issues that they are using a method that just doesn't work and they would be better to get some training somewhere else. Yes, it's mainly sub-optimal supervision and design of the project, I think that's what happens quite often.
SUP03-Med

The frequency of progress reviews was also perceived to be a helpful factor in enabling progress. At the case study institution, progress reviews took place every six months, which was perceived by to be about right. Holding progress reviews at six monthly intervals was perceived to enable the identification of problems before they escalate and stall the doctoral researcher's progress. As one supervisor describes:

it does flag cases where people may come to struggle, even before they are really struggling. So I think it's effective in that it does spot things that may be afoot and gives a way to ask the student how they're going really. And I think I've been quite surprised, having not been involved with PGR monitoring and then suddenly being involved with it, at how constructive that process is actually.
SUP06-HumSoc

At the UKCGE validation workshop, participants commented on how progress reviews required a degree of honesty and candour for them to be maximally beneficial. Participants discussed how it was useful for panel members to have some experience and retain a degree of scepticism about what might be formally reported and what might really be happening on the ground. Participants at the workshop also pointed out that progress review panel members need to take a holistic view of the doctoral researcher, and not treat the review as a shallow technical exercise. One participant said:

we felt that progress reviews were helpful, if they were done in a genuine and honest way. We talked about them being good check points for issues, identifying early warnings signs for

problems. The timing and frequency was really important and they should be a holistic review, not just about what's written down but thinking about the other things that go on.
UKCGE Validation Workshop

8.2.2.2 Supporting doctoral researchers' epistemic and self-efficacy-oriented agency

The data analysis also shone a light on how progress reviews can support doctoral researchers in navigating critical events. There was evidence in the dataset of how progress reviews could enable doctoral researchers in exercising both epistemic-oriented agency and self-efficacy-oriented agency.

Participants perceived that the additional feedback from panel members external to the supervisory team provided a useful input into the development of the project. The feedback was considered to provide a useful, outside perspective, which can help doctoral researchers deliberate about the bigger picture of their research, as well as the knowledge creation process. In the following excerpt, a supervisor describes the potential value of the external voice:

I think good students engage with that review process and use it to their advantage, and I certainly try and advise my students to see it as a way of them getting a load of extra feedback from an independent person. So don't see it as a kind of check-up and monitoring, actually see it as, "Oh great, somebody else is going to sit down and read my work in detail, brilliant, I get more comments, be able to take those on board." And I again try and scaffold them to see that as that's another voice which you can do what you want to do with and use critically yourself.
SUP06-HumSoc

The data also showed how the interaction between doctoral researchers and their panel members can support doctoral researchers in making sense of the knowledge creation process. The data show how the critical questioning from panel members encourage doctoral researchers to justify and defend their work, which is also helpful preparation for the final viva voce examination. For many doctoral researchers, the questioning at progress reviews

was marked on their rivers of experience as an important moment for their progress. Whilst supportive, the questioning from panel members could be dislocating, creating some uncertainty, because it prompted doctoral researchers to re-evaluate their work and think more deeply about what they had done and why, as one doctoral researcher comments:

I think it's a nice way to be questioned on your results, because especially like with your supervisor, they'll question you but…they know what you're doing, you know what you're doing, they know where it's come from. Whereas these people don't know why you've necessarily gone to this, how you've come to these conclusions and things like that and they will ask the questions. Or from a different point of view, like well, "Why would you do it this way? Why would you do it another way?" Which the answer can't be, "Because I've been told to".

PGR11-Chem

Some participants commented on how the progress review had resulted in significant, but helpful, changes to the research project design. Some of the examples given in the interviews included adapting experimental protocols, shifting the focus of the thesis, altering the theoretical approach, recruiting a different sample of participants and so on. By identifying potential weaknesses with the project, the progress review process helps to encourage doctoral researchers to exercise their epistemic-oriented agency by considering alternative approaches. It can also lead doctoral researchers to experience a sense of unease and liminality and so it is important that feedback is constructive (see Section 8.2.3.3 for a discussion about how panel members discharge their responsibilities when serving on panels). One doctoral researcher had her progress review two days prior to the interview. The excerpt below captures how she was processing the feedback to inform the direction of the project:

my independent reader…asked me 'what is the main thing?' It's quite a big project. Big. Lots of different big ideas that I'm struggling to sort of narrow and to manage into one cohesive, coherent project…My independent reader suggested maybe focussing on one time period. I've got like a ten-year time period. I'm talking a sort of history plays written in that time period.

History plays I've divided into three sorts of dynasties. He's suggested maybe look at one of those three.
PGR09-HumSoc

Participants also commented on how progress reviews can be very helpful for supporting the development of self-efficacy-oriented agency.

Self-efficacy-oriented agency was perceived to be strengthened when the progress review added to a doctoral researcher's sense of self-belief. For example, doctoral researchers were very appreciative when independent panel members provided authentic, positive feedback. For doctoral researchers, this was considered to be a motivating and validating experience. It can also be very reassuring, especially in light of the many uncertainties in a doctoral candidature. In the interview excerpt below, a doctoral researcher reflects on how positive comments at a progress review encouraged her:

If it goes good you end up feeling more pleased because I got really good feedback after my [progress review] viva and it was nice to have that. When I have meeting with [main supervisor] sometimes he will be like good job, this is really good work, but I get on really well with [main supervisor] and we know each other quite well now. The good thing about the progression monitoring is they have an academic that you don't know personally saying this is nice work, good job and I think that everything is on track. It's good for the external validation
SUP13-Chem

Some participants also commented on how the requirement to submit work forced them to plan their time better. At the case study institution, for example, there is a requirement for a substantial piece of written work to be submitted for a progress review, which encourages doctoral researchers to organise their time more carefully to meet the review submission deadline. Doctoral researchers who tend to work very last minute found this to be particularly useful because it jump-started the thesis writing process. In the excerpt below, a doctoral

researcher describes how his first annual review helped him to realise that he needed to plan writing activity more carefully to meet deadlines:

So I think the first annual review was really helpful in the sense of I had to write something, because up until this point I'd written loads of field notes, loads and loads and loads of field notes, but it's not really a thesis… And I'm a very last minute person…I wait ages. I need deadlines. So there was a deadline that came up and I had to submit a substantial piece of writing, and I was really scared. I can't do it. I didn't take that much time. I should have worked much more and started much earlier.

PGR06-HumSoc

Progress reviews were also perceived to support the time management aspect of self-efficacy-oriented agency in other ways. It was apparent from the interviews and validation workshops that supervisors are aware of the need help doctoral researchers balance the formal and enrichment requirements of the doctorate. Progress reviews were sometimes perceived to be an opportunity where doctoral researchers' prospective commitments could be openly discussed and evaluated. Guidance could also be offered if a doctoral researcher is at risk of overcommitting and neglecting the thesis and research. As one participant at the SRHE validation workshop noted:

in my department, for instance, we have lots of students doing teaching as well and there are periods when they are very busy so the thesis is not going very well because they're marking or whatever. And there is always this tension between, and it's great that they get all the experience, but ultimately they have to get the PhD that should be at the core so I think we end up in saying there has to be a balance

SRHE Validation Workshop

8.2.2.3 Supporting supervisors' relational and epistemic-oriented agency

The data analysis also identified some of the ways that progress reviews can support supervisors in exercising epistemic-oriented agency and relational agency. Supervisor participants frequently commented on the benefits of progress reviews for epistemic-

oriented agency. They mentioned, for example, how feedback from the independent panel member was particularly useful as a source of advice on using a specific method and for providing constructive suggestions on new directions for the work. In the example below, a supervisor describes how an encounter at a panel helped her to exercise epistemic-oriented agency because it led her doctoral researcher to include a new theoretical approach:

there was an incident last year when a colleague came in and did a panel with one of my students and said…have you thought this approach and these ideas have got a much more wider application and would be actually quite useful in my area which was critical theory. I never thought of that because I'm not coming from that angle, you know.
SUP09-HumSoc

Supervisor participants also discussed how progress reviews can provide an opportunity to reflect on the broader relationship with the doctoral researcher, thus enabling their relational agency. In some cases, the progress review can be a useful reminder that doctoral candidature is finite, and that doctoral researchers' needs will likely differ from the needs of a supervisor. As one supervisor comments:

it can be a bit of a pain because it's paperwork and they make you think, but that's actually a really good thing because you have to think about what you want to do with that student. Cause it's kind of easy to have someone in the lab just doing their stuff but this appraisal system forces you to think about things like the structure of a thesis, to think about progress, is it really going well the whole relationship with the student? And that's actually really useful.
SUP03-Med

In summary, there is evidence from the dataset that progress reviews can be useful enablers of progress. They can achieve this by identifying challenges within critical events and helping doctoral researchers and supervisors to exercise agency to overcome those challenges. Nevertheless, the data also indicate that certain conditions are required for progress reviews to function optimally. I consider those conditions in the next two sections.

8.2.3 Perceptions of usefulness of reviews

The data analysis indicates that the effectiveness of progress reviews in supporting timely submission depends on: i) acting on issues; ii) how reviews are described; and iii) minimal variation in review panels.

8.2.3.1 Acting on issues

Participants discussed how they were less inclined to engage with the progress review process when it failed to respond to the issues they raised. At the SRHE Validation Event, one supervisor described how he had raised significant concerns about a doctoral researcher's progress, which were then ignored:

But when I make a further recommendation like that in an annual report, they can just simply reject it without calling me in to say 'would you explain a little further? Justify your statement'. Then the whole system loses credibility.
SRHE Validation Workshop

When issues that have been formally raised are ignored or dismissed, it undermines the credibility of the progress review process. This might lead to the progress review process being written off by supervisors and their doctoral researchers as a pointless exercise that makes no difference to supporting progress.

However, there was evidence in the interviews of how following-up on issues can encourage a more positive discourse about the progress review process. This was reflected in an interview with a doctoral researcher who commented on a conversation she had had with one of her peers. This doctoral researcher had invested a lot of effort in her progress review, which was followed up by an email from the PGR Director and an invitation to discuss her concerns in more detail. Her colleague was surprised to hear this as he was under the impression that nobody read or acted on progress reviews, which explained why he did not take the process seriously:

I got an email after I wrote down my concerns in my progress monitoring, which was nice, but my friend he didn't write down his feedback in that way because he just thought it was a checklist so he just did it quickly. So when I told him they actually emailed me saying this this he said 'they actually read it?' And I am like 'yeah, they do'. So it's just if I didn't do that I would have never gotten that email and that wouldn't have been passed on to my friend.
PGR01-MED

At the case study institution, there was a considerable administrative effort invested in supporting progress reviews. This was perceived to be effective because review forms were carefully read, and any identified issues were logged and responded to. For example, the Schools participating in the study used action plans, learning agreements, and traffic light systems to ensure that a structured follow up approach was in place. Consequently, follow-up actions were much more visible, which helped to convince both doctoral researchers and their supervisors of the value of progress reviews.

8.2.3.2 How reviews are described

The data analysis also indicated that people's engagement with progress reviews can be influenced by the language used to describe them. I found it curious how participants tended to use dichotomous language to describe progress reviews. On the one hand, participants wanted to emphasise the supportive nature of the progress reviews using phrases like: "It's not about checking up on you. It's about supporting you" [SUP06-HumSoc], or even describing them in familial terms: "I think everyone's just seen, like, the family unit" [ADM01-Med]. On the other hand, participants pointed out the more punitive side of progress reviews based on its powers to exclude doctoral researchers, or transfer them to a lower degree: "the review panel actually has real teeth" [SUP12-Chem]; "I've been involved in…sitting on exclusion panels which are not very enjoyable for anyone" [SUP10-HumSoc]; "You probably have that sort of torture where you are for them" [SUP08-HumSoc].

Some participants also used dismissive language to describe progress reviews, primarily to highlight perceptions of the review process as being a bureaucratic, time wasting exercise. Examples of this perception include: "I felt like, again, just not clarity on. So like in my annual

review last year they were like, this isn't really what we're looking for" [PGR10-HumSoc]; "[it's] heavy handed" [SUP07-HumSoc]; "box-ticking" [PGR07-HumSoc]. Consistent with this view, one participant at the SRHE Validation Workshop pointed out how the overt bureaucracy was perceived as a lack of trust in supervisors.

Data from the UKCGE Validation Workshop were particularly enlightening for describing how the language used to describe the progress review process influences how people engage with it. Participants highlighted that the review is most effective when understood as a process, with clarity about what is expected at each stage. Part of setting expectations is to use honest language to describe what the review process is for. This entails acknowledging its less appealing aspects – surveillance of supervisor performance, managing poor progress – as well as embracing how it can be a constructive mechanism for supporting progress:

We talked about the language around review and how…the expectations of the reviews are managed and that being an important component of it. So is it 'monitoring' or are they called 'review', are they seen as 'supportive' or 'surveillance'? That sort of thing. And how is the student bought into that and has the supervisor bought in? So we thought that was an important part of it. That links then to the consequences of the review. Can you call them supportive if there is a definite point to where you're choosing whether a student remains on a course or whether they go from a PhD to a Master's Degree within that?
UKCGE Validation Workshop

8.2.3.3 Variation in panel members

The data also indicate that a positive progress review experience is partly dependent on who sits on the panel and reviews the doctoral researcher's work. Whilst many panel members take a constructive approach by carefully reading documentation, offering balanced feedback, and engaging in a scholarly discussion about the work, this was not always the case. PGR Directors, in particular, expressed concern about how little influence they have over panel members, which can undermine their efforts to operate a constructive review process.

Across all Schools in the case study institution, there were reports of inconsistencies and variation amongst panel members. At one extreme, there were stories of panel members being very laissez-faire, barely engaging with the doctoral researcher, their supervisors, or the material submitted for review. These interactions left doctoral researchers feeling short changed and questioning the purpose of the review. At the other extreme, there were reports of panel members being overzealous in carrying out their role and grilling researchers to the point that it damaged their confidence. I make some recommendations in Chapter 11 about how this might be overcome.

Neither approach was perceived to be particularly effective for enabling progress. In the excerpt below, a supervisor voices his frustration about the variability of panel members:

It comes down to colleagues over whom I have no control when it comes down to what they do or say in the context of an annual review…it's open to misuse, I think, too. Some people can be a bit heavy handed about it, you know. And they can use it in the wrong way which demoralises the student and so on.
SUP08-HumSoc

The variation in panel members was also recognised by a doctoral researcher who had had a particularly tough progress review. Her experience left her confused about the credibility of the feedback because she was aware that some of her peers had had a much easier experience in their progress reviews. This led her to contemplate whether her work was below the expected standard or if it the feedback was the result of a particularly harsh panel member:

a lot of people I know had completely fine ones [progress reviews] so that was quite annoying cause I was like why was mine so tough? And I didn't know if it was tough because what I'd written was really bad or because the people were tougher than other people's appraisers, you know.
PGR05-Med

8.2.4 Barriers to transparent reporting

As noted in an earlier section, progress reviews can be most beneficial when discussions are open and candid. However, the data analysis revealed that there are very real barriers to transparent reporting during a progress review. Those barriers are explored through two sub-themes, as follows: i) deliberate concealment of issues; and ii) covert conversations about progress. The presence of these barriers can limit the effectiveness of progress reviews in supporting timely submission.

8.2.4.1 Deliberate concealment of issues

The data reveal that progress reviews can be quite an ineffective mechanism for identifying issues with supervision. At the case study institution, doctoral researchers are invited to comment on the relationship with their supervisors and state any concerns in the paperwork. The validation workshops also revealed that this is fairly common practice in other institutions too. However, doctoral researchers reported that they found it very problematic to raise concerns about supervisors using this mechanism, and so they deliberately concealed issues.

Both doctoral researcher and supervisor participants acknowledged that transparent reporting of issues is unlikely because supervisors see the review paperwork. Doctoral researchers, in particular, were fearful of the possible repercussions if they wrote down that there was an issue with their supervision. As one doctoral researcher (who had been experiencing problems with her supervisor) explained:

well firstly there's something you fill in during the annual review about is everything OK? Do I have a problem with the supervisors? But you do it when the supervisor's in the room and I think well I'm clearly not gonna say I've got a problem with them…If they're in the room, very few people are gonna say actually I've got a problem here. So that seems really weird to me. Surely that could be done anonymously.
PGR07-HumSoc

The data analysis also revealed that doctoral researchers tended to be sceptical about the confidentiality of any issues they raise. Whilst reassurances are given about opportunities to

raise problems in confidence, doctoral researchers do not always feel empowered to speak up because they perceive that all academic staff are part of the same group and could, potentially, close ranks on them, as one supervisor mentions:

As I said the students don't often find they can tell the panel what's really going on because they think their supervisors and the panel are in the same club.
SUP02-Med

One supervisor participant's experience of being an independent review panel member is interesting because he uncovered a particularly difficult situation. In this case, a doctoral researcher had been leant on by her supervisor not to report any concerns in her progress review. Once this was out in the open, the doctoral researcher reported three years of a torrid relationship with her supervisor, which led to a formal investigation. This case draws attention to the power imbalances between doctoral researchers and staff, which can create a barrier to transparent reporting:

we had a third year student again both sides excellent supervisor, excellent student. Mutual love fest. Get to third year and you know you've talked about all this, are things alright? And the student slightly hesitated and to be fair to my other panel member he picked up and said I saw you hesitate a bit there, is there any issues you need to tell us about? Yes, major issues, I think my supervisor is this this and this, and I've got issues with this this and this. But you haven't written any of this down. I couldn't write any of it down because my supervisor was watching me write my report and told me I had to write excellent.
SUP02-Med

There were also examples in the data of supervisors concealing progress issues for well-intentioned reasons. For example, there were reports of supervisors hiding progress-related issues from panel members and omitting it from paperwork because they did not want to risk discouraging or demotivating their doctoral researcher. Whilst this action is seemingly benevolent, it can leave problems unchecked, which might later derail the doctoral researcher. As one supervisor commented:

Quite often supervisors will write fairly positive things in there and then they'll come and see you and 'oh this student's not doing so well'. And you look back at the progress review and actually you've given them Bs and the occasional C, it doesn't look too bad. 'Yeah, well I was just trying to be encouraging'.
SUP01-Med

There were also reports that more overt institutional scrutiny of the supervisory role encourages some supervisors to conceal progress-related issues. It was reported that some supervisors did not want to risk a black mark against their name or be prevented from taking on new doctoral researchers and so would decide not to report problems. There is, however, nothing in the case study institution's regulations to substantiate this concern, but the folklore persisted and was influencing supervisors' actions. Other supervisors felt that reporting their doctoral researcher's poor progress would negatively affect their standing in the academic community. They perceived that a struggling doctoral researcher would reflect badly on their competencies as a supervisor and might undermine their reputation as an academic expert, as one supervisor remarked:

we have to perform, a lot of our stuff is about performing a role of being the expert in a public sphere, in front of students, or in front of colleagues, I'm the expert in this research, so it is a bit of an act and I think they carry that on you know with nothing's wrong here, nothing's wrong here.
SUP01-Med

8.2.4.2 Covert conversations about progress

The data also revealed reports of some supervisors using an informal route to raise issues, rather than use the formal paperwork. Participants gave examples of supervisors providing fairly neutral, or even positive, comments about their doctoral researcher's progress on review paperwork and then following this up with a discrete conversation with the independent panel member to highlight their real concerns.

In other cases, supervisors who had served as panel members reported how they found those covert conversations more insightful than the formal paperwork. Some supervisor participants commented that it could be a helpful guide as to which doctoral researchers need the most help and what the real issues are, as reflected in the comment below:

they're usually run with academics in a similar field, so you would know each other, and we might have offices quite close. And even informally then, they may tell me what they think of the student. So, there'll be a formal document that gives me a report on the viva, but that is a public formal document. But, there's always informal contact between us, that helps us to make sure we pick up people that need extra help.
SUP11-Chem

Having presented the results on progress reviews, I will consider how another structural element in the doctoral experience, Doctoral Schools, were perceived to influence timely submission.

8.3 Doctoral Schools and timely submission

In this section, I present the results on how Doctoral Schools were perceived to influence timely submission. As discussed in Chapter 3, Doctoral Schools operate at different levels within universities and tend to have different sets of priorities and responsibilities. The institutional case study's Doctoral School was most focussed on becoming the home of the doctoral researcher community at the case study institution by providing interdisciplinary events and activities; providing training to develop personal, research, and career skills; and offering a dedicated physical space for doctoral researchers to use to connect with others.

It is also worth noting that at the time I collected data in the case study institution, it was revamping its Doctoral School. It had just relocated to a refurbished venue, a new and passionate Director had been appointed, and the training curriculum was being overhauled. Because the data were collected during a transitionary period for the Doctoral School, some of the findings reported here may become less pronounced as the institution's refreshed approach embeds.

I now provide an overview of the themes relating to Doctoral Schools and timely submission, before unpacking each theme in more detail.

8.3.1 Overview of findings

A thematic analysis of the data reveals that Doctoral Schools can influence timely submission in the three ways. They are: i) by supporting doctoral researchers' self-efficacy-oriented agency; and ii) by supporting doctoral researchers' relational agency. A third theme, periphery of experience, captures some of the perceptions about how Doctoral Schools fail to support progress in a meaningful way. Each theme, and its sub-themes, are summarised in the table below:

Theme	Sub-themes
Supporting doctoral researchers' self-efficacy-oriented agency	• Types of self-efficacy-oriented training • Selective engagement
Supporting doctoral researchers' relational agency	• Fostering community • Managing supervisors
Periphery of experience	• Sticking plaster • Generic

Table 15: Summary of themes and subthemes for research question (iii) – Doctoral Schools

8.3.2 Supporting doctoral researchers' self-efficacy-oriented agency

Participants shared how the Doctoral School's provision that focussed on supporting doctoral researchers' self-efficacy-oriented agency was perceived to be the most beneficial for supporting timely submission. Two sub-themes were identified that capture how Doctoral Schools support the development of self-efficacy-oriented training. They are: i) types of self-efficacy-oriented training; and ii) selective engagement.

8.3.2.1 Types of self-efficacy-oriented training

Participants at the case study institution tended to speak highly of the Doctoral School's training provision when it helped to scaffold self-efficacy-oriented agency.

The analysis found that doctoral researchers tended to seek out training from the Doctoral School that would help them with time management. In particular, they were looking for training that would help them to accomplish tasks more quickly and generally save time. Examples of training courses that were frequently praised by participants include: time management, planning and organising, training in key software, working with long documents, speed reading, structuring a thesis and so on, as reflected in the account below:

There's a rapid reading course…where they teach you to read quickly and do different exercises. But that was helpful for when I was doing the literature review and reading lots of different things. There was like three courses at the beginning, middle and end of the PhD. Whole day ones, just telling you how to organise your time, different methods, different approaches, time management, organisation. They were really good. They're kind of the ones that stick in my mind.
PGR07-HumSoc

One of the motivating factors for doctoral researchers accessing training was to help them become more efficient in the research process. Participants shared how they wanted to learn techniques and methods that would help them to save time, perhaps as a response to the acute time pressures within the doctorate. Doctoral researchers also commented on how they preferred training that could be immediately implemented in their day-to-day tasks. This is reflected in a doctoral researcher's comments below:

the more technical ones, the hands-on have been useful…There was one like thinking outside the box on your PhD, it was really fluffy, "Here's a banana, tell me all the things you can use a banana for. Let's make paper aeroplanes," you know these silly team building things you have to go to
PGR02-Med

From the dataset, it appeared that doctoral researchers were most keen on the training that would make the research process more efficient and could be used straight away.

8.3.2.2 Selective engagement

Though many doctoral researcher participants were motivated by the prospect of saving time by engaging with Doctoral Schools, there were examples shared where engagement might have the opposite effect. Some participants, for example, reported how the wide range of training on offer can result in doctoral researchers dedicating large chunks of their working week to attending courses. Some participants, particularly supervisors, were concerned that by overcommitting to training, a doctoral researcher's progress with their project and thesis might be slowed down.

As discussed in Chapter 7, supervisors described how they would intervene if they thought that a doctoral researcher was overcommitting to training. Supervisors discussed how they tried to encourage their doctoral researchers to take a balanced approach to training by only attending courses at the point of need and by spreading attendance across their candidature. Helping doctoral researchers to be judicious and selective with training was thought to help doctoral researchers better balance the competing demands on their time:

I think that students when they begin their PhD very often are over excited by the various courses offered by the [Doctoral School] and sign up for everything and so they show me their training programme and what, when are you going to have time to write your PhD? I try to pare it back a little bit and say, no, you don't have to do everything at once.
SUP09-HumSoc

8.3.3 Supporting doctoral researchers' relational agency

Participants also described how the Doctoral School provision can enable doctoral researchers' sense of relational agency. Two sub-themes describe how this could be achieved through: i) fostering community; and ii) offering guidance on managing supervisors.

8.3.3.1 Fostering community

One objective of the Doctoral School at the case study institution, which was also common to many of the participants' institutions in the validation workshops, was to become a hub for

the doctoral experience. Many Doctoral Schools aim to become the heart of the doctoral community by providing a place for doctoral researchers, and those who support them, to come together, share experiences and help each other to be better researchers.

At the time the data were collected, the Doctoral School at the case study institution had made good progress towards establishing itself as a focal point for the doctoral community. Participants spoke very favourably about two recent doctoral conferences that brought together researchers from across disciplines. A further example shared by participants was the dedicated and popular 'writing room' that doctoral researchers in the final stages can use. Participants who used the writing room commented on how bringing late stage doctoral researchers together had engendered a strong esprit de corps amongst them and had created a valued peer support network. This, they said, was very beneficial for getting the thesis written and submitted. Furthermore, the varied training on offer, ad hoc events, and competitions were perceived to be helpful for creating and cementing strong peer networks.

Doctoral researcher participants tended to discuss the community aspect of the Doctoral School in very positive terms. They enjoyed hearing about approaches from other disciplines and sharing experiences that tend to transcend disciplinary boundaries. One doctoral researcher, who was based in the writing room, described how access to a network of other researchers who were also writing their theses facilitated the writing process and provided a forum for discussing how to make important academic connections:

in terms of structuring your thesis, I think that's the main thing. We talked about how do you structure it, how do you make sure that what you do works as a piece. And there are also similarities in terms of working with other academics, how do you approach other people, how do you build relationships with other people. I think that's really, really important.
PGR06-HumSoc

Other doctoral researchers valued the opportunity to talk openly and more generally about the experience of doing a doctorate. Through these conversations, issues inherent in the

doctoral process became normalised and social isolation was tackled. In the excerpt below, a doctoral researcher describes the cathartic value of the Doctoral School community:

There's a girl that we made friends, we laugh, because again she signs up for anything. So we always know if we're on a course she's gonna be there. And we made friends through that. When we meet it's quite nice just to share experiences and we usually meet to have a rant about things. But it can be quite therapeutic in that way. So yeah it's been good for making connections.
PGR07-HumSoc

8.3.3.2 Managing supervisors

As discussed in Chapter 6, one of the most important relationships in the doctoral process is the relationship between a doctoral researcher and their supervisors. A good relationship can help to support progress towards timely submission, but it is important that both doctoral researchers and their supervisors exercise relational agency to foster a productive working relationship.

In Chapter 6, I identified an important aspect of relational agency for enabling a good relationship with supervisors: communication. Of course, it can be challenging for doctoral researchers to communicate their needs to supervisors and their needs will also evolve over time. Helpfully, the Doctoral School at the case study institution offered training to guide doctoral researchers in how to communicate their needs to their supervisors. One doctoral researcher had recently attended this course and was deliberating about how to put her relational agency into practice with her supervisor:

So I was like oh yeah maybe that [course] will help me kind of tell her if yeah she's, I don't know, not kind of challenging me enough…I think it made me a bit more like assertive with her which is good, but I don't know. I just think, the thing is she's just really nice so it's quite hard to be like 'you're doing stuff wrong'.
PGR05-Med

8.3.4 Periphery of experience

The findings on Doctoral Schools presented so far indicate that they can be effective for developing doctoral researchers' relational and self-efficacy-oriented agency. Nevertheless, I identified a third theme for the data that describes how Doctoral Schools can be limiting in enabling timely submission. That theme describes how Doctoral Schools can sometimes be on the periphery of the doctoral researcher's experience. Two sub-themes capture perceptions of Doctoral Schools' peripherality: i) sticking plaster approach; and ii) too generic.

8.3.4.1 Sticking plaster approach

Some supervisors perceived that the burgeoning training provision from Doctoral Schools was a sticking plaster for some of the trickier structural issues affecting career prospects for doctoral researchers. Supervisors discussed how the plethora of training opportunities diverted attention away from the limited opportunities for doctoral researchers within the academic labour market. In these participants' accounts, the breadth of training was perceived to be a means through which universities could reassure themselves that doctoral researchers would be ready for a variety of careers after the doctorate, but not all participants were convinced this was really being achieved. As one participant commented:

There is just that slight worry that we are so desperate to do whatever we can to get them through, just put more training on. And we do this with our research staff as well, you know, our research staff have got problems moving up through the hierarchy of promotion and new jobs, because it's a bit, there're a few professors at the top and there's about 40 RAs at the bottom, how does everybody move up? And beyond that there's so many PhDs. So, because we feel guilty about that, because we're training all these PhD students, very few of them will get a job in academia, very few of those will get a lectureship and move on and progress. The guilt is assuaged by saying 'oh, we'll just train them because there's nothing else we can do for them'. Poor buggers.

SUP01-Med

The data did indicate that for some supervisor participants, a career in academia was perceived to be the gold standard outcome of a doctorate. However, many supervisor

participants acknowledged the changes to the labour market and how those changes were prompting them to adapt how they supported their doctoral researchers in engaging with training, as one supervisor describes:

people never consider the alternatives that that person they are training could end up as a journalist or go into politics or local government or something. We never really offer that as a possibility. You always pretend that the student you train is doing a post-doc afterwards and becoming a group leader…Essentially most students I train throughout my career will not have an academic career…And that is something I have learnt during the last years. And I think I help people much better now…I have two students now who already know that they don't want an academic career so they are more interested public affairs and engagement and things like that. You have to give them the opportunities and let them do some engagement stuff for example. We had a student who is now engagement lead in [other prestigious university] which if you think about it is an absolutely brilliant job.
SUP03-Med

The career ambitions of doctoral researcher participants in the case study institution also reflect how doctorates now lead to lots of exciting careers. Within the sample, only five doctoral researchers (36%) were actively targeting an academic career after their doctorate. Two (14%) were undecided and felt that their best tactic was to keep their options open. The remaining seven (50%) were all targeting a career outside of the academy. For those seven doctoral researchers, the doctorate had exposed them to new career possibilities, for example outreach, public engagement, science writing etc, which they found more appealing than an academic role. Similarly, the conditions in academia were perceived to be an unattractive prospect given the spread of fixed-term contracts, low pay at a junior level compared to other professions, lack of work-life balance, and limited promotion opportunities.

The data seem to indicate that we are in a moment of transition regarding post-PhD careers. Some perceptions persist that a career outside the academy is not the desired outcome of a doctorate and, therefore, any training that targets those careers is somehow peripheral.

However, there was evidence that non-academic career paths are increasingly being regarded as legitimate and necessary outcomes of a doctorate. Therefore, the training that supports those trajectories might, over time, be viewed as central, rather than peripheral to the doctoral experience.

A related issue concerns the perceived weak integration of Doctoral School provision into the mainstream of the doctoral experience. Across the sample, doctoral researchers had varied levels of engagement with the Doctoral School. Some signed up to lots of training opportunities, others did not engage at all, and others were somewhere in the middle. Supervisors also varied in how involved they were with the Doctoral School offer. Some took a pro-active role in helping doctoral researchers to make use of professional training opportunities, some were laissez-faire about what their doctoral researchers engaged with, and there were reports of some supervisors blocking doctoral researchers from accessing training altogether.

The variation in levels of engagement from doctoral researchers and supervisors points to the training provision sometimes being perceived as adjunct to, rather than fully integrated into, a coherent doctoral offering. Greater integration might help to protect against overcommitment and ensure that training delivered through Doctoral Schools and departments is complementary, joined-up, and targeted towards distinct aspects of doctoral researchers' needs.

8.3.4.2 Generic training

Some participants, primarily doctoral researchers, also commented on how some of the training provided by Doctoral Schools was too generic to be useful. Ironically, training that was intended to help doctoral researchers navigate their experience and submit within institutional timescales was sometimes thought to be an additional drain on their time. Some resented being made to sit through training when they perceived that they could make better use of their time. This was especially so when doctoral researchers could not see a clear way of applying the training content to their day-to-day activities. Similarly, because much of the training provision is targeted at a wide range of disciplines, sometimes doctoral researchers

struggled to see how the training could be applied to their particular circumstances and their particular project.

As the doctorate becomes more time pressured, doctoral researchers reported being more selective about the various activities with which they choose to engage. Unless they are clear about the benefits of the provision for either their research or professional development, then they simply will not attend. As one doctoral researcher put it:

And then the time management one and they were like, "What do you do to waste time?" and it's like, "Well here I am!"
PGR14-Chem

8.4 Summary of findings

- This chapter has focussed on how two of the main structural components of the doctorate were perceived to influence timely submission. Those structures were progress review processes and Doctoral Schools.
- The thematic analysis revealed that progress reviews can enable timely submission by i) helping to identify problems stemming from critical events; ii) supporting doctoral researchers to develop epistemic and self-efficacy-oriented agency to navigate those problems; and iii) helping supervisors to develop relational agency.
- The degree to which progress reviews could enable timely submission partly depended on i) how useful they were perceived to be; and ii) the presence of barriers to transparent reporting of issues.
- The thematic analysis also revealed that Doctoral Schools have the potential to support timely submission. There was evidence from the data that this could be achieved when Doctoral Schools supported doctoral researchers in developing i) self-efficacy-oriented agency; and ii) relational agency. However, one theme tapped into how Doctoral Schools were sometimes perceived to be on the periphery of the doctoral experience. In such cases, the training offered was

perceived to be at odds with what some participants felt a doctorate should entail or that the training was too generic to be useful.

Chapter 9: Perspectives on timely submission

9.1 Introduction

In this chapter, I present the results from data analysis concerning the research question:

- What are the perceptions of key actors in doctoral education about how the following influence timely submission of a thesis:

    iv. Perceptions of the importance of timely submission?

In Section 9.2, I give a brief overview of the findings. In the remaining sections, I unpack each theme in detail and provide examples from the dataset to substantiate my analytical constructs.

9.2 Overview of findings

The thematic analysis of the data reveals that research participants across all groups were very aware of issues relating to timely submission. The data indicate that this heightened awareness was a response to the broader policy context in which doctoral education operates. Research participants were conscious of how policy at national, institutional and school level were affecting the frameworks for doctoral education and participants' individual experiences. Four broad themes were identified that capture the consequences of the heighted time consciousness. Those themes are: i) implications of funding conditions for institutions and individuals; ii) implications for doctoral researcher development and their projects; iii) instrumental supervision and iv) 4-year funding model

The table below summarises the main themes and their related sub-themes:

Theme	Sub-themes
Implications of funding conditions for institutions and individuals	• Institutionalised timescales • Funding status • Precarity and vulnerability
Implications for doctoral researcher development and their projects	• Constraints on researcher development • Research project scope
Instrumental supervision	• None
4-year funding model	• None

Table 16: Summary of themes and subthemes for research question iv

9.3 Implications of funding conditions for institutions and individuals

The theme of 'implications of funding conditions for institutions and individuals' captures how the timescales for doctoral degrees have become institutionalised, highly visible and metricised through both institutional and external performance regimes. Through three sub-themes, I unpack how i) timescales for doctoral degrees have become institutionalised; ii) funding status influences the relevance of a firm thesis deadline; and iii) the precarious and vulnerable position in which the three-year funding model can place doctoral researchers.

9.3.1 Institutionalised timescales

It was striking how all the participants that I interviewed were acutely aware of the deadline for thesis submission. Doctoral researchers were very clear about their ultimate deadline and, in many cases, had an earlier, self-imposed deadline in mind based on their personal circumstances or career aspirations. Supervisors were equally conscientious in reminding their doctoral researchers about the strict timescales for submission, now enshrined in regulations.

One supervisor reflected on how the pressure stemming from thesis deadlines had become much more formalised and institutionalised throughout his career. For him, the institutional emphasis on timely submission had created a sense of 'official time consciousness':

I think there is more of an official time consciousness now, more of an official institutional sense of the timetable really. And I suppose the research plan, now, has more of a prominence than it might have had some years ago…You might have some supervisors, including myself, who have always tried to think about it in terms of, you know, a three year operation, really, and have worked along those kinds of lines but not everybody would have done, I suspect. So certainly it's institutionalised now.
Sup08-HumSoc

The intensification of this time consciousness is reinforced by the institutional structures in place to manage timely submissions. For example, the case study institution had implemented a very thorough policy for reviewing doctoral researchers' progress, known as progress reviews, which all research participants wanted to discuss during the interviews. In Chapter 8, I took a more thorough look at progress reviews, but they are mentioned here as an example of how structural aspects of doctoral education have been designed with firm deadlines in mind.

A further example is the tightening of regulations about issuing extensions to submission deadlines. In the excerpt below, a supervisor reflects on her time as the Director of Postgraduate Research. When she took on the role, she encountered a fairly laissez-faire approach to extending deadlines. This supervisor was tasked with enforcing regulatory deadlines more rigorously, which involved sending reminders of impending deadlines to doctoral researchers, taking action when progress reviews were missed, and interviewing doctoral researchers who requested an extension to ensure they were properly supported. The intention of these actions was to influence behaviours in a way that emphasised the importance of timely submission, and placed responsibility on the doctoral researcher for achieving timely submission:

when I took over there were medics there that had had just extension after extension after extension, and they would submit [the form] the day before the extension was due or on the same day, so it was almost like it was, "Oh, there's no option, she'll have to sign it off." Again,

clear rules, no interview with me, no sign off on the extension request. "Oh, but that means that I'll have a non-submission." I said, "Yeah, whose fault is that? It's not mine. I don't have a duty to get you over the line on time. You do. It's your thesis. You've been written to for three months, asking you to make an appointment with me to discuss exactly where we are so we can craft out a learning contract to get you over the line so that you're supported. If you completely ignore those emails then it's not my responsibility. I am not accountable for the action that the University would take. This falls squarely with you." And then they come in line. So it's changed people's behaviours as well.
Sup04-Med

Whilst all participants were acutely aware of the institutional pressures to submit on time, the external policy pressures on institutions were mentioned less frequently. Some supervisors were aware that research councils routinely measured submission rates and that failure to meet targets could result in the withdrawal of access to future funding. Some were also aware of completion data being reviewed in the Research Excellence Framework (REF). There was a broader concern, however, with how external funding regimes place pressure on the university sector, which then gets transferred to the institution, to the department, to the supervisor, and, eventually, to the doctoral researcher. The outcome is that these pressure points are not relieved, but become reified through institutional structures and interactions between doctoral researchers and their supervisors, as one supervisor notes:

the person who will be punished is the [College], the supervisor and then the [School] and the [Division] may, I don't know, may get less money from the [Medical Research Council] the following year, the supervisor may struggle to get another student because they didn't complete within 4 years, but the student will always get a PhD from that. So in a way the student is not really under [direct] pressure to submit. The pressure is on the supervisor and the supervisor relays that kind of pressure on the student.
Sup03-Med

9.3.2 Funding concerns

Research participants also commented on how a doctoral researcher's funding status might influence timely submission. Supervisors, in particular, were conscious that if a doctoral researcher is funded through a charity, research council or other public body then a firm deadline is understandable because the public purse is bearing the cost of the research and the development of the researcher. The same sense of obligation to the funder was also felt in the School of Chemistry where it was commonplace for industrial partners to provide funding for projects. The funding stream would be agreed in a formal contract that codifies expectations about the delivery of outputs, including the thesis. However, supervisors were less convinced of the need to rigorously enforce a deadline if the doctoral researcher is self-funding, as one supervisor comments:

The time pressure thing, yeah, I do find it a little puzzling in a sense, in that, you know, if somebody does take five years and they're self funding, I kind of feel a bit like does that matter? We've got this huge utterly inflexible thing about timing
SUP06-HumSoc

Other supervisors expressed concern that enforcing deadlines for self-funding doctoral researchers might be off-putting for prospective researchers and prevent them from undertaking research in the first place, creating an access barrier:

I think the idea of a quite narrow deadline seems to be poorly conceived in the sense that it means that some people probably don't undertake PhDs who would otherwise do so, because they have other commitments. So I think I'm speaking in terms of part time PhDs…so with a part time PhD, in the past, with the old system, there were people who took a long, long time part time and completed, nevertheless there were others who never completed, again there were upsides and downsides to it.
SUP07-HumSoc

Participants also acknowledged the impact of prolonged registrations on the institution's financial bottom line. With one exception, all participants were in favour of having a deadline

in place, partly to avoid providing free supervision and creating a drain on limited resources. At the case study institution, no fee is charged to doctoral researchers in their final year, meaning operational costs have to be covered through other means. The case study institution also imposes a cap on the number of doctoral researchers that a supervisor can supervise, and so prolonged registration might inhibit new enrolments, including enrolment from self-funded, fee-paying doctoral researchers. In the excerpt below, a supervisor reflects on how financial concerns were perceived to be encouraging an institutional emphasis on timely submission:

Now partly because of the change in the context of HE and the fact that I guess ultimately, it's about the fact we don't want to be giving out free supervision for 20 years or whatever, which I presume is why there's this whole thing about three years now…certainly it is a pressure and the inflexibility of it is I think something that some people really struggle with, whereas, yeah, 20 years ago it was actually a different activity really, doing a PhD. I know people that took 12 years to finish…It was just a completely different thing.
SUP06-HumSoc

9.3.3 Precarity and vulnerability

The data analysis also highlighted some concerning unintended consequences of the regulatory structures designed to support doctoral researchers experiencing personal difficulties.

For example, the case study institution's regulations allow doctoral researchers to apply for a formal period suspension if they are experiencing difficulties in their personal lives. Participants gave various examples of when formal periods of suspension had been taken including for physical and mental health issues, parental leave, exceptional professional commitments, and family emergencies. However, the institutional policy is that taking a period of suspension does not automatically extend the thesis submission deadline. Also, stipend payments are curtailed during a period of suspension due to financial constraints. Those funded by a research council were not affected by that policy because UKRI's terms

and conditions allow for up to 13 weeks of sick pay and so there was not parity amongst the terms of funding packages.

Participants recognised how the suspension policy risked creating a more pressurised situation for doctoral researchers. That pressure comes from having even less time to submit their thesis and might force them to rely on savings or support from family members, if available, to make ends meet. An administrator, who regularly deals with suspension requests and their implications, eloquently captures how the extant system fails doctoral researchers:

But as I say, that system, I'm not sure it works terribly well, adding on stress really, you take time off and then you don't see your end date moving…I wonder if they might change that again…But yes, we had a student who became pregnant about four months before she was due to submit…This idea that oh you'll be able to do this, that and the other afterwards and then the cold wet fish of reality slaps them in the face.
Adm02-HumSoc

In the excerpt below, a supervisor paints a stark picture of how the curtailment of the stipend during a period of suspension puts doctoral researchers in impossible situations. The policy can lead to doctoral researchers making decisions that are detrimental to their own health and wellbeing:

I had a student, for example, and he needed some operation and they have to apply in advance saying I have a scheduled operation coming up…and they ask for an interruption of study to shift that looming deadline. But the funny thing is it also interrupts your pay, so it interrupts your scholarship [stipend], so you don't get paid during that time...If you have some medical issues, scheduled operation, mental health issues, anything, you can always ask for an interruption of study for your 6 months which alleviates the pressure to actually have to work then but you don't get paid during that time. How is that possible? So you are in a very very serious personal, medical situation and the decision you have to take is do I continue to work with my problems or do I ask for an interruption of study and I'm not going to have money to pay my rent. How can you put anyone into that situation? Which at the end means the

decision, maybe I shouldn't have this operation now, it's really important, but maybe I should have that when my PhD is finished.
SUP03-Med

The data analysis also identified a lack of financial support for doctoral researchers who become parents during their degree. For example, one doctoral researcher had a difficult experience on discovering that his status as a doctoral researcher precluded him from accessing working tax credit when he became a parent. Although he managed to secure some short-term financial support from the institution's hardship fund, he found it very difficult to manage childcare costs on a PhD stipend. He identified this as being a potential access barrier to doctoral education and might lead to slower progress and non-completion:

[It] does mean paying the full costs of childcare, which are quite high…And this has been a big issue financially but also in terms of having to take the time off and doing the research work and having to rely on my partner's mum one day a week as well. It is sort of a fairly substantial barrier I think standing in the way of quite a lot of people doing this because PhD funding is fine, it's minimum wage, fine for one person, one single person who's either living in a shared house or has a partner who earns more. Once children get involved it's sort of a different matter. And there are quite a lot of us out there who have children. There's quite a lot of people who do get affected by it, at PhD level I think. What can I say? I think it's a barrier.
PGR08-HumSoc

The data analysis also revealed how the dominant three-year funding model for the doctorate can also leave doctoral researchers in precarious and vulnerable situations. The cause is the fact that the three-year funding model only covers 75% of the possible duration of the full-time doctorate, which lasts for four years. This institution, and most others, tend to carefully monitor their four-year submission rates because those data inform external performance metrics, for example research councils and REF. However, participants perceived that submission of a thesis within the three-year funding period is a very rare occurrence, perhaps more common in STEM, and reliable data on it are hard to come by.

This situation creates a problem. If institutions across the sector have accepted that four years is a reasonable timescale for a full-time doctoral researcher to complete a research project and take advantage of the training opportunities available to them, why is funding available for three years, leaving doctoral researchers with a funding shortfall of one year?

The likely result is that doctoral researchers will end up using some or all of their final year, the so-called 'completing' year, to finish off their thesis. In so doing, doctoral researchers are placed in a financially precarious position because their income from the stipend dries up and they have to rely on savings, family support or find a job. Numerous participants recounted how finding employment during the completing year can be detrimental to progress and jeopardise timely submission, as reflected in the account below:

Not many people do finish in the three years. Well, I know a few people really who have finished within the three but that's very rare, isn't it?…there is another PhD student…she's got a family and kids and a mortgage and all that, and I'm lucky that I'm a bit more flexible with what I can do. She just had to get a job, so she found a lectureship even before the end of her PhD. She still hasn't finished because she's had a full-time job since September last year, so that's very, very tricky.
PGR06-HumSoc

For most of the doctoral researchers I interviewed, the prospect of the unfunded fourth year was a source of stress and anxiety. Most doctoral researchers had put in place contingency plans that involved drawing on savings to sustain themselves for a few months or moving back in with their parents. Of course, doctoral researchers who do not have access to familial support are placed in an even more vulnerable position. Even those doctoral researchers who were planning to go back home were conscious of the pitfalls of being away from the community of researchers and were anticipating a lonely and isolating period of writing, which is not always conducive to timely submission. In the excerpt below, a doctoral researcher discusses her plans for the unfunded year:

It does cause me a bit of concern. It causes my parents a bit of concern because I'm saying what am I going to live off? My Mum is saying I don't know what you're going to live off. I'm not that concerned because I'm quite confident that I can get it done within a couple of months. I should be able to fund myself for that short period of time. If I thought it was going to take me six months, or a year, I'd be absolutely terrified because there is no way I could fund that. If it turns out I can't get it written by [my deadline] then I would probably start to become a lot more apprehensive because by then I will have run out of money. That's the concerning thing.
PGR13-Chem

Most supervisors I interviewed also discussed how projects are planned so that they can be submitted within the doctoral researcher's funding period. However, they recognised that it is a serious challenge to combine research activities with the other professional development opportunities within the broader doctoral experience. Most supervisors perceived this to be a barrier to submission within three years. More alarmingly, some supervisors raised concerns about doctoral researchers being vulnerable to exploitation. They gave examples of doctoral researchers being seen as a resource. Stories were shared of supervisors keeping doctoral researchers in the lab once they were fully trained and at their most productive, even if this meant that their thesis had to then be written during an unfunded fourth year.

Some supervisors viewed these behaviours as a consequence of supervisors transferring the pressure that they were under onto their doctoral researchers. Academic employment depends on publications and the pressure to perform is reinforced by national exercises like the REF. In more egregious cases, some supervisors suspected that this approach is the result of the supervisor placing their own needs before those of the doctoral researcher and treating them as nothing more than a pair of hands in the lab. In the very insightful excerpt below, a supervisor discusses his concerns about this:

I tell all PhD students…that if you've got three years of funding, you should aim to submit your thesis within three years. I think it's fair to say that some members of staff regard the three years of funding as primarily being the mechanism for keeping people in the lab producing

results for three years, rather than allowing a student, even if they have sufficient results, on allowing students to write…

He continues:

It's exploitation, basically. It's putting the staff's needs ahead of the students' needs. I mean, I get it. You know…the student is going to be most productive at the end because they've built up all their expertise, and their proficiencies are all there, and they're being highly productive…it's actually a product of staff being under pressure…under pressure for results, under pressure for data and the reliance therefore upon the resource, which is the student in the lab… I've had these very arguments with staff. I've said, "It's not your job to transfer that pressure onto the student." They don't see it like that.
SUP12-Chem

9.4 Implications for doctoral researcher development and research projects

The theme of implications for doctoral researcher development and research projects captures participants' views about how firm deadlines for the doctorate and the resulting official time consciousness have impacted doctoral researcher development and the types of project they undertake. I explore this via two sub-themes. The first represents participants' concerns about how doctoral researcher development risks being constrained. The second represents participants' views regarding the scoping of doctoral-level projects.

9.4.1 Doctoral researcher development constraints

Supervisors, in particular, raised concerns during the interviews about how institutional responses to tighter surveillance of submission times were, potentially, constraining opportunities for doctoral researchers to develop.

In one example, a supervisor discussed the project approval protocol in place. It is now the case in the Medical School that all funded projects are written by the supervisor, reviewed by a panel to check that they can be feasibly carried out with the institution's timescales, that the supervisory team is appropriate, and that all appropriate resources are in place. An

intended consequence of this approach is to ensure that doctoral researchers have the best possible start and that there is a high likelihood of the project being carried out successfully and submitted in good time. Whilst this approach is fairly commonplace in science-based disciplines, it is less common in social sciences and humanities, where a doctoral researcher-led approach to project design dominates. One supervisor expressed some reservations about the approach in Medical School for social sciences projects because the doctoral researcher does not get experience of project design, fieldwork is fundamentally different from lab-based work, and the project can also be too safe, protecting the doctoral researcher from experiencing learning opportunities in failure:

They also don't get to experience failure in the same way. It's the supervisors who always get the failure, rejection and then, because, let's face it, a lot of academic life is about being rejected and if it's all mapped out and it's all doable they don't need to even think about what the Plan B is because the Plan B's been built into the project because we have to show it is doable. But life's not like that really.
SUP01-Med

Doctoral researchers, in particular, also experienced the institutional focus on rigid deadlines as a stressor in the doctoral experience. For doctoral researchers, this was not perceived as conducive to their development, and, ironically, could jeopardise their ability to submit on time. As one doctoral researcher reflected, research rarely goes to plan and that is not always a direct result of what the doctoral researcher has or has not done. In the excerpt below, a doctoral researcher compares her progress with others. In her case, she joined a project that was at an advanced stage and had a comprehensive handover from the doctoral researcher who was about to submit when she joined. Consequently, she was able to get off to a strong start and generate data very quickly. Not all projects, though, are as advanced and not all go as smoothly, which can be a source of stress for doctoral researchers:

I know, for me, when I see other people at the same stage I know I've got more data than they have and that's because I was trained better and I started getting data straightaway. They've

got just over a year to essentially get a thesis worth of data and that's not very long. That must be really stressful.
PGR13-Chem

This section has focussed on the more negative concerns from participants about the impact of tighter deadlines for doctoral researcher development. However, it is worth noting here that there are still ample opportunities within the doctorate to experience real, transformative learning and growth. These opportunities were discussed in Chapter 6.

9.4.2 Research project scope

A further set of concerns raised by participants in the interviews relates to the scope of the research project. Supervisors acknowledged how their supervisory practices regarding designing, scoping and supporting research projects had changed in response to tighter deadlines. There was a general view that doctoral researchers' projects were now far less risky than they might have been previously and that any risk introduced to the project has to be carefully managed. One supervisor said:

You have to design [the project] in a way that you can be confident it can be done in 3 years. And so you always have to balance it somehow. So you need some kind of safe bit that's going to work and generate some interesting data and you have to balance that with some risky bit that's worth doing, but if it turns out that it doesn't generate any useful data or…it takes too long, at some point you just stop that part of the project
SUP03-Med

There was also some concern raised about a general decline in the standard of doctoral-level research projects resulting from a resetting of expectations for the doctorate. One supervisor reflected on how doctoral research projects might now be less exciting and less scholarly in order to avoid overrun, although this participants' account does not refer to some of the possible negative effects of the 'magnum opus' thesis, many of which were never submitted:

I think supervision across the board is about dates now much, much more than it was before, about having the end date in mind and having a plan that works back from that end date, which is probably good, I guess…It means that a different piece of work is produced, a piece of work that will fit that thing and has all the edges knocked off, so I think it can lead to less exciting work. And it can mean that students, when they finish their PhD, haven't necessarily got this load of other stuff and interests that they can draw on, so it can make things a little bit less scholarly in a sense. But yeah, it certainly affects, I think, what supervisors do, and I think supervisors also feel the fear of, "My students need to complete on time otherwise I'll be a bad person"
SUP06-HumSoc

Another supervisor reflected on how the perceived decline in the standard of the doctorate had become codified in sector-level expectations and within university regulations. He discussed how the word 'original' had been dropped from a number of regulations he had seen and been replaced with words like 'substantial', although this was a perception rather than being quantified in any research. For this supervisor, the emphasis on timely submission had turned the doctorate into a much more instrumental exercise because there is insufficient time within the doctorate to do truly original work, which for this participant had to be daring and bold. Instead, he suggested, the time constraints force researchers to play it safe:

It tends to be much more instrumentally directed…so there's less room for experimentation inevitably. And it's a bit like the consequences of REF in that regard. REF inevitably strangles any form of originality and experimentation. As soon as you put certain constraints upon people to produce stuff within a certain time frame, guess what, they'll keep reproducing. I know academics, very famous academics, who just carry on doing what they do because it's easier, whereas it takes a bit of nerve to try and do something very different, and if you don't have the time, you're not going to do it, especially with all the other pressures.
SUP07-HumSoc

Similar concerns were voiced at the SRHE validation event. One group lamented that certain approaches to research could not be accommodated within the tighter timescales for submission. The example of longitudinal research was given, which could not be undertaken by full-time doctoral researchers because their registration periods are not long enough. This restricts the throughput of researchers trained in this method, disadvantages anthropologists and would-be ethnographers, and puts it at risk in the long-term:

We were asking, what is 'timely'? And it's different for different projects…depending on your research. There's two different ideas about timely. We were saying, okay, if you've got a longitudinal study it's kind of barred from ever being a PhD because it's going to take [short pause] unless you're a part time student you can't do a longitudinal study full time...it's difficult because you can't collect data over five/six years whereas there might be somebody who wants to do that as their PhD.
SRHE Validation Event

9.5 Instrumental supervision

This theme identifies how the time pressures on the doctorate were perceived to be influencing supervisors to engage in instrumental supervision. At its most egregious, this was thought to be driving some supervisors to place their own needs above their doctoral researchers' needs with toxic consequences.

A minority of participants discussed how stricter deadlines for thesis submission were potentially constraining supervisory practices by making it more instrumental. I provided a counter-perspective to this in Chapter 7, where the rich and varied ways in which supervision operates were shared. However, some participants were concerned that firm deadlines were reducing supervision to a technical practice, geared toward submission of a perfunctory thesis and nothing more.

In some cases, instrumental supervision was thought to have some benefits, for example, when it was directed towards helping a doctoral researcher who may be less suited to research complete the degree. In other cases, it may well be suitable for helping doctoral

researchers who have experienced serious problems with the research outside their control, or who may be experiencing personal circumstances, which alters what they want to achieve from the doctorate. This is very far removed from the transformative potential of a doctoral education described in Chapter 6. As one participant observed, instrumental supervision tends to be more prescriptive and instructive:

It's almost as if it's the supervisor's PhD. She was told, well this is fine now, you've finished the PhD, this how you just need to do this and then that needs to be cited there, but so prescriptive, that the student felt that it was … that's not where she wanted to go with it. I mean there's a difference between advising somebody but at the end of the day, it's always that student's PhD thesis and we have had a couple of instances where they have been almost shoehorned into what the supervisor wants them to do, which I think weaker students actually quite like
ADM02-HumSoc

There were also stories shared of supervisors engaging with instrumental supervision to meet their own needs from the doctoral researcher. Typically, this was thought to involve supervisors prioritising their own needs over their doctoral researchers' needs. Examples were shared of supervisors ignoring or preventing doctoral researchers from making contributions to the direction of the project, supervisors de-prioritising the thesis so that the doctoral researchers could work on their publications, and retaining a doctoral researcher in the lab until their funding ran out, forcing them into a precarious financial situation (as discussed in Section 9.3 above). A troubling example was supervisors blocking doctoral researchers from accessing training and other development opportunities so that their time is spent in the furthering the supervisor's agenda:

The power to block students doing additional training, that's maybe something that's outside their, maybe not directly related to the research they're doing but once again according to their professional development. Certainly, I think we all have instances at our institutions that we can talk to, or we've heard, from students where 'I can't get out of the lab'.
UKCGE Validation Workshop

Hitherto, I have focussed on some of the more damning perspectives on tighter thesis deadlines. In the next section, I take a more positive angle and explore how the perceived benefits of a deadline might be enhanced and how the funding structure might be reimagined so that doctoral researchers can flourish.

9.6 Four-year funding model

This theme captures participants' perspectives about how the future doctorate might be structured and funded to compensate for the more negative consequences of tighter deadlines that I have explored so far. The responses coalesced around the idea of a four-year, fully funded model, though this might not protect against poor behaviour by supervisors and those with power.

During the interviews, I asked my participants if there ought to be any deadline for thesis submission. With one exception, all participants felt that having a deadline for the doctorate was, on the whole, helpful and necessary. There was, however, some disagreement about when that deadline should fall. Participants suggested many possible deadlines ranging from 3 years to 5 years. The average of all responses was 3.6 years. One participant argued that deadlines should be specific to each project and so arbitrary deadlines are not helpful. No participants argued for shortening the deadline.

For my participants, considerations about what the deadline for a doctorate should be were intertwined with their reflections on the purpose of a doctorate. Participants were cognisant of the different components of the doctorate, namely, the research and thesis, and the training opportunities that run alongside it. They recognised that the doctorate has the potential to be a transformative experience, whilst acknowledging that the structural conditions of doctoral education should be altered for this transformation to be better enabled. A common thread running through the data was that the duration of funding should be extended to four years, to align with most institutions' cut-off points for thesis submission. By extending the duration of funding for full-time doctoral researchers, it would give them the best chance of taking advantage of the myriad of opportunities within the doctorate and experience a transformative educational experience:

3 years plus a year is enough to produce a good piece of research and do all the extra stuff around it like the reading and the learning and it's enough time to kind of change you from a 21 year old into 24 year old, a different kind of person. It's not so long that when you are in your early twenties it feels like forever cause, yeah, it can do at that age.
SUP01-Med

Participants did not, however, consider the costs of increasing funding packages to cover the full four years or the impact that this could have on the number of funded doctoral positions available. Nevertheless, some four-year funding models already exist within some UK Doctoral Training Partnerships. However, they are rare compared to the standard three-year funding model and some four-year packages do not actually give doctoral researchers additional time. An example of this was provided by a doctoral researcher participant. Her funding, via a DTP, was for four years, but the first year involved a series of rotations trying out different projects and research groups. This meant that when she started her research project in the second year, she had only three years left in which to collect data, write the thesis, and engage with training and development opportunities.

For some participants, funding the full duration of a doctoral registration and not adding more requirements into the doctorate would create a much better structure for training competent and multi-skilled researchers. For those participants, such an approach would also help to protect against exploitation, precarity and associated stresses because doctoral researchers would be funded during the completing stage. This was perceived to have benefits for enabling timely submission, as one supervisor comments:

as you know, four years is the absolute time limit for submission anyway. So, I think if you've got four years of funding, you're in quite a nice position. I've got a PhD student who has some external funding, basically industry funded for four years. So, he's in a really good position because he cannot be financially compromised when he comes here.
SUP12-Chem

There may well be unintended consequences of raising the standard duration of funding to four years. It would mean that fewer doctoral researchers could be funded from the public purse if the overall investment level remains static. This could have implications for widening participation, for example. It might also encourage ‘scope creep’ for the doctorate and lead us to a position where we question whether four years is sufficient for the doctorate to deliver all that it is expected to. Nevertheless, the model would help to alleviate some of the pressures on doctoral researchers and supervisors explored in this chapter.

At the UCKGE validation event, participants in one group took an international comparative perspective on how submission and completion rates are metricised by funders. They highlighted how the approach taken by the UK research councils is at odds with other nations because it sanctions poor performance rather than incentivise and reward good practice. Outside the UK, some funders and governments provide financial rewards for thesis completions, which can be reinvested in doctoral education. Whilst this encourages thesis completion, the group pointed out that it may result in longer candidatures. Perhaps incentivising and rewarding good submission rates, might be an alternative model for the UK to consider:

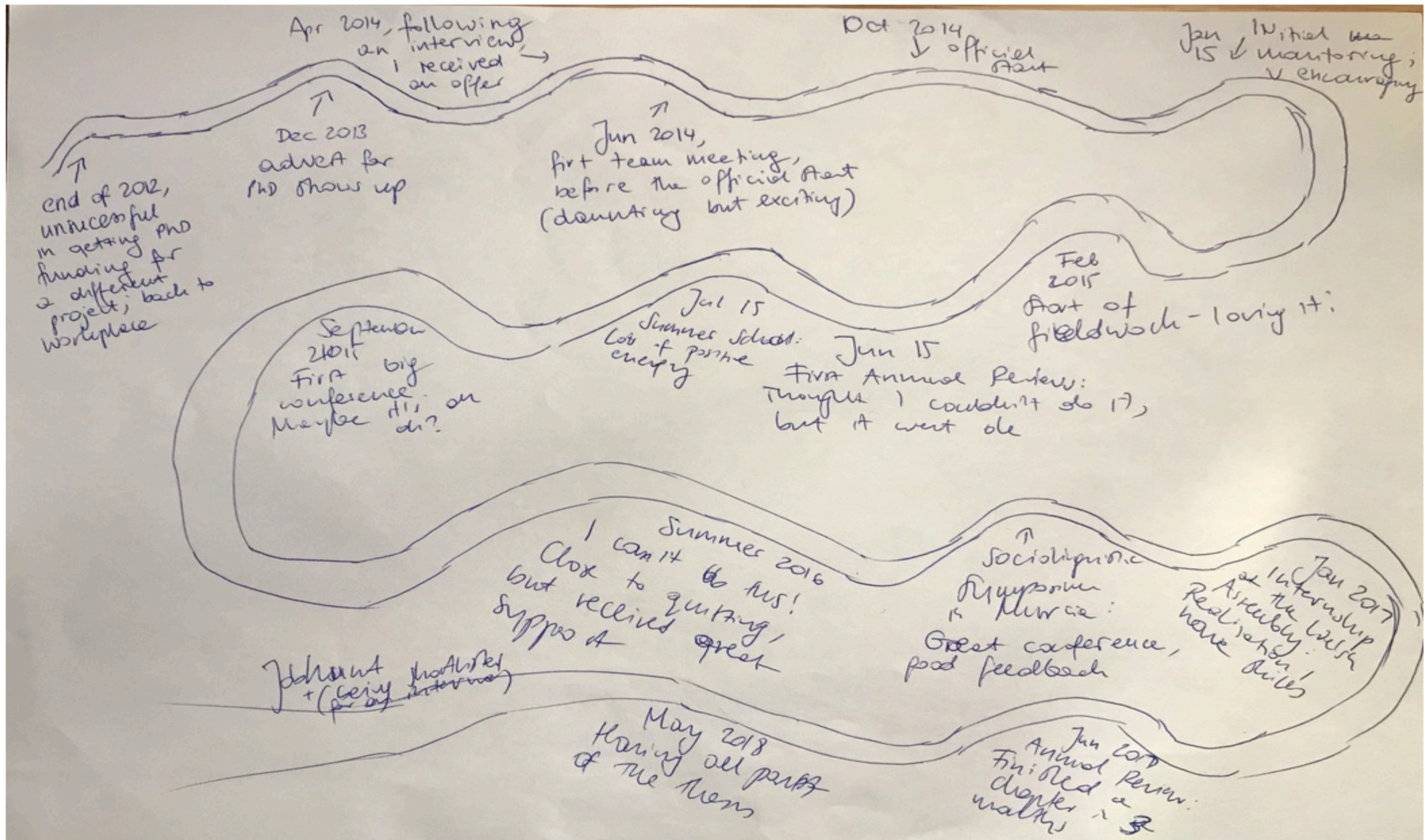
That led to us then the economics of it, to the discussion of incentives. What are the good incentives? And there we saw a sort of…difference of approach between Ireland and the UK. In the UK there are sanctions, research councils…fine institutions who don’t have a high enough completion rate, whereas in Ireland there are not fines but there are financial rewards for graduating PhD students which leads to a difference in influence. The UK system then has higher, well the completion rate is a shorter time, so completion time counts more. With the Irish system, it’s the incentive of rewarding completions that favours completion rates. So the sanctions favour completion times and the rewards favour completion rates but a longer time.
UKCGE Validation Event

9.7 Summary of findings

- This chapter has presented the results concerning perceptions of the importance of timely submission on submission rates.
- A thematic analysis of the dataset revealed that the emphasis on submission rates at institutional and national levels has implications for the experiences of doctoral researchers and supervisors, many of which are not positive.
- The first theme discussed the implications of funding conditions for institutions and individuals. It showed how concern about the timescales of doctoral research had led to the institutionalisation of structures and monitoring protocols to inspect progress; it was revealed how doctoral researchers' funding status influenced opinions about monitoring; and it highlighted some disconcerting outcomes for doctoral researchers who often found themselves in financially precarious positions and vulnerable to exploitation.
- The second theme discussed how rigid timescales were potentially constraining the doctoral researcher's development and also the type of research project they undertook.
- The third theme discussed how tighter timescales might, in some case, encourage supervisors to engage with instrumental supervisory practices.
- The chapter concluded by reimagining the doctorate of the future. It represented participants' support for a fully funded, four-year doctorate for full-time researchers. This was perceived to be a way to alleviate some of the extant pressures in the system and protect the transformative educational experience that a doctorate can engender.

Having presented the project's findings in Chapters 6 - 9, I think that it would be useful to provide a worked example of how the findings might play out for an individual doctoral researcher. I do this by using an example River of Experience (Figure 7) created by the participant PGR06-HumSoc. At the time of the interview, PGR06-HumSoc was in his early

thirties, writing up his PhD thesis and was in receipt of full funding from the Arts and Humanities Research Council (AHRC).



<u>Figure 7: PGR06-HumSoc'sRiver of Experience</u>

After receiving an offer for a funded PhD, PGR06-HumSoc's experience of the doctorate begins, in June 2014, with a 'relational critical event'. His PhD topic forms part of a larger research project funded by the AHRC. The project involves a team of researchers from across a number of institutions in the UK. His first taste of the PhD experience is at a project team meeting during which he meets other researchers. He notes on the river that this is "daunting but exciting" and in the accompanying interview transcript he describes how the challenges of 'relational critical events' play out. PGR06-HumSoc compares himself to his fellow researchers and begins to experience 'liminality'; he remarks "very soon I realised, do I know what I'm doing?".

As his project unfolds, he encounters his first 'epistemic critical event' in January 2015. At this point, PGR06-HumSoc was due to present his research proposal to his progress review panel. During the review, he was challenged by a panel member about some of the terminology he used in the written document. Following a 'reflexive moment', he exercises 'epistemic-oriented agency' by explaining and justifying why he had chosen that particular term. The 'epistemic critical events' continue into the next bend on his river when he commences a 9-month period of fieldwork. This experience was dominated by multiple 'reflexive moments' during which PGR06-HumSoc puzzled over what the overall objective of his project would turn out to be in light of the data he was collecting and analysing. Through recourse to 'epistemic-oriented agency', PGR06-HumSoc followed what the data in the field were revealing to him, he problem solved regularly, and he tried to clarify the bigger picture of his research project. One 'epistemic critical event' in particular stood out for him. PGR06-HumSoc was attracted to a moment during his fieldwork because it appeared strange, yet revealing, to him: "the situation was just so bizarre. I was trying to make sense of what was going on, and I was standing there I thought, I really need to look at it at some point in more detail, and that has ended up in my thesis, because it was just such a critical moment".

Next, a 'temporal critical event' is encountered in the form of a looming deadline. PGR06-HumSoc had to submit written work for his progress review but he left it quite late in the day before he started to prepare the manuscript. The conditions were right for a further experience of 'liminality', as denoted by the moment of self-doubt on his river of experience:

‘thought I couldn’t do it’. However, PGR06-HumSoc confronts this ‘temporal critical event’ after a second ‘reflexive moment’, which manifests as ‘self-efficacy-oriented agency’. More specifically, PGR06-HumSoc realises the importance of deadlines to provoke him into action in order to get things done. His enactment of ‘self-efficacy-oriented agency’ through planning work around deadlines was consolidated during an internship in January 2017, during which he was asked to write regular outputs for his placement organisation’s blog.

‘Relational critical events’ are significant for PGR06-HumSoc and occur during three conferences. At the start of his PhD, he had been considering himself in relation to others. During the three conferences he attends, he exercises ‘relational agency’ by discussing his work with other researchers, receiving positive feedback about his contributions to the methodology he is using, and expanding his pool of contacts with similar interests. This helps him to recognise the value of his work and to re-evaluate his perception of his role within his research community.

In the Summer of 2016, PGR06-HumSoc experiences a significant setback in the form of a hybrid ‘personal-temporal critical event’. During this period, his partner was moving to join him in the city where he was studying, and he was grappling with numerous personal challenges. At the same time, the list of tasks related to his doctorate was mounting. ‘Liminality’ was experienced once more: “I just thought I just can’t do it…I thought I don’t know what I’m doing. I was really that close to dropping out”.

He confronts these challenges by drawing on ‘relational agency’ to benefit from the support of his supervisor and colleagues in the department. His supervisor exercises her own ‘self-efficacy-oriented agency’ by securing an extension to his progress review deadline and slowing down the pace of work. She also exercises ‘relational agency’ by providing encouragement and bringing in extra support from the University’s counselling service. In the end, PGR06-HumSoc has a positive and validating experience at his progress review.

Following his internship, PGR06-HumSoc had three months remaining to complete the bulk of his thesis writing to meet an important deadline. This formed another ‘temporal critical

event’. However, by this point, his ‘self-efficacy-oriented agency’ was well honed, particularly his ability to plan. He was very productive during this time and had a very positive progress review.

At the time when I interviewed PGR06 HumSoc, he was making the final edits to his thesis. He later submitted his thesis by the institution’s deadline and was awarded his doctorate. He now works as a lecturer in a Russell Group University after a brief period in a University teaching role.

In the next chapter, I evaluate the significance of the research findings against the existing literature and I discuss the project’s contributions to knowledge.

Chapter 10: Discussion

10.1 Introduction

In this chapter, I consider the significance of the results presented in the preceding four chapters. In Chapter 6, I identified four types of critical events in the doctorate: epistemic critical events, temporal critical events, relational critical events and personal critical events. Critical events can present opportunities for transformative and agentic experiences that might enable progress. They can also present challenging moments for doctoral researchers when periods of unease and unfamiliarity are experienced.

In the remainder of Chapter 6 and Chapter 7, I presented the research findings on how doctoral researchers and supervisors can exercise agency to navigate critical events. The findings identified three main agentic modes for both doctoral researchers and supervisors: i) epistemic-oriented agency, which tends to be directed towards navigating epistemic critical events; ii) self-efficacy-oriented agency, which tends to be directed towards navigating temporal critical events; and iii) relational agency, which tends to be directed towards navigating relational and personal critical events. I also identified a fourth theme for doctoral researchers, liminality, which describes doctoral researchers who feel marginal, are stuck and whose progress is slow or lacking.

In Chapter 8, I explored two of the main structural components of the doctorate: progress reviews and Doctoral Schools. I identified how both progress reviews and Doctoral Schools can be adept at helping doctoral researchers to exercise self-efficacy-oriented agency. Also, progress reviews were perceived to be better for supporting epistemic-oriented agency and Doctoral Schools better placed for supporting relational agency. However, the effectiveness of progress reviews can be thwarted by perceptions of their usefulness and the presence of barriers to transparent reporting. Doctoral Schools were also sometimes perceived to be on the periphery of the doctoral experience. In such cases, the training offer was perceived to be at odds with what some participants felt a doctorate should entail or that the training was too generic to be useful.

In Chapter 9, I then took a close look at participants' perceptions of the importance of timely submission. The findings draw attention to concerns about doctoral researchers who often find themselves in financially precarious positions and vulnerable to exploitation; a possible constraining of the doctoral researchers' development and the type of research projects they undertake; and possible recourse to instrumental supervisory practices. The chapter concluded by arguing for a four-year, fully funded doctorate.

In what follows, I evaluate my findings more closely against the existing literature and I present what I consider to be the project's key contributions to knowledge.

10.2 Contributions to knowledge

To help readers get a sense of what this research project has accomplished, I think it is helpful to start by outlining the key contributions to knowledge before discussing them in more detail throughout the chapter. I claim that the project makes five key contributions, as follows:

- Contribution 1: Some significant effects of time pressure on the doctorate are revealed.

- Contribution 2: The content and tasks involved in the doctorate are illuminated through a taxonomy of critical events and their features.

- Contribution 3: A theoretically and empirically informed conceptualisation of how doctoral researchers and supervisors exercise agency is provided.

- Contribution 4: The research identifies how agency can be enabled or constrained by the main structural components and mechanisms of doctoral programmes.

- Contribution 5: The factors influencing timely submission are re-theorised using a new model, which considers both the situationally contingent and dynamic ways in which progress towards timely submission occurs.

I now elaborate on these contributions and discuss their significance in relation to the literature.

10.2.1 The effects of time pressure on the doctorate

In Section 2.4 of the thesis, I discussed other scholars' opinions about the heightened focus on deadlines for doctoral degrees, and the use of submission and completion rates as performance metrics for doctoral provision. I observed how most of the literature I had consulted was decades old and rarely informed by empirical work. Most of the studies I had reviewed were written in the wake of significant policy changes brought in by the Winfield and Harris reports. I also commented on how the predictions in those papers about the effects of tighter timescales for the doctorate had not been followed up in a systematic way. Also, the doctoral researcher's voice was largely absent from their considerations. This led me to identify the following research gap:

- Research Gap 1: There is a need to update our understanding of the consequences of the time pressure associated with the doctorate by drawing on a range of views, including doctoral researchers themselves.

To convert Research Gap 1 into an empirical investigation, I posed the following research question:

- What are the perceptions of key actors in doctoral education about how the following influence timely submission:

    iv. Perceptions of the importance of timely submission?

In Chapter 9, I presented the results of my thematic analysis of participants' perceptions about the importance of timely submission. The vast majority of my participants felt that there ought to be some kind of deadline for submission of a thesis, only one participant argued against the use of a deadline. However, there was not a clear consensus about when

the deadline for a thesis should be. Participants suggested a range of possible deadlines from three to five years. No participants were in favour of shortening the deadline for the thesis.

It was clear from the participants' views that the duration of doctoral degrees is intertwined with the purpose of doctoral education. Participants argued that the duration of a doctorate should give enough time to balance the formal requirements of a doctorate – the research and thesis – with the enrichment and career enhancing, requirements of a doctorate. This, participants felt, would heighten the chances of a transformative doctoral education, from which the doctoral researcher might emerge a different person.

What was striking from the interviews, though, was that the doctoral experience was often presented as a pressure cooker-like experience. Participants' accounts drew my attention to an unrelenting time pressure in the doctorate. The thematic analysis of the data identified three possible sources for that pressure: i) firmer institutional timescales for doctorates; ii) the influence of performance regimes that tie submission and completions to funding; and iii) time conditions attached to funding packages.

The analysis revealed that the effects of these time pressures are not innocuous. Across the dataset there were examples of doctoral researchers finding themselves in financial difficulty if they had to rely on an unfunded fourth year to write their thesis. There were reports of doctoral researchers facing dilemmas about whether or not they could afford (temporally and financially) to take sick leave if their funding package did not fund absence due to illness. There were also stories shared of doctoral researchers being exploited by supervisors for publications and data without their financial or personal circumstances being considered. In some cases, the effects of tighter timescales were perceived to influence the scope of research projects that doctoral researchers undertake and constrain opportunities for a transformational doctoral experience.

Although many institutions changed their regulations in the mid-1990s to make clear that a doctorate could be done in four years including a period of research training, the effects of time pressures were felt acutely by my participants. This project shows that this is mainly

attributable to funding packages tending to last for three years, not four years, which is the sector's consensus deadline for a doctorate. Also, different career trajectories and an uncertain labour market for doctoral researchers have pushed more training into the doctoral experience. Whilst this is very valuable, it can still suck up lots of time.

The first contribution of this project, therefore, is as follows:

- Contribution 1: Some significant effects of time pressure on the doctorate are revealed.

Contribution 1 is important for a number of reasons. First, it adds further weight to the growing body of evidence regarding the potential effects of a poor work-life balance for those undertaking a doctorate. In Section 3.2.3 of the thesis, I discussed some studies that had shown how progress with the doctorate itself can be slowed or halted altogether when doctoral researchers take on paid employment unrelated to their projects (Maloshonok and Terentev 2018, Castello et al. 2017, van de Schoot et al. 2013) and when they have heavy caring responsibilities (Castello et al. 2017). Other studies have pointed out how there is an ever increasing workload associated with the doctorate itself (van Rooij, Fokkens-Bruinsma, and Jansen 2019, Duke and Denicolo 2017, McAlpine 2017, Kyvik 2012) and how that workload might also contribute to the higher rates of mental health conditions for doctoral researchers (Levecque et al. 2017).

Second, Contribution 1 provides another perspective on the doctoral experience by making visible the nefarious effects of time pressures beyond those that solely relate to work-life balance. For instance, they highlight the frequent pressures that doctoral researchers and their supervisors face in balancing the formal and enrichment requirements of the doctorate. What they decide to prioritise within the doctoral experience can have ramifications for future career prospects, the types of projects undertaken, what knowledge is created during a doctorate, and the opportunities for development. A key issue was also identified concerning three-year funding packages. These were perceived to intensify time pressures because they do not cover the full four years of registration, effectively squeezing four years

of activity into three years. The data also identified concerns about how three-year funding packages can leave doctoral researchers in a financially precarious position if they rely on the unfunded fourth year to write-up. The data also showed how three-year packages were influencing some doctoral researchers to neglect their own health and wellbeing by prioritising thesis submission and completion over tending to their own personal needs. Examples were given of doctoral researchers not taking sick leave because there was not always provision for sick pay within a funding package. Examples were also given of how three-year packages can leave some doctoral researchers vulnerable to exploitation from supervisors, especially when they were viewed as a three-year *resource* in the lab.

This contribution, I suggest, should invite serious reflection and questions about funding models, durations and the expectations of doctoral degrees. In Section 9.6, I suggested that a standard four-year funding model would be a good start, but I acknowledged the implications this might have on overall doctoral researcher numbers: fewer funded positions, but better supported.

10.2.2 The tasks and content of the doctorate

In Section 3.2, I evaluated some emerging literature from educational psychology that was beginning to address an important gap in the literature: the lack of attention paid to the tasks and content associated with the doctorate. That emerging literature convincingly highlighted the role of finding meaning in doctoral work and self-efficacy as enablers of timely submission. It did not, however, fully cover situational and social factors. This led me to identify the following research gap:

- Research Gap 2 (RG2): There is a need to understand more about the content and tasks involved in pursuing a doctorate. In so doing, I can enrich our knowledge of how doctoral researchers experience learning that enables progress, as well as identify some of the hurdles that might inhibit timely submission and completion.

Whilst previous studies had drawn on concepts from educational psychology to begin to address this gap, I needed a different theoretical perspective to understand the social and

situational aspects. Consequently, I drew on concepts from critical event theory (Woods 1993) and threshold concept theory (Kiley 2009, Kiley and Wisker 2009, Trafford and Leshem 2009, Meyer and Land 2003). Those two theories provided helpful clues about the nature of critical events in the doctorate by highlighting their possible effects: i) a transformative experience; ii) a period of unease and unfamiliarity; iii) an experience of temporal unconsciousness; iv) a feeling of communitas; and v) a change in the sense of self in relation to others. However, there was no existing taxonomy I could draw on to inform what critical events might occur at doctoral level. That led to Research Question i:

- What are the perceptions of key actors in doctoral education about how the following influence timely submission:

    i. Critical events in the doctorate?

The data analysis discussed in detail in Section 6.2 identified four types of critical events in the doctorate, they are: Personal, relational, epistemic and temporal.

Personal critical events are concerned with how doctoral researcher's personal lives and experiences of the doctorate are interwoven. Some examples of personal critical events were described in Section 6.2.4 drawing on research participants' rivers of experience. Typical examples included: uprooting and moving home, starting a new job or changing job, experiencing life events such as marriage, birth or adoption of children, separations, and bereavements. Illness was also a commonly cited personal critical event by research participants. It was striking that just under 1/3 of the sample of doctoral researchers in the institutional case study disclosed some experience of a mental health condition.

The identification of personal critical events in the doctorate is important because it emphasises how the experience of undertaking a doctorate is not independent of our personal lives. This is most likely the case for other educational experiences too. Instead, doctoral researchers' experiences outside the doctorate influence their experience of the doctorate itself and vice versa. This draws attention to an omission in threshold concept

theory as it has been applied to the doctorate (Kiley 2009, Kiley and Wisker 2009, Trafford and Leshem 2009). I argue that because threshold concept theory only concerns itself with the academic knowledge generation component of the doctorate, it does not consider how progress can be affected by factors outside the educational environment. By combining concepts from threshold concept theory and critical event theory, my research has drawn attention to the role doctoral researchers' personal lives have on how they can make progress through their doctorate.

The second type of critical event is relational. Relational critical events are concerned with how productive working relationships are fostered with significant others in the doctoral experience in order to address complex problems. Relational critical events often involve transformative experiences regarding research-related problems. This was shown in the example river of experience in Figure 5. Figure 5 emphasised how it was the relationship between a doctoral researcher participant and her supervisor that empowered the doctoral researcher to take some much-needed time away from her research. That decision gave the doctoral researcher some breathing space that precipitated a transformative moment when she grasped what a contribution to knowledge entailed. This aspect of relational critical events overlaps with how relationships are conceived in the literature as an enabler of overcoming research-related problems (Pyhältö and Keskinen 2012, Edwards 2011, 2005).

My research also extends existing conceptualisations of relationships. It shows how relational critical events do not just apply to knowledge-based problems. For example, they also incorporate how doctoral researchers perceive their community and their role within it, as well as how doctoral researchers perceive themselves in relation to others outside that community. These findings add to Hopwood's (2010) conceptualisation of the role of relationships in the doctorate, which emphasises the multiple purposes they serve.

The third type of critical event is epistemic. Epistemic critical events refer to those aspects of the doctoral experience associated with knowledge creation. In other words, epistemic critical events occur during the process of 'doing' research.

Within epistemic critical events, the two common features of both threshold concept theory and critical event theory are prevalent, namely: transformative experiences; and periods of unfamiliarity and unease. This reminds us how doctoral researchers' progress can be easily stalled by unfamiliar problems, uncertainty, and the risky nature of research. It is during these moments of uncertainty and unfamiliarity that doctoral researchers find themselves in a liminal space (Keefer 2015).

The features of epistemic critical events were clearly illustrated in the example river of experience in Figure 4. The example captured how one doctoral researcher participant had experienced several experimental failures that led her to doubt herself: 'maybe I am not good enough?', 'What am I doing here?'. Other researchers have pointed out how doctoral researchers who are experiencing liminality might also exhibit a crisis of confidence, mimicry of others, or withdrawal (Keefer 2015, Kiley 2009). My project also picked up some additional indications of doctoral researchers who are experiencing liminality. As discussed in Section 6.3.4, those signals include a lack of a coherent approach to the research problem, lack of ownership, lack of reflection, and an over-reliance on others to solve problems.

Liminality aside, there was ample evidence within the dataset of empirical critical events involving transformative experiences for doctoral researchers. Figure 5, for example, also captured the doctoral researcher's exaltation in overcoming an experimental problem and how this led her to be more accepting of the uncertainty in the doctoral experience.

This discussion of epistemic critical highlights the need to recognise that moments of unease and unfamiliarity are integral to the doctoral experience. They are often precursors to progress and precede transformative moments in the doctorate. But these are dangerous moments if left unchecked. For example, doctoral researchers might experience very slow or non-existent progress. In more extreme cases, they might experience a crisis of confidence and consider withdrawing from their doctorates. However, these moments are not always something to be feared. Because they can precede transformative moments in which real progress is made, it is important that doctoral researchers get the right help so that they can

cross a boundary and advance their relationship with knowledge and the knowledge creation process.

The fourth type of critical event is temporal. Temporal critical events refer to the challenges and opportunities associated with balancing the many and varied requirements of the doctorate. In Section 6.2.2, I referred to the difficulties doctoral researchers encounter in balancing what I called the ‘formal requirements’ (research and thesis) alongside a range of value-adding and career enhancing activities that I called ‘enrichment requirements’ (for example training, conference presentations, publications, teaching, outreach, internships, placements and so on).

Temporal critical events again highlight the experiences of acute time pressure throughout the doctorate. Unlike Woods (1993) who conceptualised time as being in abundance during critical events, the experience of my research participants was largely the opposite. Instead of the temporal unconsciousness that Woods (ibid.) describes, my research participants tended to experience severe time poverty.

Temporal critical events are not always gloomy though. There were examples of doctoral researchers having transformational experiences by seeking out development opportunities, which awakened new skills and new possible career trajectories. There were also examples of some doctoral researchers experiencing time unconsciously, much like Woods (ibid.) describes. An example of this was given in Section 6.2.2 through a doctoral researcher’s description of losing herself in data collection and the joy in re-discovering a long-forgotten archive.

This discussion leads to the second contribution made by this research project:

- Contribution 2: A taxonomy of critical events and their features has been generated to shed light on the content and tasks involved in the doctoral experience. Critical events emphasise the situationally contingent nature of factors that influence progress.

Contribution 2 adds to the empirical literature, which is only just beginning to consider the content and tasks associated with the doctorate. As noted, the tasks and content of the doctorate have previously mostly been explored from an educational psychology perspective. Such studies emphasise the internal, psychological responses to the doctoral experience, by focussing on meaning and self-efficacy (Cantwell et al. 2017, Castello et al. 2017, Devos et al. 2017). They do not, however, address the situational and social factors that may influence the responses they highlight.

My work on critical events complements the educational psychological literature. It does this by focussing on the social and situational factors that doctoral researchers might encounter, rather than solely focusing on the doctoral researcher's psychological response. The main types of critical events I identified, and their associated features, might be particularly helpful in supporting doctoral researchers who experience liminal moments. Through informed questioning, it would be possible for supervisors, and others, to pinpoint the source of feelings of unease and unfamiliarity, which might stem from epistemic, personal, relational or temporal critical events, and might then be better understood.

10.2.3 Doctoral researcher and supervisor agency

In Section 3.6 of the thesis, I argued that much of the literature on submission and completion rates tended to present a hyper-structural account of the doctoral experience. I argued that this was concerning because it risked presenting doctoral researchers as especially passive recipients of their doctoral experience. I wanted to take a more balanced approach in the thesis by considering how both structure *and* agency can influence progress at doctoral level. This led me to identify a research gap, as follows:

- <u>Research Gap 3</u>: There is a need to investigate how doctoral researchers, and those who support them, respond to the opportunities and challenges within the doctoral experience. In so doing, I can further our knowledge of how the actions of key agents within the doctorate enable or constrain progress. Any account of agents' actions must also give due regard to the influence of structural factors. Yet plugging this gap

will restore some balance to the research literature, which has tended to focus on structural, over agentic, accounts of submission and completion.

To investigate Research Gap 3, I posed the following research question:

- What are the perceptions of key actors in doctoral education about how the following influence timely submission:

    ii. Doctoral researchers' and supervisors' sense of agency?

The findings highlighted that timely submission of a thesis can be enabled when doctoral researchers' and supervisors' sense of agency is aligned. The findings presented evidence of both doctoral researchers and supervisors exercising their agency in three main ways, namely: through epistemic-oriented agency; through self-efficacy-oriented agency; and through relational agency. Each type of agency was found to be a response to a particular type of critical event. In other words, supervisors' and doctoral researchers' agency was very dynamic and situationally contingent.

Taking epistemic-oriented agency, as an example, the findings showed how for both supervisors and doctoral researchers, this was a response to epistemic critical events. For doctoral researchers, it was characterised by a process of deliberation. It involved doctoral researchers deliberating and acting on inputs into research projects, particularly the different forms of feedback they encounter. It also involved deliberation on and following uncertain leads in data generation and analysis, problem solving their way out of difficulties, and being able to justify and defend decisions taken along the way. It also involved being aware of the bigger picture in the research project, with writing being viewed by participants as a useful activity for linking day-to-day practices to the overarching aims of the research project.

A very similar pattern was found in how supervisors exercised epistemic-oriented agency. For supervisors, it centred on helping doctoral researchers to be more reflexive about the knowledge creation process. Key actions included constructive questioning, prioritising regular written outputs, considering how feedback is delivered, and deliberating about when

to intervene in the research project and when to hold back. It also involved attempts to jolt doctoral researchers out of an experience of liminality by dedicating time to help with their problems and bring in outside help when needed.

The second type of agency - self-efficacy-oriented agency - concerned how doctoral researchers and supervisors exercised agency to address temporal critical events. For doctoral researchers, the exercise of self-efficacy-oriented agency centred on managing competing demands on time whilst maintaining a belief that they could accomplish their projects. Key actions included using time management techniques; owning and taking responsibility for the research project; and, importantly, self-care management.

Similarly, for supervisors, self-efficacy-oriented agency tended to manifest in three ways: i) through regular planning and review of the activities associated with the formal, research-related activities of the doctorate; ii) through regular planning and review of activities associated with the enrichment requirements of the doctorate; and iii) making use of the support networks available to them.

The third type of agency, relational agency, concerns how doctoral researchers and supervisors foster productive working relationships to address both relational and personal critical events. For doctoral researchers, it involved fostering productive working relationships with other academics and nurturing personal relationships. For supervisors it involved reflecting on their relationship with their doctoral researchers and adapting their approach; maintaining regular contact with their doctoral researchers; and highlighting the joy in research.

These findings on how supervisors and doctoral researchers exercise agency make the following contribution:

- Contribution 3: A theoretically and empirically informed conceptualisation of how doctoral researchers and supervisors exercise agency is provided.

As discussed in Section 4.4.2, some researchers had already begun to consider how doctoral researchers exercise agency. Much of the work focussed on the concept of relational agency. Edwards' (2011, 2005) work with practitioners had been reframed for doctoral education as the capacity of doctoral researchers to work with others to respond to complex research problems. It involves expanding the object of activity, in this case research, by recognising the motives and resources of others, interpreting them, and aligning one's own interpretations with the responses of others involved while expanding knowledge in terms of the research project (Pyhältö and Keskinen 2012).

My findings undoubtedly intersect with and reinforce the work of Pyhältö and Keskinen (2012). My work identifies relational agency as an important agentic mode that enables doctoral researchers to deal with research problems. Examples were provided in Section 6.3.3 of doctoral researchers communicating their needs to their supervisors so that they could get help with particular research problems, and also documenting conversations to avoid going over old ground and repeating past mistakes with experimental work.

My findings also overlap with other researchers' emphasis on the broad network of communities with which doctoral researchers engage (Pyhältö and Keskinen 2012, Hopwood 2010). Examples from the dataset include interactions with researchers from across doctoral training partnerships, researchers based in industry, researchers working within the field but based at different institutions, acquaintances made during a conference, mentors, and so on. In Section 6.3.3 I gave an overview of how doctoral researchers identified and approached different people from within these groups to help resolve research problems.

My findings also capture an important difference in how I found relational agency to operate compared to Pyhältö and Keskinen (2012). Resolving complex research problems was not always the objective of relational agency in my dataset, as it was in Pyhältö and Keskinen's. I also found that some doctoral researchers exercised relational agency to nurture a network of emotional support throughout their doctorate. This network involved people who provided a distraction and welcomed relief from the realities of research, and also those who could provide a shoulder to cry on in difficult times. As noted, these roles were sometimes carried

out by academics with whom doctoral researchers developed strong personal ties and friendships. From this perspective, my research adds further evidence to the literature that communities are important and support timely completion in multiple ways (Corcelles et al. 2019, Castello et al. 2017, Devos et al. 2017, Pilbeam, Lloyd-Jones, and Denyer 2013, Hopwood 2010, Pilbeam and Denyer 2009, Lovitts 2001, Deem and Brehony 2000, Golde 2000).

Another aspect of Contribution 3 is that I identified two additional agentic modes: epistemic-oriented agency and self-efficacy-oriented agency. Those two conceptualisations of agency have barely been discussed in the literature.

In Section 4.4.2, I drew on Hakkarainen et al.'s (2013) work which had investigated personal and collective forms of agency in the doctorate. Their work developed the concept of knowledge creation agency and tied it together with the concepts of self-efficacy. Under their conceptualisation, knowledge creation agency and self-efficacy are combined because the research process is vulnerable to regular failures and setbacks. They argue that a sense of self-efficacy, when combined with being a member of a well-regarded research community, can enable doctoral researchers to feel better equipped to overcome setbacks (Hakkarainen et al. 2013). In my research, however, I found that the two concepts of knowledge creation and self-efficacy are analytically separable and are a response to two different types of critical events. Rather than consider epistemic, and self-efficacy-oriented agency as part of the same agentic mode, I argue that they perform different roles in accounting for progress.

As previously summarised, epistemic-oriented agency tends to concern how doctoral researchers exercise their agency in order to address epistemic critical events. Self-efficacy-oriented agency, on the other hand, tends to concern how doctoral researchers exercise agency to address temporal critical events.

I suspect that the difference between mine and Hakkarainen et al.'s (2013) conceptualisations is a consequence of the different national doctoral systems in place in Finland (where their research was conducted) and the UK (where mine was conducted). In Finland, there are no

tuition fees and typically there was less emphasis on timely submission when Hakkarainen et al's study was conducted. As discussed in Section 2.3, I outlined how the UK context operates with tuition fees being a requirement, funding packages usually having a hard cut-off date, and universities being routinely assessed based on their submission and completion rates, for example, in REF.

The outcome of the UK system, at least as reflected in my sample, is experienced as a 'pressure cooker' environment for many doctoral researchers. It is hardly suprprising, then, that the themes of temporal critical events and self-efficacy-oriented agency were generated as analytically separable from other forms of agency given the acute sense of time poverty experienced by my participants.

The findings also add to our understanding of how supervision operates in the context of timely submission. In Section 3.3, I considered how the role of the supervisors is currently conceptualised in relation to timely submission. The empirical literature fell into three broad categories covering: i) the role of supervisory style; ii) the role of fit in the relationship; and iii) the classic supervisory dilemma of intervention vs autonomy. None of the literature I had come into contact with explicitly drew on the concept of agency as a lens for understanding how supervisors enable their doctoral researchers to make progress.

As a consequence, the role of supervisors is portrayed in a somewhat static, fixed and structural way in the literature. If we take Lee's (2008) research as an example, it found that supervisors tended to favour one of five different styles: functional, enculturating, critical thinking, emancipatory, or relationship development. Researchers have argued that as a response to the increasing time pressure in the doctorate and the burgeoning of performance regimes, supervisors are tending to adopt a more functional, directive supervisory style (Lindsay 2014, Amunsden and McAlpine 2011, Halse 2011, Deuchar 2008, Holligan 2005). In Section 9.5, one of the themes I identified concerned the effects of temporal pressures on supervision. There was some evidence that supervisors were prioritising their own needs over the needs of their doctoral researchers, and, in some cases, were reported to be adopting a more prescriptive and instrumentalist approach to supervision. However, the instrumentalist

approach was not dominant across my dataset. Instead, it was epistemic-oriented agency, self-efficacy-oriented agency, and relational agency that were most common forms of agency. These findings indicate the supervisor agency is more dynamic and multimodal than some of the literature suggests, despite the pressures of performance regimes.

In Section 3.3, I also critiqued some of the supervision literature on methodological grounds (making claims based on very small samples) and conceptual grounds (supervisors rarely have just one style). I argue that the findings discussed in this chapter provide a new evidence base for challenging some of the existing ways of thinking about supervision.

Instead of the static, fixed and structural picture of supervision, which is thought to be predominantly functionalist, my findings point to supervision operating in a much more dynamic and situationally contingent way. Its dynamism is evidenced by the multi-modal forms of agency I identified, and its situationally contingent nature is evidenced by the different types of critical events to which agency is directed. These findings should act as a caution not to pigeonhole supervisors into a certain style. By labelling supervisors as 'functionalist' or 'enculturalist' etc and using that labelling to determine if a good fit exists between the doctoral researcher and the supervisor, then we risk ignoring the effects of the situational contexts in which supervision plays out. The findings presented here encourage a more direct consideration of the content of the doctoral experience and a recognition that supervisors will switch between agentic modes depending on the exigencies of the situation they are confronting at a given point in time and the specific circumstances of different doctoral researchers.

Consequently, the findings from my research align much more closely with studies that consider supervision to be a practice that adapts to the doctoral researcher's evolving needs throughout their candidature and recognises that no two doctoral researchers or research projects are ever the same (Gurr 2001, Delamont, Parry, and Atkinson 1998, Hockey 1997). Similarly, my research complements work that emphasises the need for supervisors to be reflexive about their practice (Kamler and Thomson 2014) and to use those reflections to inform how they deal with new situations (Halse and Malfroy 2009).

By emphasising the situationally contingent nature of the doctorate and the multi-modal ways in which supervisors and doctoral researchers exercise agency, I think that we can better support doctoral researchers in navigating critical events. Similarly, by taking into account the dynamic ways in which the supervisory relationship operates, it might help to ensure that doctoral researchers' needs are more fully met, and better enable their progress.

10.2.4 The role of major structural factors in enabling agency

In this project, I wanted to give a more balanced perspective than the literature by considering the role of both agency and structure in enabling timely submission. Having considered agency, I now focus how the main structural elements and mechanisms of a doctorate can enable progress.

To achieve this, I drew on sociological accounts of structure through the thesis. Specifically, I treated structure as the social or cultural factors that act as constraints or enablers of our projects (Archer 2007). I also emphasised that because human beings are capable of reflexivity, structures do not determine outcomes (Archer 2007, Archer 2003). Following Ashwin (2008), I use structure as a conceptual lens to view processes within the doctoral experience. This means that the same process could be considered agentic or structural depending on the researcher's focus. I wanted to understand what major processes in the doctoral experience might have a constraining or enabling effect on progress, which led to the following research question:

- What are the perceptions of key actors in doctoral education about how the following influence timely submission:

    iii. The major structural elements of doctoral programmes?

During data collection, it became apparent that the two most significant structural elements to influence progress were Doctoral Schools and progress reviews. Both, I found, had the

potential to enable progress, but that potential is not always realised and could, in some circumstances, have negative effects.

The results presented throughout Chapter 8 show that, between them, Doctoral Schools and progress reviews can and do assist doctoral researchers in responding to all four types of critical events. Perhaps as a result of the acute time pressure present within the doctoral experience, both Doctoral Schools and progress reviews were perceived by participants to support the handling of temporal critical events. Progress review panels did this by taking an active role helping doctoral researchers to make decisions about what to prioritise amongst the formal and enrichment requirements of the doctorate. Doctoral Schools, on the other hand, offered training on the tools, techniques and strategies for managing time and speeding up tasks. Unlike the calls to challenge the acceleration of academic labour (Berg and Seeber 2017), doctoral researcher participants in my sample were responding to the exigencies of time pressures by looking for ways to accomplish tasks more quickly and efficiently.

The results also identified a divergence in the types of critical events that progress reviews and Doctoral Schools could help with. Progress reviews, for example, were perceived to support doctoral researchers in dealing with epistemic critical events. They did this by providing an additional source of feedback on the project approach and encouraging doctoral researchers to justify and defend their decisions. Doctoral Schools, on the other hand, were perceived to be more adept at helping doctoral researchers with relational critical events. This was because they were perceived to be well placed to enable community building activities, which open up new opportunities to doctoral researchers for developing peer networks.

Yet progress reviews and Doctoral Schools do not always operate as enablers of progress. The results showed how, in the case of progress reviews, they are still viewed by some as a bureaucratic waste of time. This perspective was most likely when progress review panels failed to follow up on issues, when panel members were laissez-faire or overzealous, or when supervisors acted to deliberately conceal issues from a panel. Similarly, unless a Doctoral

School delivered a direct and immediately actionable benefit, engagement with their provision was considered to be a waste of doctoral researchers’ scarce time.

Progress reviews and Doctoral Schools are not the only major structural components of the doctoral experience. The results from Chapter 9 draw attention to two other components that may enable or constrain certain actions. Those components are doctoral researchers’ funding status and the views of those within the doctoral researcher’s community about a thesis deadline.

As previously noted, the benefits, duration and expectations associated with a doctoral researcher’s funding package - if they are funded at all - can influence progress. For example, where funding packages do not include provision for sick pay, maternity/paternity and adoption leave and pay, help with the costs of caring for dependents, or do not cover the duration of registration, then it can affect how doctoral researchers respond to critical events. The examples given in Section 9.3.3 illustrates the point well. In one case, a doctoral researcher was experiencing a personal critical event concerning childcare, which led him to prioritise completing his thesis before his stipend ran out. This doctoral researcher had made this decision knowing that it came at the cost of engagement with peer networks in seminars, preparing publications and taking on placement opportunities. At the time of the interview, he was concerned that a focus on the thesis alone was inadequate preparation for his future career ambitions.

A further structural factor concerns the views of significant others within the doctoral experience. Those views and how significant others act on them can have a substantial effect on what doctoral researchers end up prioritising. In Section 9.3.3, for example, I covered reports of how supervisors were perceived to be transferring the pressures they were under from performance regimes, such as the REF, onto doctoral researchers. The data included reports of exploitation practices such as doctoral researchers being retained in the lab, forced to focus on data and publications, instead of completing the thesis within the funded period. Ironically, doctoral researchers are not entered into REF outputs except through joint publication. REF does, however, consider total numbers of doctoral researchers in the

evaluation of a department's training provision and overall completion rates. Arguably, departments would do better in REF out of their doctoral researchers if they focussed on completions and training rather than using them for papers.

This discussion leads to the fourth contribution of the research project:

- Contribution 4: The research identifies how agency can be enabled or constrained by the main structural components and mechanisms of doctoral programmes.

In Section 3.5.1 of the literature review, I drew attention to a group of studies that argued that the increasing organisation of doctoral degrees was leading to improvements in submission and completion rates. Those studies pointed to the role of structural reforms to doctoral education as being the catalyst for improvement. Such reforms included: Doctoral Schools overseeing doctoral programmes (Smith McGloin and Wynne 2015, Denicolo et al. 2010); admissions standards introduced; the use of progress monitoring procedures; submission of a research proposal at an early stage of the programme; introduction of skills training; research agreements between candidates and supervisors; reduction in the number of papers and word count required for a thesis; and use of supervisory teams (Geven, Skopek, and Triventi 2017, Spronken-Smith, Cameron, and Quigg 2017, Vidak et al. 2017, Kyvik and Olsen 2013, Humphrey, Marshall, and Leonardo 2012).

All but one of those studies took a quantitative approach to evaluating the effects of reforms on submission and completion rates. The studies provide convincing statistical evidence of an association between the tighter organisation of doctoral education and better submission rates. Humphrey, Marshall, and Leonardo (2012), for example, found that their interventions raised the probability of submission within four years from 15% to 70%. Nevertheless, these studies do not offer insights into the mechanisms through which those structural reforms catalyse improvements in submission rates, nor do they identify how reforms might have unintended consequences that constrain progress. My research, through its qualitative approach, sheds some light on those two points.

The discussion of the results so far has shown how both Doctoral Schools and progress reviews can help doctoral researchers to navigate temporal critical events. It has also shown how progress reviews are perceived to be better placed than Doctoral Schools to support doctoral researchers with epistemic critical events. In contrast, Doctoral Schools are well placed to support doctoral researchers in navigating relational critical events via the role they play in community building. It is worth noting, however, that in some institutions it is the Doctoral School, rather than the School or Department that oversees progress reviews. In the case study institution, responsibility for conducting progress reviews rested with the School.

My findings have provided further confirmation of the results from the few qualitative studies that have evaluated the effects of local policy interventions in the doctorate. In the case of progress reviews, for example, my findings support Budd et al.'s (2018) reports that when progress reviews are perceived as time wasting, their potential effectiveness is diminished. My findings also overlap with those of Mewburn, Cuthbert, and Tokareva (2014) and Mewburn et al. (2014) who found that issues are sometimes concealed during progress reviews and that engagement with the review process is not always aligned with institutional aims. This suggests that more institutional oversight progress reviews and better training, support and mentoring of reviewers might be advantageous.

My findings also add to existing studies by drawing attention to how other structural factors constrain and enable progress, namely the terms and conditions of funding packages and how significant others in the doctoral experience act on their views about the timescales for a doctorate. The effects of these structural factors can have a significant influence on what doctoral researchers prioritise and spend their time doing.

Having considered the role of critical events, structure and agency in accounting for progress at doctoral level, I will now turn my attention to synthesising these concepts into an integrated and original theoretical model.

10.2.5 Re-theorising timely submission

As discussed in Sections 3.4.1, a major critique I made of the existing literature was its over-reliance on education socialisation theory to explain progress and completion at doctoral level. I shared the concerns raised by other researchers about how educational socialisation is a universalising theory that conceptualises doctoral researchers as an homogenous body of full-time, well-funded individuals progressing to an academic career (Acker and Haque 2015). I was particularly concerned that in so doing, socialisation theory does not take into account the experiences of different groups of doctoral researchers, including those from minority and different ethnic groups, those with disabilities (Espinoza 2018, Williams et al. 2016), or those with inadequate funding or diverse career aspirations.

Furthermore, I was not convinced by how socialisation theory overplayed the role of academic structures, which presents doctoral researchers as passive individuals (Pervan et al. 2015) who uncritically assimilate into the norms and values of their discipline (Antony 2002).

In summary, I concluded that socialisation had limited explanatory potential for making sense of the UK's diverse, spatially dispersed, and multi-purpose doctorate. This led to the identification of Research Gap 4:

- Research Gap 4: The ongoing usefulness of education socialisation theory as an explanatory model is limited. There is a need to revitalise our theoretical perspectives so that we can better understand the relationship between i) the content and tasks of the doctorate; ii) responses of agents to that content; and iii) the structuring of the doctoral experience.

In Chapter 4, I presented 'Figure 1: A conceptual model of progress through the doctorate', which drew on concepts from critical event theory, threshold concept theory, and theories of structure, agency and reflexivity. Through Figure 1, those concepts were combined into a coherent conceptual framework to help guide data collection. Figure 1 accounted for both the situationally contingent and dynamic nature of progress.

Having presented the results from my fieldwork in Chapters 6 – 9, and evaluated those results in this chapter, I would now like update Figure 1 with a fresh theoretical model, as follows:

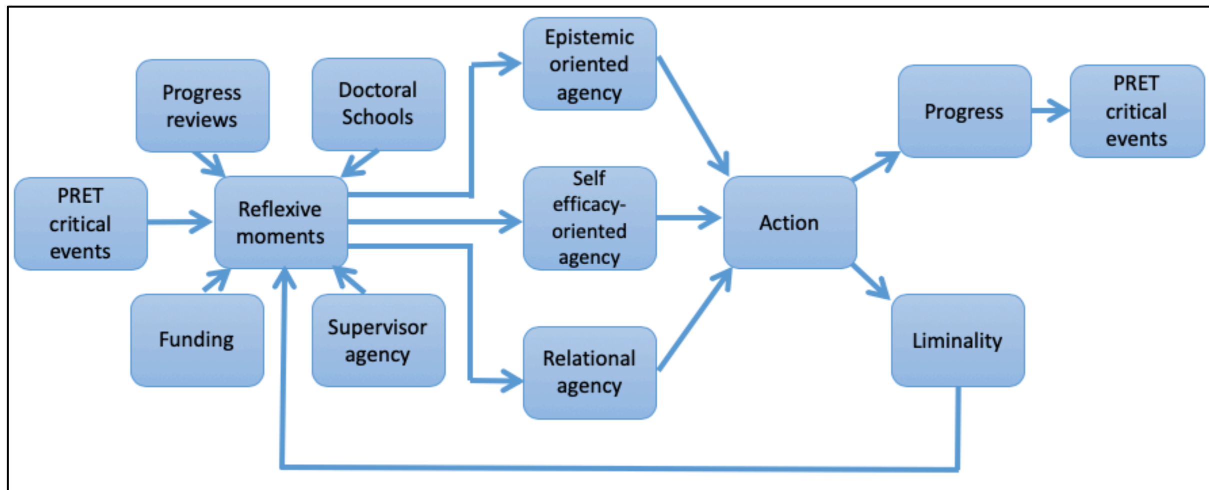


Fig 8: A new theory for timely submission

Figure 8 updates Figure 1 by incorporating the results from fieldwork. It is intended as a *theoretical*, rather than *conceptual*, model. I use the term theoretical deliberately because this model is now ripe for testing and refining through further empirical work. I will now discuss the main features of the model before presenting a worked example using one research participant's river of experience.

The model commences with critical events. In contrast to Figure 1, which presented some possible features of critical events, this model is more precise and incorporates the taxonomy of critical events I discussed in Section 10.2.1 of this chapter. I have labelled this box 'PRET critical events', where PRET is an acronym for **P**ersonal, **R**elational, **E**pistemic or **T**emporal critical events.

As already discussed, 'PRET critical events' provide different types of opportunities and challenges for progress depending on the situation. Doctoral researchers are then faced with 'Reflexive moments' during which they deliberate about the situation before determining courses of action. 'Reflexive moments' necessitate a consideration of the structural factors that impinge on the situation and which might enable or constrain the doctoral researcher's desired course of action.

Figure 8 lists those top-level structural factors as 'Doctoral Schools', 'Progress reviews', 'Funding', and 'Supervisor agency'. Not all of those structural factors will be relevant to every type of critical event, but the data from my research indicate that at least one factor, or a combination factors, are likely to come into play. Let us consider the example of a doctoral researcher struggling to balance the formal and enrichment requirements of their doctorate during a temporal critical event. The doctoral researcher may consider the input from their progress review panel as well as practical time management tools encountered during a Doctoral School workshop in deciding what to prioritise. I have also positioned 'supervisor agency' here because, from the perspective of the doctoral researcher, when supervisors exercise agency, it can have a structuring effect for them. This might be especially so when supervisors use instrumental supervisory techniques.

The reflexive moment then leads to three types of agentic modes: epistemic-oriented agency; self-efficacy-oriented agency; and relational agency. As noted previously, epistemic-oriented agency tends to be directed towards addressing epistemic critical events, self-efficacy-oriented agency tends to be directed towards addressing temporal critical events, and relational agency tends to be directed towards addressing relational and personal critical events.

All three types of agency will lead to 'action', that is, attempts to realise a project from our constellation of concerns. In some cases, these courses of action will lead to 'progress' where the positive effects of critical events might be observed, for example, a transformative experience or a change in the sense of self in relation to others. This will then take the doctoral researcher on to the next 'critical event' where the process starts again. However, the doctoral researcher is now more experienced and might be better prepared for future critical events.

In other cases, 'action' may not lead to 'progress', but instead will lead the doctoral researcher to experience 'liminality'. The literature had identified features of liminality to include being marginalised, stuck, lacking confidence, and becoming withdrawn. This research identified

other features such as lacking a coherent approach to the research, over-relying on others, unreflective perseverance, and a lack of ownership of the research. This is where progress is slowed down and eventual completion might be jeopardised.

In Figure 8, there is an arrow leading back from 'liminality' to 'reflexive moments'. This is because the doctoral researcher will need to think differently about how to address the 'critical event' confronting them if they are to make progress.

The novel theoretical model summarised in Figure 8 offers a fresh perspective on understanding of progress at doctoral level. It makes the following contribution:

- Contribution 5: The factors influencing timely submission are re-theorised using a new model, which considers both the situationally contingent and dynamic ways in which progress towards timely submission occurs.

Earlier in this section, I pointed out several shortcomings of socialisation theory, which has been used to explain doctoral completions. Those shortcomings concern the theory conceptualising doctoral researchers as homogenous (full-time, well-funded, seeking an academic career); not adequately taking into account the experiences of some groups of doctoral researchers (for example, minority and different ethnic groups, doctoral researchers with disabilities, part-time doctoral researchers, those with caring responsibilities); overplaying the role of structures in the doctoral experience; and presenting doctoral researchers as passive.

The theoretical model summarised in Figure 8 presents a fresh perspective on the doctoral experience. Drawing on a range of concepts from different theories and elaborated by rigorous empirical work, it offers an alternative to education socialisation theory.

First, the theory is not restricted to certain groups of doctoral researchers. The empirical work informing the constructs within the theoretical model encompassed a diverse sample of doctoral researchers including full-time and part-time, UK-based and international students,

different funding streams, and a spread of disciplines. The sampling strategy and distribution were discussed in Section 5.3.2.

Second, the model does not consider doctoral researchers as passive and nor does it overplay the role of structure. Instead, it shows how progress through the doctoral experience is situationally contingent, being influenced by critical events. It also shows how the ways in which doctoral researchers formulate actions in response to situations is the result of a reflexive and dynamic consideration of structural factors and agentic responses. Different situations call for different responses. Progress is not simply reducible to the extent to which a doctoral researcher adopts the norms and values of their discipline, as socialisation theory suggests. Furthermore, disciplinary norms and values are blurring as interdisciplinarity continues to grow

In this chapter I have stated the contributions of my research project, and I have evaluated those contributions against the existing literature. The chapter concluded with the presentation of a new theoretical model for understanding how timely submission of a doctoral thesis can be enabled or constrained. The theoretical model is a fresh and novel contribution that offers an alternative to education socialisation and the overtly structural accounts of progress that are dominant within the literature.

In the next chapter I conclude the thesis, considering its potential impact and proposing ensuing areas for research.

Chapter 11: Conclusion

11.1 Introduction

In this chapter I summarise the main contributions to knowledge made by the thesis, discuss the potential impact of the project, suggest areas for further research and make some recommendations for practice. I then close the thesis with a brief discussion of my own river of experience, through which I share my personal reflections on the doctoral process.

11.2 Summary of contributions

The objective of this thesis was to understand how doctoral researchers are supported and enabled (or not) to submit their thesis by their institution's deadline. In Chapters 2 and 3, I identified four research gaps in the extant literature. In Chapter 10, I discussed how the findings had shed new light on those gaps to make five key contributions to knowledge. Those gaps and contributions are summarised in the table below:

Gaps	Contributions
We need to update our understanding of the consequences of the pressure for timely submission.	Some significant effects of time pressure on the doctorate are revealed.
We need to understand more about the content and tasks involved in pursuing a doctorate.	The content and tasks involved in the doctorate are illuminated through a taxonomy of critical events and their features.
We need to investigate how doctoral researchers, and those who support them, respond to the opportunities and challenges within the doctoral experience.	A theoretically and empirically informed conceptualisation of how doctoral researchers and supervisors exercise agency is provided. The research also identifies how agency can be enabled or constrained by the main structural components and mechanisms of doctoral programmes.

We need to revitalise our theoretical perspectives so that we can better understand the relationship between i) the content/tasks of the doctorate; ii) responses of agents to that content and tasks; and iii) the structuring of the doctoral experience.	The factors influencing timely submission are re-theorised using a new model, which considers both the situationally contingent and dynamic ways in which progress occurs.

Table 17: Summary of gaps and research contributions

The first contribution is that the effects of the pressures associated with timely submission are revealed. The extant literature, discussed in Chapter 2, was decades old and rarely backed by empirical evidence. Doctoral researchers' voices were also largely absent. My findings draw on the experiences of doctoral researchers, supervisors and others to explore those effects in detail. My research has highlighted serious concerns about work-life balance; the acute time poverty inherent in balancing the formal and enrichment requirements of the doctorate; the impact on the type of projects and knowledge produced at doctoral level; and the potential of time pressures to constrain doctoral researchers' learning.

The second contribution concerns illuminating the tasks and content of the doctorate. Save for emerging educational psychology literature, there is scant evidence about how the tasks and content of the doctorate might affect progress. I addressed this through the identification of four main types of critical event - Personal, Relational, Epistemic, and Temporal – and their features. Critical events extend the emerging literature by drawing attention to the situational and social factors that present both opportunities for and challenges to progress.

The third contribution of the research is to redress the imbalance in the literature, which presents a hyper-structural account of how progress is enabled or constrained. In Chapter 3, for example, concepts such as 'supervisory style', 'fit with communities' and demographic data were used in a very static ways by researchers to explain progress. My research found that both doctoral researchers and their supervisors enacted agency in more dynamic and multi-modal ways, in response to critical events. Those agentic modes are: epistemic-oriented agency, self-efficacy-oriented agency, and relational agency.

The research has also resisted a voluntarist account of progress. The fourth contribution of the research is that it has explored, in detail, how key structural aspects and mechanisms of the doctoral experience influence progress. Specifically, the research identified the potential effects of the following on progress: prevailing views about thesis deadlines, funding packages and regulations on submission, progress reviews, and Doctoral Schools.

The fifth contribution is the novel theoretical model presented in Chapter 10. Currently, research on submission and completion rates tends to be under-theorised. Where theory is used, it over-relies on education socialisation theory, which has limited explanatory power. The model developed in my research draws on a range of concepts from different theories and is elaborated by rigorous empirical work. The model has two major advantages over socialisation theory: i) it is not restricted to specific groups of doctoral researchers or institutions; and ii) it emphasises the situationally contingent and dynamic ways in which progress is enabled or constrained.

11.3 Potential impact

It is important to me that the findings from this project do not remain hidden between the covers of the thesis. One of my motivations for starting out on this journey was to help doctoral researchers get the most from their doctoral experience, within the time available. As I have shown, a doctorate can be a transformative and joyous educational experience, yet emerging research on the mental health crisis reminds us that it can also be a difficult and negative time for some. I would like my research to maximise the likelihood of the former scenario and minimise the latter. To that end, I have identified the following potential impact of the project:

<u>Informing training</u>: Unexpectedly, the validation workshops used at the end of the fieldwork have taken on a life of their own. The feedback I received from delegates at both the SRHE and UKCGE workshops was very positive (see Appendix 10). Participants felt that the currency of the research and the well-facilitated reflective activities helped to inform how they approached their own practice. This applied across all roles, whether a doctoral researcher, supervisor, administrator and so on.

Since the validation events, I have designed and facilitated workshops aimed at doctoral researchers and supervisors. These workshops are built around rivers of experience and a group exercise where participants' experiences are mapped against my taxonomy of critical events. In the second part of the workshop, participants work together in groups to consider how they might respond to the various challenges and opportunities within critical events. This approach makes participants aware of where the possible challenges and opportunities reside in the doctoral journey. They also leave the workshop with concrete ideas of what they can do to help manage their progress towards timely submission.

The workshop has also gained external interest. I have already delivered a version of it at the techne AHRC DTP congress in January 2020 and I have been invited to deliver it as part of another institution's supervisor training programme. I also had the pleasure of giving the keynote at Anglia Ruskin's 2019 PGR conference. The keynote drew on my research findings to inspire doctoral researchers about how to make the most of the doctoral experience and still submit on time. I will give a similar keynote at Royal Holloway in the summer.

Furthermore, the UKCGE is organising a sector-wide event on the issue of submission and completions in November 2020, at which I have been asked to give a talk based on my research.

Institutional evaluation: An earlier version of the new theoretical framework developed in this research was used for evaluation purposes. I wrote a report for the case study institution based on my findings, which was circulated at senior committees and to senior management. The institutional lead for PGR commented that the report provided a useful external evaluation of their provision with helpful recommendations for doing some things differently.

There is further scope for the theoretical framework to be used to help institutions evaluate how effectively their structures and mechanisms enable doctoral researchers to complete on time. The findings concerning Doctoral Schools, progress reviews, and funding terms and conditions are particularly useful in this regard.

Policy – The research findings could also inform national reviews of funding packages. One issue that emerged through the research was the misalignment between the typical duration of funding packages (three years), and typical duration of registrations (four years). The fourth year of registration can be a helpful contingency to compensate for unforeseen issues in research. However, planning to use the fourth year from the outset can place unnecessary pressure on doctoral researchers. For example, most doctoral researchers in my sample who were planning to use a fourth year had to rely on savings or return home to their parents for financial support. Others found full-time employment, which, of course, interferes with time to complete the thesis. The research identifies a problem with the assumption that doctoral researchers have the financial means to manage without funding in the fourth year. It can risk discriminating against those from poorer backgrounds who do not have access to ample financial resources.

Furthermore, the pressures of balancing formal and enrichment requirements of the doctorate also led many doctoral researchers in the sample to rely on an unfunded fourth year. This was a consequence of the struggle to find time within the funded period to make the most of the CV enhancing activities such as teaching, attending training events, preparing for their future careers and so on. Doctoral researchers were very conscious that becoming career-ready during their doctorate involved a lot more than producing a thesis. The challenge for doctoral researchers is how to build these extra requirements into their programmes without jeopardising progress with the thesis and their own wellbeing.

These findings provide an evidence base that might usefully contribute to reviews of funding packages at both the institutional and sector level.

In the next section, I consider the limitations of my research project and possible future research.

11.4 Limitations and future research

It is impossible for a research project to cover every dimension of a phenomenon. The decisions that researchers make in selecting theories, samples, data collection methods, and

data analysis approaches will illuminate some aspects of a phenomenon and obscure others. My research is no exception.

One potential limitation of the research concerns the sample. As discussed in Chapter 5, I prioritised experience and connection to the case study institution in selecting my sample. This approach meant that novice supervisors and doctoral researchers in their first year were deliberately excluded. Consequently, I do not yet know the extent to which my findings apply to those in the early stages of a supervisory or doctoral researcher role. Early indications from recent workshops suggest my findings resonate with their experiences. However, further systematic research with new supervisors and first year doctoral researchers is needed to verify how well the findings apply.

The second potential limitation also concerns the sample. My research was conducted entirely within the UK. It would be beneficial to repeat the research using institutions outside the UK as case studies. This would allow for international comparisons and would provide a good evidence base for examining the effects of different HE systems on the doctoral experience. Systems that do not have a three to four year duration of doctorates, for example in North America, would provide particularly interesting contrasting cases.

The third potential limitation is methodological. The main limitation of using a single institutional case study, which was research intensive concerns the transferability of findings to other contexts. To minimise the effect of this limitation I conducted two additional national validation workshops. The data generated through those workshops reinforced my interpretations of the case study data and the findings resonated with participants not attached to the case study institution.

However, because all data were qualitative and generated from smaller sample sizes, the issue of empirical generalisability still pertains. I think there is an opportunity to do some complementary quantitative work to gather data from larger samples. A questionnaire would be a good approach. I would be interested in testing out how the features I associated with each theme in the theoretical framework (see Fig 8) are generalisable. A factor analysis

approach might highlight some new ways that the data fit together. I would also be interested in quantitatively exploring which forms of agency have the greatest effect on submission times. A multiple regression analysis might be a good tool for evaluating the relative effect of each type of agency. Of course, none of these potential quantitative insights would be possible without the rich data and interpretations generated from this qualitative project.

A further limitation stems from the project's focus on thesis submission and degree completion and on full time doctoral researchers. As discussed in Chapters 2 and 3, some prior research had raised concerns about how the pressure for efficiency within doctoral training risked creating the conditions for instrumentalism to flourish. In Chapter 9, I highlighted how some of the nefarious effects of time pressures had become embedded in the doctoral process, including the perceived inadequacies of funding packages, instrumental supervisory practices, less risky project design, and a sense of acute time poverty.

Together, these effects might be considered anti-educational in that they risk homogenising the doctoral experience and constraining the scope for doctoral researchers to experience transformative learning. Fortunately, other findings from my project provide a counter perspective. In Chapter 6, for example, I showed how doctoral researchers still experience unique transformative moments during critical events. Later, in Chapters 6 and 7, I also showed how both doctoral researchers and supervisors exercise agency in multi-modal and dynamic ways, which protect against instrumentalism and maintain the possibility for transformative experiences.

It seems to me that the doctorate is at a tipping point. The combination of efficiency drivers and an evaluation of the value of the doctorate based solely on its capacity to prepare graduates for the knowledge economy risks reducing the doctorate to an instrumental process. It is important, I would argue, that future research continues to monitor how the purpose of the doctorate is articulated in policy and put into practice on the ground. Without close observation, we may find that doctoral researchers' transformative experiences become obscured by instrumentalism.

11.5 Recommendations for practice

Having explored the potential impact and limitations of the project, I would now like to offer some recommendations for practice. The objective of these recommendations is to help doctoral researchers, supervisors, and institutions to navigate the challenges and opportunities within the doctorate and to maximise the likelihood of timely completion. Each recommendation is grounded in the project's findings and informed by the theoretical framework set out in Figure 8.

11.5.1 Recommendations for doctoral researchers

1. **Embrace the four types of critical events** (Informed by Sections 6.2 and 10.2.2): This research has shown how progress through the doctorate is situationally contingent. There are four key types of situations – called critical events, which involve both opportunities and challenges to progress. The four types of critical events are epistemic (concerned with doing research), temporal (concerned with balancing the many and varied demands in the doctorate), relational (concerned with fostering productive working relationships) and personal (concerned with the events that occur in our personal lives). By being aware of the different types of situations you may encounter during your doctorate, you will be better prepared to respond positively to them.

2. **Responding to epistemic critical events** (Informed by Sections 6.3.1 and 10.2.3): There is little doubt that doing a research project is challenging and unpredictable. This research has identified certain actions that you can take to address those challenges and, in so doing, perhaps have a transformative educational experience. Those actions include:
    - Resist taking feedback personally: Receiving feedback on your doctoral work can be unsettling and it is tempting to take it personally. This might lead you to instinctively dismiss feedback or to accept comments unreflectively. If you respond in this way, pause and think about why. It can be helpful to reset your relationship with feedback. Well-directed feedback is not about you, but it is about

trying to bring out the potential in your work. It can be helpful to think of feedback as a critical friend. If you are ever unsure about how to respond to feedback on your work, or are unclear about what it means, a conversation with the person who provided the feedback can be helpful.

- Embrace problem solving: Doctoral projects are full of wicked problems that will take some time to resolve. It is important to allow yourself to get absorbed by difficult problems and not to feel overwhelmed if they take longer than you thought they would. Often, it is through tackling troublesome problems that you experience a transformation in your learning.
- Practise defending your decisions: It can be helpful to record and reflect on the key decisions you make during your project: Why *that* theory? Why *that* approach? This will help you to evaluate your decisions and to be ready to defend them in your thesis, publications, conferences, viva and so on.
- Think about the bigger picture: It is easy to get lost down rabbit holes during the doctorate. It can be helpful to think carefully about how your day-to-activities link with your project's overall objectives. This can help you to determine the value of the activities you are engaged with and to think about where they might fit in your thesis.
- Write often: Continuous writing is a very useful method for maintaining progress throughout your doctorate. It is helpful to begin writing from the very start of your programme. Try not to get too hung up on writing beautifully polished text from the start, this will just slow you down. Doctoral-level writing is a craft that takes time to develop. Instead, give yourself permission to write messy, imperfect prose. Those snippets of writing can form a good basis for discussion and for developing your ideas.

3. **Responding to temporal critical events** (Informed by Sections 3.2.2, 3.2.3, 6.3.2 and 10.2.3): The contemporary doctoral degree involves a lot of different activities. The 'formal requirements' of a doctorate concern the activities associated with your research project and then writing those up to satisfy assessment regulations (for example, progress reviews and the thesis and viva). These run alongside 'enrichment

requirements' (for example, training, teaching, conferences, placements and so on), which enrich your experience and prepare you for your future career. It can be very challenging to manage those different requirements, which might become a source of stress and pressure. This research has identified some actions that you can take to respond to those demands. They include:

- Plan your time flexibly: Think carefully about what adds value to your doctoral experience and your career aspirations. Spread those activities carefully over the duration of your doctorate so that you get the benefit but are not overwhelmed. It is also important to remember that projects rarely go to plan. You should allow your project plans to change and build in time to work through those wicked problems.
- Work hard and enjoy it: Doing a doctoral degree involves considerable effort and hard work. There is also pressure on you because, ultimately, you are responsible for your project. However, it is important not to lose sight of the joy in the research process. Remember to think about why you wanted to do your project in the first place and make a record of the little victories and successes you experience along the way. They can sustain you through trying times.
- Take care of yourself: Nobody should feel that their doctoral project defines them as a person. Remember that you are more than your doctorate. Taking regular breaks and holidays from doctoral work is helpful for work-life balance and maintaining a sustainable rate of progress.

4. **Responding to relational and personal critical events** (Informed by Sections 3.4.1, 3.4.2, 6.3.3 and 10.2.3): Despite the emphasis in doctoral education on becoming an independent researcher, the doctoral experience involves interactions with a variety of communities. Those communities might include the peers in your cohort, lab or office, research groups in your institution and beyond, connections made at conferences, friendship groups and so on. Fostering relationships with these groups can be transformative for you. There are actions you can take to benefit from engagement with a variety of communities, including:

- Seek out academic and peer networks: Look for opportunities to make new connections and cultivate those networks throughout your doctorate. This can be done by attending training, seminars, social events, going to conferences, and via a social media presence. Look out too for networks of other early stage researchers who will be experiencing similar difficulties to you. Academic networks are a rich source of support and guidance to help you overcome research problems, seek out advice, and even gauge your own progress. In some cases, people in these networks might become lifelong friends and colleagues.
- Nurture relationships outside the doctorate: Relationships outside the academic realm are also really important for your emotional health and wellbeing. Those people are your cheerleaders and shoulders to cry on during difficult times.

5. **Accept moments of unease and unfamiliarity** (Informed by Sections 4.3.1, 6.3.4, 10.2.3): Your doctorate will undoubtedly be punctuated by moments of self-doubt as you encounter many unfamiliar situations. It is easy to let these moments undermine your confidence and self-belief. Do not let them. Often, periods of unease precede a transformational moment in which real learning happens. Lean into the discomfort and persevere, knowing that you can come through the other side.

11.5.2 Recommendations for supervisors

1. **Helping doctoral researchers respond to epistemic critical events** (Informed by Sections 3.3, 7.3 and 10.2.3): It is likely that the doctorate will be the first time that your doctoral researchers have undertaken a significant research project. This means that they are involved in a dual process of making sense of research as well as doing it. Much of what they encounter will be unfamiliar and, at times, unsettling. There are certain actions that you can take to help your doctoral researchers navigate the challenges of research. Those actions include:
    - Use constructive questioning: Constructive questioning is a useful way to encourage doctoral researchers to evaluate and defend their approach to research. Using 'why' questions can be helpful for encouraging doctoral researchers to become more reflexive, for example, 'why have you used that

method?', 'why have you made that particular knowledge claim?' Questioning should always be supportive and commensurate with the stage of your doctoral researcher's research.

- Request regular writing: Regardless of discipline, requesting regular written outputs from your doctoral researchers can encourage progress. It can help doctoral researchers to see material evidence of progress – for example, draft chapters accumulating - and can provide you with a window onto how your doctoral researchers are thinking. This can be very useful for identifying problems early on and also provides some raw material for publications throughout candidature.
- Talk about feedback: Feedback is different at doctoral level compared to taught degrees. Doctoral researchers may struggle with the absence of a 'grade' and peers working on the same assignment. You may notice that your doctoral researchers do not respond to feedback in the way you intend. They might become defensive or passively accept your comments. This could be a trigger point for a conversation about feedback. Doctoral researchers find conversations about feedback helpful, especially when they clarify the purpose of the feedback and what you expect your doctoral researchers to do with it. Of course, feedback should never be personal and always directed at realising the potential in the work.

2. **Helping doctoral researchers respond to temporal critical events** (Informed by Sections 3.3, 7.4, and 10.2.3): The contemporary doctoral experience involves a lot of activities associated with the 'formal requirements' of the doctorate (research and thesis) and 'enrichment requirements' (such as training, teaching, outreach, publications, internships and so on). It is natural that, as a supervisor, you would be most involved with the research project, but it is also important to bear in mind the other demands being made of doctoral researchers. There are some actions that you can take to help doctoral researchers manage those competing demands, including:

- Planning activity early, flexibly and regularly: Working on a research project without a plan is unlikely to lead to timely completion and likely to cause stress. An effective method is to plan the project approach early on, but to plan flexibly so that new leads can be followed up and doctoral researchers have time to work through difficult problems. A list of chapter headings can be useful as a guide and can be changed and adjusted as the project proceeds. Planning should also take into account the 'enrichment requirements' of the doctorate. Help your doctoral researchers to make judicious decisions about what extra training and career development opportunities are right for them, or when they should be giving posters/papers, and when would be a good time to take those on.
- Encourage your doctoral researchers to take breaks: To help maintain a healthy work-life balance, it is really important that doctoral researchers take regular breaks and holidays. Time away can also help with productivity as it provides time to mull over problems with less pressure and brings a refreshed perspective to an issue.

3. **Helping doctoral researchers respond to relational and personal critical events** (Informed by Sections 3.3, 7.5 and 10.2.3): Research substantiates the important role of supervisors in enabling doctoral researchers to make progress. A good, productive relationship with your doctoral researchers is critical for addressing a whole range of issues that might occur during the doctorate. There are actions that you can take to foster a productive relationship and to help your doctoral researchers get appropriate institutional support for personal matters, including:
    - Encourage a culture of openness: Doctoral researchers perceive a lot of barriers to being open with you. The effects of these perceived barriers can be reduced if you focus on building trust and creating an environment in which problems can be voiced. Simple actions can help with this, for example, acknowledging the difficulties in the doctorate, depersonalising issues that emerge, following up on issues when they are raised, and taking care to understand more about your doctoral researcher as a person.

- Maintain regular contact: Regular contact with your doctoral researcher can help to create momentum and a rhythm of activity through the project. It also facilitates building a productive working relationship. Universities normally specify minimum expected contact, but it is also helpful to be available for quick fixes so that progress does not get held up.
- Remember the joy in research: Whilst it is important not to dismiss the difficulties in research, it is helpful to remind your doctoral researchers (and yourself) of the joy in the process: the thrill of discovery, the excitement of developing new ideas, the privilege in doing interesting and meaningful work, and seeing doctoral researchers change over the course of their doctorate. This can make supervision an enjoyable, meaningful and rewarding part of academic work.
- Make use of your support networks: Supervisors are not expected to know everything, and it can be counter-productive, or even damaging, to try to resolve a problem for which you are not qualified. It can be very helpful to make use of the support around you. Most institutions have a director of doctoral programmes based within a department and a Doctoral School at the institutional level. Those staff are a good port of call for help and support. They can also help you to get the right support to a doctoral researcher for issues related to health and wellbeing.

4. **Recognise the signs of liminality** (Informed by Sections 4.3.1, 6.3.4, 7.3, and 10.2.3): It is very common for doctoral researchers to feel marginalised during their doctorate. Often, this is the result of doctoral researchers encountering unfamiliar situations, which can be unsettling. The signs that a doctoral researcher is experiencing liminality include lacking confidence, being withdrawn or isolated, faking knowledge, blaming others, over-relying on you to solve their problems, or appearing to lack ownership of the project. By asking questions sensitively, you might be able to identify the root cause of the liminal moment, i.e. which critical event(s) it relates to, and then support your doctoral researcher through it. Often, liminal moments precede a transformative

leap in the doctoral researchers learning, but if left unattended they can easily derail progress and completion.

11.5.3 Recommendations for institutions and policy makers

1. **Review the terms and conditions of funding packages** (Informed by Sections 3.2.1, 9.3.2, and 10.2.1): This research has identified how three-year funding packages can be very problematic for doctoral researchers. For example, it is rare for a doctoral researcher to submit within three years - most rely on an unfunded fourth year to complete their thesis. As a result, funded doctoral researchers are likely to experience a financially precarious situation if they write-up a thesis during the fourth year. Also, this research has uncovered how non-UKRI funding does not always include financial provision for sickness and parental leave.
   Doctoral researchers could be better supported if Research Councils and institutional funding packages provided fee and stipend funding for 4 years FTE and non-UKRI packages also included provision for sickness and parental leave. Of course, this would reduce the number of funded places available, but it would ensure that packages are fit-for-purpose and that doctoral researchers who experience unavoidable issues, for example illness, are not disadvantaged.
2. **Improving progress review mechanisms** (Informed by Sections 3.5, 8.2, and 10.2.4)**:** Progress reviews – including the upgrade/transfer/confirmation assessment – are one of the key structural processes in place in UK institutions to help ensure doctoral researchers make progress. This research project has identified how progress reviews have the potential to support doctoral researchers' progress, but it has also shown how they can sometimes be divisive and ineffective. To help maximise the potential benefits of progress reviews, the following actions are recommended:
   - Communicate the value of progress reviews: Progress reviews can be a useful mechanism for supporting doctoral researchers' progress. Institutions should use transparent language in describing the purpose of progress reviews in documents and training. Their less appealing features should be acknowledged (for example, monitoring and dealing with poor progress) and their potential value made clear (for example, spotting potential problems in the project

design, providing an external perspective on work, supporting effective time management).

- Always follow up on issues raised in progress reviews: If an issue is raised by a doctoral researcher or supervisor in a review, then ensure that it is responded to. Ignoring issues creates the impression that the review process is a bureaucratic box-ticking exercise.
- Provide guidance and mentoring for progress review panel members: Often, the effectiveness of a progress review depends on the non-supervisor panel member. Without burdening academics with more training, accessible guidance and peer mentoring should be used to clarify expectations, time commitments, and provide examples of good practice.
- Review the effectiveness of confidential channels for raising issues: Doctoral researchers rarely use the progress review process to raise issues about supervision. Ensure that clearly communicated and confidential channels are in place through which doctoral researchers can talk about issues and get support. The same provision should also be available to supervisors.

3. **Optimising the benefits of Doctoral Schools** (Informed by Sections 3.5, 8.3 and 10.2.4): Doctoral Schools are increasingly common in UK universities. They tend to operate at the institutional level and have a responsibility for organising doctoral education, including the delivery of training. Previous research has identified how greater organisation and structuring of doctoral programmes can have a positive impact on submission and completion rates. However, my research has also shown that doctoral researchers and supervisors are not always clear about the benefits of Doctoral Schools and they are sometimes seen as adjunct, rather than integral, to the core of the doctoral experience. To maximise the potential benefits of Doctoral Schools, the following actions are recommended:
    - Structure Doctoral School provision around doctoral researchers' needs: This research found that doctoral researchers most valued the Doctoral School provision that supports self-efficacy and community building. Playing to these

strengths and clearly communicating what doctoral researchers will gain from participation might help to improve engagement.

- Encourage partnership between the Doctoral School and academic departments**:** Doctoral Schools are sometimes considered to be an 'add on' and not fully integrated into the doctoral researchers' experience. More thought should be given to how Doctoral School and faculty/school/departmental provision could be woven together into a more coherent and meaningful experience and curriculum for doctoral researchers.

I will now conclude the thesis by looking back on my experience and sharing my personal reflections on the research process.

11.6 Reflections on the research process

As discussed in Chapter 5, this project was underpinned by a constructivist approach. The use of constructivist research methods can lead to very rich insights into an individual's experience. However, if their use is not carefully considered by the researcher, it can have very damaging effects. I would advise all constructivist researchers to test out constructivist methods on themselves first, before going into the field. I took this approach with rivers of experience, which I repeated several times throughout my PhD. The use of rivers of experience, in conjunction with my research project, helped me to make sense of my own doctoral experience.

A copy of my river of experience is provided in Appendix 11. I would like to share some of the moments from it to highlight the critical events I experienced, and how the relationship between structure and agency enabled me to submit on time.

At the start of my PhD I was excited about the road ahead, but I also felt quite nervous. Five years had passed since I last studied a formal qualification and I was also worried about crossing disciplines. My previous academic training was in modern foreign languages and, naturally, I doubted if I would cut it in the social sciences. I also experienced my first 'relational critical event' at this point. My supervisors were incredibly encouraging and helpful, yet I was

aware of their standing in the field. I remember feeling humbled that they had taken me on as a doctoral researcher and I was committed to not letting them down. It was at this point that I started to recognise 'relational agency' and began thinking about the collective aspect to research. I realised that how I performed as a researcher also reflected on others.

It was not long after registering that I experienced a 'personal critical event'. For some reason, I was unsure how my workplace would react to me taking on a PhD. Perhaps they would question my commitment to my job or take a dim view of my absences when doing PhD-related work. In the end, I decided to exercise 'relational agency' and declare to my line manager and colleagues that I was pursuing a PhD. Everyone was extremely supportive, and my workplace agreed to cover my fees as part of my continued professional development. This was much appreciated and eased the financial burden of doing a PhD.

An early 'epistemic critical event' was the methods training. I really enjoyed learning about social science methods and the training helped me to get to grips with how to approach research. I would have liked more opportunity to practice methods, but, on the whole, the training helped the development of my 'epistemic-oriented agency'. Suddenly, papers made more sense and I understood more about what constitutes knowledge. My 'epistemic-oriented agency' continued to develop as a I grappled with theories and methodology. As discussed in Chapter 4, I began to get used to the messiness of theory development and how it is not always a simple process of taking a ready-made framework and applying it to a new context.

I encountered a structural constraint at the end of my second year. I applied to the ethics committee, which was very slow to consider my initial application and my subsequent responses to their fairly trivial queries. At the time, I had developed my interview guides and was itching to get into the field. The delay was frustrating.

Eventually, I got the green light to start collecting data and it was a revelation. I had a transformative 'epistemic critical event' during the pilot study. It was a privilege to spend time with participants and to hear about their experiences. I also felt a strong sense of

responsibility to do some good with the sometimes very personal stories participants shared with me. I was also thrilled by the data generated when I tested the ‘rivers of experience’ method. The successful pilot bolstered my sense of ‘epistemic-oriented agency’ and made me more confident about the next stages of data collection.

The most significant ‘personal critical event’ of my life happened in 2017 when my son, Harry, was born. This came after five long years of IVF heartache and disappointment. Everything changed and I wondered if I would be able to continue with the PhD. My supervisors showed exemplary ‘relational agency’ during this time. They shared in the joy of Harry’s arrival, gave me space to adjust to my new life, and really helped me to get going again with my research.

This was followed by a period of intense activity on my PhD. I started to collect data in the institutional case study. It was during this period that my ‘epistemic oriented agency’ came to the fore. I was deeply engaged in reflecting on the data and trying to work out what those data were telling me. Fieldwork was an immense privilege. I was humbled by how open my research participants were, which cemented my strong sense of ethical responsibility to them. I experienced lots of ‘relational critical events’ during this time too. I was presenting my work at conferences and taking my first steps toward publishing. By exercising ‘relational agency’ in this way, I started to receive positive feedback about the work. A highlight was when a doctoral researcher approached me after a conference presentation to say: “thank you for describing our lives”. This type of response helped me to recognise the real value of my work.

Shortly after, I hit a ‘personal critical event’, which took a lot out of me. The emotional strain of years of IVF, the demands being made of me at work, and adjusting to a new way of life as a father all floored me. I experienced episodes of anxiety and had to seek professional help. Things worsened when I experienced a bereavement of a close relative. Fortunately, counselling helped me to cope, and I was able to regain some balance in my life. Again, my supervisors recognised what I was going through and were incredibly supportive.

After this point, I experienced a series of affirming ‘epistemic critical events’. By exercising ‘epistemic oriented agency’, I was able to interpret my data and root them in theory. I relished in the complexity of qualitative analysis. I distinctly remember the moment when I began to understand the relationship between critical events, agency and structure. It felt like a moment of epiphany. I excitedly ran downstairs to share my findings with my wife. It felt surreal being the only person in the world who held this knowledge. It was thrilling.

The final step was writing up. I had a moment of liminality questioning whether I was up to the task. I worried that I would not have enough to say, but the opposite turned out to be the case. I derived so much joy in thinking my work through and seeing the story come together. I remember the motivating feeling that I was really on to something and my belief in the research grew ever stronger. I now have a taste for research, and excitedly look to the future to see what it might bring.

In conclusion, my experience of the doctorate has been truly transformative. There have been many periods of unease, but the different ways in which I have exercised agency and the different support I have received along the way enabled me to submit three years ahead of my institution’s deadline. It is the new sense of self and the wonderful relationships I formed along the way that I hope will continue to enrich my life for many years to come.

References

Acker, Sandra, and Eve Haque. 2015. "The struggle to make sense of doctoral study." *Higher Education Research & Development* 34 (2):229-241. doi: 10.1080/07294360.2014.956699.

AHRC. 2020. "Competition statistics." accessed 02/03/2020. https://ahrc.ukri.org/about/competitionstatistics/.

Amunsden, Cheryl., and Lynn. McAlpine. 2011. "New Academic as Supervisors: A Steep Learning Curve with Challenges, Tensions and Pleasures." In *Doctoral Education: Research-Based Strategies for Doctoral Students, Supervisors and Administrators*, edited by Lynn McAlpine and Cheryl Amundsen, 37-55. London: Springer.

Antony, James S. 2002. "Re-examining doctoral student socialization and professional development:Moving beyond the congruence and assimilation orientation." In *Higher Education: Handbook of theory and research*, edited by John C. Smart, 349 - 380. New York: Agathon Press.

Archer, Margaret. 2007. *Making our way through the world: Human reflexivity and social mobility*. Cambridge: Cambridge University Press.

Archer, Margaret. 2012. *The Reflexive Imperative*. Cambridge: Cambridge University Press.

Archer, Margaret Scotford. 1988. *Culture and agency : the place of culture in social theory*. Cambridge: Cambridge University Press.

Archer, Margaret Scotford. 2000. *Being human: the problem of agency*. Cambridge: Cambridge University Press.

Archer, Margaret Scotford. 2003. *Structure, agency, and the internal conversation*. Cambridge: Cambridge University Press.

Ashwin, Paul. 2008. "Accounting for structure and agency in 'close-up' research on teaching, learning and assessment in higher education." *International Journal of Educational Research* 47 (3):151-158.

Ashwin, Paul. 2012. *Analysing teaching-learning interactions in Higher Education: Accounting for structure and agency*. London: Continuum.

Ashwin, Paul, Rosemary Deem, and Lynn McAlpine. 2015. "Newer researchers in higher education: policy actors or policy subjects?" *Studies in Higher Education* 41 (12):2184-2197. doi: 10.1080/03075079.2015.1029902.

Balaban, Corina. 2016. "From steward to leader: a decade of shifting roles for the PhD student." *Learning and Teaching* 9 (1):90-100. doi: 10.3167/latiss.2016.090107.

Ball, Stephen J. 2003. "The teacher's soul and the terrors of performativity." *Journal of Education Policy* 18 (2):215-228. doi: 10.1080/0268093022000043065.

Bandura, A. 1997. *Self-efficacy: The exercise of control*. New York: W H Freeman.

Bartholomew, Richard. 2015. Review of the ESRC Doctoral Training Centres network.

Baschung, Lukas. 2020. "How effective are doctoral schools? Organisational characteristics and related objectives." In *Structural and institutional transformations in doctoral education: Social, political and student expectations*, edited by Sonia Cardoso, Orlanda Tavares, Cristina Sin and Teresa Carvalho. Cham: Palgrave Macmillan.

Bastalich, Wendy. 2015. "Content and context in knowledge production: a critical review of doctoral supervision literature." *Studies in Higher Education* 42 (7):1145-1157. doi: 10.1080/03075079.2015.1079702.

Bennett, Paul, and Gosia Turner. 2013. PRES 2013: Results from the Postgraduate Research Experience Survey. York.

Berg, Maggie, and Barbara Seeber. 2017. *The slow professor: Challenging the culture of speed in the academy*. Toronto: University of Toronto Press.
Bhaskar, Roy. 2008. *A realist theory of science*. Rev. ed. ed. London: Routledge.
Bogle, David. 2017. "100 Years of the PhD in the UK." accessed 27 November 2018. https://www.vitae.ac.uk/news/vitae-blog/100-years-of-the-phd-by-prof-david-bogle.
Booth, Alison, and Stephen Satchell. 1995. "The Hazards of Doing a PhD: An Analysis of Completion and Withdrawal Rates of British PhD Students in the 1980s." *Journal of the Royal Statistical Society. Series A (Statistics in Society)* 158 (2):297-318.
Bossier, Peter, and Margaret Eleftheriou. 2015. "Designing and building dedicated Ph.D. courses contributing to international EU mobility at doctoral level." *Aquaculture International* 23 (3):727-749. doi: 10.1007/s10499-014-9841-z.
Bradley-Cole, Kim, and Pam Denicolo. 2020. *Constructivist coaching: A practical guide to unlocking potential alternative futures*. London: Routledge.
Braun, Virginia, and Victoria Clarke. 2019. "Reflecting on reflexive thematic analysis." *Qualitative Research in Sport, Exercise and Health* 11 (4):589-597. doi: 10.1080/2159676x.2019.1628806.
Braun, Virginia., and Victoria. Clarke. 2006. "Using thematic analysis in psychology." *Qualitative Research in Psychology* 3 (2):77-101. doi: 10.1191/1478088706qp063oa.
Braun, Virginia., and Victoria. Clarke. 2013. "Teaching thematic analysis: Overcoming challenges and developing strategies for effective learning." *The Psychologist* 26 (2):120-123.
Brinkmann, Svend, and Steinar Kvale. 2015. *Interviews: learning the craft of qualitative research interviewing*. Third edition ed. London: Sage.
Brooks, Rachel, Anu Lainio, and Predrag Lažetić. 2019. "Using creative methods to research across difference. An introduction to the special issue." *International Journal of Social Research Methodology* 23 (1):1-6. doi: 10.1080/13645579.2019.1672281.
Budd, Richard, Catherine O'Connell, Tingting Yuan, and Olga Ververi. 2018. The DTC Effect: ESRC Doctoral Training Centres and the UK Social Science Doctoral Training Landscape. Liverpool.
Burnard, Pam. 2016. "Using critical incident charting for reflecting on experience." In *Constructivist approaches and research methods: A practical guide to exploring personal meanings*, edited by Pam Denicolo, Trevor Long and Kim Bradley-Cole. London: Sage.
Cabaroglu, Nese, and Pam Denicolo. 2008. "Exploring student teacher belief development: An alternative constructivist technique, snake interviews, exemplified and evaluated." *Personal Construct Theory and Practice* 5:28-40.
Cantwell, Robert H., Sid F. Bourke, Jill J. Scevak, Allyson P. Holbrook, and Janene Budd. 2017. "Doctoral candidates as learners: a study of individual differences in responses to learning and its management." *Studies in Higher Education* 42 (1):47-64. doi: 10.1080/03075079.2015.1034263.
Castello, Montserrat., Marta Pardo, Anna Sala-Bubare, and Nuria Sune-Soler. 2017. "Why do students consider dropping out of doctoral degrees? Institutional and personal factors." *Higher Education*:1-17. doi: 10.1007/s10734-016-0106-9.
Cohen, Louis., Lawrence. Manion, and Keith. Morrison. 2011. *Research Methods in Education*. Abingdon: Routledge.
Collier, Andrew. 1994. *Critical realism : an introduction to Roy Bhaskar's philosophy*. London: Verso.

Collinson, Jacquelyn, and John Hockey. 1995. "Sanctions and savings: some reflections on ESRC doctoral policy." *Higher Education Review* 27 (3):56 - 63.
Collinson, Jacquelyn, and John Hockey. 1997. "The Social Science Training-model Doctorate: student choice?" *Journal of Further and Higher Education* 21 (3):373-381. doi: 10.1080/0309877970210310.
Corcelles, M., M. Cano, E. Liesa, G. González-Ocampo, and M. Castelló. 2019. "Positive and negative experiences related to doctoral study conditions." *Higher Education Research & Development* 38 (5):922-939. doi: 10.1080/07294360.2019.1602596.
Cornér, S, E Löfström, and K Pyhältö. 2017. "The relationships between doctoral students' perceptions of supervision and burnout." *International Journal of Doctoral Studies* 12:91-106.
Crossouard, Barbara, and John Pryor. 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. doi: 10.1080/14681360802346614.
Crotty, Michael 1998. *The foundations of social research: Meaning and perspective in the research process*. London: Sage.
Deem, Rosemary. 1998. "'New managerialism' and higher education: The management of performances and cultures in universities in the United Kingdom." *International Studies in Sociology of Education* 8 (1):47-70. doi: 10.1080/0962021980020014.
Deem, Rosemary, Sally Barnes, and Gillian Clarke. 2015. "Social Science Doctoral Training Policies and Institutional Responses: Three Narrative Perspectives on Recent Developments in and Consequences of the UK Transition to Collaborative Doctoral Training." In *The Transformation of University Institutional and Organizational Boundaries*, edited by Emanuele Reale and Emilia Primeri. Rotterdam: Sense Publishers.
Deem, Rosemary, and Kevin J. Brehony. 2000. "Doctoral Students' Access to Research Cultures-are some more unequal than others?" *Studies in Higher Education* 25 (2):149-165. doi: 10.1080/713696138.
Deem, Rosemary, and Kevin J. Brehony. 2005. "Management as ideology: the case of 'new managerialism' in higher education." *Oxford Review of Education* 31 (2):217-235. doi: 10.1080/03054980500117827.
Deem, Rosemary, and Shane Dowle. 2020. "The UK doctorate: History, features and challenges." In *Trends and issues in doctoral education worldwide: An international research inquiry*, edited by Philip Altbach, Hans de Wit and Maria Yudkevich. London: Sage.
Deem, Rosemary, Sam Hillyard, and M. I. Reed. 2007. *Knowledge, higher education, and the new managerialism : the changing management of UK universities*. Oxford: Oxford University Press.
Delamont, Sara. 1989. "Gender and British Postgraduate Funding Policy: a critique of the Winfield Report." *Gender and Education* 1 (1):51-57. doi: 10.1080/0954025890010105.
Delamont, Sara, Paul Atkinson, and Odette Parry. 1997. "Critical mass and doctoral research: Reflections on the Harris report." *Studies in Higher Education* 22 (3):319-331. doi: 10.1080/03075079712331380926.
Delamont, Sara, Paul Atkinson, and Odette Parry. 2000. *The Doctoral Experience: Success and Failure in Graduate School*. London: Falmer Press.

Delamont, Sara, Paul Atkinson, and Odette Parry. 2004. *Supervising the doctorate: A guide to success*. Maidenhead: Open University Press.
Delamont, Sara, Odette Parry, and Paul Atkinson. 1998. "Creating a Delicate Balance: the doctoral supervisor's dilemmas." *Teaching in Higher Education* 3 (2):157-172. doi: 10.1080/1356215980030203.
Denicolo, Pam. 2003. "Elicitation methods to fit different purposes." In *International Handbook of Personal Construct Psychology*, edited by Fay Fransella. Chichester: John Wiley & Sons.
Denicolo, Pam, Dawn C. Duke, and Julie Reeves. 2020. *Supervising to inspire doctoral researchers*. London: Sage.
Denicolo, Pam, Dawn Duke, and Julie Reeves. 2019. *Delivering Inspiring Doctoral Assessment*. London: Sage.
Denicolo, Pam, Michael Fuller, Diane Berry, and Carolyn Raven. 2010. A Review of Graduate Schools in the UK.
Denicolo, Pam, Trevor Long, and Kim Bradley-Cole. 2016. *Constructivist approaches and research methods: A practical guide to exploring personal meanings*. London: Sage.
Denicolo, Pam, and Maureen Pope. 2001. *Transformative professional practice: Personal construct approaches to education and research*. London: Whurr.
Denzin, Norman K., and Yvonna S. Lincoln. 2005. "The discipline and practice of qualitative research." In *The SAGE handbook of qualitative research*, edited by Norman K. Denzin and Yvonna S. Lincoln, 1-31. London: SAGE.
Deuchar, Ross. 2008. "Facilitator, director or critical friend?: contradiction and congruence in doctoral supervision styles." *Teaching in Higher Education* 13 (4):489-500. doi: 10.1080/13562510802193905.
Devos, Christelle, Gentiane Boudrenghien, Nicolas Van der Linden, Assaad Azzi, Mariane Frenay, Benoit Galand, and Olivier Klein. 2017. "Doctoral students’ experiences leading to completion or attrition: a matter of sense, progress and distress." *European Journal of Psychology of Education* 32 (1):61-77. doi: 10.1007/s10212-016-0290-0.
Devos, Christelle, Nicolas Van der Linden, Gentiane Boudrenghien, Assaad Azzi, Mariane Frenay, Benoit Galand, and Olivier Klein. 2015. "Doctoral supervision in the light of the three types of support promoted in self-determination theory." *International Journal of Doctoral Studies* 10:438-464.
Di Pierro, Marianne. 2007. "Excellence in doctoral education: Defining best practice." *College Student Journal* 41 (2):368-375.
Doloriert, Clair, Sally Sambrook, and Jim Stewart. 2012. "Power and emotion in doctoral supervision: implications for HRD." *European Journal of Training and Development* 36 (7):732-750. doi: 10.1108/03090591211255566.
Duke, Dawn C., and Pam M. Denicolo. 2017. "What supervisors and universities can do to enhance doctoral student experience (and how they can help themselves)." *FEMS Microbiology Letters* 364 (9):fnx090-fnx090. doi: 10.1093/femsle/fnx090.
Editorial. 2018. "A PhD state of mind." *Nat Cell Biol* 20 (4):363. doi: 10.1038/s41556-018-0085-4.
Edwards, Anne. 2005. "Relational agency: Learning to be a resourceful practitioner." *International Journal of Educational Research* 43 (3):168-182. doi: 10.1016/j.ijer.2006.06.010.

Edwards, Anne. 2011. "Building common knowledge at the boundaries between professional practices: Relational agency and relational expertise in systems of distributed expertise." *International Journal of Educational Research* 50 (1):33-39. doi: 10.1016/j.ijer.2011.04.007.
Elder-Vass, Dave. 2010. *The causal power of social structures : emergence, structure and agency*. Cambridge: Cambridge University Press.
Elder-Vass, Dave. 2005. "Emergence and the realist account of cause." *Journal of Critical Realism* 4 (2):315-338.
Elder-Vass, Dave. 2007. "For Emergence: Refining Archer's Account of Social Structure." *Journal for the Theory of Social Behaviour* 37 (1):25-44.
Elder-Vass, Dave. 2014. "Social emergence: functional or relational." *Balkan Journal of Philosophy* 6 (1):5-16.
Emirbayer, Mustafa, and Ann Mische. 1998. "What is agency?" *American Journal of Sociology* 103 (4):962-1023.
Enders, Jurgen. 2004. "Research training and careers in transition: a European perspective on the many faces of the Ph.D." *Studies in Continuing Education* 26 (3):419-429. doi: 10.1080/0158037042000265935.
Espinoza, Benjamin D. 2018. "Reconciliatory socialization: Conceptualizing the experiences of Evangelical Christian doctoral students in secular higher education." *International Journal of Christianity & Education* 22 (3):233-251. doi: 10.1177/2056997118762924.
EUA. 2009. Looking forward with confidence. Prague declaration 2009. Brussels: EUA.
Fielding, Nigel, and Hilary Thomas. 2016. "Qualitative interviewing." In *Researching Social Life*, edited by Nigel Gilbert and Paul Stoneman. London: Sage.
Garcia-Quevedo, Jose, Francisco Mas-Verdú, and Jose Polo-Otero. 2011. "Which firms want PhDs? An analysis of the determinants of the demand." *Higher Education* 63 (5):607-620. doi: 10.1007/s10734-011-9461-8.
Gardner, Susan K. 2009. "Conceptualizing success in doctoral education: Perspectives of faculty in seven disciplines." *The Review of Higher Education* 32 (3):383-406.
Gardner, Susan. 2006. "“I Heard it through the Grapevine”: Doctoral Student Socialization in Chemistry and History." *Higher Education* 54 (5):723-740.
Gardner, Susan. 2008. "Fitting the Mold of Graduate School: A Qualitative Study of Socialization in Doctoral Education." *Innovative Higher Education* 33 (2):125-138.
Gardner, Susan. 2010. "Contrasting the Socialization Experiences of Doctoral Students in High- and Low-Completing Departments: A Qualitative Analysis of Disciplinary Contexts at One Institution." *The Journal of Higher Education* 81 (1):61-81.
Geven, Koen, Jan Skopek, and Moris Triventi. 2017. "How to Increase PhD Completion Rates? An Impact Evaluation of Two Reforms in a Selective Graduate School, 1976–2012." *Research in Higher Education* 59 (5):529-552. doi: 10.1007/s11162-017-9481-z.
Gill, John, and Phil Johnson. 2010. *Research methods for managers*. London: Sage.
Goffman, Erving. 1990. *The presentation of self in everyday life*. London: Penguin.
Golde, Chris. 2000. "Should I stay or should I go? Student descriptions of the doctoral attrition process." *The Review of Higher Education* 23 (2):199-227.
Golde, Chris M. 2005. "The Role of the Department and Discipline in Doctoral Student Attrition: Lessons from Four Departments." *The Journal of Higher Education* 76 (6):669-700.

Green, Helen. 2014. "Use of conceptual and theoretical frameworks in qualitative research." *Nurse Researcher* 21 (6):34-38.
Green, Pam, and John Bowden. 2012. "Completion mindsets and contexts in doctoral supervision." *Quality Assurance in Education* 20 (1).
Green, Pam, and Robin Usher. 2003. "Fast Supervision: Changing supervisory practice in changing times." *Studies in Continuing Education* 25 (1):37-50. doi: 10.1080/01580370309281.
Guerin, Cally, and Ian Green. 2013. "'They're the bosses': feedback in team supervision." *Journal of Further and Higher Education* 39 (3):320-335. doi: 10.1080/0309877x.2013.831039.
Guerin, Cally, Asangi Jayatilaka, and Damith Ranasinghe. 2015. "Why start a higher degree by research? An exploratory factor analysis of motivations to undertake doctoral studies." *Higher Education Research & Development* 34 (1):89-104. doi: 10.1080/07294360.2014.934663.
Gurr, Geoff M. 2001. "Negotiating the "Rackety Bridge" — a Dynamic Model for Aligning Supervisory Style with Research Student Development." *Higher Education Research & Development* 20 (1):81-92. doi: 10.1080/07924360120043882.
Hakkarainen, Kai Pekka, Susanna Wires, Jenni Keskinen, Sami Paavola, Pasi Pohjola, Kirsti Lonka, and Kirsi Pyhältö. 2013. "On personal and collective dimensions of agency in doctoral training: medicine and natural science programs." *Studies in Continuing Education* 36 (1):83-100. doi: 10.1080/0158037x.2013.787982.
Halse, Christine. 2011. "'Becoming a supervisor': the impact of doctoral supervision on supervisors' learning." *Studies in Higher Education* 36 (5):557-570. doi: 10.1080/03075079.2011.594593.
Halse, Christine, and Janne Malfroy. 2009. "Retheorizing doctoral supervision as professional work." *Studies in Higher Education* 35 (1):79-92. doi: 10.1080/03075070902906798.
Hamilton, Lorna, and Connie Corbett-Whittier. 2014. *Using case study in Education research*. London: Sage.
Hancock, Sally, Gwyneth Hughes, and Elaine Walsh. 2017. "Purist or pragmatist? UK doctoral scientists' moral positions on the knowledge economy." *Studies in Higher Education* 42 (7):1244-1258. doi: 10.1080/03075079.2015.1087994.
Hancock, Sally, and Elaine Walsh. 2016. "Beyond knowledge and skills: rethinking the development of professional identity during the STEM doctorate." *Studies in Higher Education* 41 (1):37-50. doi: 10.1080/03075079.2014.915301.
Hasgall, Alexander, Bregt Saenen, Lidia Borrell-Damian, Freek Van Deynze, Marco Seeber, and Jeroen Huisman. 2019. Doctoral education in Europe today: approaches and institutional structures. Geneva.
HEFCE. 2003. Improving standards in postgraduate research degree programmes : formal consultation. Bristol: HEFCE.
HEFCE. 2005. PhD research degrees: Entry and completion. Swindon.
HEFCE. 2007. PhD research degrees: Update Entry and Completion. Swindon.
HEFCE. 2012. Rates of qualification from postgraduate research degrees: Projected study outcomes of full-time students starting postgraduate research degrees in 2008-9 and 2009-10. Swindon.

HEFCE. 2013. Rates of qualification from postgraduate research degrees: Projected study outcomes of full-time students starting postgraduate research degrees in 2010-11. Swindon.
Hockey, John. 1991. "The social science PhD: A literature review." *Studies in Higher Education* 16 (3):319-332. doi: 10.1080/03075079112331382875.
Hockey, John. 1997. "A complex craft: United Kingdom PhD supervision in the social sciences." *Research in Post-Compulsory Education* 2 (1):45-70. doi: 10.1080/13596749700200004.
Hodson, Laura, and Alex Buckley. 2011. Postgraduate Research Experience Survey (PRES) 2011 Results. York.
Holligan, Chris. 2005. "Fact and fiction: a case history of doctoral supervision." *Educational Research* 47 (3):267-278. doi: 10.1080/00131880500287179.
Holloway, Wendy, and Tony Jefferson. 2012. *Doing qualitative research differently: A psychosocial approach*. Second ed. London: Sage.
Hopwood, Nick. 2010. "A sociocultural view of doctoral students' relationships and agency." *Studies in Continuing Education* 32 (2):103-117. doi: 10.1080/0158037x.2010.487482.
Humphrey, Robin, Neill Marshall, and Laura Leonardo. 2012. "The Impact of Research Training and Research Codes of Practice on Submission of Doctoral Degrees: An Exploratory Cohort Study." *Higher Education Quarterly* 66 (1):47-64.
Imenda, Sitwala. 2014. "Is there a conceptual difference between theoretical and conceptual frameworks?" *Journal of Social Sciences* 38 (2):185-195.
Ives, Glenice, and Glenn Rowley. 2005. "Supervisor selection or allocation and continuity of supervision: Ph.D. students’ progress and outcomes." *Studies in Higher Education* 30 (5):535-555. doi: 10.1080/03075070500249161.
Jabareen, Yosef. 2009. "Building a conceptual framework: Philosophy, definitions, and procedure." *International Journal of Qualitative Methods* 8 (4):50-62.
Jackson, P, W. 1968. *Life in classrooms*. New York: Holt, Reinhart & Winstone.
Janta, Hania, Peter Lugosi, and Lorraine Brown. 2012. "Coping with loneliness: A netnographic study of doctoral students." *Journal of Further and Higher Education* 38 (4):553-571. doi: 10.1080/0309877X.2012.726972.
Jiranek, Vladimir. 2010. "Potential Predictors of Timely Completion among Dissertation Research Students at an Australian Faculty of Sciences." *International Journal of Doctoral Studies* 5 (10):1-13.
Jump, Paul. 2013. "PhD completion rates, 2013." *Times Higher Education Supplement*. https://www.timeshighereducation.com/news/phd-completion-rates-2013/2006040.article.
Kamler, Barbara, and Pat Thomson. 2014. *Helping doctoral students write: Pedagogies for supervision*. Abingdon: Routledge.
Kearns, Hugh, Maria Gardiner, and Kelly Marshall. 2008. "Innovation in PhD completion: the hardy shall succeed (and be happy!)." *Higher Education Research & Development* 27 (1):77-89. doi: 10.1080/07294360701658781.
Keefer, Jeffrey 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. doi: 10.1080/14703297.2014.981839.

Kiley, Margaret. 2009. "Identifying threshold concepts and proposing strategies to support doctoral candidates." *Innovations in Education and Teaching International* 46 (3):293-304. doi: 10.1080/14703290903069001.
Kiley, Margaret. 2015. "'I didn't have a clue what they were talking about': PhD candidates and theory." *Innovations in Education and Teaching International* 52 (1):52-63. doi: 10.1080/14703297.2014.981835.
Kiley, Margaret, and Gina Wisker. 2009. "Threshold concepts in research education and evidence of threshold crossing." *Higher Education Research & Development* 28 (4):431-441. doi: 10.1080/07294360903067930.
King, Nigel. 2004. "Using Interviews in Qualitative Research " In *Essential Guide to Qualitative Methods in Organizational Research*, edited by Catherine. Cassell and Gillian Symon, 11-22. London: Sage.
King, Nigel, Christine Horrocks, and Joanna Brooks. 2019. *Interviews in Qualitative Research*. Second Edition ed. London: Sage.
Kulej, G, and P Wells. 2009. Postgraduate Research Experience Survey (PRES) 2009 Results. York.
Kyvik, Svein. 2012. "The academic researcher role: enhancing expectations and improved performance." *Higher Education* 65 (4):525-538. doi: 10.1007/s10734-012-9561-0.
Kyvik, Svein, and Terje Bruen Olsen. 2013. "Increasing completion rates in Norwegian doctoral training: multiple causes for efficiency improvements." *Studies in Higher Education* 39 (9):1668-1682. doi: 10.1080/03075079.2013.801427.
Lariviere, Vincent. 2013. "PhD students' excellence scholarships and their relationship with research productivity, scientific impact, and degree completion." *Canadian Journal of Higher Education* 43 (2):27-41.
Laufer, Melissa, and Meta Gorup. 2018. "The invisible others: stories of international doctoral student dropout." *Higher Education* 78 (1):165-181. doi: 10.1007/s10734-018-0337-z.
Lave, Jean, and Etienne Wenger. 1991. *Situated learning : legitimate peripheral participation*. Cambridge: Cambridge University Press.
Lawrence, Thomas, Roy Suddaby, and Bernard Leca. 2010. "Institutional Work: Refocusing Institutional Studies of Organization." *Journal of Management Inquiry* 20 (1):52-58. doi: 10.1177/1056492610387222.
Lee, Anne. 2008. "How are doctoral students supervised? Concepts of doctoral research supervision." *Studies in Higher Education* 33 (3):267-281. doi: 10.1080/03075070802049202.
Levecque, Katia, Frederik Anseel, Alain De Beuckelaer, Johan Van Der Heyden, and Lydia Gisle. 2017. "Work organization and mental health problems in PhD students." *Research Policy* 46 (4):868-879. doi: doi.org/10.1016/j.respol.2017.02.008.
Lindsay, Siân. 2014. "What works for doctoral students in completing their thesis?" *Teaching in Higher Education* 20 (2):183-196. doi: 10.1080/13562517.2014.974025.
Lovitts, Barbara. 2001. *Leaving the ivory tower: the causes and consequences of departure from doctoral study*. Oxford: Rowman & Littlefield.
Lovitts, Barbara E. 2005. "Being a good course-taker is not enough: a theoretical perspective on the transition to independent research." *Studies in Higher Education* 30 (2):137-154. doi: 10.1080/03075070500043093.
Lovitts, Barbara E., and Cary Nelson. 2000. "The Hidden Crisis in Graduate Education: Attrition from Ph.D. Programs." *Academe* 86 (6):44-50. doi: 10.2307/40251951.

Lyotard, Jean-Francois. 1984. *The postmodern condition: a report on knowledge*. Manchester: Manchester University Press.
Maloshonok, Natalia, and Evgeniy Terentev. 2018. "National barriers to the completion of doctoral programs at Russian universities." *Higher Education* 77 (2):195-211. doi: 10.1007/s10734-018-0267-9.
Manathunga, Catherine. 2005. "Early warning signs in postgraduate research education: a different approach to ensuring timely completions." *Teaching in Higher Education* 10 (2):219-233. doi: 10.1080/1356251042000337963.
McAlpine, Lynn. 2017. "Building on success? Future challenges for doctoral education globally." *Studies in Graduate and Postdoctoral Education* 8 (2):66-77. doi: 10.1108/sgpe-d-17-00035.
McAlpine, Lynn, and Judith Norton. 2006. "Reframing our approach to doctoral programs: an integrative framework for action and research." *Higher Education Research & Development* 25 (1):3-17. doi: 10.1080/07294360500453012.
McCormack, Coralie. 2005. "Is non-completion a failure or a new beginning? Research non-completion from a student's perspective." *Higher Education Research & Development* 24 (3):233-247. doi: 10.1080/07294360500153968.
McCulloch, Gary. 2011. "Historical and documentary research in education." In *Research Methods in Education*, edited by Louis Cohen, Lawrence Manion and Keith Morrison. London: Routledge.
McLachlan, Christopher J., and Reece J. Garcia. 2015. "Philosophy in practice? Doctoral struggles with ontology and subjectivity in qualitative interviewing." *Management Learning* 46 (2):195-210. doi: doi:10.1177/1350507615574634.
Mellors-Bourne, R, J Metcalfe, and P Pollard. 2013. What do researchers do? Early career progression of doctoral graduates. Cambridge.
Merriam, Sharan B. 1998. *Qualitative research and case study applications in education: Revised and expanded from case study research in education*. San Francisco: Jossey-Bass.
Mewburn, Inger, Denise Cuthbert, and Ekaterina Tokareva. 2014. "Experiencing the progress report: an analysis of gender and administration in doctoral candidature." *Journal of Higher Education Policy and Management* 36 (2):155-171. doi: 10.1080/1360080x.2013.861054.
Mewburn, Inger, Ekaterina Tokareva, Denise Cuthbert, Jennifer Sinclair, and Robyn Barnacle. 2014. "'These are issues that should not be raised in black and white': the culture of progress reporting and the doctorate." *Higher Education Research & Development* 33 (3):510-522. doi: 10.1080/07294360.2013.841649.
Meyer, John , and Ray Land. 2003. Threshold concepts and troublesom knowledge: Linkages to ways of thinkng and practising within disciplines (Occasional report no:4). Swindon.
Mezirow, Jack. 2000. "Learning to think like an adult." In *Learning as transformation: Critical perspectives on a theory in progress*, edited by Jack Mezirow and Associates, 3-33. San Francisco: Jossey-Bass.
Moxham, Lorna, Trudy Dwyer, and Kerry Reid-Searl. 2013. "Articulating expectations for PhD candidature upon commencement: ensuring supervisor/student 'best fit'." *Journal of Higher Education Policy and Management* 35 (4):345-354. doi: 10.1080/1360080x.2013.812030.

Nicola-Richmond, Kelli, Geneviève Pépin, Helen Larkin, and Charlotte Taylor. 2017. "Threshold concepts in higher education: a synthesis of the literature relating to measurement of threshold crossing." *Higher Education Research & Development* 37 (1):101-114. doi: 10.1080/07294360.2017.1339181.

Nyhagen, Gigliola Mathisen, and Lukas Baschung. 2013. "New organisational structures and the transformation of academic work." *Higher Education* 66 (4):409-423. doi: 10.1007/s10734-013-9612-1.

O'Mahoney, Joe., and Steve. Vincent. 2014. "Critical realism as an empirical project: A beginner's guide." In *Studying organizations using critical realism*, edited by Paul K. Edwards, Joe. O'Mahoney and Steve. Vincent, 1-20. Oxford: Oxford University Press.

OECD. 1996. "The knowledge-based economy." accessed 29/02/2020. http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=OCDE/GD%2896%29102&docLanguage=En.

Overall, Nickola C., Kelsey L. Deane, and Elizabeth R. Peterson. 2011. "Promoting doctoral students' research self-efficacy: combining academic guidance with autonomy support." *Higher Education Research & Development* 30 (6):791-805. doi: 10.1080/07294360.2010.535508.

O'Donnell, R. 2010. A critique of the threshold concepts hypothesis and an application in economics (Working Paper No. 164).

Park, Chris. 2005. "War of attrition: Patterns of non-completion amongst postgraduate research students." *Higher Education Review* 38 (1):48-53.

Paré, Anthony. 2011. "Speaking of writing: Supervisory feedback and the dissertation." In *Doctoral Education: Research-Based Strategies for Doctoral Students, Supervisors and Administrators*, edited by Lynne McAlpine and Cheryl Amundsen. London: Springer.

Patton, Michael Quinn. 2002. *Qualitative research & evaluation methods*. 3rd ed. ed. Thousand Oaks, Calif. ; London: Sage.

Pervan, Simon, Deborah Blackman, Terry Sloan, Michelle Wallace, Andrea Vocino, and Cathy Byrne. 2015. "Framing the socialisation process of the DBA candidate: what can universities offer and what should candidates bring?" *Studies in Continuing Education* 38 (3):299-317. doi: 10.1080/0158037x.2015.1120191.

Phillips, Estelle, and Derek Pugh. 2015. *How to get a PhD: A handbook for students and their supervisors*. Sixth ed. Maidenhead: Open University Press.

Pilbeam, Colin, and David Denyer. 2009. "Lone scholar or community member? The role of student networks in doctoral education in a UK management school." *Studies in Higher Education* 34 (3):301-318. doi: 10.1080/03075070802597077.

Pilbeam, Colin, Gaynor Lloyd-Jones, and David Denyer. 2013. "Leveraging value in doctoral student networks through social capital." *Studies in Higher Education* 38 (10):1472-1489. doi: 10.1080/03075079.2011.636800.

Pope, Maureen, and Denicolo. 1990. "Adults learning - teachers thinking." In *Insights into teachers' thinking and practice*, edited by Christopher Day, Maureen Pope and Pam Denicolo. Basingstoke: Routledge.

Pyhältö, Kirsi, and Jenni Keskinen. 2012. "Doctoral Students' Sense of Relational Agency in Their Scholarly Communities." *International Journal of Higher Education* 1 (2). doi: 10.5430/ijhe.v1n2p136.

Pyhältö, Kirsi, Jenna Vekkaila, and Jenni Keskinen. 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. doi: 10.1080/14703297.2014.981836.
REF. 2019. "Guidance on submissions." accessed 28/02/2020. https://www.ref.ac.uk/media/1092/ref-2019_01-guidance-on-submissions.pdf.
Robbins, Lionel. 1963. Higher education: report of the Committee appointed by the Prime Minister under the chairmanship of Lord Robbins, 1961-63. London: Her Majesty's Stationery Office.
Roberts, G. G. 2002. SET for success : the supply of people with science, technology, engineering and mathematics skills : the report of Sir Gareth Roberts' review. London: HM Treasury.
Rocco, Tonette S., and Maria S. Plakhotnik. 2009. "Literature Reviews, Conceptual Frameworks, and Theoretical Frameworks: Terms, Functions, and Distinctions." *Human Resource Development Review* 8 (1):120-130. doi: 10.1177/1534484309332617.
Rodwell, John, and Ruth Neumann. 2008. "Predictors of timely doctoral student completions by type of attendance: the utility of a pragmatic approach." *Journal of Higher Education Policy and Management* 30 (1):65-76. doi: 10.1080/13600800701745069.
Rowbottom, Darrell Patrick. 2007. "Demystifying Threshold Concepts." *Journal of Philosophy of Education* 41 (2):263-270. doi: 10.1111/j.1467-9752.2007.00554.x.
Rugg, Gordon, and Marian Petre. 2020. *The unwritten rules of PhD research*. Third ed. London: Open University Press.
Seagram, Belinda Crawford, Judy Gould, and Sandra W. Pyke. 1998. "An investigation of gender and other variables on time to completion of doctoral degrees." *Research in Higher Education* 39 (3):319-335.
Shepherd, Jessica. 2007. "A race to the finish." *The Guardian*. https://www.theguardian.com/education/2007/oct/02/highereducation.postgraduate.
Simpson, Renate. 1983. *How the PhD came to Britain : a century of struggle for postgraduate education*. Guildford: Society for Research into Higher Education.
Simpson, Renate. 2009. *The development of the PhD degree in Britain, 1917-1959 and since : an evolutionary and statistical history in higher education*. Lewiston, N.Y.: Edwin Mellen Press.
Sinclair, Jennifer, Robyn Barnacle, and Denise Cuthbert. 2013. "How the doctorate contributes to the formation of active researchers: what the research tells us." *Studies in Higher Education* 39 (10):1972-1986. doi: 10.1080/03075079.2013.806460.
Smith, Jonathan, Paul Flowers, and Michael Larkin. 2009. *Interpretative phenomenological analysis: Theory, method and research*. London: Sage.
Smith McGloin, Rebekah, and Carolyn Wynne. 2015. Structural Changes in Doctoral Education in the UK: A Review of Graduate Schools and the Development of Doctoral Colleges.
Spronken-Smith, Rachel, Claire Cameron, and Robin Quigg. 2017. "Factors contributing to high PhD completion rates: a case study in a research-intensive university in New Zealand." *Assessment & Evaluation in Higher Education* 43 (1):94-109. doi: 10.1080/02602938.2017.1298717.
Stake, Robert E. 1995. *The art of case study research*. California: Sage.

Stake, Robert E. 2005. "Qualitative case studies." In *The Sage Handbook of Qualitative Research*, edited by Norman K. Denzin and Yvonna S. Lincoln. London: Sage.
Sutcliffe, Jamie, Viv Burr, and Nigel King. 2016. "Using rivers of experience to explore people's relationships with nature." In *Constructivist approaches and research methods: A practical guide to exploring personal meanings*, edited by Pam Denicolo, Trevor Long and Kim Bradley-Cole. London: Sage.
Taylor, John. 2018. *The impact of the First World War on British Universities: Emerging from the shadows*. London: Palgrave MacMillan.
Taylor, Stanley Edward. 2012. "Changes in doctoral education: Implications for supervisors in developing early career researchers." *International Journal for Researcher Development* 3 (2):118 - 138.
Trafford, Vernon, and Shosh Leshem. 2009. "Doctorateness as a threshold concept." *Innovations in Education and Teaching International* 46 (3):305-316. doi: 10.1080/14703290903069027.
Turner, Gosia. 2015. PRES 2015: The research student journey. York: Higher Education Academy.
Usher, Robin. 2006. "Lyotard's performance." *Studies in philosophy and education* 25 (4):279-288.
Valero, Yaritza Ferrer de. 2001. "Departmental Factors Affecting Time-to-Degree and Completion Rates of Doctoral Students at One Land-Grant Research Institution." *The Journal of Higher Education* 72 (3):341-367. doi: 10.2307/2649335.
van de Schoot, Rens, Mara A. Yerkes, Jolien M. Mouw, and Hans Sonneveld. 2013. "What Took Them So Long? Explaining PhD Delays among Doctoral Candidates." *PLoS ONE* 8 (7):e68839. doi: 10.1371/journal.pone.0068839.
van der Haert, Margaux, Elena Arias Ortiz, Philippe Emplit, Véronique Halloin, and Catherine Dehon. 2013. "Are dropout and degree completion in doctoral study significantly dependent on type of financial support and field of research?" *Studies in Higher Education* 39 (10):1885-1909. doi: 10.1080/03075079.2013.806458.
van Rooij, E., M. Fokkens-Bruinsma, and E. Jansen. 2019. "Factors that influence PhD candidates' success: the importance of PhD project characteristics." *Studies in Continuing Education*:1-20. doi: 10.1080/0158037x.2019.1652158.
Vidak, M., R. Tokalic, M. Marusic, L. Puljak, and D. Sapunar. 2017. "Improving completion rates of students in biomedical PhD programs: an interventional study." *BMC Med Educ* 17 (1):144. doi: 10.1186/s12909-017-0985-1.
Wao, Hesborn, and Anthony Onwuegbuzie. 2011. "A mixed research investigation of factors related to time to doctorate in Education." *International Journal of Doctoral Studies* 6:115-134.
Weidman, John C , and Elizabeth Stein. 2003. "Socialization of doctoral students to academic norms." *Research in Higher Education* 44 (6):641-656.
Williams, Michael Steven, Tiffany Jeanette Brown Burnett, Talia Kay Carroll, and Cameron J. Harris. 2016. "Mentoring, Managing, and Helping." *Journal of College Student Retention: Research, Theory & Practice* 20 (2):253-278. doi: 10.1177/1521025116657834.
Winfield, Graham. 1987. *The Social science PhD : The ESRC inquiry on submission rates : a report commissioned by the Economic and Social Research Council*. London: the Council.

Wisker, Gina, and Soren Bengtsen. 2019. "Towards Gothic-influenced approaches to doctoral journeys and supervision: Challenging conformity, destruction and despair, releasing and shaping creative energies." SRHE: Creativity, criticality and conformity in higher education, Newport.

Wisker, Gina, and Gillian Robinson. 2009. "Encouraging postgraduate students of literature and art to cross conceptual thresholds." *Innovations in Education and Teaching International* 46 (3):317-330. doi: 10.1080/14703290903069035.

Wisker, Gina, Gillian Robinson, Vernon Trafford, Mark Warnes, and Emma Creighton. 2013. "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. doi: 10.1080/1356251032000088592.

Wollast, Robin, Gentiane Boudrenghien, Nicolas Van der Linden, Benoît Galand, Nathalie Roland, Christelle Devos, Mikaël De Clercq, Olivier Klein, Assad Azzi, and Mariane Frenay. 2018. "Who Are the Doctoral Students Who Drop Out? Factors Associated with the Rate of Doctoral Degree Completion in Universities." *International Journal of Higher Education* 7 (4). doi: 10.5430/ijhe.v7n4p143.

Woods, Peter. 1993. "Critical events in education." *British Journal of Sociology of Education* 14 (4):355-371.

Wright, Toni, and Ray Cochrane. 2000. "Factors Influencing Successful Submission of PhD Theses." *Studies in Higher Education* 25 (2):181-195. doi: 10.1080/713696139.

Yazan, Bedrettin. 2015. "Three approaches to case study methods in education: Yin, Merriam, and Stake." *The Qualitative Report* 20 (2):134-152.

Yin, Robert K. 2014. *Case study research: Design and methods*. 5th ed. London: Sage.

Appendix 1 – Briefing pack for case study institution

Research Project: Understanding what leads to timely and successful submission of PhD Theses

What is this research project about?

This research project explores what helps or hinders timely submission of PhD theses. Timely submission of full time doctorates has become a critical factor for continued research funding for universities and my research aims to help universities understand what they can do to help postgraduate researchers complete their doctorate on time.

My interest in the topic of timely submission stems from my professional experience working as a manager of a Doctoral College. Through my profession, I have witnessed how universities across the world are under increasing pressure to ensure that PhD students submit their theses within a pre-determined timeframe. This pressure emanates from numerous and varied government policies that encourage universities to improve the proportion of students submitting within a 'reasonable' timescale. In the United Kingdom, for example, Research Councils set targets for institutions which, if not achieved, lead to institutions being cut off from accessing further financial investment in doctorates. The timeliness of doctoral completions is not an issue confined to the UK. In Sweden and the Netherlands, for example, laws have been passed to limit the duration of doctoral programmes. In Russia, doctoral programmes have been restructured recently to improve completion rates. In the United States and Spain, there is widespread concern about the very low proportions of students completing a doctorate after registration. The issue of timely completions of doctorates is, therefore, an issue that affects doctoral programmes on a global scale.

Whereas these policies have drawn attention to the issue of low completion rates and lengthy times to degree, they do not offer universities any guidance on what approaches can be taken to support doctoral researchers to timely and successful submission of their theses. My research project aims to fill this gap by exploring the question: what helps doctoral researchers to submit their theses in a timely fashion and with a successful outcome at the *viva voce* examination?

Building on previous work, my research project explores the influences of the intellectual and affective attributes of PhD students; the size and scope of projects; the impact of different supervisory approaches; the role of local and institutional research cultures; and the policy context.

What will [Case Study] gain from this research?

I am grateful to [Case study] for granting me permission to carry out fieldwork. I am keen to repay this kindness so that [Case study] can benefit directly from the research project. I would be pleased to offer the University the following:

- Producing summary reports of findings for Learning & Teaching/Research committees;
- Presenting findings to departments/schools or special interest groups within the University;

- Sharing publications and other outputs from the research.

What is involved in the research?

This stage of the research project conforms to a single institution case study approach with two main strands: i) document analysis; and ii) semi-structured interviews.

The research design involves fieldwork in three Schools representing a spread of disciplines (Humanities, Social Sciences and STEM). Fieldwork is planned to take place over three one-week visits. Each visit will be dedicated to working in a particular School.

In order to facilitate the research process, and to help me gain an understanding of the key issues on the minds of those working with doctoral researchers, it would be helpful to have access to the following documents from Schools prior to each visit (if they are willing to share these):

- Statistics on submission and completion rates
- Overview statistics of the composition of School PGR populations
- School PGR handbook
- PRES results
- School Annual Review reports
- Staff-student committees

To protect the anonymity of individuals and their confidentiality, I would be happy to receive redacted versions of the above documents.

The main source of data collection is semi-structured interviews. Within each School I intend to interview c. 5 full-time students in their final year or beyond; c. 5 experienced supervisors and the academic and administrative leads for PGR. At the institutional level, I would also like to interview the academic and administrative leads within the Doctoral Academy.

The project has been approved by Royal Holloway's ethics committee. Measures will be taken to protect the anonymity and confidentiality of research participants. Copies of the information sheet for participants and the interview consent form are appended.

A proposed timeline for data collection is set out below. I am, of course, amenable to changing this timeline so that it is convenient for the University.

What support does the researcher need from [Case study]?

The research will be carried out to cause as little disruption as possible to normal working patterns. However, I will require some assistance with practical matters such as:

- Support with securing agreement from Schools to participate in project;
- Support from School for contacting and recruiting participants;
- Support with room bookings for interviews.

It would be helpful if I could have access to a named contact who would act as a gatekeeper for the early stages of work. I would keep interaction with this individual to what is essential for the project as I appreciate that they will be busy with other commitments.

About the researcher

My name is Shane Dowle and I am part-time PhD researcher at Royal Holloway, University of London. My PhD research is supervised by Professors Rosemary Deem (Vice Principal Teaching Innovation and Dean of the Doctoral School) and Pam Denicolo (Professor Emerita University of Reading). I have presented my PhD work at international conferences including the Society for Research into Higher Education and UK Council for Graduate Education.

I am also the manager of the University of Surrey's Doctoral College and engaged with doctoral education at the sector-level. I am responsible for co-ordinating the Academic Registrars Council Postgraduate Group; I am a regular attendee of the UKCGE's Graduate School Managers' Network; and I have served on advisory boards for the QAA and the HEA's PRES survey.

I am an alumnus of Cardiff University having graduated with a First Class degree in modern foreign languages in 2006. I also hold an MA (Distinction) from Birkbeck College, University of London.

Appendix 2 – Participant information sheet (Case Study Institution)

Information sheet for interview participants

Thank you for your interest in participating in my PhD research project. You will find more information about the research in this information sheet. If you would like to take part in the research, or discuss it further, please contact me on:

Shane.Dowle.2013@live.rhul.ac.uk

Shane Dowle
PhD Student (School of Management, Royal Holloway, University of London)

What is the purpose of the research?

This research project investigates what leads to timely and successful submission of PhD theses by exploring the experiences, views and perceptions of key stakeholders in doctoral education. I am most interested in speaking to PhD students, supervisors, programme directors, administrators and institutional leads.

The findings of the research may in time be used to inform practice in doctoral education which, it is hoped, will help to improve the experiences and chances of success of future PhD students.

Why have I been chosen?

You have been chosen because you are one of the key stakeholders in doctoral education listed above. I am really interested in learning from your experience and hearing about what it is like to be involved in your doctoral programme – either as a student, supervisor, programme director, administrator or institutional lead – at your university.

Your experiences and views are invaluable and will assist me in identifying what helps to ensure that doctoral students make timely and successful progress towards the PhD.

Do I have to take part?

Participation in this research is entirely voluntary. There will be no negative consequences for you whether or not you choose to take part.

If you decide that you would like to participate in this research you have the right to withdraw at any point without giving reasons for your decision. You may also decline to answer any questions during the interview without giving a reason.

What do I have to do?

If you would like to take part in this interview then please contact me, Shane Dowle, using the email address below:

Shane.Dowle.2013@live.rhul.ac.uk

When I hear from you we will organise a convenient time and location to meet for the interview. The interview will last for approximately 1.5 – 2 hours and will be recorded.

The interview itself will be relaxed and informal. The interviews are semi-structured but questions will likely cover student progress and development throughout the PhD; supervision; the support structures in the department, University and beyond; and relevant policies and practices. If you are a student, you are also asked to reflect on your experience as a doctoral researcher in advance of the interview using the 'rivers of experience' technique (see guidance on page 4 of this document).

What happens to the information I give at the interview?

All information you provide during the interview will be treated confidentially, except in *very unlikely circumstances* where there is a legal or ethical obligation to disclose information, for example, if you are in danger. Any disclosure would be handled in accordance with the British Psychological Society's *Code of Ethics and Conduct*. You can expect that I would discuss any disclosure with you, seeking your permission to do so, and I would limit any disclosure to what is absolutely necessary whilst trying to protect your anonymity as far as is practicable and ethically sound to do so. I would consult with my supervisors before any disclosure and the reason for disclosure would be documented.

This is a very unlikely scenario. Under normal circumstances, the only person who will know that you took part in the research is me.

The interviews will be transcribed either by me or by a reputable and authorised transcriber who will be required to sign a confidentiality agreement before undertaking the work.

Transcriptions will be anonymised and any potential identifiers removed by me. I will be the main person to have access to the transcriptions though it may be appropriate for me to share them, on occasions, with my PhD supervisors who will also be required to treat the information confidentially.

The transcriptions will be stored electronically and password protected.

What will happen to the results of the study?

The results of the study will be made available in my PhD thesis, conference presentations and any resulting publications. The results might also be shared with policy makers, funders of doctoral education and other universities.

If requested, I can provide you with a copy of the interview transcript.

Who is funding the study?

The study is funded by the University of Surrey.

Who has approved the study?

The study has been approved by the Royal Holloway, University of London Ethics Committee.

About the researcher

I am undertaking this research on a part-time basis at Royal Holloway, University of London. A link to my profile is available here. I am also employed full-time at the University of Surrey as the Doctoral College Manager. A link to our website is available here.

Contact for further information

If you have any questions or queries about any aspect of the research, or if you would like to take part, I would be happy to talk to you. Please contact me on:

Shane.Dowle.2013@live.rhul.ac.uk

Thank you for reading this information sheet and considering taking part in the research.

Shane Dowle
PhD Student
School of Management
Royal Holloway, University of London

Instructions for creating your 'River of Experience'

Thank you for agreeing to take part in this research project. The purpose of the research is to explore what leads to timely and successful submission of PhD theses.

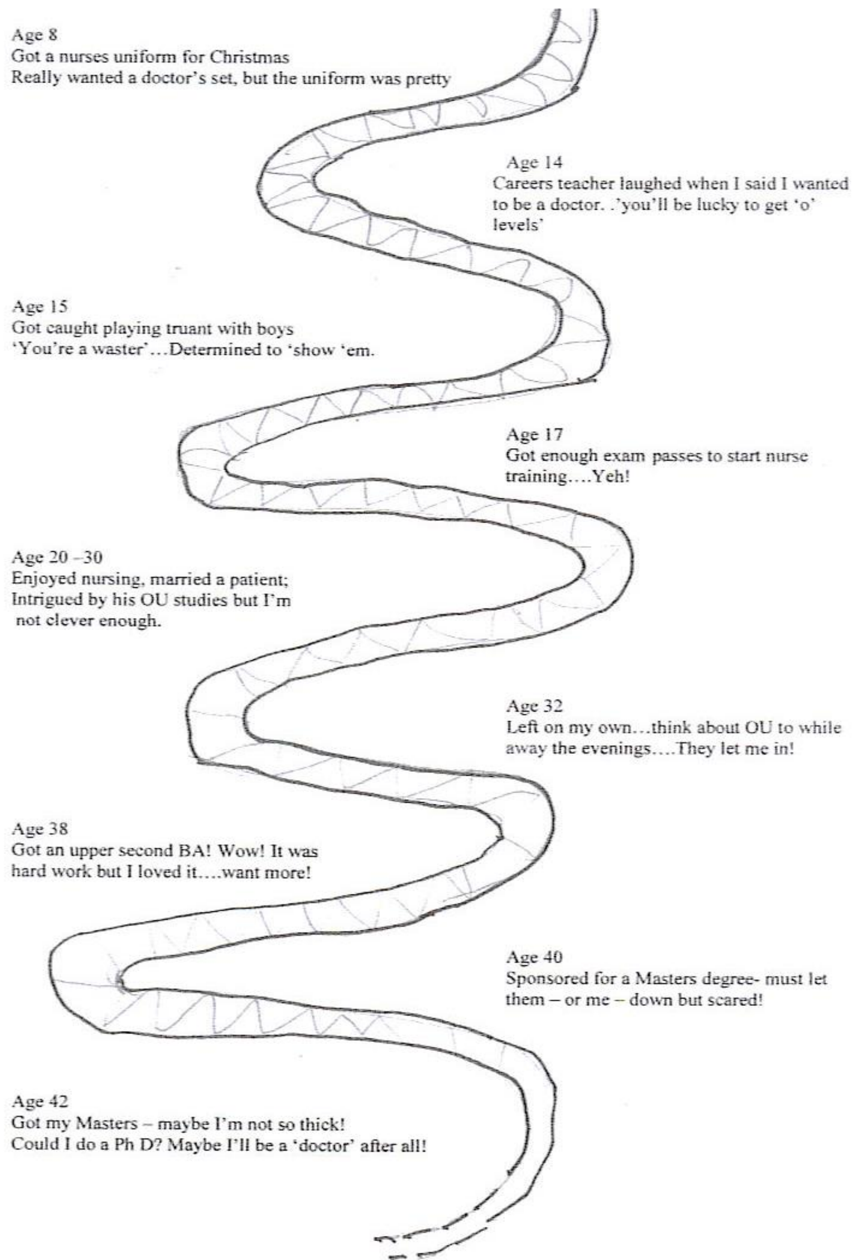
Before we meet, I would like you to create a visual record of your PhD project using a technique called 'rivers of experience'.

To create your 'river experience', please envisage your PhD project as a winding river. Against each bend in the river, make a short note of an incident or experience that was critical or significant in some way to how your PhD project has unfolded over time to where it is now. Please remember that there is no right or wrong way to do this. The most important thing is that you capture the experiences that were significant to you.

Please bring your river of experience along with you to the interview, during which we can discuss it in more detail.

An example of 'river of experience' is provided below. This is taken from an unrelated research project in which participants were asked to reflect on how they became a doctoral student.

I am very grateful to you for volunteering to speak to me and I look forward to hearing more about your experiences of doing a PhD when we meet.



Example 'river of experience': Reflections on how I became a PhD student[6]

[6] This example river of experience appears in (Denicolo 2003) and was generously donated by a research participant to Prof Pam Denicolo for teaching purposes.

Appendix 3 – Consent form (Case study institution)

Title of project: Getting there on time: Understanding what leads to timely and successful submission of PhD theses

Name of researcher: Shane Dowle

By signing this consent form I confirm that:

1. I have read and understood the information sheet for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.
2. I understand that my participation is voluntary and that I am free to withdraw at any time without giving a reason and without any negative consequences for me.
3. I understand that I can decline to answer any or all of the interviewer's questions without giving a reason.
4. I have been informed that the interview will be recorded and I give my consent for this recording to be made.
5. I understand that the recording will be transcribed by the researcher or by a trusted third party transcriber and that the transcription will be anonymised with identifiers removed. I give my consent for a transcription to be made.
6. I understand that all information I provide will be treated as confidential to the researcher and supervisors (except in very unlikely circumstances where there is a legal or ethical obligation to disclose information, for example, if I am in danger) and will be anonymised.
7. I agree to the use of anonymised direct quotations from my interview in publications, including the thesis, and presentations arising from this study.
8. I agree to take part in the above study.

Name of participant:	Signature of participant:	Date:

Appendix 4 – Interview guide example

Introduction

1. The purpose of this research is to explore what leads to timely and successful submission of PhD theses. I find this topic fascinating and I really hope to be able to use the findings from the research to help students, supervisors and universities who are grappling the issue. I am very grateful to you for volunteering to speak to me and I look forward to hearing more about your experiences of doing a PhD. In particular, I would really like to hear about when you have felt that you are making good progress towards submission, for instance, what were the particular enablers? Also I would like to learn from you about any particular hindrances where you have felt that you might not meet your submission deadline.
2. I will be interviewing a number of other students, supervisors, and administrators in your department as well as individuals with an institutional responsibility for PhD students. Your responses today will help me to understand what helps or hinders progress towards submission so I would really appreciate it if you could give as much detail as possible in your answers.
3. I would like to take this opportunity to remind you that there will be no negative consequences for you as a result of participating in this research. You may decline to answer any or all of my questions during the interview without giving a reason and I shall check with you at the end of the interview that you are happy for me to use the data we create today. Any information you give in the interview will be treated confidentially (except in very unlikely circumstances where there is a legal or ethical obligation to disclose information, for example, if you are in danger) and will be anonymised.
4. I will be making a recording of this interview. Is that okay with you? [Switch on recorders at this point]
5. The audio files will be transcribed either by me or a trusted transcriber. The transcriber will be required to sign a confidentiality agreement before being granted access to the recordings. The transcripts will be anonymised and anything that could identify you as an individual will be removed. My supervisors and I will be the only people to have access to the anonymised transcripts. Is that okay with you? [Sign the agreement at this point]
6. Do you have any questions before we start?

Background

7. Tell me a bit about yourself and how you came to your PhD.

   Find out: MoA; Year of study; Funding arrangements;
8. What were your main motivations for doing a PhD?
9. What attracted you to this department and university to do your PhD?

The Project

10. Tell me a bit about your project. What is it about?

11. What interested you in that topic?

12. Who came up with the idea for your project?

13. In general, how do you feel that your project is going?

14. I'd like us to discuss your Rivers of Experience diagram. Would you please talk me through the key experiences you identified?

    Prompt: How and why did those experiences support/hinder progress with the project?

Student Intellectual and Affective traits

15. Reflecting on your diagram, how do you think you have developed as a researcher during your time here so far?

    Prompt: what intellectual/emotional skills have you developed?
16. Have the things you identified helped you to make progress with your project? How?

(Back up questions if they've not done a River of Experience:
Can you tell me about how you have developed as a researcher during your time here so far?
Prompt: what intellectual/emotional skills have you developed?
Can you think of how an example of how the things you have identified have helped you to make progress with your project?)

Supervision

17. Could you tell me a bit about your supervisors please?

18. How would you describe your relationship with your supervisors?

19. Are there particular things that your supervisors do that you find helpful for progressing with your project?

    Probe: Why are those things so effective do you think?
20. Is there anything you think that your supervisors could do, or do more of, to help you move forward with your project?

    Probe: Why would that be helpful for making progress do you think?
21. What would you do if you experienced any problems with your supervision?

The Department

22. Tell me a bit about how the progress review process operates in the School? Have you found this to be useful for supporting your progress?
23. Would you know who to approach if you had an issue with your PhD? Have you ever had to do that? How did it go?
24. What is the community like in your School?

    Probe: Has it been helpful to you in making progress do you think?
25. Tell me how you can give feedback on your experience? What is done in response to that feedback?

<u>Teaching/Demonstrating</u>

26. Have you done any teaching or demonstrating as a part of your PhD?
27. Have you found it helpful for your own PhD project?

    Probe: If so, why? If not, why not?

<u>Broader research culture</u>

28. Have you used the Doctoral Academy?
29. Do you find the training helpful for your own progress?

    Probe: If so, why? If not, why not?

<u>Submission policy</u>

30. When is your submission deadline?
31. Do you feel confident about meeting that deadline?
32. Do you feel pressure to submit by your deadline?
33. What would happen to you if you didn't meet that deadline?

<u>Concluding the interview</u>

34. That was the last of the questions I wanted to ask you. Is there anything you wanted to tell me that I did not ask you about?
35. Do you have any questions you want to ask me?
36. Thank you for your time today. Are you still happy for me to use the data from today's interview?
37. As a next step this interview will be transcribed and anonymised. If you would like me to send you a summary of the interview or a copy of the transcript please just let me know at any time.

Appendix 5 – Information sheet and consent form (Pilot)

Interview consent form – Pilot study

Title of project: Getting there on time: Understanding what leads to timely and successful submission of PhD theses
Name of researcher: Shane Dowle
By signing this consent form I confirm that:

1. I have read and understood the information sheet for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.
2. I understand that my participation is voluntary and that I am free to withdraw at any time without giving a reason and without any negative consequences for me.
3. I understand that I can decline to answer any or all of the interviewer's questions without giving a reason.
4. I have been informed that the interview will be recorded and I give my consent for this recording to be made.
5. I understand that the recording will be transcribed by the researcher or by a trusted third party transcriber and that the transcription will be anonymised with identifiers removed. I give my consent for a transcription to be made.
6. I understand that all information I provide will be treated as confidential to the researcher and supervisors (except in very unlikely circumstances where there is a legal or ethical obligation to disclose information, for example, if I am in danger) and will be anonymised.
7. I understand that the information I provide in this pilot study will not be used in research outputs resulting from the project.
8. I agree to take part in the above study.

Name of participant:	Signature of participant:	Date:

Getting there on time: Understanding what leads to timely and successful submission of PhD theses

Information sheet for pilot interview participants

Thank you for your interest in participating in the pilot stage of my PhD research project. You will find more information about the research in this information sheet. If you would like to take part in the research, or discuss it further, please contact me on:

- Email: Shane.Dowle.2013@live.rhul.ac.uk
- Phone:

Shane Dowle
PhD Student (School of Management, Royal Holloway, University of London)

What is the purpose of the research?

This research project investigates what leads to timely and successful submission of PhD theses by exploring the experiences, views and perceptions of key stakeholders in doctoral education. I am most interested in speaking to PhD students, supervisors, programme directors, administrators and institutional leads.

The findings of the research may in time be used to inform practice in doctoral education which, it is hoped, will help to improve the experiences and chances of success of future PhD students. This pilot stage will also be used to refine the questions asked in the interviews.

Why have I been chosen?

You have been chosen because you are one of the key stakeholders in doctoral education listed above. I am really interested in learning from your experience and hearing about what it is like to be involved in your doctoral programme – either as a student, supervisor, programme director, administrator or institutional lead – at your university.

Your experiences and views are invaluable and will assist me in identifying what helps to ensure that doctoral students make timely and successful progress towards the PhD.

Do I have to take part?

Participation in this research is entirely voluntary. There will be no negative consequences for you whether or not you choose to take part.

If you decide that you would like to participate in this research you have the right to withdraw at any point without giving reasons for your decision. You may also decline to answer any questions during the interview without giving a reason.

What do I have to do?

If you would like to take part in this interview then please contact me, Shane Dowle, using either of the contact details below:

- Email: Shane.Dowle.2013@live.rhul.ac.uk
- Phone:

When I hear from you we will organise a convenient time and location (normally within the University but away from your department) to meet for the interview. The interview will last for approximately 1.5 – 2 hours and will be recorded.

The interview itself will be relaxed and informal. The interviews are semi-structured but questions will likely cover student progress and development throughout the PhD; supervision; the support structures in the department, University and beyond; and relevant policies and practices.

What happens to the information I give at the interview?

All information you provide during the interviews will be treated confidentially, except in *very unlikely circumstances* where there is a legal or ethical obligation to disclose information, for example, if you are in danger. Should a need to arise to disclose anything revealed during the interview then this would be handled in accordance with the British Psychological Society's *Code of Ethics and Conduct*. You can expect that I would discuss any disclosure with you, seeking your permission to do so, and I would limit any disclosure to what is absolutely necessary whilst trying to protect your anonymity as far as is practicable and ethically sound to do so. I would consult with my supervisors before any disclosure and the reason for disclosure would be documented.

This is a very unlikely scenario. Under normal circumstances, the only person who will know that you took part in the research is me.

The interviews will be transcribed either by me or by a reputable and authorised transcriber who will be required to sign a confidentiality agreement before undertaking the work.

Transcriptions will be anonymised and any potential identifiers removed by me. I will be the main person to have access to the transcriptions though it may be appropriate for me to share them, on occasions, with my PhD supervisors who will also be required to treat the information confidentially.

The transcriptions will be stored electronically and password protected.

What will happen to the results of the study?

If requested, I can provide you with a summary and/or copy of the transcription of what is said at the interview so that you can be sure that I have understood accurately the points you made.

The results of the main study will be made available in my PhD thesis, conference presentations and any resulting publications. The results might also be shared with policy makers, funders of doctoral education and other universities. The results of the pilot will not be included in any output resulting from the project.

Who is funding the study?

The study is funded by the University of Surrey.

Who has approved the study?

The study has been approved by the Royal Holloway, University of London Ethics Committee.

About the researcher

I am undertaking this research on a part-time basis at Royal Holloway, University of London. A link to my profile is available here. I am also employed full-time at the University of Surrey as the Doctoral College Manager. A link to our website is available here.

Contact for further information

If you have any questions or queries about any aspect of the research, or if you would like to take part, I would be happy to talk to you. Please contact me on:

- Email: Shane.Dowle.2013@live.rhul.ac.uk
- Phone:

Thank you for reading this information sheet and considering taking part in the research.

Shane Dowle
PhD Student
School of Management
Royal Holloway, University of London

Appendix 6 – Data analysis example (Doctoral researcher agency)

Familiarisation	Wrote notes in notebooks to capture initial thoughts, ideas about data.
Coding	Compiling material into thesis structure; Regular writing; Constructive engagement with feedback; Critical engagement with literature; Bigger picture in research; Follow what the data say; Justifying research decisions; Outside comfort zone; Problem solving; Reframing the PhD; Self directed critical evaluation of project; Dealing with failure; Downtime; Passion; Researcher identity; Self-belief; Passive response; Carrying on regardless; Problems outside of control; Relying on supervisor to resolve; Self direction; Sense of ownership; Time management; Out of research for long time; Relevant previous experience; UG and PGT do not prepare for research; Adapting how to work with supervisors; Choose not to act; Comparing self and work with others; Conferences - external validation; Indentifying and approaching others who can help; Inspirational people; Isolating; Joint work with supervisors to resolve research problem; Mentor – reassures; Personal support networks; Publishing; Using workshops; Experimental problems; Negative feedback; Uncertainty in research process; Personal life pressures; Not getting on with peers; Student supervisor relationship; Funding; Other activities; Time to do research
Initial themes	Cognitive skills, intra-personal effectiveness; interpersonal effectiveness; behaviours (likely to submit vs not likely)
Reviewing themes	Critical reflexivity (making sense of inputs, knowledge creation process, bigger picture); personal efficacy (ownership, time management, work ethic, self care/self belief); Relational (academic relationships, affective relationships)
Define and name themes	**Epistemic oriented agency** (Epistemic-oriented agency refers to how doctoral researchers exercise agency in order to navigate epistemic critical events. It is characterised by a process of reflexive deliberation. This involves deliberation about the inputs to their research projects; deliberation about the knowledge creation process; and deliberation about the bigger picture of their projects. I now explore each of these sub-themes in more detail). **Self-efficacy-oriented agency** (Self-efficacy-oriented agency refers to how doctoral researchers exercise agency in order to navigate temporal

	critical events. The key features of self-efficacy-oriented agency are approaches to time management; sense of ownership of the research; and self-care management. Self-efficacy-oriented agency was found to be strengthened when doctoral researchers have a strong sense of self-belief in their competencies as a researcher). **Relational agency** (relational agency, refers to how doctoral researchers learn how to work with significant others in the doctoral experience to navigate both relational and personal critical events. The key features of relational agency are fostering productive working relationships with other academics, and industrial partners, where relevant, and nurturing personal relationships).
Write up	See Section 7.3

Appendix 7 – Questions used at UKCGE validation workshop

Based on your collective experience…

1. How do different approaches taken by doctoral students help or hinder their progress?
2. How do different approaches taken by supervisors help or hinder doctoral students' progress?
3. How do structural elements of doctoral programmes (e.g. progress reviews, training, teaching experience) help or hinder doctoral students' progress?
4. Should timely completion be regarded as important?

Appendix 8 – UKCGE consent form

Name of workshop: The Doctoral Research Experience – Enhancers and Inhibitors of Progress

Name of researcher: Shane Dowle

By signing this consent form I confirm that:

1. I have read and understood the abstract for the workshop. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.
2. I understand that my participation is voluntary and that I am free to withdraw at any time without giving a reason and without any negative consequences for me.
3. I understand that I can decline to participate without giving a reason.
4. I have been informed that some parts of the workshop will be recorded, and I give my consent for this recording to be made.
5. I understand that the recording may be transcribed by the researcher or by a trusted third-party transcriber and that the transcription will be anonymised with identifiers removed. I give my consent for a transcription to be made.
6. I understand that all information I provide will be anonymised.
7. I agree to the use of anonymised direct quotations from me in publications, including the thesis, and presentations arising from this study. I understand that I can ask the researcher to inform me if he intends to use an anonymised direct quotation from me.
8. I agree to take part in the above study.

Name of participant:	Signature of participant:	Date:

Appendix 9 – SRHE information pack and consent form

Name of workshop: The Doctoral Research Experience – Enhancers and Inhibitors of Progress

Name of researcher: Shane Dowle

By signing this consent form I confirm that:

1. I have read and understood the information sheet for the workshop. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.
2. I understand that my participation is voluntary and that I am free to withdraw at any time without giving a reason and without any negative consequences for me.
3. I understand that I can decline to participate without giving a reason.
4. I have been informed that some parts of the workshop will be recorded, and I give my consent for this recording to be made.
5. I understand that the recording may be transcribed by the researcher or by a trusted third-party transcriber and that the transcription will be anonymised with identifiers removed. I give my consent for a transcription to be made.
6. I understand that all information I provide will be anonymised.
7. I agree to the use of anonymised direct quotations from me in publications, including the thesis, and presentations arising from this study. I understand that I can ask the researcher to inform me if he intends to use an anonymised direct quotation from me.
8. I agree to take part in the above study and to share my 'river of experience'* with the researcher/presenter for this project.

Name of participant:	Signature of participant:	Date:

*Delete the last phrase if you do not wish to share your river. You can, if you wish, delete in advance any parts that you think may identify you.

SRHE Workshop: The Doctoral Research Experience – Enhancers and Inhibitors of Progress

What will I gain from attending this workshop?

This interactive workshop is aimed at doctoral students and supervisors. The interactive workshop will:

- enable doctoral researchers to use a special tool to reflect on their own progress and how they might improve it;
- enable supervisors to reflect on good practice for supporting their researchers to timely completion;
- inform participants about a piece of recent research in the area of doctoral completions;
- enable them to contribute to the study's conclusions.

When and where will the workshop take place?

Date: 17th May 2019
Time: 11.00- 16.00 (includes lunch)
Venue: SRHE, 73 Collier Street, London, N1 9BE

How will the workshop be structured?

The agenda for the workshop is as follows:

11:00 – 12:00	Introduction then break into small groups to discuss rivers of experience: Are there common themes and key differences?
12:00 – 12:30	Feedback as one group
12:30 – 13:30	Lunch (provided)
13:30 – 14:15	Presentation of findings from research into what helps and what hinders timely completion of doctorates
14:15 – 15:00	Group work to discuss questions posed in preceding presentation
15:00 – 16:00	Feedback as one group and close.

What do I need to prepare before the workshop?

This workshop uses a tool from constructivist research called 'rivers of experience'. A 'river of experience' will help you to reflect on your experiences of doing a doctorate or supervising doctoral researchers. Preparing a 'river of experience' will facilitate identification of the

factors that enable progress with research projects and will also help to surface some of the constraints that might impede progress. By discussing these during the workshop, participants will gain an insight into effective approaches for progressing doctoral research as well as tactics for overcoming common inhibitors.

‘Rivers of experience’ are simple to prepare:

If you are a doctoral researcher: Please envisage your PhD project so far as a winding river. Against each bend in the river, make a short note of an incident or experience that was critical or significant in some way to how your research project has unfolded over time to where it is now. Think about capturing some key moments when you have felt that you were making good progress as well as the experiences that have led to progress slowing. Please include on your river: i) the type of doctorate you are doing; ii) your year of study; iii) your discipline e.g. Education, Sociology etc; iv) whether you are full-time or part-time.

If you are a supervisor: Please envisage your experience of supervising doctoral researchers as a winding river. You may like to focus on a specific doctoral researcher’s progress. If so, please say if the doctoral researcher completed on time or not. Instead, you might prefer to think of doctoral research journeys in general. Against each bend in the river, make a short note of an incident or experience that was critical or significant in some way to how your doctoral researchers’ projects unfolded over time. Think about capturing some key moments when you have felt that your doctoral researchers were making good progress as well as those times when progress has been stalled.

Remember that there is no right or wrong way to prepare a ‘river of experience’ – they can be as creative or as long as you like. The most important thing is that you capture the experiences that were significant to you.

Please bring your river of experience along with you to the workshop where we will discuss them in groups.

To help you prepare your ‘river of experience’, an example from previous fieldwork is provided below:

My 'river of experience'

Oct 2016
Starting PhD
· A little worried yet excited

· Background reading – understanding the basis of the project

Dec 2016
· Realising the challenges that need to be overcome ~~of optimising methods~~ for sucessful completion of PhD project

*What am I doing here?

Dec 2016 – May 2018
Optimisation & Troubleshooting
* Maybe I am not good enough?

Talking & collaborating with experts/PIs/supervisor in order to try & overcome hurdle

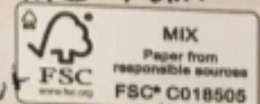
* I did it! I can do it.

May 2018
Optimised a key method

May 2018
· Multiple different things need to be done before achieving key milestone

· Things have slowed down again; feel like I am dissapointing supervisor but also realise I can only work as fast as the project allows.

Worried might not to meet deadline but can see a positive outcome



How will this workshop contribute to the findings of a PhD research project?

The presenter is engaged in a part-time PhD at Royal Holloway, University of London that investigates the enablers and inhibitors of timely completion of doctorates. The thesis explores the experiences, views and perceptions of key stakeholders in doctoral education (doctoral researchers, supervisors, programme leads and administrators) about what influences timely completion of the doctorate. It is hoped that the findings will be used to inform practice in doctoral education with a view to improving the experiences and chances of success of future doctoral researchers.

This workshop will inform the validation of findings from the institutional case study stage of the project. That stage involved document analysis and semi-structured interviews drawing on participants' rivers of experience. The data have been analysed and findings will be shared throughout the workshop.

This workshop will, if you give permission, generate some new data for the project in the form of your (anonymised) rivers of experiences and information (anonymised) from whole-group feedback sessions, which I would like to record and later transcribe. I therefore seek your consent to take a copy of your river of experience and record the whole-group feedback sessions. If you would like to attend but do not wish to share your river, I would be grateful if you would amend the consent form to refer only to the group discussion permission.

All normal ethical procedures will be followed to protect your anonymity in any outputs from the research:

- Your participation is voluntary, and you may withdraw at any time without giving a reason and without any negative consequences for you.
- During the workshop you may decline to participate without giving a reason.
- Recordings may be transcribed by the researcher or by a trusted third-party transcriber. The transcription will be anonymised with identifiers removed.
- Any direct quotations from you in publications, including the thesis, and presentations arising from this study will be anonymised.

You will be asked to sign and bring a consent form with you to the workshop. Copies will be available on the day, so please do not worry if you forget it.

If you have any queries about the research or workshop, please feel free to contact the presenter at any point.

About the researcher

My name is Shane Dowle and I am part-time PhD researcher at Royal Holloway, University of London. My PhD research is supervised by Professors Rosemary Deem (Vice Principal Teaching Innovation and Dean of the Doctoral School) and Pam Denicolo (Professor Emerita University of Reading). I have presented my PhD work at international conferences including the Society for Research into Higher Education, UK Council for Graduate Education and the EUA Centre for Doctoral Education.

I am also the Head of Studentships and Programmes within the University of Surrey's Doctoral College and engaged with doctoral education at the sector-level. I was, until 2019, responsible for co-ordinating the Academic Registrars Council Postgraduate Group; I am a regular attendee of the UKCGE's Graduate School Managers' Network; and I have served on advisory boards for the QAA and the AdvanceHe PRES survey.

Before discovering a passion for the social sciences, my academic training was in languages and cultural studies. I hold a First Class degree in Italian and Spanish from Cardiff University and an MA (Distinction) in Spanish, Portuguese and Latin American Studies from Birkbeck College, University of London.

My contact details are:

Email: s.dowle@surrey.ac.uk or shane.dowle.2013@live.rhul.ac.uk

I very much look forward to meeting you at the workshop and hearing more about your experiences.

Appendix 10 – SRHE workshop participant feedback

The Doctoral Research Experience – Enhancers and Inhibitors of Progress
17th May 2019
Forms received 11

1. The content of the seminar sessions were appropriate and informative
    a. Strongly agree 10
    b. Agree 1
    c. Disagree 0
    d. Strongly disagree 0

2. The seminar was well organised
    a. Strongly agree 10
    b. Agree 1
    c. Disagree 0
    d. Strongly disagree 0

3. Did you feel the length of the seminar sessions were too long, just about right, or too short?

    a. Too long 0
    b. Just about right 11
    c. Too short 0

4. What did you like most about this seminar?

    a. I found it really interesting that there were the same issues across all institutions. I thought that Shane and Pam were really enthusiastic, engaging facilitators.
    b. Group activities, length of time left to discuss was perfect.
    c. The currency of the research. The opportunity to exchange experiences, knowledge and practice across institutions.
    d. Interactive approach. Focus on personal experiences first and research presentation second.
    e. The mixture of personal anecdote combined with research findings.
    f. Comfortable atmosphere. Everyone willing to share openly and honestly. Kept to topic.
    g. The openness and willingness to share of the participants, and the way Shane facilitated this.
    h. Table layout/participation worked well – also a good size group. Good balance of group work + presentation.
    i. Another innovative event.
    j. The discussed themes and the way they were presented.

5. What did you like least about this seminar?
    a. Nothing really, really enjoyed it.
    b. Some of the chairs don't face the front (not really a problem).
    c. Nothing obvious.
    d. N/A
    e. Nothing particular

6. How can we improve delivery of our seminars?
    a. I know the seminar was mainly for academic supervisors and students. However, I attended as a research administrator. We see these issues in hundreds of students, so I do think that Research Administrators should have an input into this kind of thing.
    b. Fine as it is!

7. Are there any topics that you would like to see included at future seminars?
    a. Part time PhD/Doctoral experience.
    b. Practical session on writing-up and viva presentations would be helpful.
    c. Will give it thought and email you if I come up with something.

Appendix 11 – Shane’s river of experience

Excited but apprehensive. Crossing disciplines

Don't want to let Pam and Rosemary down

Surprised to get fees covered by work

Enjoyed methods training a lot

Orientation in the discipline. Working through methodology and theory

So much theory – none of it fits

Slowness of ethics

Successful pilot – RoEs

Harry born after years of IVF heartache. Lucky to have understanding supervisors

Data collection – what a privilege!

First conference – "thank you for describing our lives"

Starting to publish and present work regularly

Exhausted, anxious, mental health crisis

Thrill of analysis- excitedly running downstairs

Really on to something

Writing up – can I do this?

Really believe in this work

Got the taste for research. What's next?