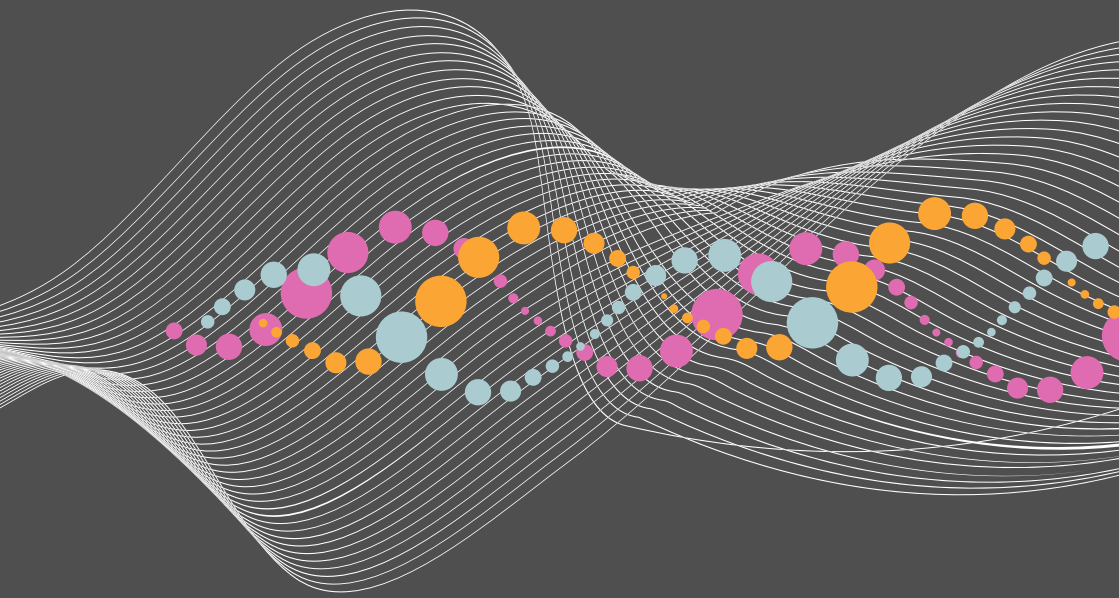

# Identity-Trajectories of Early Career Researchers

## Unpacking the Post-PhD Experience

LYNN MCALPINE AND CHERYL AMUNDSEN

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Lynn McAlpine • Cheryl Amundsen

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*Many people have contributed to our being able to write this book. At the heart of this book are the many early career researchers who willingly gave their time and their stories so that we could better understand and conceptualize their identity-trajectories. We are extremely grateful to them since their stories have already helped not just us but many others like them who are creating their post-Ph.D. trajectories.*

*Also essential to our work was the team of researchers, many also early career researchers, who over the years engaged with the research participants to collect their stories and help us organize and analyze the data that emerged. We thank them not just for their diligent work but also for their enthusiasm and their creative contributions.*

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PART I

# Introduction

The two chapters in this part of the book provide background for the reader to make sense of the three parts of the book that follow. Chapter 1, 'Overview,' describes the origins of the book, how it is structured, and the imagined readers. Chapter 2, 'The Global Context,' specifically locates the starting place for our work, empirically, conceptually, and methodologically. Together, the chapters set our work and the experiences of research participants within the international context as well as within the research addressing post-PhD careers.

# Chapter 1: Overview

## What Led Us to Write This Book?

This book has at its core a 10-year longitudinal research program about the experiences of doctoral students, contingent post-PhD researchers, those in teaching-only positions,[1] those in research-teaching positions, and post-PhDs in professional positions inside and outside the academy. What brought us to this study initially was a growing awareness of what was referred to in the early 2000s as high 'attrition' rates among doctoral students. We began by examining the existing English language literature on doctoral completion and the factors understood to be influential in students leaving. We mostly found large correlational survey studies or single-interview studies which provided a limited understanding of individual experiences that might offer explanatory value. We realized that what was needed were data that encompassed the day-to-day experiences (interactions, successes, and challenges) that together over time contributed to investment in doctoral or academic work, and ultimately completion.

In 2006, when we initiated this research, we both were senior academics in Canadian universities teaching, supervising students, leading research teams, and working as educational developers. While our experience with and disposition toward development informed our doctoral practices, we wondered what we and others could learn from a broader and more scholarly examination of doctoral student experience.



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Initially we and the research team recruited social science doctoral students in Canada. Within the year, Lynn started working in the UK. She, with colleagues there, was able to initiate a parallel study of social science doctoral students and include as well a few post-PhD researchers, again in the social sciences. About a year into the work, we realized that our initial focus on noncompletion was changing to one that highlighted learning to do academic work, and we decided to make the study longitudinal. Over the period of 2006–2010, we followed close to 40 social scientists for varying amounts of time.[2] In 2009–2010, as our first research funding in the two countries was nearing the end, we wondered if any participants would wish to continue in the project. We were fortunate that 22 of them (11 originally in Canada and 11 originally in the UK) found the research personally useful and elected to continue for as long as seven years as they moved into positions in and out of the academy. It was at this point that we saw the need to better understand the nature of career decision-making during and after the PhD.

With additional funding, we planned a next phase (beginning 2010) to also examine the experiences of STEM scientists (Science, Technology, Engineering and Math) in Canada and the UK. We wanted to investigate the suitability of our emerging conceptual understanding of how personal goals, intentions, and relationships influenced investment in work and ultimately career choices in another disciplinary cluster. Given our growing understanding of the importance of the transition from the PhD into careers, we sought out in this next phase, research participants who were more advanced in their doctoral studies and would soon graduate, as well as post-PhD researchers and those starting research-teaching positions. Again, we recruited close to 40 scientists whom we followed for varying periods of time. As with the social scientists, a number continued to participate in the research beyond the funding period. So, in total, this next phase of our research ending in 2016 provided information about the lives of 26 scientists beyond the PhD (21 originally in Canada and 5 originally in the UK).

The longitudinal study has been a central focus of our research, but during this time we also became interested in some specific aspects of early career researcher experience, for example, becoming a new thesis supervisor or new ways of structuring doctoral education. So we also conducted more focused studies with other research participants both in Canada and the UK related to these aspects. These studies were sometimes conducted by our research team, but also with colleagues in the UK and Australia who share similar research interests with us.

## What Is Our Intent in Writing This Book?

The result of this 10-year undertaking is a connected body of work that brings together conceptual, empirical, and methodological, as well as practical findings and implications. Others have noted that the research approach is novel and the emerging view of identity, *identity-trajectory*, is distinct from that of many others used to explain career development and decision-making during and after the PhD. Thus, at the heart of this book, and what motivated us to write it, was the desire to move beyond the separate reports of the work which we have published in academic journals. We wanted to create a coherent and complementary synthesis of our research with the potential to inform other researchers' empirical, conceptual, and methodological thinking.[3]

Our first step in preparing to write this book was to reread the more than 50 published studies that have emerged from this research program. We noted and discussed the themes and the issues and how they developed over time. We defined three of them, specifically: (a) the challenge of constructing an adequate conceptual representation of PhD and post-PhD career development and decision-making within personal hopes and intentions; (b) our empirical insights into the nature of doctoral, academic, and professional work; and (c) our evolving exploration and understanding of the potential of the qualitative longitudinal narrative methodology we used. Thus, the purposes of this book are to provide the following:

- An introduction to identity-trajectory as a conceptual framework for scholars interested in understanding how PhD students and graduates navigate into academic and non-academic careers.
- Concrete representations of the experiences of the many people that we have followed over time in order to introduce researchers to a body of empirical research and knowledge that does not exist in an integrated form.
- Access for those new to longitudinal and narrative research to the principles, methods, and procedures underlying our approach, as well as the data collection and organization, and analysis of tools that were crucial to the outcomes.

## Who Do We Imagine as the Reader?

We envision those most interested in this book as researchers with varying degrees of experiences who are interested in (a) exploring more fully the potential of the construct of identity-trajectory, (b) investigating the experiences of doctoral students and graduates, and (c) conducting qualitative longitudinal narrative research.

## How Have We Structured the Book?

The book is organized into four Parts:

- Introduction
- Conceptual contributions to understanding identity
- Empirically-based insights into academic and non-academic work
- Methodological transparency and creativity

In the next chapter of Part I, we describe the landscape within which our work is located. Following this, Parts II, III, and IV use different lenses to provide coherent accounts related to the three purposes of the book. Each part begins with a short introduction designed to provide enough background information that readers may choose to explore one part more than another, or the parts in any order. Further, each part, except this one, ends with our conclusions about and implications of the research. In each chapter, we situate our research within the broader literature, but do not consistently cite all relevant research as we do in our published papers. As you read the different parts, you will notice some redundancy in our explanations and descriptions. We have done this for two reasons: one, we wanted to provide enough details so that a reader would not have to regularly check the index or seek out other chapters; two, we recognized that individuals might choose to read the book in an order other than beginning to end.

### *Part II Conceptual Contributions to Understanding Identity*

This part consists of two chapters. Chapter 3 describes how the research has led to the particular construction of identity-trajectory, which is attentive to individual agency, the continuity of experience, the influences of the past on the present and the future, and situates work within the personal. We describe the various elements of identity-trajectory, and how

they collectively offer a robust way of examining an individual's experience through an identity lens. Chapter 4 explores our understanding of the relation between structural issues (e.g. institutional policy) and agency in light of our research and what this might mean for future research.

### *Part III Empirically-Based Insights into Academic and Non-academic Work*

This part brings together important overall findings as regards making sense of early career work experience and raises important questions about the future of academic and non-academic work choices. Its starting point is what has emerged from our own work, but situated within related findings from others' research. Each chapter addresses the experiences of those who took up different roles, the nature of their work, and their hopes for future careers. In Chap. 5, we examine the experience of those who were post-PhD researchers, attending particularly to their challenges in seeking research-teaching positions. In Chap. 6, we look at those who opted for teaching-only positions, and what this meant for their careers. In Chap. 7, we address the experiences of those individuals who achieved the hoped-for research-teaching position and how they managed the expanded responsibilities to teach, research, and provide service. Lastly, in Chap. 8, we look in some detail at the experiences of those who took up alternate careers both in and outside the academy—what exactly they did, how they felt their PhD was relevant to their work, and what they imagined for their futures.

### *Part IV Methodological Creativity and Transparency*

This part, which consists of three chapters, recounts how our methodological approach evolved. We pay particular attention to making our process transparent. We knew early on that we wanted to investigate individual day-to-day experience longitudinally, but there were few models to guide us. We set about crafting diverse data collection methods that would preserve confidentiality but allow storied details to be brought forward. We improved upon these methods as we learned more and understood the process better.

Chapter 9 explains the growing use of narrative as a methodological approach in the social sciences, and recounts how we came to use a narrative methodology. In this chapter, we also explore relationships amongst the team and with participants, and conclude with a summary of the nature of a longitudinal narrative approach. Since, like other methodological

approaches, there are various versions of a narrative approach (we were also combining it with a longitudinal approach), the remaining chapters address the processes of decision-making that we engaged in as we conducted the research. In Chap. 10, we describe with examples the decisions we made about data collection. As qualitative researchers, we had tended to depend on the interview as a mainstay. Interviews provide descriptions of experience dependent on memory, often incorporating coherent retrospective meanings of experience. While such accounts were important, we also wanted to capture day-to-day experiences, recent happenings that were not necessarily even processed in terms of meaning. How we developed and used these other tools is the focus of this chapter. Finally, in Chap. 11, we describe how the focus on individual narrative influenced the analysis process, from organizing and managing the multiple data sources provided by each individual, through successive steps of displaying, analyzing, interpreting, and publishing findings.

## We Could Not Have Done It Alone

This research could not have been done without the ongoing dedication of research teams in Canada (Marian Jazvac-Martek, Shuhua Chen, Allison Gonsalves, Gregory Hum, and Esma Emmioglu) and the UK (Nick Hopwood, Gill Turner, and Mahima Mitra). Nor would it have been possible without the continued commitment of the many research participants who have given their time and shared their stories with us with such consistency. And, of course, funding has been crucial.

## A Word About Terminology

There are international differences in the terminology used to describe roles, expectations, and benchmarks. This challenged us in seeking terms that would be understandable to all readers. Over time, we developed a set of terms that we hope manages this variation. (Please refer to the Glossary for the full set of definitions). We use the terms 'post-PhD researcher' or 'researcher' to refer to PhD graduates who have research as their principle responsibility in a university, whether salaried from a principal investigator's (PI's) grant or a personal fellowship. In North America, these researcher roles are commonly referred to as postdocs even if salaried, whereas in the UK, both roles are generally referred to as researcher. We use the term 'research-teaching position,' to designate traditional academic

positions that involve research, teaching, and service or administration and provide the possibility of tenure (North America) or permanence (UK/Australia). In Canada, these are referred to as tenure-track or pre-tenure and in the UK as lectureships. 'Teaching-only positions' indicate posts with responsibility principally for teaching, and no formal responsibility for research. These positions may offer the possibility of permanence. In Canada and some other countries, these individuals are often referred to as lecturers. 'Academic professional' designates a position in the academic sector that involves varied administrative duties, with educational and research-related responsibilities. In the public, para-public, and private sectors outside the academy, we refer to 'professional positions' in which research is not included in responsibilities and 'research professional positions' when there are responsibilities for research.

## Notes

1. We have standardized our terminology across countries by, for instance, using the term, research-teaching position, to designate what would be termed a lectureship in the UK or assistant professorship in North America. And, we talk about gaining permanence rather than tenure since in many countries outside of North America tenure does not exist. We also use the term 'post-PhD researcher' to designate both those on postdoctoral fellowships and those salaried on a principal investigator's (PI's) grant, as well as teaching-only position, which would be a lecturer in Canada. See the note at the end of this chapter as well as the Glossary for more information.
2. Throughout our research program, all participants chose a pseudonym and it is these we use in the book.
3. Two earlier syntheses are McAlpine and Amundsen (2011), drawing out the pedagogical implications of the research about the social scientists and McAlpine and Amundsen (2016) written for early career researchers, which present the career trajectories of the 48 research participants grouped in relation to their career hopes.

## References

McAlpine, L., & Amundsen, C. (Eds.). (2011). *Supporting the doctoral process: Research-based strategies for doctoral students, supervisors and administrators.* Amsterdam: Springer.

McAlpine, L., & Amundsen, C. (2016). *Post-PhD career trajectories: Intentions, decision-making and life aspirations.* Basingstoke: Palgrave Pivot.

# Chapter 2: The Global Context

## Introduction

As we noted in Chap. 1, Lynn was at McGill University and Cheryl at Simon Fraser University, both in Canada, when, with our team, we began to research doctoral experience in 2006. Our research grew out of what was known about doctoral experience from the international literature. A year later, Lynn was also working at Oxford in the UK and began a parallel line of research with a team there. So, we found ourselves following participants in two universities in Canada and two in the UK. While we did not perceive dramatic differences in the day-to-day experiences of the research participants in the two countries, over time we became sensitized to how doctoral structures were different, institutionally and nationally. Further, as time went by, participants moved, often several times. So, by the time we ended data collection in 2016, the 48 research participants we followed were dispersed globally in 36 institutions. This made us particularly attentive to how mobility played a role in the lives and careers of PhD students and recent PhD graduates regardless of where they did their PhDs. This mobility was also a prompt to situate the experiences of early career researchers within a global context.



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## What Do We Know Empirically About Early Career Researchers?

Internationally, the number of studies of early career researchers has grown dramatically over the past 20 years. Initially, the research was focused on doctoral students and influences on their success. A review of the doctoral literature at the time we began our research (Leonard, Metcalfe, Becker, & Evans, 2006) reported the following: one third of studies focused on supervision, another third addressed peer support, and the final third completion outcomes. The authors concluded there was little research done on the students' perspective of the doctoral experience. Further, the majority of studies were not based on any theoretical framework, so they argued for more systematic and theorized work.

At the time, there was also little research on the experiences of those post-PhD. More recently, there has been a growing interest, though still small, in the transition to post-PhD career trajectories (Evans, 2011). Evans (2011) characterizes these studies as largely focused on the doctoral experience, such as preparation for employability through the development of relevant skills during the degree as well as acculturation and socialization within research cultures. The rest of this small literature is largely about those who follow a post-PhD researcher career track within the academy, for example, developing as an independent researcher. Learning more about post-PhD career paths, both those within and outside the academy, became the subject of interest to us as we found the participants in our research graduating and finding themselves constructing their careers in different labor sectors.

What happens to PhD graduates as they transition into the labor market? For some time, it has been apparent that roughly one half of graduates internationally do not take up traditional research-teaching positions (Barnacle & Dall'Alba, 2011). However, this figure hides considerable variation since the actual figures are influenced by national jurisdiction, labor sector, and discipline. We have classified labor sectors as public (governmental), private (business/industry), nonprofit, and higher education. See the Glossary as well as Chap. 8 for details.

For instance, in looking at national jurisdiction, figures from the OECD (2015) show that post-PhD researchers, those employed directly in research and development, vary quite considerably by country in their distribution across the public and private sectors. Post-PhD researchers in Canada in the private sector represent 56% of all post-PhD

researchers while 37% are employed in higher education. In the UK, the distribution is different; the percentage working in the private sector is 36% with 59% in higher education. In both countries, post-PhD researchers in the para-public sector are largely invisible whereas in Portugal, for instance, 12% of post-PhD researchers are employed in the para-public sector. Further, while post-PhD researchers in the public sector in both the UK and Canada represent less than 6% of the total in those countries, in many European countries, researchers working in the public sector represent 20% or more. Auriol, Misu, and Freeman (2013) also report that job mobility patterns differ markedly across countries.

A more complex picture emerges if we compare labor sectors. Auriol et al. (2013) report that different sectors vary in the permanence of positions as well as salaries and degrees of mobility. While temporary positions have been increasing in higher education, the same is not the case in the private sector where the tendency is toward full-time work. Notably, the increase in temporary positions in higher education is often arguably linked to simply an increase in available positions (Cantwell, 2011). There is also considerable growth internationally in the number of post-PhD teaching-only positions (Bennett, Roberts, Ananthram, & Broughton, 2017). Further, earnings are typically higher in the private sector than in higher education and the public and para-public sectors. Interestingly, mobility from the private sector to the higher education sector is higher than the other way around, and mobility is more frequent among PhD graduates not working in research than those doing research. If we look at the influence of discipline, we have an additional influential factor to incorporate into our understanding of post-PhD careers. For instance, Auriol et al. (2013) report that natural scientists and engineers are more likely to be engaged in research regardless of sector, while social scientists find more opportunities in nonresearch occupations.

### *The Terms We Use in Describing Careers*

As to the types of positions available, there are a range of characterizations. For instance, Lee, Miozzo, and Laredo (2010) in the fields of science and engineering propose three categories and Berman, Juniper, Pitman, and Thomson (2008) propose six across a range of disciplines. We have chosen to differentiate four, two of which are within higher education with the two others falling across all the other labor sectors.

In higher education, there are:

- Academics are individuals holding research-teaching positions, research-only positions, and teaching-only positions in universities. The first position can lead to permanence. The second position is contingent. Teaching-only positions can lead to permanence, though many are contingent and sometimes part-time. The role research plays in the mission of the university influences the distribution of these roles and to some extent their possibility for permanence. So, research-intensive universities may have more research-only positions than teaching-only positions in contrast with teaching-focused universities, which may have only teaching positions.
- Academic Professionals, a growing group of individuals yet quite under-researched, support either research or teaching (Berman et al., 2008). Examples of positions that support research include research managers and specialist technicians and positions that support teaching include educational developers, educational program managers, and museum curators.

In the public, private, and para-public sectors, there are:

- Professionals, individuals with no responsibility to carry out research—though they may do literature reviews or carry out evaluations. Examples include senior program officer for an NGO, and technology policy specialist for government.
- Research Professionals with principal responsibility to carry out research and in some cases support the research of others. Examples include social science researcher in healthcare center, and water quality scientist for a utilities company.

Even when jobs do not involve research, most PhD graduates are satisfied with their employment situation and report their jobs are in most cases related to the subject of their doctoral degrees (Auriol et al., 2013). Lee et al. (2010) nuance this somewhat in noting that different jobs can require different competencies: (a) knowledge directly tied to the subject area; (b) both subject area and more general skills, such as analysis, report writing, project management, and problem solving; and (c) mainly general skills. While these quantitative descriptive categorizations provide a broad brush on post-PhD careers, Leonard et al.'s (2006) assertion that we need to know more about life after the doctorate remains true today.

## How Has Early Career Researcher Experience Been Conceptualized?

When we began our research in 2006, we would have characterized ourselves broadly as taking a sociocultural perspective, and we chose to focus on what was perceived at the time as an important research and policy focus: low completion rates and long times to completion. We reviewed the previous research (McAlpine & Norton, 2006) examining reasons for the international concern about lack of doctoral completion to create a synthesis of the factors that were perceived to be influential in describing the experiences and challenges of doctoral work.

From this review emerged what we called a 'nested contexts' perspective. (See Fig. 1.) This perspective incorporated the factors that prevailed in the literature in relation to doctoral completion and further located these in relation to different contexts which influenced the student and those around him or her. Nested contexts placed the student, the focus of


**Fig. 1** Nested contexts: interactions across contexts influencing the nature of work

our interest, in the center of concentric circles. The inner circle represented the local departmental-disciplinary context. This context incorporated both (a) local practices creating an intellectual climate, and (b) global assumptions about disciplinary modes of research, which together influence supervisory practices.

The supervisor was part of this inner circle, an individual institutionally designated to support the student. The fact that the supervisor is institutionally responsible for the progress of the student likely explains the enormous amount of research that has been directed at supervisory relationships and the efforts in universities to establish institutional policies and training directed at supervisor practices. Notably, at the time we developed the nested contexts framework, there was little attention paid in the literature to the variability in each student's doctoral experience and the role of individual agency.

The next circle, the institutional context, within which the department is located, influences potential selection/admission, and program requirements (as well as supervisory responsibilities) through its policies. And the final circle, the societal-international context, includes elements such as national and international policies (global competitiveness, research funding), the economy (the strength of the different sectors), and changing technologies (influencing work and learning). These factors influence the institutional context, including the nature of academic and doctoral work.

The contexts highlighted how the individual, the departmental unit, and the university are situated within and influenced by societal expectations and constraints, as well as international competitiveness and mobility. The initial nested contexts framework that guided our research was thus not identity development; that came later. Still, nested contexts provided an initial heuristic, an integrative framework, to guide our research and action in a coherent and effective fashion.

As time went by and we followed students as they graduated and documented their trajectories, we could see the notion of nested contexts was also useful in understanding experience after the PhD.

It was also only later that we came to see that the nested contexts framework was, in fact, informed by a structural perspective of doctoral experience based as it was on the literature at the time, a literature that paid very little attention to individual agency. We did not realize at the time that we would later see the necessity of exploring the relation between structure and individual agency. It is to this relationship we now turn.

### *Balancing Structure and Individual Agency: A Social Sciences Dilemma*

> I absolutely don't believe that if … I had only followed the structure of the program, I w[ould] have wasted my time. But that is not what it is there for and it is my responsibility to create the experiences that I need and to build the CV that I need to have at the end of it all. (Regina)

> It's quite difficult to … understand [the university], and … if you really want to have access to a number of things, it takes a lot of effort from your side, and no one tells you … they just take it for granted. And if you are not able to find out by yourself, you don't really seize the opportunity that you have in front of you … the result of your work would be, if not quite different, a little bit different [than] … if you have all of that in place … And the thing is that, because of the structure of the University, I think, for the University itself, it is difficult to understand that. (Daniel)

Both Regina (SS[1]) and Daniel (SS) recognized the influence of structure on their PhD work experiences. Yet, both argued that 'it is my responsibility to create the experiences' and 'to seize the opportunity.' Their views of the relationship between their own goals and the structuring influences of the PhD environment were that they could find a way to navigate the challenges and take advantage of the resources. It is the nature of the relationship between structure and agency that challenges social scientists in researching individual experience and identity. By structure, we mean the arrangements, the assembly of elements, which form the environment in which individuals interact, for instance, the policies and practices that shape the workplace in whatever labor sector. In contrast, a perspective that highlights individual agency, while acknowledging the structural elements of society, focuses on individuals' sense of how and the extent to which they feel able to exercise degrees of freedom, such as set goals and negotiate challenges in a range of contexts, to achieve their desires and aspirations.

In other words, social scientists, particularly those interested in identity development, whether in higher education, philosophy (Ricoeur, 1991), gender studies (Sondergaard, 2005), or psychology (Côté, 2005), are challenged to articulate a stance as regards how they view the relation between structure and agency in explaining individual thinking and action. There are many perspectives to draw on in conceptualizing identity development. However, what novice researchers may not always recognize is

how an underlying epistemological stance around structure and agency will strongly influence the assumptions underlying how identity is conceptualized. Further, clarifying such a stance is not necessarily straightforward, based as it is, for each researcher, partly on personal epistemology and partly disciplinary 'upbringing.'

In looking across the social sciences, the tendency for some time has been to emphasis structure over agency when conceptualizing identity (Bourdieu, 1993). This view stresses how, for instance, the organization directs and shapes individuals' learning and development (Antony, 2002) to become members of a particular profession or academic field. These structural elements influence social practices and values within the workplace. They also, separately and together, present constraints and opportunities for individuals within all environments. Thus, a structural view highlights the ways in which the cultural, social, and physical environments influence and shape individuals' ways of thinking and acting and influences how they think about the future.

More recently in the social sciences, however, individual agency, or the individual's efforts to work toward personally chosen intentions has begun to receive increasing attention, often building on the work of Margaret Archer (2003). From an agentive perspective, individuals are viewed as active agents, not 'dupes' (Elliott, 2005) as they live and construct their identities. King (2010) has suggested this shift to the more visible presence of agency may be partly influenced by social science research in which individuals move across institutional and national boundaries. The result of this mobility is that the structural features of any particular work environment become more modulated, less powerful, through comparison. This shift in the social sciences to a greater interest in agency has, in turn, influenced how 'identity' is used as a construct. And, this shift has become apparent in the research investigating early career researcher experience.

### *The Prevailing Perspectives in Identity Studies of Early Career Researchers*

In North America, there has been a long tradition of framing research on doctoral education within a perspective of socialization and enculturation (Gardner, 2006; Olsen & Crawford, 1998; Weidman & Stein, 2003). Socialization has tended to be portrayed as growing congruence and assimilation within a context. For instance, Weidman and Stein (2003)

posit a stage theory in which students develop role acquisition and identity development over time. From this view, doctoral students are seen as entering a new context in which, through participation and support, they learn, and are inculcated into, the normative knowledge and practices of the academic field to which they will contribute. Thus, the focus of change is the individual learning to 'fit in,' to take up scholarly appropriate ways of thinking and acting. More recently, however, some research (e.g., O'Meara et al., 2014) draws out the potential for individuals to negotiate their investment in the structures on offer. This stance is, in a way similar to ours, influenced by the understanding that work is situated within broader life experiences. Further, such a stance stands out in contrast to research where identity is characterized only in relation to work responsibilities (Sweitzer, 2009), for instance, identity as a teacher or researcher. Sometimes, individuals' personal roles are also referenced as identities, for example, as a parent (Reybold, 2005). Characteristic of this view, individuals can hold multiple identities, which may shift in relation to who they are interacting with.

A different, but long-standing stance in the UK and Australia has been one we characterize as post-structuralist. This stance is often organized around the tensions, constraints, and contradictions inherent in work structures, for example, the division of labor (Hey, 2001). It also often raises questions about equity. Clegg (2005) has argued that the pessimism often reported in the academy may emerge from a structuralist stance which overlooks personal aspects and individual agency. This then leads to reporting overdeterministic accounts, which miss individuals' efforts to reshape, at least locally, the work environment. Further, this stance often also emphasizes multiple identities (Barnacle & Mewburn, 2010) or raced and classed identities (Archer, 2008). From this perspective, identity is viewed as concurrent subjectivities that are strongly influenced by the structural elements of academic work.

The post-structural and socialization perspectives on identity privilege a structural perspective (Geijsel & Meijers, 2005) because they highlight the ways in which the environment[2] influences and shapes individuals' ways of thinking. The strength of a structural focus on experience is its helpfulness in explaining the landscape of early career researcher experience. However, in our view, this is insufficient as a conceptual framework since a structural perspective alone tends to hide variability in the experience of individuals (Pearson, Cumming, Evans, Macauley, & Ryland, 2011). It also, and just as importantly, tends to overlook individual efforts

to be self-motivated and agentive during a period in their lives that most would agree should be one of growing independence as a researcher (Pilbeam & Denyer, 2009).

While we share an interest in identity development with many other researchers, the construct of *identity-trajectory* emerging from our research is distinct from the prevailing socialization and post-structuralist views. Our research has reinforced our own preference for privileging agency while attending to structure. We, of course, are not alone in this view. Clegg (2005) among others has also argued the importance of individual agency in understanding, in her case, academic practice. Specifically, we focus on a singular notion of identity, that is, an individual has one identity, not multiple identities, which develops and changes over time. We are interested in individuals' motivations (Antony, 2002), their agency, and intentionality (Archer, 2000), and in their broader as well as work lives. At the same time, we still work to find ways to capture the influence of structural factors since these may be difficult for individuals to influence.

So, in considering the nested contexts model now, we can see that over time, we came to privilege the view of the student and later individuals in other roles such as post-PhD researcher. We began to explore the experiences of these individuals as active agents navigating the structures in which they found themselves (the nested contexts in which they worked and learned). In Part II, we explore the conceptual work emerging from our research program and the contribution we believe it makes, as well as our present views on how we might better attend to the relation between structure and agency in future research.

## What Methods Have Been Used?

In the broader research on doctoral experience, both quantitative and qualitative methods have been used. Quantitative studies include those based on empirically validated survey items (e.g., Pyhältö, Vekkaila, & Keskinen, 2015) and those that are more descriptive (Heath, 2002). The former often look at psychological constructs, such as motivation and stress. Such quantitative studies are sometimes nationally based, but are more often situated within one or more universities. Qualitative studies, principally based within one but sometimes more universities, are generally based on one-time interviews with much smaller participant numbers. A recent review of the literature on doctoral education (Tomasz & Denicolo, 2013) has noted that it is rare to see qualitative studies that use

data collection methods beyond interviews, or a longitudinal research design such as ours. For those interested in a recently reported longitudinal mixed methods study, see Connolly and Lee (2015). In looking at post-PhD experience, the methods used are similar; though, as noted earlier, there are many fewer studies and they tend to focus on post-PhD researchers not those following other career trajectories. In the same fashion, there are few longitudinal studies; Woehrer (2014) stands out in this regard, examining both doctoral and post-PhD researchers over time.

It is within the context of these methods that we have used a longitudinal narrative design in which we collected a range of different types of qualitative data. For instance, we chose initially to capture day-to-day experiences (through weekly activity logs) since qualitative studies based on interviews provide only retrospective perceptions of experiences. We believe it was through our collection of different and cumulative experiences of individual intentions, emotions, and interactions (both in and outside the workplace) that we were able to better understand how such experiences contributed to furthering or reducing workplace motivation and future aspirations. How we captured these experiences using a longitudinal narrative approach is explored in Part IV.

## Notes

1. SS represents social scientist and S scientist.
2. In this research, the social and cultural influences have been emphasized with little attention to the physical.

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PART II

# Conceptual Contributions to Understanding Identity: Overview

This section, as its name suggests, presents our understanding of the contribution of our research to the conceptual framing and the study of identity development. Chapter 3, 'Identity-Trajectory', describes the particular construction of identity that emerged from our research, one in which work is understood as situated within an individual's broader life, and is attentive to individual agency, and the continuity of experience from the past to the present to the future. Chapter 4, 'Structure and Agency Revisited,' draws on the evidence emerging from our research to provide a framework for conceptualizing and researching the bidirectional relationship between structure and agency. In the 'Conclusions and implications,' we highlight our contribution and suggest future directions for research.

# Chapter 3: Identity-Trajectory

## Introduction

In this chapter we describe the key concepts that underpin *identity-trajectory*, a construct that we believe complements the notions of identity used by others. We explore, in particular, how *identity-trajectory* enables a unique way of examining career decision-making and development. It is one in which career is understood as including personal goals, not just paid employment, so incorporates an aspect of an individual's course or progress through life or part of life (McAlpine & Amundsen, 2016a). For us, identity represents how individuals represent the (a) continuity of stable personhood over time (they are who they are, regardless of age, experience, etc.) and, at the same time, (b) experience a sense of ongoing change (being different from the way they were the year before, for example, responding less emotionally to certain events) (McAlpine, Amundsen, & Turner, 2014). Thus, we do not conceive of multiple identities for an individual. Rather, we conceive of a unique identity, which incorporates changes in perceptions, emotions, knowledge, and abilities over time through experiencing life. For this reason, our focus is not on identity but on identity development. We were interested in how each research participant's experiences contributed to learning and new ways of thinking and acting. Thus, identity-trajectory is attentive to individual agency, conceives of work as one aspect of a broader personal life, and highlights continuity



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of experience—how the past influences the present and the future. You may get a sense of this in Regina's trajectory, someone we followed for seven years.

*Regina* (Social Science, Canada, 2006–2013): 'You … have to create your own opportunities.'

Regina grew up in a geographically isolated region in a close-knit family with traditional values. After her bachelor's degree, she worked in a 'helping' profession, a choice influenced by her sibling being challenged at school. She then moved far from her family to a large metropolitan area to complete her master's degree, during which time she met her partner. She was particularly happy to find a colleague in her master's program who shared her values, values that 'I feel I need to keep quiet at school.'

She began her PhD at 26 in the same university, seeing a research-teaching position as her future. Since 'you make your own program,' she published during her PhD studies, sought out professors to learn from, and participated in institutional governance, learning how universities function. 'What matters at the end … [is] how able you feel to go into whatever it is you want.' Still, she wondered: 'where exactly are students going from this program?' and found 'the next step doesn't seem very well-supported.' When her partner changed cities for work, she moved with him, experiencing isolation while finishing her degree. She later noted that her 'personal relationships [from the PhD] … where people are so similar to you' were so important that she and her partner used vacation time to visit them and stay connected.

She and her partner married in 2009 as she finished her PhD, and they chose to move to a small city close to her family. This meant a 'very narrow academic job hunt' with minimal opportunities since there was only one university which had a PhD program in her area. She used her networks to learn about academic as well as non-academic positions. She found only two academic positions, both peripheral to her research. She applied for them anyway and had one interview, but was not offered the position. During this time she also won a national postdoctoral fellowship, but declined it since it did not provide the financial security she wanted in order to have children. A colleague directed her to a job as a permanent social science

research consultant in a university hospital. She applied for it and when offered the position, she negotiated time to hold an adjunct position at a local university. 'It was the right choice for … my family life which to me is more important than anything else.' She considered herself an academic, just 'continu[ing] my career goals with a different timeline … different connections … and a different place.'

Regina enjoyed her job, helping others craft social science research and apply for grants. She also continued to develop her research profile, which meant recrafting her research to suit the disciplinary organizational structures where she was an adjunct. She characterized it as keeping 'a lot of lines out … [but not sure] if I'm going to catch any big fish.' The only limit on her own research capability was she could not be the PI on a grant since she was not employed by a university. She took her first maternity leave during her second year on the job. On returning, she advanced her research by keeping Fridays as her research day. She maintained an eight-hour workday since she 'value[d] 'family over work.' She 'chos[e] not to let anxiety or stress be a part of my work or research activities; … my time with friends and family is too important and fun to sacrifice for the sake of a publication.' She took another maternity leave in the fourth year and when she returned from the leave, she became a co-investigator on a funded research project and felt on track to achieve her long-term goal of a research-teaching position. Finally, in the seventh year, she was successful: 'I have just accepted a [research-teaching] position; … I think career goals can be achieved using multiple paths over various periods of time, so I do feel like I decided to take a bit of an untraditional route in terms of my academic goals.'

## Elements of Identity-Trajectory

As described in Chap. 2, we did not start out with the construct of *identity-trajectory* . Rather, over time, as we collected and analyzed the data, the construct of *identity-trajectory* emerged. In fact, our initial peer-reviewed reference to it was only in 2008. In other words, *identity-trajectory* emerged through an inductive approach in which we asked: What sense do we make of these data? How should we interpret them? Of course, the emergence of

*identity-trajectory* was influenced by our epistemological preference for attending to agency and our narrative methodology and longitudinal approach to data collection—a point we return to in Part IV of this book.

As we continued to conduct our research and follow more and more people, *identity-trajectory* became increasingly clear to us and this is evident in a series of publications, which can be read chronologically, with this book providing the most complete rendering. In writing this chapter, we therefore drew on earlier publications to reconstruct the arc of the development of *identity-trajectory*, bearing in mind that when the construct first emerged we were studying only social scientists within academic contexts (PhD students, post-PhD researchers, and those new to research-teaching positions). However, by the end of the research program, we were also tracking the experiences of scientists and social scientists who started out in academic contexts but moved on to work in multiple contexts including academic, but also public, para-public, and private sectors.

We have structured the chapter as follows: first, the notion of trajectory or development through time; then agency and affect (since the two are inextricably combined); third, what we call the personal (aspects of individuals' lives beyond work which influence motivation for and investment in work); fourth, how we conceive of the nature of work; and finally, how the intersection between the personal and work are conceived in *identity-trajectory* .

In order to make our explanation of *identity-trajectory* more concrete, we have already provided Regina's cameo, Katherine's follows as well. We draw on these two examples extensively in the remainder of the chapter. We chose Regina and Katherine from among the 48 individuals whom we followed for extended periods of time because they were similar in some ways, and they were both females who began their degrees at roughly the same age. Also, both initially had intentions to gain a research-teaching position, but shifted away from this intention near the end of the degree (though Regina later found a research-teaching position). At the same time, they represent some of the differences in the overall group. Katherine is a scientist and Regina is a social scientist, the former is from the UK, the latter from Canada. The two had quite different PhD experiences, with Regina's being positive and Katherine's challenging. Thus, their stories not only incorporate the different elements of *identity-trajectory* and the sense of sameness and change within each individual, but also demonstrate two principles central to our view of identity development: (a) individual variability, as well as (b) the possibility to see shared patterns across individual experiences. We hope these two cameos easily make visible the individual variation in experience and also the elements of identity development.

*Katherine* (Science, UK, 2010–2015): I can 'create th[is] role myself or through personal contacts.'

Katherine began her PhD at 22 in a university town close to a large metropolitan area. Deciding to undertake the degree meant leaving the colleagues she had worked with during her master's degree, friends, and her partner. She missed the camaraderie—traveling back to visit as often as she could while continuing to volunteer for an NGO that was committed to open science, something she highly valued. She considered her volunteer work for this cause as 'my ongoing career.' She intended a research-teaching position after finishing her PhD.

She realized early on that her supervisor was not particularly supportive, and she wished that she had been more thorough in 'researching' him. For instance, her supervisor constrained her networking at conferences saying that she 'could go, as long as I didn't talk to people about what I was doing.' Further, there was very little interaction among the other individuals working with her supervisor. Yet, 'community is very important to me!' This, combined with difficulties with her lab experiments, contributed to stress, anxiety, and feeling overwhelmed, which led to difficulties in sleeping. Her lack of well-being was exacerbated by the ending of a three-year relationship which was very unsettling: 'as much as you try … stuff going on outside of work does affect how much you can concentrate.' The next year, her supervisor moved to another university which turned out well for her as she now had a more satisfactory supervisory relationship. She also sought counseling to help deal with her anxiety. She later said: 'My PhD … completely burnt me.'

As time passed, she realized achieving a research-teaching post might not be what she really wanted in terms of her interests and values, and began considering alternatives. She arranged a private sector internship, which was a wonderful contrast from her PhD experience: 'much more team-oriented … their ethos is entirely what I would like in my day-to-day life.' As well, she had a new personal relationship. The following year, she focused on finishing her thesis while doing another shorter internship outside the academy. As for a job, she 'kep[t] an eye open … locating things I like to do … going and talking to people.' She wanted a work climate that was 'collaborative, team-working … open.' She ended up with the choice

of three different positions. Two were full-time, one with the organization she volunteered with (but not drawing on her PhD learning), the other a start-up with people she knew, and with a focus on open access. The third was a university contract for five years (four days a week) as a research project coordinator, again with people she knew. This position, promoting social impact and outreach, was a relatively new type of job, which she considered 'a really exciting … project.' All the posts were located where her partner lived and where she had done her master's degree. Relocating there was 'very positive for my general well-being.'

She accepted the five-year university contract, completed her PhD, and, purchased a house with her partner all in the same year. She hoped for 'a sense of permanence … my own space … spend[ing] evenings doing different things and … hobbies that I … ditched during my PhD, and … more … free time.' In the four-day-a-week job, she facilitated and coordinated open science activities and built interuniversity communities all within her area of scientific expertise. She chose this job because she was 'keen to keep an academic-related position.' She also negotiated a one-day-per-week contract in the start-up to fill out her week. The plan was to create a company of which she would be a director. She imagined her future as a project manager combined with doing her own research on open access; 'in five years, I'd like to be doing something that is a bit more … academic … on the research side of things … [but] community-building, policy stuff.' She believed her plan was do-able, in fact, 'quite common in my area of work.'

### *Trajectory: Learning and Development Through Time*

An important feature of our view of identity is its connection to learning and development, and we hope the developmental trajectory in both Regina's and Katherine's stories is evident to you, including casting forward into the future. We understand identity as a trajectory in which learning from experience is a natural feature of life, where work experience intertwines with personal desires and relationships (Baxter Magolda, 2007) throughout an individual's life history or life course (Levinson,

1986). Such a perspective recognizes that as individuals age and develop, they undertake different life tasks, such as moving away from the nuclear family, pursuing adolescent hopes, establishing an occupation, deciding on core relationships, having and raising children, and so on.

The term 'trajectory' as we and others use it, for instance, 'learning trajectories' (Wenger, 1998) and 'career trajectories' (Hodkinson & Sparkes, 1997), incorporates the idea that there is change through time as individuals work toward their goals and learn from experience, which ultimately influences the evolution of their goals (McAlpine et al., 2014). In other words, the notion of trajectory does not imply a straightforward or uninterrupted view of learning and change, but simply a movement through time of an individual's life or portion of it. Our longitudinal design made it possible to capture several years of the trajectories of multiple individuals. Further, since we situate work within the fullness of people's lives, we refer to *identity-trajectory* rather than academic- or career-trajectory. This allows us to emphasize identity development as an ongoing inclusive learning process (Geijsel & Meijers, 2005), rather than learning within only one role (such as doctoral student, post-PhD professional), which is common in many studies. *Identity-trajectory* emphasizes the continuity, the flow, of individual intention, and experience across roles, as one aspect of an individual's growing understanding of who he or she wants to be and is becoming.

By conceiving of identity development as an ongoing learning process throughout life and time, the accumulation of experience is given greater importance. We draw on notions of experiential learning through reflection (Boud, Keogh, & Walker, 1985) and workplace learning through engagement with others in workplace practices (Billett, 2006). Thus, we view past experience as a rich resource from which individuals construct interpretations. These interpretations in turn influence their present and future approaches to experience as well as emotional and other responses to challenges. For example, recall how Regina's personal wish to return to her hometown region and Katherine's valuing her contribution to the society were enacted. The accumulation of such experiences, and an individual's recounting of these stories to themselves and others leads to increasing individual variation in terms of perceptions and emotions, as well as intentions and actions. This can be seen, for instance, in individual variability related to the openness to new experiences or resilience in the face of challenges. It is for this reason that we retain a focus on the individual following each individual into new personal and work roles. For example, recall how

Regina's becoming a mother led to her reducing her work time. Thus, *identity-trajectory* highlights a dynamic view of identity: 'identity-in-action' and 'identity-under-construction,' in contrast to 'identity-as-being.'

### *Agency and Affect Through Time*

The terms 'agency' and 'affect' began to appear in our publications about three years into our research (McAlpine & Amundsen, 2009; McAlpine, Jazvac-Martek, & Hopwood, 2009). Agency and affect (feelings, emotions) are intimately linked in both the personal and work environments, whether dealing with challenges, serendipity, or successes. For example, the role of positive or negative affect can be explored as regards individuals' desires to invest in or avoid certain activities or relationships, whether personal or work-related. It can also also be investigated in regards to how individuals respond to challenges that include the personal, such as family illness, and the structural, such as lack of research-teaching positions.

Our present view of agency focuses on individuals' efforts to articulate and work toward personally chosen intentions and goals and their ability to respond to expected and unexpected challenges and serendipitous happenings. Individuals vary in the extent to which they perceive themselves as agentic and the degree to which they are able to articulate effortful action to achieve their goals. Some demonstrate clear goal-setting and more agentive strategies than others. Daniel's (SS[1]) comment exemplifies a clear sense of agency:

> I feel satisfaction if I am able to achieve something every day … as small as just finishing a specific task … finishing the interviews that I have for that day … instead of taking two weeks … so I can feel that I am moving forward. And of course, I have an overall idea of what I'm trying to do, but if I tried to do everything at the same time or just trying to comply … you may get lost in the process … I'm very structured on … [breaking it down] into small pieces of work.

We would emphasize that being agentive is not a constant, fixed, or constantly increasing property. Individuals may demonstrate clear goal-setting or decision-making in some situations or points in time, but not in others. They may appear to increase their agentive behavior over time, but then demonstrate lapses or backslides. That is, the degrees of agency that an individual perceives and acts upon may vary, for example, in relation to

particular contexts. Note Tom's (S) description below of how completing 'hard' aspects of his work can be influenced by his work environment.

> I don't think it's necessarily a motivation problem. I really enjoy the work I do. It's just that sometimes the stuff I need to do is hard [laughing], and so I'll put it off. In some ways, it's potentially to do with I'm in a relatively small lab, I'm doing my own project, I'm not in a big, very collaborative sort of framework, so I don't have the social pressures to focus on particular tasks. So, I need to be self-led, and so I need to make sure that I don't procrastinate [laughing], if that makes sense! Yeah, I think the scope for procrastination when you don't have the social pressures to get something out by tomorrow so someone else can take it and do something else with it, I think … without the social pressures of sort of a more structured working environment, you could be led to procrastinate a little bit more.

You can also get a sense of the variation in individuals' sense of themselves as active agents in the following self-assessments related to their PhD progress. 13196 sees his sense of agency growing over time, while Matt is challenged to motivate and structure himself in order to progress. Tom feels he benefits from a lack of structure in order to grow. In contrast, Mike notes that he needs his supervisor to 'spell out' what he needs to do.

> I feel like much more of a … free agent now than … than I was years ago. (13196, S)

> I'm not terribly good at necessarily structuring myself or motivating myself all the time. (Matt, S)

> I don't know whether I'd develop so much as a scientist myself if I had a very structured working environment. (Tom, S)

> Him [supervisor] spelling it out for me really helps … "Do this and this and this and then do this and this and this." I'm the kind of student that really needs that kind of structure so it helps when he sends an email like that. It is stressful to get it because I think, "Oh my God; that is a ton of work" but at least I know what direction to go in. (Mike, SS)

As noted earlier, affect is intimately intertwined with agency, and through this with identity development, since affect influences both our approach to the world and our response to it. In other words, affect influences our investment in and commitment to work and personal life goals. Others have also argued for the importance of affect in understanding

agency. Archer (2000) describes affect as our commentary on our welfare in the world. Nardi (2005) emphasizes that passion is not an individual state but is related to emotion and to the wider contexts and purposes in which we are situated. Neumann (2006) emphasizes the inherent integrity between knowing and feeling. Individuals are learning how to reconcile potential conflicts between their own goals and desires and the social and structural elements they are negotiating.

In explaining the link between agency and affect, we have described investment in achieving individual goals as emotionally embodied (McAlpine & Mitra, 2015), engaging both positive and negative responses in relationship to the achievement of intentions, and unexpected changes and challenges. Attention to affect in regard to agency and identity development seems particularly pertinent since individuals may seek out contexts and experiences which reinforce their sense of motivation and confidence and avoid those that create conflict or incongruity. For example, see the study by Holley (2009) reflecting how scientists' research practices of 'sacrificing' animals emerged as a source of negative emotional tension and for some PhD students led to withdrawal from the lab. Tension may also exist between a desire for an increased sense of membership within a field, and the structural influences that entering the field requires, for instance, being treated as second-class citizens for long periods of time, something many post-PhD researchers reported.

Why would post-PhD researchers live with instability and second-class status for long periods of time? Many participants in our research suggested that their engagement in research was intrinsically motivating, thus sustaining their investment in work despite the structural challenges of financial insecurity and lack of recognition. It appeared to be a matter of weighing the negatives and positives of work, and for the time being the positives were in the ascendancy (McAlpine, 2012a). Over time though, some lost heart and began to seek out non-academic employment (McAlpine & Amundsen, 2016a). In other words, chronic ongoing instability in the work environment may contribute to emotions of stress, exhaustion, and even burnout (Castello, McAlpine, & Pyhältö, 2017). We saw in our investigations, in fact, a number of individuals who described themselves as burnt out; Katherine (S) was among them.

While the examples above are about the interconnectedness of affect and agency in relation to the structural features of individuals' workplaces, there can be an equal struggle between an individual's personal life and work goals and values. For instance, Fracatun (S) put off seeking a

research-teaching position for several years because he did not want to disrupt his wife's career. Other individuals chose, for instance, to shift their intentions away from achieving research-teaching positions to other careers in response to both changing personal circumstances and dissatisfaction with their current work situations (McAlpine & Emmioglu, 2015). We can see this shift occurring in the cameos of both Regina's (SS) and Katherine's (S) trajectories above.

Recognizing the interconnectedness between affect and agency is essential if we want to understand human desire, passionately held intentions, what makes individuals strive for something beyond the immediate and sustain such motivation despite difficulties. For instance, a key finding in a study of aspiring PIs was how individuals developed positive emotional coping strategies to help them sustain their motivation in dealing with frequent rejections (McAlpine, Turner, Saunders, & Wilson, 2016).

Thus, in our view, being agentive includes the ability to deal positively with challenges, to bounce back emotionally or adapt successfully to adverse circumstances, essentially to develop and demonstrate resilience. Resilience is a positive emotional response to stress, a response in which motivation, intention, the intellectual, and the emotional are intertwined. Tulip (S) who was working in the private sector remarked as follows:

> A lot of projects … they never go smoothly … there's always going to be changes, and I think, when you're used to, from a PhD, every three weeks, going and seeing your supervisor and them be like "It's not quite right" … you just get resilient … "okay, fine … I'll try something else—if it's not working out" … Maybe it has cost me a couple of weeks, but … I'd rather do it right than do it wrong quickly … I think that's the biggest part of … resilience … you get … comfortable with the idea that it's not going to be right, and you're going to get criticism, and just … just accept that that's going to happen, and try and do it better the next time, and that that's all you can really hope for.

Such resilience is particularly important in any context where individuals are dealing with ongoing challenging contexts, such as a toxic departmental climate or competition for jobs or grants, and must remain undeterred and focused on long-term success (McAlpine & Amundsen, 2016a; McAlpine et al., 2016). Resilience through the use of cognitive coping strategies, that is, regulating response to emotions was, in fact, something we saw demonstrated by research participants in many work contexts (McAlpine & Amundsen, 2016b). We found three kinds of

challenges: day-to-day, existential, and structural. Generally, day-to-day challenges were seen by individuals as something that could be managed. For instance, if experiments were failing, they might draw on a range of relationships to help them troubleshoot. They could also use cognitive acceptance, acknowledge that their experience was one shared by others, and that eventually they would succeed. Existential challenges also occurred, for example, experiencing a lack of self-confidence. In these cases, individuals gained clarity over time in understanding these feelings and their impact on their decisions by a process of positive reappraisal and assessing the experience in a new way, thus developing more confidence with greater experience. The third kind of challenge was structural and therefore less tractable. Structural challenges could prompt positive refocusing. For instance, if a supervisory relationship was not as successful as it should have been, some individuals in our research used self-talk to reconcile themselves, by saying things such as 'this will be over in a year.'

In summary, agency and affect are core to our view of identity development since they represent our intentionality, our purposeful efforts to achieve goals in the present and future, as well as to adjust the goals in light of emerging events. Of course, we are influenced in our interpretation of what is happening in the present by our past experiences and emotions. In other words, we achieve our intentions, to a greater and lesser extent, in specific socially, and also historically situated contexts. Some of these contexts are emotionally reinforcing, some are draining, and some are neutral. We are not suggesting that individuals are independent agents. Part of the effective practice of agency is learning how to offer and ask for support, how to manage our emotional response to challenges, and how to deal with not succeeding, including a decision to stop trying or to try again. We are constantly negotiating aspects of achieving our hopes and intentions, both within ourselves and with others. In other words, our view of agency does not envisage individuals who are constantly setting and achieving the goals they have set themselves, but rather individuals whose desires and needs provide a momentum or direction for their actions as they engage with others.

As regards academic work specifically, we would argue that many descriptions of PhD and post-PhD experience underplay personal intention or agency while simultaneously suggesting that the goal for early career researchers is the pursuit and development of independence (Laudel & Glaser, 2008). The workplace provides not just responsibilities but a

range of resources, including workplace peers. Individuals have the opportunity to make or take for their own from what they encounter in the workplace, including not to engage in or to resist certain practices (Billett, 2006). By negotiating their desires amid the affordances and constraints, individuals have some ability to decide which aspects of the work practices they will engage in, or modify, and through these efforts, contribute or not to their chosen communities. We return to work experiences and practices after exploring the personal.

### *The Personal*

We were glad that when we began data collection, we provided opportunities for research participants to report on any relationships and responsibilities that they regularly engaged in or that influenced their investment in their work, including personal ones. At the time, we did not realize just how fortuitous this would be. Participants responded in a broad sense and provided us with information about the ways in which their lives outside of work were a powerful ongoing resource and responsibility. We first reported on what we called 'the personal' in McAlpine, Amundsen, and Jazvac-Martek (2010). The findings of this analysis laid the foundations for the integration of a broad view of adult learning, drawing on research on life course development (Levinson, 1986) The personal became a powerful construct in conceptualizing of identity-trajectory. In fact, we now consider the personal dimension as a defining and central feature of our work. As mentioned earlier, most other conceptions of identity in the field of doctoral and academic work focus on identity at work, only sometimes referring to other aspects of life. The power of the personal lies in the influence it has on investment in work and career decision-making as well as the reverse, the influence of work on the rest of life. At this point, we recognize seven recurring personal themes that have emerged from our research. Each represents this interaction between the life course and work, regardless of the employment sector or position.We discuss each of the seven themes below.

A constant theme was 'work-life balance', which we view as the extent to which the individual perceives work does or does not extend or intrude into personal life. Most research participants felt they lacked the work-life balance they wanted and faced an ongoing challenge to create boundaries as they found work easily bled into the rest of life. Being agentive in the face of work-life balance draws on individuals' efforts to negotiate their personal and work desires within their individual lives. Both Regina (SS)

and Katherine (S) referred to this issue, though Regina experienced it in a more positive way than Katherine. Others, for instance Flora (S), commented on the pressure in academia to work long hours. She, with her partner's support, chose to go against the grain and work fewer hours than the others in her research group.

Achieving a feeling of 'well-being,' a second theme, is intricately connected to work-life balance and these two themes often emerged together in participants' descriptions of their lives. Well-being focuses on eating and sleeping well, getting exercise, and having a social life. On a long-term basis, the lack of a feeling of well-being can lead to stress, anxiety, and burnout. A number of individuals in our research, like Katherine (S), experienced these feelings. Anne (S), for example, felt burned out as a result of her post-PhD researcher work and consequently chose to give up her career intention of securing a research-teaching position. Sam (S) went for counseling to deal with his sense of lack of well-being. Lack of well-being was also influenced by family issues, such as newborn care, lack of sleep, and recovery (Sophia (S), Jennifer (SS)), and relationship breakdown (Katherine, Sam). Fortunately, these were issues that tended to reduce in impact over time. The same was not true of lack of well-being precipitated by age or a chronic illness. For instance, Ginger (SS) recognized that she no longer had the stamina she had had during her PhD. Due to chronic illness, Elizabeth (SS) and Jennifer (SS) felt their day-to-day lives and work stamina were profoundly affected. In addition, Elizabeth, who was self-employed as a consultant, suspected her illness influenced potential employers' sense of her employability. This aspect of the personal is a reminder of the 'brute,' the influence of gender, age, and physical and psychological well-being (Billett, 2009) on an individual's perceptions, motivations, and actions.

'Family responsibilities and priorities' was also a theme described frequently, with family including a partner, children, and parents. A key concern for those with children was ensuring their well-being (CM (SS), AAA (S)). This often involved careful scheduling and juggling of responsibilities, and readjusting schedules when children became ill. It was also related to decisions not to move (Nellie (SS), Fracatun (S)). And, for some individuals, having children led to a reprioritizing of work, with a greater focus on time with family (McAlpine & Amundsen, 2016a). This was true for Regina (SS) and Funky Monkey (S) when their children were born, and for Paul (SS) when his partner became seriously ill. Two other researchers, Fracatun and Brookeye (S) also took parental leave when their children

were born, and reported no negative work repercussions. For the females in our study who did not yet have children but hoped to, there was concern about how they would manage this and still be perceived as committed to their work. Having sick elderly parents (Monika (SS), Catherine (SS)) was also a factor in choosing to look for or accept positions elsewhere. Such decisions were taken knowing that not being willing to move substantially reduced career opportunities. Lastly, a partner's wishes could be critical in choosing whether and where to move. This was particularly true for couples where both were seeking research-teaching positions (Sophia (S), Thor Bear (S)). There were several stories of individuals in our research refusing research-teaching jobs because their partners also could not find a similar position in the same location, although two couples were eventually able to negotiate a partner position.

'Life goals', another theme often related to having a family you saw played out for Regina (SS). Daniel (SS) also wanted better life opportunities for his child. Trudi (SS) wanted to live with her partner and have a family, and wondered why she stayed where she was and worked so hard. Nina (SS), who wanted to live with her partner and have children, chose a post-PhD career that would enable her to find part-time work in many different locations. Such goals were not necessarily easily achievable. KS (SS) thought of adopting a child if she did not find a partner soon. Flora (S) wanted to move beyond her hometown, to seek new experiences and more varied job opportunities, but her partner was not willing to move: 'So if … I get an offer [and] … if he is not willing, well I have to take a decision, right, like family or career so we'll see. But it's not an easy topic at home at all.'

'Financial duress' was another influence, sometimes because people were going seriously into debt, sometimes because they were the only breadwinner for their family, sometimes because it made their quality of life poorer. For instance, financial worries pushed Julius (S) to finish his PhD quickly so he could better support his family. AAA (S) put a time limit on his post-PhD researcher position before abandoning his desire for a research-teaching position and looking for a job in industry because he was tired of having to make tough decisions about what activities he could afford for his children. A number of others, while still doing their PhDs, Daniel (SS), Holly (SS), and Epsilon (S), found that the work they had to take on to earn some income slowed down their academic progress and sometimes contributed to a poor quality of life. Epsilon, for instance, after six years of PhD studies said he 'just wanted to get a place that is not a basement suite and be able to look out the window.'

'Personal values' also came into play. For instance, Katherine (S) chose the work she did since it aligned with her personal values and her volunteer 'career.' Others, like George (S), talked about wanting work which would contribute to bringing about social change: 'do[ing] something to better society and I'm not sure I am doing that right now … I'm lacking … motivation because of that.' Brookeye (S) wanted a job located where he and his partner could 'do outdoorsy stuff.'

Finally, 'relocation' in different forms emerged as a result of mobility. These relocations could create upheavals, involving as they did shifts in role, institutional contexts, language, and networks, whether expected or unexpected. Relocations emerged in seven different forms: three relate to the personal and the remainder are work-related.

The first of the three personal relocations is related to geographical relocation most often occurring in relationship to choosing graduate programs or employment opportunities. Such moves often appeared taken-for-granted despite the fact they were often challenging and sometimes involved loss. This was evident in Regina's (SS) and Katherine's (S) accounts of feeling isolated from their previous support networks even though they relocated within their own countries. Others who moved to another country or even continent reported the losses that resulted. Such relocations could, of course, also be challenging for partners and families, particularly if they involved cultural or linguistic changes.

Cultural relocation included changes in common practices and taken-for-granted assumptions. Recall how Regina (SS) missed her home community's values and was happy to return after graduating. Those from other countries noted an even bigger difference and reported that it sometimes took years to 'fit in.' Four or five years after arriving in the UK from North America, Jennifer (SS) still noted not always understanding local practices.

Some individuals noted that linguistic relocation sometimes influenced their sense of confidence at work, and could have profound effects for life generally. When individuals had partners and families, concern for their adjustment often became paramount. For instance, Fracatun (S) who moved with his family to a country with a new language and culture was concerned about his children fitting into school and his wife finding a job, whereas being in a university he was able to function in English. While his young children adjusted relatively quickly, his partner had difficulty learning the language in order to find a job. At one point, he commented that unless his partner found a job and felt settled 'it won't be possible to stay here.'

As you may have gathered, any individual might experience many of these aspects of the personal simultaneously since they often intersected. For instance, Brookeye (S), in seeking a research-teaching position was influenced by the fact that he and his partner wanted to live together and by the availability of an academic job for his partner. He and his partner also desired a particular lifestyle, wanted children, and wanted to be engaged parents. Consequently, he sought a position at a small university in a location that offered the lifestyle he and his partner sought, where the academic pressures would be more manageable, and where his wife would likely get a research-teaching position.

Over time our understanding of the depth and range of what is encompassed in the personal has grown. The themes that emerged are powerful contributors to understanding work and career decisions. So, we view them as an essential aspect of experience that needs to be better captured in future research. Our understanding of the importance of the personal is also why we define career as not just paid employment, but also an individual's course or progress through life (or a distinct portion of life), including achievement of personal goals and life tasks (McAlpine & Amundsen, 2016a).

So far, we have elaborated the broader influences on individuals' identity trajectories; we turn now to exploring work experience.

### *Workplace and Its Contribution to Career Development*

For the individual, regardless of sector or role, the workplace offers an environment in which to learn key elements of practice (Billett, 2006). The affordances, such as learning specialized equipment, as well as constraints, for example insecure employment, create a tacit learning environment as individuals engage in work and learn through observation, experience, trial and error, and interaction with others. In the process, they make decisions regarding the degree to which they will participate in, modify, or resist the workplace practices they encounter. If they are well connected beyond the institution, which many individuals in our research were, then the workspaces in which they learn can extend well beyond their local institutions.

Of course, new technologies have extended our capacity to connect to those spaces beyond our local institution and also to do 'local' work away from the university. Globally the nature of workplace practices underwent major shifts during the decade in which we collected data. By 2014, we noticed that the early career researchers we were following often reported working away from their labs or university offices. So, we collected specific data about the places the scientists in our study worked, what they did in

the different locations, and why they chose these places to work (McAlpine & Mitra, 2015). The results revealed a workplace that was virtual. Many rarely felt the need to be present at their physical office except, for example, to meet with a supervisor, teach students, attend a meeting, or access large datasets and a powerful computer. We drew two conclusions: research-related practices are changing profoundly, and sites of doctoral learning need to be rethought, given reduced face-to-face interaction.

Within this changing environment, we identified three interwoven but distinct strands of work that also compose three elements of *identity-trajectory*: networking, intellectual, and institutional (McAlpine et al., 2010). These strands offer a way to conceive of individuals' development of knowledge, skills, and unique career profiles in the workplace. The strands first emerged while we only had data about academic work, but they have also proven useful in the non-academic contexts that some participants in our research moved to after graduating. In the remainder of the chapter as we explore these three strands, we draw on examples from the experiences of research participants during and after their PhDs.

### *Networking Strand*

We recognized the importance of 'interpersonal networking' early on. 'Intertextual networking,' on the other hand, only emerged gradually. While intertextual networking is less visible in the literature, we view it as a critical site of identity development, particularly in the academic arena.

#### Interpersonal Networking

> I feel that I belong to different communities … I have even done my network map … I have a network of people back in [town in home country], where I used to work, people at the university where I was studying and working … and people in the State Government that are still there, and business … also … I belong to a network of people working in the Government, at the federal level, in [my home country], and an extended network of environmental specialists in [in the capital city], but I am also involved in the network of the academic life at [this university] and people from my Department … and within that, the … Institute, to whom I belong as a researcher … [and] my contacts at [university where I did my Master's]. (Daniel (SS), during his PhD)

Daniel was extremely articulate about the value of the network he had developed and maintained and continued to draw on. From early on, we saw many individuals drawing on local, national and international relationships for different kinds of support, ranging from emotional to profes-

sional. These relationships could be reciprocal, but not always. In many instances, they were maintained through virtual means (McAlpine & McKinnon, 2013; McAlpine & Mitra, 2015). They were also sometimes quite focused, for example, 'help' groups related to learning a specific software. While many understood the importance of developing and using their networks for their present work, not all were as strategic as Daniel in developing them over the long term. In fact, we wondered sometimes the extent to which some individuals grasped the importance of developing their networks starting when they were in their PhD programs. For example, in contrast with Daniel (SS) and Regina (SS), Charles (SS) represents someone who learned this quite late, after completing his degree:

> Nobody … talks about networking. Like we have to network outside of our department—Nobody talks about that but there are so many things outside of what's on paper that it is embarrassing how little I was doing [in terms of networking].

Of course, sometimes work outside the PhD and other circumstances intruded on the time available to develop networks, even if their importance was recognized as was the case with Monika (SS):

> Networking is very important [but] because I've always been teaching during … my studies … I did not have … time to go to conferences … to meet with people so I'm still very isolated.

Not developing interpersonal networks for whatever reason was unfortunate since we found that both in the academic and non-academic sectors, rich networks were powerful forms of support both emotionally as well as in opening up new avenues for careers. Further, there is plentiful research that suggests the strong link, at least at the doctoral level, between extensive networks, satisfaction and progress; for example, see Leonard, Metcalfe, Becker, and Evans (2006).

### Intertextual Networking

> I'm reading a book that I'm sure only people in this academic field would be able to comprehend. I felt tangible progress because I felt that even a year ago I would have read this material with difficulty … and then you think you've read enough and then you find a whole pile more that you hadn't even considered … you keep reiterating … sort of web of reading … looking at connections. (Barbara (SS))

Barbara describes the second form of networking very succinctly. Intertextual networking is perhaps less intuitive and definitely more invisible than interpersonal networking. It is developed through reading strategically, leading individuals to construct historical, epistemological, and methodological relationships on which to build their own ideas (McAlpine, 2012b). Barbara's comment above demonstrates her understanding of this principle. Among participants in our research, there was a general sense that while academic reading was important, it was hard to find time to invest in it. There were some differences in this by discipline and role; social scientists made more regular reference to lack of security about whether they had sufficiently read and understood the epistemological links in their fields, whereas scientists were concerned about having read the most recent empirical research. We found that (a) more senior academics referred to depending on their students to do and discuss their reading with them; (b) the intertextual networks of more senior academics began to merge with their interpersonal networks; and (c) those outside the academy reported reading as a way of staying up-to-date in order to use research-informed evidence for their practices as well as legitimize their expertise in exchange with that of others.

The power of intertextual and interpersonal networks became particularly apparent as another form of relocation when these networks were disrupted. This 'networking relocation' occurred, for instance, when post-PhD researchers or PhD students hired as research assistants worked on projects not well connected to their own scholarly interests. These shifts left individuals, at least temporarily, not knowing the ideas, the thinkers, the important questions in the area they were paid to work in and thus they felt challenged in being able to actively engage in the research. Of course, sometimes a participant intentionally chose to do this. For example, Flora (S) shifted fields in her second post-PhD researcher contract in order to develop expertise in a different field where she felt more research-teaching positions would be available; she was willing to become a learner for a time as she entered the new field. Individuals who moved outside the academic sector post-PhD also experienced this relocation unless they had tried to develop their non-academic networks during their degrees. For instance, Sam (S) who began to imagine a career in policy during this degree attended policy conferences to get a sense of the discourse and issues and at first found it very strange. He then took a job in the policy sector before completing his degree since he realized that his academic network would not be helpful in finding career possibilities.

*Intellectual Strand*

> Writing/Publishing … I have been quite lucky in that respect. I've published a number of times as a graduate student … it is very demanding, it can really get you down when you get rejected from three or four places before it finally gets accepted somewhere and having to do all the writing, do all the reformatting for different journals and deal with editors and deal with all that stuff—it's a hard slog but there is nothing better than that feeling when it finally appears published and you get feedback from people in the field who read it and … enjoyed it or challenged you on it … that's pretty cool-that's one of my favourite parts about science. (SAY (S))

> If you are a PhD student you are supposed to have publications before you finish … And I know that—sometimes … when you are trying to publish and get rejected you think 'Oh, can I really—am I saying anything new?' All that sort of thing that sort of crises of consciousness you go through. (Barbara (SS))

SAY (S) and Barbara (SS) describe two aspects of the 'intellectual strand' which represents past and continuing contributions to one's field through publications, grant proposals, citations, and curriculum materials (McAlpine & Amundsen, 2011). SAY highlights the positive emotion emerging from success in making a contribution to the field, and Barbara the emotional impact of not being recognized (at least initially) for what she saw as a contribution. In the non-academic arena, such contributions are visibly represented in reports, project proposals, tenders, and so on.

What was striking to us is that during their degrees a number of the social scientists in our research who intended research-teaching positions, for instance, Charles (SS) and Elizabeth (SS), did not consistently seek to publish, often saying they were putting it off to focus on their thesis (and they made no reference to their supervisors suggesting this approach). We thought this might have been partly influenced by the fact that they were writing monograph theses, but decided this was not a sufficient explanation since a few scientists who tried to publish during their degrees also did not feel competitive, for instance, Anne (S) and Funky Monkey (S). Regardless, these individuals then found themselves, as they neared graduation, uncompetitive for the research-teaching positions they were seeking. Some abandoned their ambition for a research-teaching position in part because they felt uncompetitive and assumed roles outside of academia where their writing skills were dedicated to, for instance, professional journal publications, contract tenders, funding proposals, and project reports.

Not to be overlooked in the intellectual strand is the private work of writing that includes writing code, drafts of data analyses, field and lab notes, as well as writing to clarify thinking. Many in our research, at least during their degrees, did not understand writing as a thinking process, they did not realize that before writing for others we often need to write for ourselves to clarify our thinking. They also did not always comprehend the importance and value of getting feedback from readers in order to improve the comprehensibility and persuasiveness of their writing. It appeared that at least a few felt early on that feedback which criticized their work was criticizing them (McAlpine, 2012b). Further, many did not, at least initially understand explicitly the reciprocal nature of reading and writing in advancing their thinking and contribution to the chosen field. They did not realize that their intertextual network created a structure in which they could situate their intellectual contribution, and if used well, could ensure the improvement of their developing ideas. Holly (SS), however, understood this, 'When one is writing, one is never alone.'

'Intellectual relocations' were often experienced by salaried post-PhD researchers in our research who found themselves working in another field and by those who chose positions outside of academia. As well, those who preferred interdisciplinary work reported feeling at an intellectual 'cusp' as they navigated across disciplinary networks and genres, for instance, Paul (SS). In all cases, this type of relocation led to struggles to contribute intellectually. Flora (S), for example, in choosing to move to a different growing field accepted that it could take her a relatively long period of time before she could publish. In moving outside the academy, the intellectual relocation demanded a shift to a different kind of contribution focused on ways in which research could inform policy and practice. Julius (S), for instance, who started his own company learned to write for professional journals and Shannon (SS), who was a senior administrator in a large school board, came to see that she needed to find ways in which research was 'actionable.'

> One of the words you often hear in the office is actionable—is it actionable?! … And so, first of all, … if people do get research, they want it summarised … in a couple of pages and they need to know what they can do with it … [otherwise] people would say, oh, that's very interesting … but I don't see anything that we can immediately do with it—let's go back to the algorithm. And so … it was a little bit jarring, I have to say [laughing].

*Institutional Strand*

> I think there is responsibility to contribute to your university in terms of the structure, the organization, the committees. (Regina)

The 'institutional strand' represents the resources and responsibilities that come with formal affiliation in a particular institution. Resources available can be: (a) physical, such as office space, libraries, labs, meeting facilities; (b) material, for example, control of funds, access to conference funding and start-up funds; and (c) intellectual, for instance, seminars, workshops and access to supervisors, managers, and mentors. Responsibilities represent the carrying out of expected work activities such as project management, teaching, curriculum development. Sometimes participants did not investigate the institutional context before they accepted a position and found surprises, sometimes unwelcome, with implications that would potentially constrain their work. In Katherine's (S) case, she expressed regret that she had not chosen her PhD supervisor as carefully as she should have. The same was true of Anne (S) regarding her post-PhD research supervisor and the climate of her lab, and of Nellie (SS) as regards the research-teaching position she was offered.

In reviewing our published analyses, we found reference to institutional resources and responsibilities that were experienced as generally negative (sometimes with positive features) as well as ones that were perceived as positive. Most of these examples emerged from the academic context, partly because most participants worked in that context during their participation in our research. However, they also emerged in the non-academic sector. In these non-academic sectors however, individuals found it somewhat easier to change positions compared to the academic sectors, given the relatively greater number of positions available. For instance, Hannah (SS) changed institutions within the same sector because the mission and resources in her organization did not enable her to achieve what she wanted. Nina (SS) did the same because she did not like the hierarchical, competitive organization in which she worked, and Shannon (SS) changed institutions from the public to the para-public sector because the culture in the first institution did not permit the boundaries she wanted between work and the rest of her life.

Access to institutional resources varied and was influenced by role, status, and competitive processes. Participants often reported not finding policies and services when they were needed and in some cases, this disrupted their progress. While limits on resources were described as con-

straining, individuals rarely referred to the advantages of institutional resources, except when relocating to another organization and experiencing the differences from one to the next.

In the academic sector, a key concern was the contingent nature of the work of post-PhD researchers on a salary from a PI's grant. Some participants were in these types of positions for many years. This is reflective of the chronic situation globally in which there are many more PhD graduates than research-teaching positions and the position of post-PhD researcher has become at best a 'holding area' and at worst a permanent or semi-permanent position (Powell, 2015). Flora's (S) decision to switch to a new field by taking on another post-PhD researcher position was a good strategic move given this situation.

In McAlpine and Amundsen (2016b), we reported on several challenges related to the institutional context for those in research-teaching positions: (a) some experienced toxic departmental climates, yet needed to fit in to gain permanence; (b) often there was little clarity about the process of being assessed for promotion and permanence; and (c) there was often little guidance as to how to manage the multiple demands and heavy workloads. We also found that there was little understanding of learning how to be an effective supervisor and that many new academics were left to their own devices for better or worse (Amundsen & McAlpine, 2009).

PhD students also experienced difficulties in managing institutional practices (McAlpine, Paulson, Gonsalves, & Jazvac-Martek, 2012). Some felt invisible, receiving little recognition or support for the challenges they faced; a few went so far as to say they felt like outcasts. On the positive side, students noted that these contexts often gave them the means to demonstrate agency and leadership in developing their scholarly profiles (McAlpine & Asghar, 2010).

Just as in the networking and intellectual strands, 'institutional relocation' was reported by participants in all roles (McAlpine, 2012a). Nearly all the participants in our research changed institutions at one time or another and many changed several times. In this process, they became aware that the local and daily experience of work could be quite varied as regards institutional systems, resources, and responsibilities. Adjusting to such changes was often described as demanding and even more challenging when moving to an institution in another country where differences could be more pronounced.

A less frequent relocation, 'academic-non-academic relocation,' was experienced by those individuals who were expected to operate in both contexts at the same time. This expectation has been growing as national

policies and grant agencies increasingly require researchers to demonstrate social impact and community engagement. We expect it will become a more important feature of academic work in the future. For those in our research with research-teaching positions, this meant creating relationships and collaborating with those in institutions, agencies, and businesses with different missions, structures, and resources. Sophia (S) and Alan (S), in particular, referred to this as an ongoing challenge adding to the geographical, cultural, and institutional relocations they were already experiencing. Alan moved to Canada and lost his external network in his previous country, which he felt put him back a step in seeking research collaborations and getting grants. Sophia moved to Canada looking forward to developing her external network since she had previously found it easy to do, yet came to view creating non-academic connections in her new location as practically impossible.

Overall, in articulating and working toward goals and intentions, such as developing their independence through an intellectual contribution that would make them stand out, participants in our research did not act independently. Rather they developed and drew on the support of their past and present networks as well as formal and informal institutional resources. In other words, the development of a unique intellectual profile for any individual increasingly drew on a growing network of local and international colleagues, sometimes from across sectors. Individuals learned and developed their profiles nationally and internationally, encompassing not just the institutions in which they were located, but their extended networks. Still, one's institution remained powerful since it provided the constraints as well as resources for advancing individual careers.

Our visual image of identity-trajectory (Fig. 1) demonstrates the interplay between an individual's broader life goals and experiences through time and the three strands of work experience embedded within this life. The broad expanse of flowing waves represents broader life goals and the three intertwining strings of beads embedded in the flow represent work experience. The arrow signifies the momentum provided by agency, and the intentions and desires that drive an individual's actions and interactions.

### *Integrating Work and the Personal: Opportunity Structures and Horizons for Action*

Two particular concepts help us frame the interplay between individual efforts to achieve both personal and work goals in finding employment: opportunity structures and horizons for action. These two concepts provide a means for explaining the ways in which individuals' endeavor to

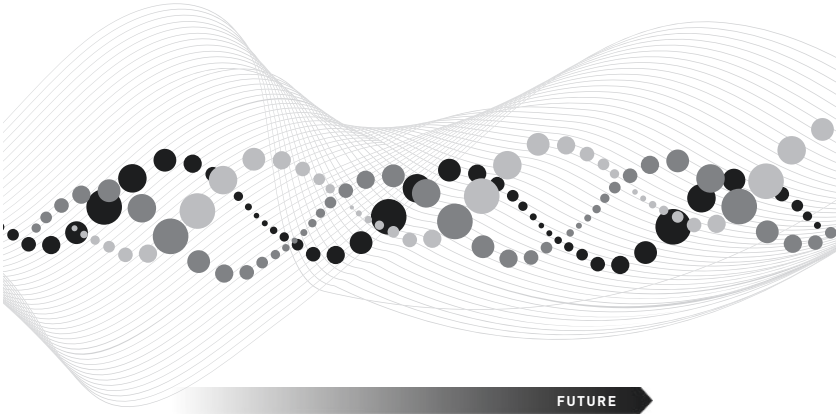


**Fig. 1** Identity-trajectory: Three strands of work experience embedded within and influenced by an individual's life course

integrate their personal goals and responsibilities with their career hopes, especially if their choices potentially involve competing aspirations. We view career decision-making as an interaction between opportunity structures, career possibilities perceived by an individual, and horizons for action, positions he or she is willing to consider (McAlpine et al., 2014).[2] Since career and personal intentions change over time, horizons for action and opportunity structures are also constantly in flux.

'Opportunity structures' represent an individual's structural knowledge, including knowledge about employment in different sectors, organizational structures and missions, and influences of government policies on the job market. This knowledge may be inaccurate, out-of-date, or incomplete, in other words, does not represent the actual labor market. Still for many in our research, opportunity structures together with personal considerations often times, unfortunately, provided the context in which research participants' career goals were negotiated. We found, for instance, that generally individuals chose an institutional location, for graduate studies or employment, by balancing their personal desires and responsibilities against what was on offer. For instance, in choosing a PhD program, we found living at home to save money or living in the same city as a partner often prevailed over the match of the program with an individual's interests or access to the most appropriate supervisor (McAlpine & Lucas, 2011); such choices sometimes led to later regrets.

In fact, what was striking in our research was how little individuals engaged in career exploration. It was startling, in fact, given that individuals were engaged in research, how much they depended on hearsay and anecdotal evidence rather than doing any active research. For example, some of those graduating and imagining a research-teaching position were surprised at how few research-teaching positions there were. As a result, individuals sometimes made decisions about future employment without full awareness of actual career possibilities. There were differences in this regard, however, between those who intended a position in a non-academic sector and those who aspired to a position in the academic sector. The former, perhaps because they felt more on their own in knowing about and preparing for a non-academic post, appeared somewhat more cognizant of what was out there. They also, like Sam (S), Katherine (S), and Nina (SS) sought out opportunities to learn more during their degrees, for instance, through an internship, fieldwork, or other workplace learning. A second aspect of opportunity structures relates to how individuals perceive the possibility for career advancement within the organization they are working in; that is, can they achieve their career goals without relocating?

Generally, an accumulation of work experience and networking in whatever sectors led to a more robust knowledge of opportunity structures, for example, the realization in the academic sector that research-teaching positions were scarce (McAlpine & Amundsen, 2011; McAlpine & Emmioglu, 2015). There was also some disciplinary difference as regards the place of a post-PhD research position prior to a research-teaching position. Most PhD students in the sciences understood that an essential step after graduation to further develop their expertise was a post-PhD researcher position. Social scientists, on the other hand, did not express this view during their PhDs. Further, after graduation, if they did not immediately find a research-teaching post, they would take a post-PhD research position, not to enhance their expertise but rather as the only viable option if they wished to remain in the academy.

'Horizons for action' represents the perceived viable or attractive options within opportunity structures. Desirable options were influenced by past experience, personal intentions and relationships, and suggestions and desires of important others. As noted above, what was seen as desirable or possible could change over time due to shifts in personal or work circumstance as well as what was on offer. Katherine (S) and Regina (SS) both modified their intentions to better integrate their personal and career

aspirations. For Regina, this meant looking outside the academic sector, and for Katherine, looking across higher education and para-public sectors.

While this brief description may sound rather simple, what we learned from research participants is that decision-making itself is not so straightforward and individuals were sometimes faced with challenging choices. For instance, Thor Bear (S) and his partner turned down research-teaching positions twice because the other could not find a similar position in the same location. Finally, he decided not to hold out for that and to move with his partner to her research-teaching position where he found another post-PhD researcher position. Storm (S) chose to delay her job hunting waiting until her partner had found something and then looking there. Several participants chose to limit their possible career choices because they privileged their family. Recall Fracatun's (S) decision to put off searching for a research-teaching position for several years, given parental responsibilities and his partner's employment opportunities.

Relocations, opportunity structures, and horizons for action proved conceptually powerful in explaining how individuals: (a) incorporated personal life tasks (Baxter Magolda, 2007) into career intentions and decision-making; (b) developed knowledge of the demands of academic work and the scarcity of research-teaching jobs; (c) made decisions as to the institutions they would choose to study or work in; and (d) chose to remain in or leave the institutions where they were. We believe that the longitudinal research design we employed enabled us to capture the interaction between horizons for action (life, work, and career intentions) and opportunity structures (career opportunities as individuals saw them) reflecting shifts over time in deciding how to proceed (McAlpine & Emmioglu, 2015).

We argue future research is needed to clarify the interaction between horizons for action, opportunity structures, and the actual labor market in whatever context the individual is prepared to look. It is our perception that individuals rarely had a good understanding, and often an incorrect perception of the reality of job options.

## Notes

1. SS stands for social scientist and S for scientist.
2. These concepts were originally used by Hodkinson and Sparkes (1997) in examining working youth transitioning into careers; we have modified their meaning based on what emerged in our data.

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# Chapter 4: Structure and Agency Revisited

## Introduction

In Chap. 2, we discussed the ongoing challenge for social scientists in negotiating the relative roles of structure and individual agency in conceptualizing their investigations. By structure, we mean the assembly of elements which form the cultural, social, and physical environments in which individuals engage, including, for instance, the policies and practices that shape available careers, or the physical spaces which influence interactions. Agency focuses on individuals' sense of how and the extent to which they feel able to exercise degrees of freedom to achieve their desires and aspirations within a range of contexts and their own sense of self incorporating, for instance, gender, age, illness, disability—what Billett (2009) refers to as the 'brute.' (See Chap. 3.)

Wheelahan (2007) argued that if individual agency is downplayed, workplace learning is privileged at the expense of broader individual development. On the other hand, ignoring the structural elements of workplace learning (and broader life learning) leads to abstract and disembodied descriptions of learning divorced from when, where, and how the learning is experienced. We argued the need for a greater emphasis on agency in research about early career researcher identity development, while not ignoring structure. In this chapter, we take up that discussion again in light of what we have learned about the interplay between structure and agency as represented in our view of identity development.



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## What We Have Learned to Inform Future Research on Careers

If we look at how career is understood in the organizational behavior literature, we can see changes in perspective over time. Earlier, there was a strong focus on structure, but more recently arguments have emerged to recognize the interaction of structure and agency in career achievement and success. For instance, Eby, Butts, and Lockwood (2003) explored the notion of boundaryless (as contrasted with boundaried) careers in which the individual moves across institutions and countries. Sullivan and Arthur (2006) highlighted the need to understand the psychological features influencing boundaryless careers. And, Arthur, Khapova, and Wilderom (2005) have commented on the need to understand both subjective and objective measures of career achievement and success. They further called for those in the field of organizational behavior to reconcile their theoretical and empirical positions to better incorporate the interplay of agency and structure.

What we did not realize when we began our research is that we have engaged in the same issue of balancing agency and structure in early career researcher learning and development. In fact, for the past 10 years, we have been absorbed in clarifying and characterizing the interaction between the key features of the context in which individuals study and work within the realm of the individual person. We have come to understand both as being collectively important to understanding how and why individuals make the decisions they do about their careers and their lives more broadly. We believe that only a clear understanding of the interplay of structure and agency will provide a reasoned framing for research. This is not to suggest that we have actually collected all the information we see as conceptually necessary to fully represent the interplay between structure and agency. We are limited in this regard since our understanding of the interplay grew through doing the research, so it is only in retrospect that we provide this account. We argue however that the construct of *identity-trajectory* emerging from our work affords a framework which defines many of the key elements that highlight the interplay between structure and agency. We believe incorporating the additional elements we discuss in this chapter will offer an even more robust frame to conceptualize and conduct research about early career researcher identity development and career decision-making.

We suggest that a key aspect in the interaction of structure and agency in identity development is composed of a cluster of individual and structural elements that influence one another (see Fig. 1).

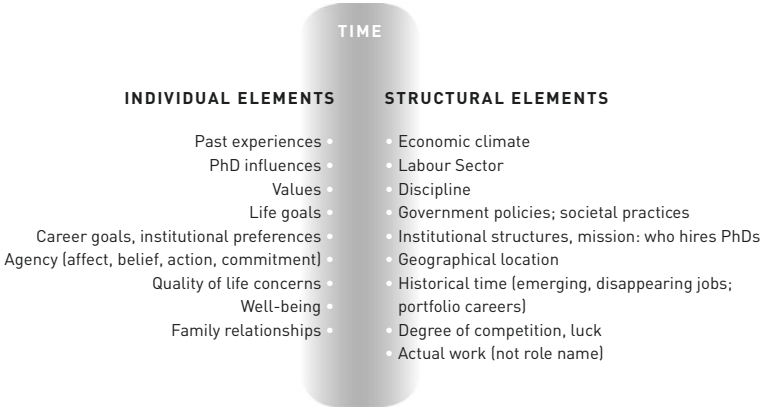


**Fig. 1** Interaction of individual and structural elements

The elements in both the individual and structural aspects of the framework are constantly in flux; therefore the passage of time also plays a role. We think of time from two perspectives, historical and personal. Historical time refers to the chronology of history, to changing events, physical spaces, policies and practices evident through time and essential to understanding the structural elements in play. For instance, someone seeking work after graduating in 2008 at the time of the global economic crisis would have had a very different experience from someone graduating in 2016 when the economy had improved, and technologies had evolved dramatically. Personal time represents where an individual is in his or her life course and in his or her changing personal situations and responsibilities; personal time is essential to understanding the nature of the individual's life trajectory.

In our research, we tended to focus more on the personal meaning of time. Here, we briefly review the individual perspective, which we developed quite fully in Chap. 3. Then we elaborate the structural perspective, expanding on what we reported in Chap. 3 by adding what we now recognize as essential for a comprehensive view even though some of these elements were not part of our data collection.

### *Individual Elements*

Past experience influences the present and possible future. Particularly influential in early career researcher experience is the nature of the PhD experience. Past experience interacts with personal values, such as a desire

to use research to bring about social change or to find work that aligns with personal values. Further, life goals, for instance a desire for children, change over time. Related to life goals are career goals which will be influenced by personal values, responsibilities, and resources. And as individuals' perceptions of opportunity structures grow, they will have a better sense of their career preferences.

Of course, agency and affect play a role. The extent to which individuals believe they can influence events affects their thinking and actions. The extent, for example, to which they are strategic (setting and working toward goals) and respond in emotionally positive ways to challenges and constraints in order to maintain commitment (resilience) will make a difference. We also suggest that the time invested in developing knowledge of opportunity structures (an individual's understanding of career options available) can play a critical role in career decision-making. Taking time for this purpose is something that not many of the participants in our research understood or did.

All the other features of the personal also come into play in relation to life and career goals: (a) quality of life concerns such as work-life balance and avoiding financial duress and insecurity; (b) well-being, including avoiding stress, anxiety, burnout, and managing chronic illness (personal features of the 'brute' (Billett, 2009)); (c) family relationships, such as not moving to reduce family upset, refusing positions because of inability to co-locate with a partner. In our view, capturing all these elements can begin to open up what has often been the 'black box' of individual variability (Pearson, Cumming, Evans, Macauley, & Ryland, 2011).

### *Structural Elements*

Of course, each individual is situated within nested contexts that incorporate structural elements influencing life and work decisions (see Chap. 2). We noted in Chap. 3 that opportunity structures represented the individual's knowledge about career possibilities and that these might not accurately or fully represent the actual labor market. We begin with the economic climate. Of course, this varies by country, sector, and discipline. Our research program began, for example, two years before the global economic collapse in 2008 that had a profound and broad impact on careers generally. As Onova (S[1]) said in relation to the academic sector:

> There is definitely a divide in faculty. Those that were hired pre-2008 before the job market collapse and those that got caught after that because pre-2008 I knew PhD students that were being recruited straight out of their PhD into faculty positions and that simply does not happen anymore period—it doesn't matter who you are, it doesn't happen anymore.

More recently, we see the UK Brexit referendum raising concerns about the availability of positions for those from the European Union. Kadyna, for instance, feels less welcome and is considering returning to her home country.

The specific labor sector also has an influence. In Chap. 2, we characterized four sectors: (a) higher education; (b) public, principally funded through taxation; (c) para-public or non-profit, largely dependent on donations; and (d) private, for profit, which generates income for owners and shareholders.

The kinds of jobs on offer and the paths to them also vary by academic discipline. Research fields may be growing or declining at any particular point in time, providing new positions or shutting down current ones. Recall Flora (S) chose to change fields as a post-PhD researcher since she realized she had more likelihood of finding a research-teaching position if she followed grant funding patterns; funding was decreasing in her original field and increasing in the one she moved into. As well, there are differences in career trajectory related to disciplines. For instance, those in the life sciences are often expected to have at least two post-PhD positions to specialize further before being competitive for a research-teaching position. As well, it is relatively common knowledge that those with PhDs in engineering and technology find employment outside the academic arena more often than those in the social sciences and humanities (Auriol, Misu, & Freeman, 2013). However, caution is necessary since there are national differences that come into play. For instance, Spain and Croatia stand out for the high percentage (about 60%) of those in the medical and health sciences who go into government workplaces compared with other countries (about 40%).

Government policies and regulations and societal practices can also influence the nature of work that individuals do. For instance, the availability of research funding and the policies guiding funding are different across countries. This influences differently the decisions academics make about which funding councils to apply to and how to structure grant proposals (Laudel, 2006). As Onova (S) said: It's 'pretty much guaranteed you will get [the grant] if you get the industry sponsor—that's what the

government wants you to do is work with industry to develop our economy.' And earlier, we reported the challenges that Sophia (S) and Alan (S) experienced in developing industry collaborations, which they needed to be competitive for grants. Further, the kinds of post-PhD researcher positions on offer are influenced by national funding policies (Cantwell, 2011). In North America, PIs are free to modify their research plans and are often rewarded for hiring graduate students. In the UK, PIs are 'project managers' who must meet the goals of the research award and so tend to hire post-PhD researchers, perceived to be more independent, to ensure the work can be achieved in the required time. Finally, of course, there are cultural-historical practices that come into play. As Kadyna (S) said after experiencing time in the UK: 'I'm not really looking for a job in [my home country] because I know the … the atmosphere, it's very hierarchal.' As noted earlier, she was now rethinking that decision given the results of the UK referendum.

Institutional structures and mission also influence how things get done.

> [My university] is really a very flat structure and so, if you want to [do] something, the way to do it is just to do it. (Katherine (S))

> That's how it is in this university, that's the structure [for] developing the broad ideas about curriculum. Well there is a certain amount of faculty input, but it is all overseen by the chairs of the various committees. (Ginger (SS))

There are many ways in which institutions can be structured and this is often influenced by the size of the organization. The aim of these different structures is to help achieve the organization's goals and mission and of course these vary. In the academic environment, different classification systems highlight differences in mission. The way that institutions are ranked, for instance, the UK Russell Group of research-intensive universities or the US Carnegie ranking system privileges research over teaching. Some research participants were very clear that they wanted to be in a university that privileged teaching rather than research, and others that they wanted a university that privileged research. Regardless of sector and institutional type, it was not uncommon for research participants to realize that they did not have sufficient understanding of their organization's purpose or mission and how this would align with their personal goals and influence their day-to-day work.

For PhD students anticipating careers outside academia, the extent to which institutions in these sectors were welcoming of PhD graduates was

not always clear. Tulip (S) describes here some of the skepticism she experienced in looking for a job in the private sector:

> So I spent a … while looking at … jobs us[ing] the same sort of skill sets … I've built up [in my PhD] … I started applying for management consultancy jobs … four or five different companies interview[ed] me … family/friends who are management consultants … pre-interview[ed] me and they all asked 'Am I too academic? Have I been changed … too much to be able to … work in [a] professional environment?'… So, it took a … while to persuade people … *but* … the people who hired me didn't have a problem [with my PhD]. They thought … my skill set was well … honed to answer th[e] questions … interestingly, the job … was the one where they asked me the least about … whether I was too academic … there were loads of people who had PhDs there.

Tulip's (S) comments reflect reports in the literature indicating that companies that have previously hired science PhD graduates are more open to hiring them in the future (Cruz Castro & Sanz Menendez, 2005). Some national policies also help, for instance, by providing partial salary funding to companies which employ PhD graduates to do research (Herrera & Nieto, 2013). Further, the organizational structure and ongoing interaction with universities can also influence hiring, at least of science graduates (Beltramo, Paul, & Perret, 2001). For example, labs that work in close liaison with university researchers tend to recruit a large proportion of PhD graduates. Generally, cooperation between firms and universities (whether shared research activities, internships, or co-supervision) encourages firms to recruit PhDs.

Overall, the research tends to suggest structural characteristics and previous history influence the recruitment of science PhDs into the private sector. Firms recruit to (a) access scientific knowledge; (b) reduce risk of failure, given PhD graduates have good problem-solving skills; (c) deal with financial difficulty by getting a stamp of quality to attract funding; (d) access academic knowledge networks; (e) manage uncertainty about research (unknown outcomes) leading to innovative products. Given an interest in hiring PhD graduates, how do such institutions recruit? Roach and Sauermann (2010) have noted that firms try to attract high-performing graduates by creating academic environments. The underlying assumption is that academically trained scientists have a taste for science and believe that firms may restrict autonomy and experimentation. This was commented on

in a positive fashion by SA (S), who described her non-academic organization as quite academic. In contrast to scientists, social scientists tend not to be hired into the private sector but into the public and para-public sectors (Auriol, Misu, & Freeman, 2013).

And, of course, within each organization including in the academic sector, the local practices influenced by leadership and interaction patterns will also affect day-to-day experiences. For instance, when Jennifer (SS) took up her research-teaching position, her departmental colleagues among other things denigrated her qualitative approach to research and she reported the climate as quite unwelcoming. Similarly, Katherine (S) during her PhD experienced a local environment that did not provide the kind of support she needed:

> Basically … we weren't working as a team at all … I'm a person who needs some support and that kind of sense of constant feedback … and that didn't exist at all in my lab, and that was … the main problem. We had three lab meetings in three years … so, there was essentially no internal communication in a structured way about work.

Realizing she had not done her 'homework,' when she sought work post-PhD, Katherine thoroughly checked out the social practices of the positions she went on to take.

Geographic location plays a role as well in the nature and number of jobs. An outstanding example is Fracatun (S), who when he applied for a research-teaching position realized there were only four openings globally that were a match (one of which he fortunately got). While those in academia seeking research-teaching positions needed to be prepared to move in seeking positions, the same was not necessarily the case for those outside the academy. Still the nature of the labor market could be influenced by the geographic location. Katherine (S) was fortunate to live in a large metropolitan area when she began job hunting so had more than one job offer. On the other hand, Regina (SS) lived in a smaller regional city, was unable to move, and found few suitable positions on offer.

Historical time is another element to attend to. Even though our research spanned only 10 years (2006–2016), there were dramatic changes in communication and use of technologies that profoundly changed the nature of work. It is easy to forget that in 2006, ResearchGate did not exist and demands for open access to data were not part of public discourse. Collaboration using social media was not common and smart-

phones were only just becoming common everyday appliances. Fast forward to 2016, and people of all ages in the western world use pocket computing, open access is a taken-for-granted, there are multiple academic social media sites, and requirements for social engagement are written into funding council requirements. These changes are allied with changes in the types of jobs on offer. So, for instance, Katherine's (S) job (as a research coordinator enhancing collaboration and engagement and open access) would likely not have existed in 2006, but it did when she was job searching eight years later. And, both Regina (SS) and Hannah (SS) found jobs that had only been recently created. As well, jobs may be only part-time which lead to 'portfolio careers' like the one Katherine created; she worked four days a week at one job and one day a week at another. Of course, over time more jobs have become contingent or limited-term, producing a sense of insecurity.

Another related structural element is the nature of the job and the extent of the competition. What led to the decision to create the particular parameters of the job? How does this relate to the possible degree of competition for the position? How does the degree of competition influence the selection process? How is the final decision reached? This is something that we know little about—except anecdotally. Further, how do we make sense of luck as a factor in career-related activities (Bright, Pryor, & Harpham, 2005)? We need to consider how we should gather more of this information in future research.

Finally, we need to know more about the actual work that PhD graduates do since the research into post-PhD careers is largely survey-based. As a result, there are few descriptions of what it actually is that respondents are referring to in a survey when they express satisfaction or dissatisfaction or note the use of PhD skills in their jobs. We need this information both to make better judgments as to the usefulness of the PhD in non-academic sectors as well as to consider changes in the design of doctoral programs.

## The Bidirectionality of the Relationship

To provide a sense of the interplay of these two sets of elements—individual and structural—in individuals' experiences, we offer two tables that represent visually rather than textually the individual and structural elements of Regina's (SS) (Table 1) and Katherine's (S) (Table 2) stories. Our goal is to make clear the aspects of the structural elements that are

**Table 1** Regina (SS): maintained intention for a research-teaching post and changed positions consecutively across sectors

| *Individual elements* | | *Structural elements* | |
|---|---|---|---|
| *Past experiences* | Close-knit family with traditional values; brother was challenged by school; led to 'helping' profession | *Economic climate* | 2009, relatively poor when sought the 1st job[a]; 2013, economy recovering at the time of 2nd position[a] |
| *PhD influences* | Developed academic profile (networking, research); personal relationships remained important years after PhD | *Labor sector* | ? All sectors with all potential jobs |
| *Values* | Family over work; contribute to the society; do applied research | *Discipline* | Social sciences |
| *Life goals* | Close to family, wanting children | *Government policies; societal practices* | ? |
| *Career goals, institutional preference* | On slower path than planned; took 1st post for financial security; wanted university with PhD program in her field | *Institution structures; mission* | Only one university health center; enhance patient care[a] Only one of three universities had PhD program in her field; education and research[b] |
| *Agency (affect, belief, action, commitment)* | Used local non-academic network to find job; negotiated contract; recrafted research to suit disciplinary structures | *Geographical location* | Small geographically isolated city[a] |
| *Quality of life concerns* | Worked 9–5 to ensure time with family | *Historical time* | 2006 → 2013 |
| *Well-being* | Not letting work be a point of stress; time with friends and family most important | *Competition for posts, luck* | ? |
| *Family relationships* | Supportive partner and family | *Actual work* | ? Little known |

? Unknown
[a]Checked through public record
[b]Stated by research participant

**Table 2** Katherine (S): working across sectors concurrently; changed intention away from research-teaching

| *Individual elements* | | *Structural elements* | |
|---|---|---|---|
| *Past experiences* | Left partner, colleagues for PhD; missed camaraderie | | 2015, relatively good[a] |
| *PhD influences* | Did not choose supervisor carefully, not supportive; worked in isolation | *Economic climate* | ? All sectors with all potential jobs |
| *Values* | Volunteer or advocate for open data and access; collaborate | *Labor sector* | Life sciences |
| *Life goals* | A sense of permanence; partner, family life | *Discipline* | Research council expectations of social engagement[a] |
| *Career goal; institutional preference* | Academic connection, involved in community-oriented research; collaborative, open, teamwork climate | *Institution structures; mission* | Research university; research and teaching[b]<br>Start-up; open science[b] |
| *Agency (affect, belief, action, commitment)* | Used internships to explore non-academic career jobs; checked out work climates when considering jobs | *Geographical location* | Metropolitan area; easy access to many different sector jobs[a] |
| *Quality of life concerns* | Good work-life balance with free time to do what she wants | *Historical time* | 2011 → 2015 |
| *Well-being* | Sought help for stress of PhD: parents, partner, counseling and cognitive behavioral therapy | *Competition for posts, luck* | ? |
| *Family relationships* | Break up with previous partner unsettling; established new relationship; wanting to live together | *Actual work* | ? Little known |

? Unknown
[a]Checked through public record
[b]Stated by research participant

hard to capture. You will see that we have consistent information about the individual elements, but the same is not true of the structural elements. We have some understanding of these through the individual's sense of opportunity structures, and post hoc by searching public records, but much is not known. Note as well that these tables do not represent a specific point in historical time, but a summary of each individual's situation over time. Finally, the nature of the tables does not easily demonstrate the interaction between structure and agency, as we have shown in Fig. 1.

Regina chose to find a position with good benefits in order to have a family and because she knew that finding a research-teaching position in her field close to where she lived was a long shot. She drew on her non-academic network from her earlier life to learn of the research professional position she took in a hospital. Katherine chose to take positions where she already knew the individuals to ensure she had the work environment she preferred, having learned from previous experience how important that was. She decided to combine two professional positions to best meet her values and goals.

How did structural elements influence their options? For a start, Katherine's (S) and Regina's (SS) fields influenced the positions available; neither would have sought nor been able to gain the positions the other did. Geographic location also played a role. The fact that Regina (SS) was looking for a position in a small geographically isolated city influenced the number of possible positions. In contrast, Katherine (S) lived in a large metropolitan area where there were many positions available that would suit her interests.

Further, historical time was influential. While both were seeking positions in the higher education sector as well as other sectors, Regina (SS) was doing so in 2009, right after the global economy collapsed, whereas Katherine (S) was looking in 2015 when the economy had generally recovered. As well, both took up positions that had only recently emerged as a result of changing practices and policies. In Katherine's case, research council expectations of social engagement led to the creation of her position, and in Regina's case, we conjecture the motivator was expectations of evidence-based healthcare practices, but do not know. Further, in both these cases, we do not know what the exact job descriptions were or the number of applicants for the positions, nor how the selection process was carried out.

Nor can we speak of the nature of the specific institutions Katherine and Regina were working in, such as the organizational structures and mission,

their hiring practices and views of the value of hiring PhD graduates. What we know instead is what each told us which is about the local work practices. For instance, Regina had the benefits and freedom she wanted and organized her work so that when she was home she could dedicate time to her family. Katherine felt independent and trusted and had plentiful of scope to link her interests in science and social engagement, yet had the freedom to 'have a life,' something she had sought for a long time.

Finally, while we can describe to a certain extent Katherine's and Regina's actual work, it is not as detailed as it might be. It is critical to understand what exactly people do as opposed to depending on job titles and job descriptions. Further, we have learned how the work environment as perceived by the research participants influences their motivation. But we do not have institutional information about the actual structures that create resources and constraints on institutional responsibilities. We need this information to see the ways in which individual intentions can form or shift the nature of the work, and vice versa, how the nature of their work can shift individuals' intentions. As to the former agentive influences, recall how Regina (SS) negotiated time for her own research; we also got glimpses of it in Julius' (S) story. As for the later structural influences, recall Katherine's (S) difficulties with her PhD supervisor and her relief when her supervisor left, or Charles' (SS) experience that demotivated him and led to a career change.

## Notes

1. S represents scientist and SS social scientist.

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# Conclusion and Implications

When we began our research, we employed a sociocultural stance and an empirically developed framework (nested contexts) as a starting point. We did not imagine then that we might work toward some sort of mid-range theory (Richards, 2005), one that explained not just the experiences of doctoral students but also post-PhD career development in academic and non-academic sectors. We shifted from our original perspective as the key elements of *identity-trajectory* emerged from the data and we realized their importance in helping us make sense of the data. In a December 2008 conference presentation, we described what we now recognize as the beginnings of identity-trajectory though at that point we only named the elements of time (past–present–future), and agency and affect.

We began to see that what we were doing was a particular kind of theory-building, 'data-theory bootstrapping' (Richards & Richards, 1994). This approach involved finding aspects of the data that related in meaningful ways, naming them as potential elements, and then starting to look more intentionally in the rest of the data for examples of these themes, but also for related or contrary patterns. In other words, we used an inductive approach by letting the data speak: exploring, coding, then re-exploring, growing the links, and testing them out in other contexts and data. For instance, though the notion of *identity-trajectory* came out of our longitudinal data, we tested out the usefulness of it in one-off studies. We also began to assess its usefulness by, for instance, developing survey



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items that represented elements of the personal, a critical element of *identity-trajectory*. Through this process, we slowly developed a growing, more comprehensive, and robust interpretation of early career researcher career development within the life course.

In the process of developing this bootstrapping theory, we became sensitized to finding ways to demonstrate the interaction between the individual and the structural elements. An example of this in *identity-trajectory* are the two elements, horizons for action and opportunity structures. To aid further progress in demonstrating the interaction between the individual and the structural elements, we generated a list of structural elements that we believe need to be incorporated and investigated in future research. In this part, we proposed the parameters of such further work which links individuals' characteristics and intentions with the actual labor market.

Khapova and Arthur (2011) from the field of organizational behavior have argued the need for interdisciplinary approaches if we are to understand career decision-making, and this may in fact be a useful way forward. Further, we concur with the questions they pose to us, both as researchers and more senior colleagues who wish to better support early career researchers:

- Do we not owe individuals a more complete view of their careers to give them greater insight into how to develop and grow over time?
- How can we more fully examine and explain distinct (different from other individuals) but real (evolving circumstances) career decision-making?

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PART III

# Empirically-Based Insights into Academic and Non-academic Work: Overview

This section has its starting point in the results that have emerged from our work. It synthesizes our overall empirical findings as regards making sense of early career researcher work experiences and career trajectories. As such, it raises important questions about the future of academic (and nonacademic) work choices. We approached this section by first doing a careful rereading of all the publications emerging from our research, not just from the longitudinal research but also the other, one-point-in-time data collection studies. We read seeking insight into what we know about how early career researchers learned through work and what they learned. We are interested in the ways in which individuals make sense of and learn from their work experiences as they construct and reconstruct the meaning of their career experiences within their broader lives. Within this focus on work experiences and career hopes, you will still find individuals' personal lives influencing their horizons for action and their career choices.

In Chap. 5, 'Post-PhD Researchers: What is in the Cards?' we describe the experiences of those who have graduated and remained in the academy as researchers. In Chap. 6, 'Choosing to Invest in a Teaching-only Position,' the motivations and experiences of those who also remained in the academy but in teaching-only positions are recounted. This role has been little reported in the literature. In Chap. 7, 'Research-Teaching Academics: The Road to Stability,' we explore what it is like to gain and take up this sought-after position. The last chapter in this section, Chap. 8, 'Choosing a Nonacademic Future: Professionals and Research

Professionals,' details the experiences of those who choose alternate careers, again roles that are rarely reported in the literature. In the 'Conclusions and Implications,' we summarize what we have learned and what we feel we still need to learn.

# Chapter 5: Post-PhD Researchers—What is in the Cards?

## Introduction

Wherever one looks, the career trajectories of post-PhD researchers are precarious (Powell, 2015). Such individuals are often deeply invested in their research yet are working in structures which offer no future, depending as they do on soft research funding and contingent employment structures (McAlpine, 2010). This situation is not new, nor unfortunately is it improving. In fact, it may be worsening. How do post-PhD researchers negotiate this work environment and navigate a future in such challenging circumstances? It is this question that structures the chapter.

In Chap. 3, we described in detail *identity-trajectory*, a developmental approach to understanding identity which highlights personal agency and efforts to construct a way forward regardless of expected or unexpected constraints. *Identity-trajectory* views work, which is situated in the personal, as three intertwining strands: intellectual (contributing to the field), networking (expanding connections, both interpersonally and intertextually), and institutional (negotiating the structural features to mediate the development of the other two strands). The experience of these personal and work aspects of *identity-trajectory* are explored fully as regards post-PhD researcher experience in order to answer the question driving the chapter.



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Given there is much less research focused on post-PhD researchers in comparison with PhD students, we begin by exploring what post-PhD researchers actually do, then how this work might contribute (or not) to their trajectories, and what they imagine as their career futures in the next five years. Through this, we hope to demonstrate not just the compelling stories told by the post-PhD researchers we have studied, but also how national policies and institutional procedures are underwriting and thus influencing their precarious careers.

The three cameos above representing some of the commonalities, but also unique choices post-PhD researchers in our study experienced in their life and career trajectories. While they are lengthy, we hope you will read them carefully since we come back to them in the chapter repeatedly as we explore different themes.

## Navigating Post-PhD Research Work

As you saw in the three cameos above, the work of a post-PhD researcher is not straightforward. Trudi's (SS) role involved much more than research. Anne (S) was struggling with failed experiments, and AAA (S) was concerned about the financial pressure of supporting a family while moving forward at work. In this chapter, we first address the varied nature of post-PhD research work which might not actually involve a lot of research tasks despite the relatively common assumption that such is the case. In relation to their work, we explore the varied ways in which individuals demonstrated a sense of agency and their actions based on this. We found differences in how individuals sustained their motivation and invested in furthering their careers in light of a range of challenges. The last point we consider is how individuals' broader personal lives interacted with their work experiences and contributed to different decisions about their career plans.

### *Categories of Work*

The post-PhD period requires a transition in perspective. In the PhD period, the goal is to finish, and most PhD students in our research did not think about actually getting a job until near graduation. In contrast, the post-PhD period has no clear end except for achieving the hoped-for research-teaching position. As a result, individuals are trying to look forward, working to create their own research niche and enhance their job potential through publications and collaborations, and hopefully some research funding.

*AAA* (S) completed his master's degree in one institution and then moved with his partner to follow his supervisor to another institution for his PhD (Canada). In the last year of his degree, he and his partner had a baby. While the baby made life more complicated, it was still 'pretty awesome.' He wanted a research-teaching position, but recognized a researcher position needed to come first, so started looking during his PhD. He identified possible researcher positions by attending to the professor's reputation, eventually whittling it down to two labs in other parts of North America. He applied and was invited for interviews and chose a two-year position 'with the type of work I like,' though the position meant a financially challenging pay cut. After completing his PhD, he and his family made the move and also had a second baby; his partner stayed at home as the principal caregiver. He was pleased with the work including the opportunity to supervise students. Still, he disliked the pressure to 'be working all the time' and knew he could not sustain it indefinitely. He hoped a research-teaching position would provide more reasonable hours as well as a salary that did not require his partner to work.

*Ann* (S) met her Australasian partner in Canada while doing her master's degree assuming she would end up with a research-teaching or research post. She then pursued a PhD in Australasia while her partner worked as a contract researcher. After her PhD, they returned to Canada where she took a three-year researcher position. Sadly, her partner was unemployed for 18 months before getting a part-time job, and continued to job search throughout our study. In her first two years as a researcher, Ann suffered failed experiments and necessary troubleshooting, partly due to an unorganized lab and a hands-off supervisor. She also received no conference funding from her supervisor which reduced her networking opportunities. In the third year, though anxious to leave the lab, she accepted an extension to her contract since she still had no publications, and like the previous year, her fellowship application had not been funded. She began to think of 'cutting my losses and moving on.' Even though part of her still wanted a research-teaching position, she saw other possibilities such as technology transfer officer or patent officer, but she lacked the networks to connect her to such possibilities. She continued to be unhappy about her unsupportive supervisor.'

*Trudi* (SS) worked as a professional before moving to the UK to pursue a master's degree, staying on at the same university for her PhD. After graduating, she took a five-year research contract in the same university in a research center largely funded through grants. She enjoyed the work, though had no local colleagues since all those working on the research grant were geographically dispersed. But she learned to manage this: 'I'm now writing with a colleague from [North America] and a colleague from [continental Europe].' She was awarded a two-year fellowship which 'paid the Department [in which the center was] half my salary to free up … time to work on my own project.' Her partner was on another continent and she saw her decision to remain as a trade-off since she enjoyed work in this specific university. Her contract was renewed for another five years and she was offered some teaching which 'filled … a gap in my CV.' That and graduate supervision made her 'feel … part of the Department.' These activities also built an institutional component into her salary, so she was not totally on soft funds. Urged by a member of her research network, she won her own grant which meant she could 'make a better case for moving up the pay scale.'

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| To enhance his competitiveness in the universities of his choice, he applied for funding that would enable him to hire others to conduct his research: 'the odds of getting an interview [for a research-teaching position] without that funding are slim.' His supervisor was supportive of his career goal and had an 'idea of how to make that happen'—which he hoped was the case. The next year, he had his first top-tier journal publication. He was also invited to chair two conferences with prestigious participants, so had an opportunity to address the 'back door politics that go along with getting funding.' The financial pressure imposed by a poor salary continued to cause tension, but though he could make much more in the industry, 'it is not the lifestyle I want.' He felt 'if my supervisor … is right—and she usually is … five years from now I should have a tenure-track position.' At the end of the research study, he had given himself two more years to 'land the [research-teaching] position … after that I think I will finally move into industry.' | She realized she had not asked enough questions to the right people before taking the contract. She felt supervisors 'don't really care so much about your development … it's what you can do for them.' In the meantime, she and her partner were expecting their first child, her experiments were progressing and she hoped for two publications before going on maternity leave. She later commented: 'if I had known [motherhood] would be so much fun, I think I would have done it sooner.' She used her time on maternity leave to apply for positions in earnest and received two offers, both with pluses and minuses. A year after having chosen the one that was a project management position, she felt she was learning a lot, though her job did not offer the opportunity to lead a research team, something she had looked forward to. Still, colleagues who had research-teaching positions talked about being 'unhappy and stressed.' 'I know that I made the right decision to try something new.' | The grant helped balance her lack of peer-reviewed publications in terms of better meeting traditional measures of academic success. She did though publish reports, which met the grant funding priority of social impact. Work-life balance remained a concern: 'I would like to be successful … but I don't want it to come at the cost … of actually hav[ing] a life.' Still, when offered a research management role she accepted it because 'I am still on contract … and … would like a permanent job.' Her uncertainty about remaining in the academy continued, especially when her partner joined her and they married and bought a house. 'I've been working super-hard … and I actually don't want to do this for the rest of my life … I want my marriage to work.' With her second five-year contract ending, she was finally offered a research-teaching position. But her workload continued to be intense and she remained concerned that the high-pressure lifestyle was not sustainable. |

Adapted from McAlpine and Amundsen (2016)

*S* represents scientist and *SS* social scientist

In Europe and the UK there has been a tendency to refer to those with PhD degrees doing research in the university as 'researchers,' whereas in North America 'postdoc' is common. In our research, we decided to refer to such individuals as post-PhD researchers. For us, this term incorporates both those who are salaried, paid out of a PI's grant, and those on fellowships. We are also attentive to how the difference in source of income influences work and motivation.

The few post-PhD researchers in our study who held fellowships at various points after PhD graduation reported considerable freedom to follow their own intellectual interests and in the process develop their research profiles, collaborations, and careers. Still, they recognized that the freedom was time-limited, and it was clear that variations in the form and length of fellowships had different effects. Brookeye (S), who held a two-year fellowship immediately after graduation could choose where he wanted to work and what responsibilities he took on. Initially he focused on getting a job, establishing his future security, and then using the time to build collaborations through visits to colleagues elsewhere. Trudi (SS) and Otto (S) had different experiences since their fellowships were only part-time. So, while they had some freedom to follow their own interests, they were juggling this alongside contract work. Others obtained a fellowship after several years as a post-PhD researcher. Catherine (SS), for instance, thoroughly enjoyed the release from her regular responsibilities, if only for a year, and used the time to develop collaborations and publish. However, upon returning to her previous position as a salaried researcher, she was not able to sustain the momentum she had built up during the year on fellowship.

In contrast, those on contracts, sometimes for a year or less or part-time, found themselves regularly dealing with financial insecurity. They did not have the independence of those on fellowships. They found themselves caught between the work required of them by their supervisors, which could be outside of or on the periphery of their interests and expertise, and their 'passionate investment' (McAlpine, 2010) in advancing their own intellectual work. A new contract could demand an intellectual relocation requiring an investment of time and energy to 'come up to speed' with another area of research with which they might be only somewhat familiar. In such cases, individuals did not know the discourse, the ideas, and the thinkers important to their new colleagues and this precipitated intellectual challenges in trying to contribute. Yet, they needed to be able to contribute and publish to progress their careers. Individuals responded to this challenge in different ways. Some tried to maintain their own research interests but others, especially if they continued to be rehired by the same PI which

was Sandra's (S) case, realigned their research interests with the PI's. Not to be overlooked, post-PhD researchers could be hired on a series of concurrent contracts, which meant they did very little research in one area. Margarida (SS), for instance, held three year-by-year contracts in three different universities. Overall, research constituted only a quarter of her total work with teaching and management constituting the remainder.

Generally, individuals on contract felt they were treated like second-class citizens, not just because of policies, such as those which privileged PhD students for teaching opportunities, but also in terms of collegiality, for example not being included in departmental emails or having departmental mail slots.

Further, some of those who found themselves as a PI for a research grant[1] encountered a different set of challenges than expected, including 'not doing what I thought I would be doing' (Juliet). That is, they often found themselves doing more managing and not the 'hands-on' aspects of doing research they enjoyed. These tasks included: financial management, managing a team, dealing with 'personnel' issues, negotiating the 'political' environment—overall developing a management style that would enable them to get people to do things they did not always want to do.

Finally, regardless of the source of income, new technologies were changing work patterns. For example, time spent on the campus in offices or labs was for specific purposes and other work was done elsewhere. Scientists, for instance, reported working 'anywhere where I can find a seat: planes trains and automobiles, coffee shops and cafes … bathrooms' (AAA (S)). Most individuals appreciated the flexibility. Anne (S) commented: 'grant and paper writing, abstract writing can take place anywhere and it often saves commuting time to do these at or near home.' Still, we saw that this flexibility could have negative effects on work-life balance since individuals might never feel off-duty. We take up the issue of lack of work-life balance later.

### *Agency, Motivation, and Resilience*

A consistent theme that emerged across the participants in our study was their love of research, and this positive emotion helped sustain their motivation as time passed and they still had not achieved their goal of a research-teaching position. At the same time, we could see that individuals varied in how they undertook to direct and negotiate their work environment in ways that would help achieve their career hopes. We have characterized

this as degrees of agency (see Chap. 3): variation in individuals' efforts to be intentional, to plan, to construct a way forward toward their goals in a range of contexts in both their work and personal lives (McAlpine & Amundsen, 2016). In our view, agency does not mean holding firmly to and working toward goals that one has set. Rather, being agentive includes being flexible and adapting to constraints whether expected or unexpected, and trying to negotiate them emotionally and strategically even if not always successfully. Of course, some individuals were more successful than others, not just in being strategic but also in emotionally reconciling potential conflicts between their own goals and desires and the social and structural elements they were navigating. Such individuals reported efforts to be agentive at work, for instance, setting goals, seeking information, thinking strategically, planning, and so on. They also demonstrated ways to manage negative emotions in the face of tensions, conflicts, or lack of success, such as seeking to learn something for the future from the negative experiences (Skakni & McAlpine, n.d.). TDB (S) is a good example of an individual who sustained his intentions over time despite difficulties:

> In 2013, TDB took a 1-year contract in his PhD supervisor's team upon graduating. While he felt 'in a rut' with little change from his PhD experience, he was determined to use the time to write and publish. His contract was renewed and his supervisor did not add more responsibilities and encouraged him to apply for fellowships. The next year his contract was extended again for 1.5 years and he decided to focus on research that would produce results and thus publications rather than novel, high-risk research. During this time, he expanded his network internationally, and gradually moved into a slightly different field from his supervisor. He also continued to apply for funding despite feeling it was 'time down the drain' since his investments so far had not produced results. By 2016, he still had not won a research award but he did get a research contract in the US which he felt would strengthen his skill set and knowledge base.

Overall, agency intertwined with affect offers a way to understand investment in work and how career decisions were situated within personal lives. Dancer (SS), a participant in our study about PIs (McAlpine, Turner, Saunders, & Wilson, 2016) epitomizes a strong sense of agency and positive emotional investment in a situation in which she was between research contracts, yet continued to invest in work:

> I attend the [team] meetings from time to time. I'm still producing publications, and will probably continue for … for several years to come … I'm trying to make it an opportunity … I'm still working full-time on my own on these publications, I'm still doing fieldwork, I'm going to conferences, so I'm keeping myself active in exactly the same way as I was doing [when paid], except that I don't have an income so … that's the only difference.

Those who exhibited and sometimes named their lack of agency as a handicap appeared, at least in certain contexts to procrastinate, feel unable to act, or depend on external deadlines to undertake or complete tasks. For instance, Simon (S), who desired a secure future did not appear to set goals to advance this aspiration.

In examining the accounts of those who appeared particularly intentional, we came to see that thinking forward about job and work possibilities was an important context in which to be strategic. As you may recall, AAA (S) was extremely strategic in seeking a research position that would advance his career. Similarly, Flora (S) recognized that getting a tenure-track position in her field would be difficult, so she applied for a post-PhD researcher's position in another field in a university where she was able to do some 'background' checking to ensure the 'fit' was good. Rob (SS) developed an extensive network and ensured that he got to know and work with his senior colleagues. Brookeye (S), when he started his fellowship, focused first on getting a research-teaching position and made decisions about where to apply in relation to possibilities for his partner as well as the quality of life the city would provide. Once his desired job was secured, he focused on his research for the rest of his post-PhD researcher position. In other words, these individuals actively sought out information to inform their decisions in the hope that the position would advance rather than hinder their futures.

Interestingly, many individuals only learned the value of a strategic stance in looking back on their experiences. Anne (S), for instance, realized after taking on her position and working for some time that her research difficulties resulted from not having done enough information-seeking before accepting her position. So, as described earlier, she found herself in a work environment which reduced her research potential, but also wore her down emotionally. Similarly, Charles (SS) took on his research position because he lacked publications, so was not competitive for a research-teaching position. But he did so in the same fashion as Anne. He quickly became disillusioned with academic work since the work

environment was unsupportive. Overall, our interpretation is that variation in agency can be partly understood in relation to individuals' work environments and the extent of their collegial networks, but sometimes it is the lack of forward thinking that precipitates unfortunate work environments.

This same variation in agency could be seen in a range of contexts, particularly publishing. Some, like Nathan (S), worked hard to get published and described the significant positive impact this could have. Both Catherine (SS) and SAY (S) reported that a paper they had each published during their PhD brought recognition as it was well-cited. Others, like Charles (SS) and Elizabeth (SS), put off publishing during their PhDs and realized only later how this disadvantaged them in seeking positions.

It is not surprising given these cumulative challenges, some of which individuals had little control over, that a few became worn down and lost hope. What appeared crucial in maintaining motivation in the face of these challenges and continuing to being agentive was resilience, as Rob (SS) commented:

> You know, in English, we say being bloody-minded. It's about not giving up … it looks like you've just reached a point where it's not going to go any further, but you just have to…. You know, you're tired, you've had enough, but actually you just have to keep going. You just have to find a way to say, 'okay, I'm not there, but I'm just going to keep pushing and keep pushing and keep pushing,' until you break through. So it's about … it's about resilience, and also just being … being stubborn, in a way, and just not giving up.

By resilience, we mean a positive emotional response to stress—in which motivation, intention, the intellectual, and the emotional are intertwined (McAlpine et al., 2016). Another way of saying this is the need to develop self-management coping strategies to deal with negative emotions. What was, indeed, amazing was the extent to which many post-PhD researchers sustained their self-belief, resilience, and motivation. We were also struck by the number of post-PhD researchers who invoked the role of luck in succeeding or not (McAlpine et al., 2016). As SAY (S) commented: 'The thing that surprises me is how much luck can be involved.' While invoking luck may seem counterintuitive for those who are agentive, such a stance helped maintain motivation, enabled individuals to continue to be agentive, and to do all they could to succeed while acknowledging the many influences beyond their control.

## The Personal and Work

As you can see in AAA's (S), Anne's (S), and Trudi's (SS) cameos, individuals' personal lives interacted with work in a variety of ways. A principle concern was work-life balance or the ways in which individuals perceived work as extending into or intruding into their personal lives. Many, like Trudi, found it difficult to create boundaries. Flora (S) was unusual in that despite the research group culture of working long hours, she chose to work fewer hours than the others to ensure a good quality of life. General well-being, eating and sleeping well, getting exercise, and having a social life, was a related concern. In the long run, lack of well-being led to stress, anxiety, and burnout. Some individuals, like Funky Monkey (S) and Katherine (S) felt burned out after their PhDs. Chronic illness could also come into play; for instance, both Jennifer (SS) and Elizabeth (SS) found their illnesses affected their work stamina.

Family responsibilities and priorities, children, elderly parents, and extended family, also interacted with work and career decisions. For instance, Charles (SS) did not wish to move due to his parents' poor health, which reduced the potential jobs he could find. Issues related to co-location were frequent. Funky Monkey (S) chose not to move because his partner did not wish to. Thor Bear (S) turned down more than one research-teaching position since his partner could not also get a job in the same city. We also saw individuals like Anne (S), Funky Monkey, and Brookeye (S) choosing to change their work priorities when they had children. A few women for instance, Flora (S), wondered if having children would be 'suicidal' for an academic career, but were still prepared to go ahead. In fact, managing both work and having children was clearly demanding. CM (SS), for instance, who had three children, described going home as starting her 'second shift,' in no way meaning she did not care for her children, but simply recognizing that new demands would be placed on her for the next few hours.

Personal values, what individuals conceived of as good, beneficial, important, and so on, could also be in tension with work. George (S) provides a good example of this. He took a research contract because he would be able to apply his PhD knowledge to a cutting-edge field. But, he was conflicted by the mismatch between his personal values and the proprietary values implicit in the research focus. He could see the positive 'enriching' aspects of the experience, but 'I knew I was trading off some things.' Life goals, hopes for their broader lives, could also be in tension

with work. For instance, Trudi (SS) wanted to live with her partner (on another continent) and have a family, and wondered why she stayed where she was and worked so hard.

Finally, financial duress played a role reflected in, for example, monetary insecurity, increasing debt, being forced to live in poor-quality housing, feeling unable to provide what was desired for one's children. For example, Anne (S) and AAA (S) both referred to frustration with low rates of pay and wanting to find a way to escape that. AAA was particularly stressed with having to make hard decisions about activities for his children based on not having much disposable income.

## Work Environment: Positive and Negative Influences

We have already seen how opportunity structures supportive of research-teaching career hopes, such as fellowships, are limited and extremely hard to get. We have also described structural elements, such as job insecurity, that hinder the development of a competitive profile and contribute to financial distress and intellectual relocation. In other words, the influence of the work environment has already emerged as important in making sense of individuals' career trajectories. Here we look in a more focused fashion at how post-PhD researchers experienced their work environments and the work they did within these contexts. Most striking was that negative views of the work environment were most evident and expressed more frequently among those on salaried contracts compared with those on fellowships. This, of course, makes sense given that those with fellowships chose where they wanted to work, and had much more freedom as to how to invest their time to develop their academic profile. Further, they were often engaged in networking as well as collaborative visits to colleagues in other universities, so their local environment was less intrusive.

For those on contract, the local environment was important since it represented their day-to-day interactions: the research group, the lab, the supervisor. Here they were very aware of small 'p' politics. A number, like Onova (S) and TDB (S), had good supervisors, and good opportunities to collaborate on research and publish. Others, like Anne (S), Charles (S), and Funky Monkey (S), regretted accepting their contracts since the supervisors were disengaged or unsupportive. In Anne's case, she received minimal support for conferences limiting networking opportunities. As well, her supervisor did not oversee the lab and there was no lab manager, which resulted in a poorly functioning lab. Charles regretted

his decision to take the contract since he found himself doing 'scut' work in an isolating environment in contrast with the rich research environment he had experienced as a PhD student. And, Funky Monkey also could not depend on his supervisor. He was working on a distinct project for the supervisor, which meant he had no one else in the team with whom he could collaborate or even ask for help. So, he was dependent on being able to see the supervisor for advice, and the supervisor, when available, was often not able to provide the up-to-date information he needed. As a result, Funky Monkey spent long hours in troubleshooting difficult experiments.

Even at the department and university levels, individuals sometimes reported coming up against policies that precluded their access to resources which could enhance their career competitiveness. For instance, Onova (S) and Fracatun (S) noted that in their departments, post-PhD researchers were not offered the possibility to teach since that was reserved for doctoral students as a source of funding. Yet, teaching was valuable, not just for future competitiveness, but it was a way of making oneself visible in the department. For example, Trudi (SS) felt teaching gave her more legitimacy and engaged her with more departmental members than if she had only progressed her research. A few individuals also noted that institutional workshops open to those in research-teaching positions and even to graduate students were not open to them.

Mobility seemed a common pattern among the post-PhD researchers. Many had moved institutions, countries, and continents a number of times, starting with their PhDs. Otto (S), Dorothy (SS), Sophia (S), Anne (S), Marian (SS), and Fracatun (S) stand out in this regard. For a few, like Romeo (S) and Marian (SS), the position they moved for was of a very short term. But, for most it was of a longer term. These geographical or jurisdictional, institutional, cultural (and sometimes linguistic) relocations had social and psychological implications for both work and personal lives (McAlpine, 2012). It could take a long time to 'fit in' as Sandra, who had been in the UK for many years, notes:

> I just hadn't adjusted and I was expecting it to be closer to home [culturally] and it wasn't. I felt I couldn't express how to ask for help and when I tried that, I wasn't heard, which is frustrating after a while.

As well, linguistic relocation could make individuals feel less than capable. CM (SS), in moving to the UK, felt the 'barrier of the language'

was limiting her potential for career advancement. Paul (SS) noted a similar thing:

> You feel not that secure when you are writing things, when you are talking to people or giving a presentation … you … have the impression … that you don't have the right words to explain something.

One outcome of these institutional moves, even within the same jurisdiction, was that individuals sometimes found new organizational structures different from their previous workplace and differences which could be both positive and negative. This was even truer in changing countries. For instance, those who had spent time in the US commented in positive ways about the research climates there in relation to the more constrained ones in continental Europe and the UK (McAlpine, 2016).

### *Building Profiles Within the Work Environment*

While there is some evidence that post-PhD researchers are generally weakly embedded institutionally (van der Weijden, Teelken, de Boer, & Drost, 2016), overall their local work environment can still strongly influence their abilities to advance their careers. Nearly all post-PhD researchers in our research sought to develop their networks and research collaborations, with the fellowship holders having much greater freedom to establish their own research direction. Those on contracts were somewhat more limited in this regard because their salaried work may not have been closely linked to their own research interests, and therefore did not further the development of their own research contributions and collaborations.

Despite the difficulties for some in maintaining and developing their own research focus, publishing was paramount because without that, a research-teaching position was difficult to secure. Recall that Rob (SS) decided to seek a first research-teaching position in a teaching-focused institution, and once there used his time to publish and become more competitive for the position he wanted in a research-focused institution. Both Romeo (S) and Catherine (SS) had well-cited papers from their PhDs which led to further contacts. Still, some expressed skepticism about the emphasis placed on publishing, feeling there was a greater emphasis on quantity, then on quality. For instance, Fracatun (S) commented that selection committees looked only at the number of publications rather than their quality.

## Where Do They Hope to Be in Five Years?

What can the future hold for those who have been hoping for research-teaching positions, particularly given the mismatch between personal hopes and career opportunities (what SAY (S) described as the 'the infinite supply' of post-PhD researchers). Most post-PhD researchers in our research had held a number of research contracts. They were tired of dealing with the financial insecurity (Funky Monkey (S)), had concerns about their families (AAA (S), Anne (S)), lacked long-term benefits (Onova (S)), and were dissatisfied with their work-life balance (Trudi (SS)). They also expressed the view that they were being taken advantage of (Jennifer (SS), Onova). We found two career trends that emerged over time: a group who still retained hope of a research-teaching position despite a number of years as researchers, and another who began to lose hope and tried to imagine a different kind of future.

### *Still Hoping*

Each year in our longitudinal study, we asked during the interview: 'where do you see yourself in five years?' Here are three of SAY's (S) responses:

Year 2: Hopefully in an academic faculty position … preferably somewhere in like western North America… The backup plan would be industry positions somewhere in like biotechnology in similar locations.

Year 3: I hope to have secured an academic faculty position, or at least an independent research position somewhere. Barring that, some sort of industrial research position.

Year 4: I'd like to hopefully find a tenure track job in the next five years and I … remain positive that it will happen… Hopefully, I have been able to secure some sort of external funding for projects by that point.

Like SAY, many continued to feel hopeful. Sustaining this hope was demanding since it took in some cases 10 years from graduation to research-teaching position. Similarly, it could take up to 11 years after graduation to secure a research grant as a PI, despite individuals being internationally mobile and applying many times (McAlpine, 2016; McAlpine et al., 2016). A long-term view and sustained hope were essential.

While the reasons for this long journey could be influenced by not being able or willing to relocate and research and publication difficulties, a key issue was the lack of available positions (van der Weijden et al., 2016). For instance, Fracatun (S) found only four research-teaching posts globally that fit his research profile. Flora (S), as noted earlier, changed her research field to one that, because it was growing, provided greater career possibilities. She did this despite the decision likely extending the time until she might be competitive for a research-teaching position, unless publishing went really well. In other words, as George (S) said: the possibility of a research-teaching position 'depends a lot on what opportunities come up.' Still, what stands out is that those who were most agentive took a strategic stance toward career opportunities and worked to progress their own profiles.

How were these individuals able to maintain their hopes, to foresee opportunity structures that would support their career goals, in the face of these challenges? In our view, there are four interrelated factors. First, they loved doing research, so there were aspects of their work that were intrinsically motivating, despite aspects that they did not enjoy. Second, many were able to draw support from more senior colleagues who not only provided validation of their potential (recall AAA's (S) comment about his supportive supervisor), but also sought career opportunities for them. Third, many of them invoked luck as playing a role in both their failures and successes related to being awarded a grant, getting a publication, or being offered a job. While invoking luck may seem counterintuitive, it provided a means to acknowledge the influences beyond their control. Such a view is supported by empirical evidence. For instance, van Arensbergen and van den Besselaar (2012) describe how luck plays a role in research funding outcomes due to changes in assessments at different stages of the process as well as inconsistencies in assessors' judgments of proposals. Further, Callaham and Tercier (2007) present evidence of the inability of previous experience and training to predict the performance of peer reviewers. So, not succeeding did not mean that these post-PhD researchers did not deserve to succeed. Fourth, changing their career paths would likely be a challenging decision psychologically if not socially, since turning away from a research-teaching path could be perceived by themselves and others as 'giving up.'

### *Considering Alternatives*

Anne's (S) responses to the same annual interview question represents the stance of those considering alternatives:

Year 2: Five years—no more training—I want to have a job and a house … I'd like things to be more permanent.

Year 3: Ohhhhhh [sigh]. I don't know. We are a long ways from there. Well, if we both have jobs in the not too distant future, maybe in five years we could have a house … But job-wise, just hopefully that with the area I have chosen to get into that it is going well, that's what I would hope.

Year 4: I would like to definitely be in a career-type good job. So if I end up taking the job in [City A], I don't want to still be doing that in five years. It is only for a year or two, you know, for the money, get us out of [here], see if maybe [City A] is better for jobs for [my partner].

Most who were considering leaving academia had begun to view themselves as noncompetitive on the academic job market, but also to imagine another work world with more security. For instance, Funky Monkey (S) resented the part of his life he had given to science and felt strongly that doctoral programs did not fulfill their responsibility to fully inform PhD students about limited academic career options, or provide information about other options. Catherine (S) gradually became disenchanted over the repeated renewals of her contract and decided to go to the union to help her challenge the university to recognize her long-term status and make her permanent; in the end she succeeded.

As a reader, you may ask: How are these people different from those still hoping for a research-teaching position? We have considered this question for some time, especially since most exhibited the same personal commitment to a research-teaching position as those who continued to hope. We believe their work environment had an influence. Those who gave up hope often had negative work experiences, infrequent in the stories of those who retained hope, which likely influenced their decision to look elsewhere. As you saw, Anne (S) regretted her choice of supervisor and lab, which left her ill-supported and dealing with poor management issues in the lab. Charles (SS) found himself doing menial tasks. Further, many in this group were dissatisfied with the influence of work on their personal lives—recall AAA's

(S) and Anne's stories. Such experiences contributed to disillusionment about the nature and value of academic work, and the sustainability of the lifestyle in the long term. Cumulatively these factors, combined with a growing feeling of not being competitive, likely tipped the balance in favor of looking elsewhere. Overall, deciding to look elsewhere seemed to emerge from a loss of hope rather than one of moving to something new, different, and perhaps interesting. However, in beginning to explore non-academic options, most lacked knowledge to help them think through the possibilities. And, we were struck by the lack of evidence in our data that individuals researched other possibilities. They largely seemed to depend on anecdotal reports from friends or colleagues.

We are also mindful of Onova's experience in trying to understand the differences between these two groups. Onova's (S) was in somewhat productive environments having had three one-year contracts in a row. She had had opportunities to increase her collaborations, build her name recognition (through her supervisor and institution), and publish in higher-status journals. Near the end of her third contract, she applied for various research-teaching positions and was invited to interview for three, so appeared to be competitive. But as her third contract ended she still had no news about the results and concluded she had not been successful. She had been offered another research contract elsewhere, but turned it down since she was no longer prepared to move, settle in briefly, and have to continue to seek another position in a year's time. She packed and was ready to return to her hometown to find some kind of work when she was offered one of the research-teaching positions she had applied for. A year or two later she told us the position had 'exceeded my expectations.' Her story is a sad reminder of the academic research potential we may lose when individuals decide they no longer want to wait for a research-teaching position.

## Implications for the Future

Overall, it is clear that the possibility for success among those seeking research-teaching positions is minimal. The key structural problem participants in our research faced related to sources of funding and institutional commitment. Universities depend on research labor (master's and PhD students and post-PhD researchers) to advance research productivity (Cryanoski, Gilber, Ledford, Nayar, & Yahia, 2011). This funding is often short term and early career researchers including post-PhD researchers are often seen as 'passing through' the institution (Laursen, Thiry, &

Loshbaugh, 2012). Further, given economic constraints, universities are increasingly reluctant to make long-term funding commitments to individual careers. In other words, master's students, PhD students, and post-PhD researchers are critical to this 'industry,' but universities want to limit their long-term risk. So, post-PhD researchers become hostages to fortune.

If we are truly to understand post-PhD researcher work lives, we need to construct a more sophisticated rendering of work experience. First of all, differences in source of income had a profound effect on the kinds of work people did, as did the length of the funding, whether it was part-time, and the relationship of the work to their own research interests. Further, the extent to which the work environment was supportive or not of their career development came into play. As well, the personal, the broader context of their life course, was a powerful driver as regards their motivation, their work decisions, and their possible futures. Finally, what is an essential part of the picture is attending to the variation in the extent to which individuals felt agentive and able to influence their work environments and their resilience in continuing to move toward their goal. The role of agency and the personal have not often been the focus of attention in understanding early career researcher careers, but in our view the role they play is central to any efforts to understand post-PhD experience and for administrators and developers to provide them better support.

## Notes

1. There are an increasing number of funding possibilities for those not in research-teaching positions.

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# Chapter 6: Choosing to Invest in a Teaching-Only Position

## Teaching-Only Positions in Different Types of Institutions

Only three of the participants in our research program, Holly, Cathy, and Nancy, all social scientists, intentionally sought and realized teaching-only positions, although Nancy thought she might one day seek a research-teaching position. The nature of these positions varied from institution to institution. In teaching-focused institutions, all academics are evaluated only on teaching and teaching-related activities. This is the type of position both Holly and Cathy sought, because they very much enjoyed teaching and also, in good part, because they wanted stable permanent positions which offered structures and workloads conducive to family life. This is consistent with a large-scale survey study conducted by Mason, Goulden, and Frasch (2009) that found many doctoral students placed high importance on good work-life balance and intentionally sought post-PhD positions that provided this. Other institutions have both research-teaching appointments and full-time teaching-only appointments, both with the potential of permanence. Nancy took up a teaching-only position in this type of institution. Despite recent statistics showing the growing number of these positions at research-focused universities internationally (Bennett, Roberts, Ananthram, & Broughton, 2017), there is scant research about



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the experiences of individuals in these types of positions. From the limited research that exists (e.g., Nir & Zilberstein-Levy, 2006), it is clear that there is great variability of experience across individuals, some positive and some not (Bennett et al., 2017). You will notice in the three cameos below that these threee individuals are Canadian social scientists. Interestingly, none of the Canadian scientists or UK social scientists in our research chose teaching-only positions upon graduating; rather, they took post-PhD researcher positions. This may just be due to happenstance in our study sample, or disciplinary differences in the types of positions (Finkelstein, 2010). Another possible contributing factor could be national differences due to different research funding models in North America and the UK, with the UK one depending more on post-PhD researchers than the Canadian one (Cantwell, 2011).

As their cameos above show, Holly, Cathy, and Nancy all chose and enjoyed full-time teaching positions with the possibility of permanence.[1] Their positions did not require research, even though all three had come to enjoy that aspect of their PhD studies and wanted to continue research to various degrees.

Holly found a teaching position in a small college just before completing her PhD. Once she had graduated, she relocated with her family, feeling this was a very positive professional step that provided her family 'with a regular salary, benefits and those kinds of things … Ah! Finally I'm a real person.' She felt welcomed and valued by her close colleagues from the beginning and this group turned out to be an important peer group for Holly. At the end of her second year in the position, she credited this group, 'so when I look at how successful I feel, that is really so much in part due to having that sense of community and that sense of purpose within a community, a sense of worth within that community.' Her teaching workload was eight courses per year, and she felt good that at least some of these were directly related to her field of expertise. Because she came to this position shortly after a major curriculum revision and the courses she was given to teach were new and supplementary to the core courses, she had pretty much of a free hand in designing them. In her second year, she 'broadened out a little' by designing and teaching a course in which she had little expertise and that consequently required research to develop. The institution followed a merit pay system and 'we have to write self-evaluations at the end of every year and our pay is based on those evaluations. So it is a very stressful setting for that.' But she did

*Teaching-focused institution*

*Holly* was a full-time teacher in a religious-affiliated children's school in North America and a single mother with preschool age children. She began her PhD (Canada) to 'get my brain back' and hoped for a teaching-only university position afterward. She continued working during the degree to make ends meet and experienced the 'mental challenges … [of] being overwhelmed and anxious' much of the time. Fortunately, she had a good relationship with her supervisor and she found writing rewarding. In the last year of her PhD, she looked for teaching positions. She was offered a three-year contract with a possibility of permanence, moved countries with her children, and started teaching eight courses a year along with other program responsibilities. Teaching was challenging initially; she felt frustrated by students who did not have a sense of excitement or engagement in learning. Gradually, she modified her teaching approach so that instead of expecting the students to rise to her expectations, she accepted them as they were. This resulted in a dramatic improvement in her student evaluations, the principal source of evidence used in the institutional annual review of her work.

*Teaching-focused institution*

*Cathy* married with two young children, worked professionally before beginning her PhD (Canada) and initially imagined a research-teaching position. During her studies, she did some teaching in the department, got to know other departmental members and revised her intention; the 'work/life balance … [is] not … what I am looking for. … [I want] to feel … I can go home and spend time with my family and not have homework.' Instead, she decided to pursue a teaching position in the teaching-focused institution in which she had already taught occasionally. She finished her degree and took a teaching position initially part-time while she regained a reasonable balance in her life. The following year the position became full-time. She considered it a 'dream job' in a collaborative environment with responsibilities for teaching, supervising master's students and no expectation of doing research. She intended to publish work from her PhD research, but was unsuccessful mostly because of lack of time. She took on the role of the chair of the ethics committee, which she really enjoyed.

*Research-focused institution*

*Nancy* moved within Europe to do her undergraduate degree, and met her partner when on an exchange during this period. She moved to North America and started teaching part-time in the same university as her partner. She decided to do her PhD (Canada) while continuing her part-time work to fund her studies. She imagined seeking a full-time teaching position after her PhD, and in the long term possibly a research-teaching or research-only position in a teaching-focused institution. She enjoyed her PhD, and after passing her comprehensive exam and completing a pilot study for her proposed research, she worked to complete her study and start the writing of her thesis. She very much continued to enjoy teaching and drew on what she was learning during her PhD to teach courses she had not felt qualified to teach previously. While writing her thesis, she applied for five teaching jobs locally and was offered two. She accepted a 3-year contract in the program where she had been teaching; research was not expected so was 'extra-curricular,' but she found like-minded people and began some small-scale studies.

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| More broadly, she worked very hard to achieve the 'exceed expectations' rating in the annual review process. In order to make this happen, she initiated pedagogical research with colleagues and tried to publish from her thesis, but found this hard to sustain alongside her teaching responsibilities. Deciding not to push herself so hard, she had 'a sense of having arrived finally.' She had a new partner, her family was settled, and she could leave at 5:00 pm every day to be with them. She applied for reappointment and was given permanence. However, as time passed, she felt 'stuck … [with no] room for advancement,' but would not consider making her family start over again elsewhere. 'So I try to do things that will make a difference for me,' for instance, investing in international student and staff exchanges. | In her second full-time year, Cathy felt less overworked. She taught courses she had already taught rather than designing new ones and had a better handle on how to best supervise thesis students and was enjoying this responsibility. She was 'still comparing myself to people who are including teaching, research, and service within their duties … [so] I wind up doing the research on the side.' Recognizing this, she worked with others within her institution to redefine expectations so that limited research activities were recognized in career advancement decisions. She described her role as having 'teaching and service as major parts of my work, and a smaller amount of scholarship than other research-focused positions … I love the work that I am doing.' | Her initial attempts to publish her PhD research were frustrating, so she decided to approach publishing by breaking it down into steps. This approach helped for submission, but the review process, which she had no control over, seemed erratic. Still, she was resilient; she 'resubmitted … to another journal, and I'm now hoping … it will be published after two resubmissions. Keeping my fingers crossed.' Papers started to emerge from her research collaborations and she prepared an external funding proposal with another group. Overall, the PhD 'gave me confidence … transformed me.' She was pleased with many aspects of her teaching position and did not plan to look for another job, at least in the short term. |

Adapted from McAlpine and Amundsen (2016)

well in these evaluations and by the end of our research program, she had been granted permanence. She found the required method of student learning assessment adopted by the institution challenging, both technically and practically. She and her colleagues had spent a lot of time discussing how to best implement it and 'convincing our students that it is worth their time to do it.' Holly tried to publish her doctoral research and stay in contact with the research network she had so enjoyed during her studies. She eventually published her PhD research, but found further research activity hard to sustain and by the end of her participation in our research was losing contact with her research network. The conundrum was that even though her institution did not formally support disciplinary research or teaching and learning research by providing time to do it, it did make a difference on the yearly evaluation.

Cathy was in an institution that offered master's degrees, so it hired faculty into teaching-only positions with the added responsibility for thesis supervision. She had always maintained that it was teaching she was most interested in and that she had 'landed in exactly what I had hoped to find.' In her role, she taught six three-credit courses a year. By the end of her participation in the research, she had taught seven different courses, so 'thankfully, I do not have to prep new courses any longer.' She found her institution to be very 'student-oriented … very responsive [to students] which I really like.' She supervised on average five to seven thesis students and was getting a lot of pleasure from this work: 'Coming together as committee members to support the student's learning and being proud of her [the student's] achievements.' In her additional role as academic advisor, Cathy responded to student needs such as course selection or problems with academic performance. She was invited to be the Chair of the Research Ethics Committee, a big job, as well as other smaller committee commitments. She was generally able to organize her work so that she did not work in the evening or weekends, so she would have time with her family and by the end of her participation in the research, she had gone to a four-day work week to even better address work-life balance. Like Holly, Cathy tried to make progress in publishing her doctoral research, but by the end of her participation in our research, she had made little progress. However, Cathy was actively working with others in her institution to create policy that would allow at least limited research activity to be formally part of their workload—we do not know if they were successful.

Nancy also had a teaching-only contract with the possibility of permanence, but in a research-focused university. While doing her PhD, her goal

was to apply for teaching-only positions and when the time came, because of personal considerations, she only applied for positions near to where she lived. She accepted a three-year contract with the possibility of permanence in the same program in which she had taught part-time during her PhD studies; 'I'll be teaching similar courses to what I was teaching when I started, but [now] with my PhD, I will have other responsibilities in addition to the ones I would have had before.' She had always enjoyed teaching and thought of herself as a teacher, ' I am not just a researcher.… I don't think I would be one of those people who would enjoy a pure research job.' She also was given administrative responsibility for a course with many parts, was involved in designing a school-wide assessment, and was heavily involved in developing a new curriculum. She mentored graduate students who were hired to teach on a sessional basis. She had, however, in the back of her mind from the beginning that a research-teaching position was a distinct future possibility. She intentionally crafted her research profile to make this an eventual reality describing her research as 'extra-curricular.' At the end of her participation in the research program, she was working toward publishing her doctoral research and was engaged in some small-scale research with others, even starting to work on a grant proposal. She still very much enjoyed her teaching position and had no immediate intentions to look for another position, 'Like I'd rather have this job here [in this city where family is] than a [research-teaching] position somewhere else—you know what I mean?'

A fourth individual, Barbara (SS), also accepted a full-time teaching-only position in a research-focused institution with the possibility of permanence, but her intention from the beginning was to have a research-teaching position. For her, the local teaching-only position was a stepping stone to what she desired since she did not have the freedom to move at the time she graduated. While completing her PhD, Barbara continued to teach at the college where she had taught for many years. She also picked up some part-time teaching at the university in which she was doing her PhD. She very much enjoyed teaching and considered her teaching experience to be 'like gold' in making her more competitive for the research-teaching position she desired. She was awarded two fellowships during her PhD affirming her potential as a scholar, and making her desire of securing a research-teaching position even more realistic. However, when it was time to apply for positions, she felt she could not relocate her family and looked only for local positions. Finding no local research-teaching positions to apply for, she sought teaching-only positions, and as

she submitted her dissertation, she was offered two. She took the one in her PhD department, a three-year renewable teaching position leading to permanence. Job expectations included teaching and administrative work. However, she was able to co-supervise thesis students and was given time to attend scholarly conferences. Because of her institutional affiliation, she was eligible to apply for research funding even though the research work had to be done 'on the side.' She indeed did publish, won some significant research funding which allowed her to hire research assistants, built a research program, and developed research collaborations outside the university. As our research program was ending, Barbara was relocating to another region to take up a research-teaching position.

Many things can explain Nancy and Barbara's experiences in being able to achieve at least some of their research goals when this was not a formal part of their workload. The type of institution may be one of them. While Holly and Cathy's teaching-focused institutions may have better supported them in their teaching functions than did Nancy and Barbara's institutions, Nancy and Barbara were able to benefit from an institutional environment that valued research activity. Because of this there was a possibility of interacting with colleagues who were active researchers and through them to have access to grant funding, or in Barbara's case apply for funding herself. Other resources such as research officers also made accomplishing research goals more possible, even if done 'on the side.'

Barbara, whose intention was a research-teaching position, was able to move within four years from a teaching-only position to the position she desired. For others who take up teaching-only positions, but with an eye toward a research-teaching position, the outcome is often not as successful. Some research indicates that the longer an individual stays in a teaching-only position, the less likely they are to be offered a research-teaching position (Bennett et al., 2017). These positions often have heavy teaching loads and service requirements that make it difficult to find the time for furthering one's research profile 'on the side,' as Barbara and Nancy managed to do. Individuals may continue to apply for research-teaching positions, but find themselves less and less competitive for these positions over time. For those who remain in teaching-only positions either because they enjoy them and elect to stay or by default, there are implications. In research-focused institutions, full-time teaching-only positions may have lower salaries, less status, and fewer benefits than do research-teaching positions (Bennett et al., 2017; Levin & Shaker, 2011).

Whether teaching-only positions are seen as temporary or permanent by the individual who holds one, these types of positions are becoming more numerous in research-focused institutions (Dobbie & Robinson, 2008). More recently, there has been some movement toward addressing the perceived inequities of teaching-only positions. Policies that establish multi-rank career trajectories for full-time teaching-only positions are becoming more common providing an opportunity for promotion along with permanence. In some of these cases, a top rank of 'teaching professor' or 'university lecturer' has also been established that recognizes research in teaching and learning and large-scale program and curricular development as criteria for promotion (e.g., see Simon Fraser University, Policy A11.10 and the University of British Columbia, see SAC Guide to Tenure, Promotion and Reappointment for Faculty Members: Promotion to Professor of Teaching). However, in some of these positions, individuals are still stymied in achieving this type of promotion because their job descriptions do not formally provide allotted time for activities in addition to classroom teaching that are needed to meet the stated criteria. Nevertheless, some recent research has found consistencies across full-time nontenure-track and tenure-track academics[2] (both leading to permanent status) in terms of their approach and commitment to their work and satisfaction with various aspects of it (Ott & Cisneros, 2015). Kezar and Sam (2011) critiqued the assumptions of deficit they argue underpin much of the discussion about the implications of a greater number of non-traditional academic roles. Such assumptions, they argue, are inappropriately borrowed mostly from business and economic studies of nonprofessionals. They underscore the similarities in preparation and professionalism between those who hold traditional research-teaching positions and those with other types of positions and stress the importance of valuing diverse academic roles.

Another trend of note, particularly in Australia and the US (Probert, 2013; Rowland & Myatt, 2014) and especially in the sciences, are full-time research-teaching positions where the research requirement is based on conducting and publishing research about teaching and learning in that discipline (for instance, physics education). These positions have the same career sequence and ranks as research-teaching positions (in North American: assistant, associate, and full professor) and the same benefits in terms of permanence and sabbatical leave. A challenge with these positions has been identifying research funding that supports teaching and learning research as opposed to disciplinary research.

## Limited-Term and Part-Time Teaching Positions

PhD graduates in the academy may also find themselves, for a variety of reasons, in teaching-only positions which are limited term or part time. These positions vary in structure. A position could be full time but for a limited time, for example, a year. This type of position is often created to fill in a teaching post when someone in a full-time research-teaching position takes a leave of some kind or retirement creates a need for courses to be taught on a temporary basis.

In a large-scale Canadian study, it was found that three-quarters of those in limited-term teaching-only posts wanted a full-time research-teaching position (Rajagopal, 2004).[3] Individuals who continue in such limited-term positions with no hope of permanency have caused some universities to be held to task by academic unions or associations. In some Canadian institutions, policy has been developed allowing only so many contracts before the person is shifted to a full-time continuing position with the possibility of permanence. Of course, this policy can then lead to manipulations where departments only offer the maximum number of contracts and then move on to other individuals.

Positions with even less security than full-time limited-term contracts are part-time limited-term contracts or being hired to teach one or two courses at a time, often referred to in Canada as sessional teaching. This likely explains the situation of one of the participants in our research, Monika. After graduating and not feeling competitive for a research-teaching position despite her desire for one, she combined the occasional opportunity to teach a university course with part-time professional work in the public sector.

Even more than 10 years ago, limited-term and part-time teaching-only appointments were increasing faster than research-teaching positions in the United States and Canada in both the sciences and social sciences (Bland, Center, Finstad, Risbey, & Staples, 2006). The rising numbers of these positions alongside dwindling numbers of research-teaching positions has resulted in what some refer to as the 'segmentation of the Canadian academic labour market' (p. 228), most often credited to financial considerations. Some conclude this was done while ignoring the potential for damage to academic values, teaching quality, and research productivity (e.g., Bauder, 2006). Umbach (2007) also concerned about the unintended consequences of these changes in academia conducted a study drawing on secondary data from 131 institutions in the United

States. He concluded that part-time teaching-only academics scored below research-teaching academics on all indicators of job performance related to undergraduate teaching. The profile, however, of full-time limited-term teaching-only academics was consistent with that of research-teaching ones. The authors conclude that full-time limited-term faculty had more similar commitment to the institution and their job than did part-time faculty.

## Implications for the Future

In contrast to much of the literature concerning PhD and post-PhD experiences, typically based on large survey studies focused on broad factors, our focus is on the individual and his or her experiences. Identity development linking past–present–future intention and the integration of the academic is personified in our notion of *identity-trajectory*. Recall that *identity-trajectory* highlights academic work within personal desires and responsibilities. So while the large-scale studies can help us, in a general way, to understand the contexts in which individuals work, it is personal intention and agency within a particular context that most interests us and helps us understand the decisions individuals make.

In considering the individuals who took up teaching positions and are the focus of this chapter, we see variation in the degree of intentionality leading to the positions they assumed and what the position represented to them in terms of their futures and their personal lives. Both Cathy and Holly imagined full-time teaching-only positions in teaching-focused institutions before they finished their PhD studies. Both enjoyed teaching very much and were also driven by their desire to provide a more stable situation for their families and a work-life balance conducive to this. Their desires and decisions to take the career route they have taken speak of the importance of understanding how the personal influences horizons for action. Once in their positions, they chafed a little at structural aspects that made it difficult to accomplish the limited research goals they had, but they came to terms with this, finding other outlets they were happy to pursue.

Nancy also sought a full-time teaching-only position, but in a research-focused institution where she could realistically pursue her research interests 'on the side.' She was content with her position and by the end of her participation in our research, she had no immediate intention to look for another position, but continued to build her research profile so that a

research-teaching position might be a realistic goal in the future. Barbara, on the other hand, very consciously thought of her teaching-only position as a 'stepping stone' to a research-teaching position, and by the end of her participation in the research program had achieved this goal. The experiences of these individuals reinforce the importance of understanding why individuals choose the work they do, what it means to them professionally, how it fits with family responsibilities and desires, and how it fits into future goals and ambitions. As academic roles evolve, it will be increasingly important to understand how individuals navigate these changes and how they construct meaningful futures for themselves.

## Notes

1. These teaching-only positions in Canada only had the potential for permanence not tenure.
2. Our interpretation is that the authors refer to nontenure track as positions with little or no responsibility for research, but they do not explicitly say so.
3. The limited literature on part-time teaching-only positions appears to be situated in North America.

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# Chapter 7: Research-Teaching Academics—The Road to Stability

## Introduction

Arrival in a research-teaching position is, in itself, quite an accomplishment. In the sciences and social sciences, there are considerably more individuals who want research-teaching positions than there are positions. For most participants in our research who won research-teaching positions, this was the culmination of years of preparation and intentional crafting of their academic profiles, not to mention the often required compromises with personal wishes and responsibilities. Most held at least two, and often more, other positions post-PhD before beginning a research-teaching position, for instance, post-PhD researcher or teaching-only position. This was consistent with Cantwell's (2011) assertion of lengthy times to research-teaching positions. Most had relocated one or more times while waiting to move again for a research-teaching position (McAlpine, 2012). These relocations meant having to perform excellently in different work contexts alongside coping with the personal adjustments and readjustments required in moving from one location to another. Yet, however intense the journey to a research-teaching position, in many ways the journey had just begun. An important looming goal was to achieve stability and security by being awarded permanence,[1] a goal involving a multi-year process in proving oneself worthy.

In Chap. 3 of this book, we described in detail *identity-trajectory*, a notion that emerged during our 10-year-long research program tracing the



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*Brookeye (S[2])* met his partner while completing his master's degree (Canada), moved to do his PhD, and then moved again for a two-year fellowship in which he focused on 'carv[ing] out a research niche' to prepare for a research-teaching position. He already had a long-term research collaboration established elsewhere during his master's studies, 'perhaps the best collaboration … I've had … where we are all contributing.' On taking up his fellowship, he immediately applied for two research-teaching positions and was offered one which he negotiated taking after his fellowship ended. His partner was able to negotiate a three-year researcher position at the same university. In his new position, Brookeye focused on obtaining grants, recruiting students carefully, establishing links with local collaborators, teaching his first courses ('I love teaching'), publishing and supervising. He saw clearly how his research program integrated his students' work with his own, cross-fertilization was fundamental with them, as well as with his collaborators. He felt he was becoming established and doing well, even though he received little institutional feedback about his progress. With the birth of his child, his family became the 'most important thing in my life.'

*Onova (S)* had worked in a professional position before starting her PhD (Canada), imagining a research-teaching position upon completion. She came to realize that a researcher position would be a necessity first if she were to be competitive for a research-teaching position. So, on graduating she moved to another institution for a one-year researcher position which was extended for two more years, all the while maintaining a long-distance personal relationship. In this position, she benefited from increased collaborations, name recognition (supervisor and institution), and opportunities for papers in higher-status journals. The downside was often feeling like a 'second-class citizen' because of her researcher status. As her contract was ending, she applied for the three relevant research-teaching positions in the country and was invited for the interview for all of them, but still had no news of being chosen or not as her researcher position ended. Not wanting another two-year researcher job (she turned one down), 'I had … wrapped my head around the idea that I might not be moving on as an academic.' So, she was preparing to return to her partner and find whatever employment she could when one of the three positions came through. The job 'exceeded my expectations; the resources … are … everything that I need to be successful.'

*Jennifer (SS)* worked as a professional before moving from North America to the UK to do a PhD. She aspired for both a research-teaching position and a professional future. Shortly before graduating, she found a researcher position, as did her partner, in another university, and experienced researchers being 'treated as second class citizens in … [ways] difficult to pin down.' Fortunately, within the year, both she and her partner were offered co-located research-teaching positions elsewhere. Almost immediately, she felt an outsider in her new department. For instance, her qualitative methods were denigrated: 'I've been told, on a number of occasions, that qualitative methods … are just crap.' As well, since many junior appointments were departmental graduates they viewed their PhD supervisors as 'masters,' which meant departmental decisions were often based on 'false consensus.' By the following year, her enjoyment of teaching compensated for the more frustrating aspects of her work, though teaching reduced time for research, and she was still adjusting to the pastoral responsibilities expected of the UK teachers. She also felt better able to 'game the system.' On becoming pregnant, she reconsidered her priorities:

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| He enjoyed parental leave and decided to be less productive as regards work in order to spend time with his family even though he continued to love his job: 'the flexibility, interaction with students, exploring questions that interest me and potentially effect real change in society.' As time passed, he came to better understand the challenges of graduate supervision, such as negotiating student agreement as to the 'right amount' of support and helping students understand ethically the importance of credible and consistent data collection procedures. He was invited to join a group exploring a newly emerging field and this presented a big learning hurdle, but at the same time it was exciting: 'because I want to learn and that's part of why I do academia … to make me a better scientist.' He remained slightly frustrated at the lack of university infrastructure for young researchers to excel, but moving was not on the table because his partner's position had been converted to a research-teaching position leading to permanence, and so he was looking forward to permanence, sabbatical, and hopefully another child. | She began recruiting students and came to see them as a resource 'expand[ing] the questions that I didn't have time to ask before.' In the first year, she wrote six grants, not all successful. But she won the grant expected by the department for those seeking permanence. She also felt more confident and settled. However, she was less research-productive than as a researcher, given 'all the things … out of my control … that aren't directly related to just pushing forward in research.' She also realized she would only 'benefit from [her students'] productivity … in about two years.' The following year she was awarded three grants. Now she also had a partner, who already had permanence in her institution and with whom she did some research. She ensured others saw her line of research as independent from his because she did not want others to think her position had been a spousal hire. A year later, despite still not benefitting from the 'legacy effects' of building her team in terms of greater productivity, good students were starting to find her. 'My quality of life is astronomical.' A year later, she reported: 'I have definitely moved past the 'junior' faculty position … and … have become established in my career.' | 'I can't … be involved in trying to make all these system changes' [at work] … I want to … spend … time … with the baby.' This view was stronger when she returned from 'having that [maternity] break … [it is easier to ask] 'okay, so why am I doing this?' She largely removed herself from departmental politics, focused on growing her external network, and moved into a new research area all the while managing childcare and sleep deprivation. Jennifer passed her review, became permanent, and took on a pedagogical administrative role. She learned that this type of institutional role gave her power when she wanted to use it. She also took a university women's leadership program, which helped her clarify her ambitions. Her priority remained her child, so she would work only the 'contracted' number of hours, and her efforts would be dedicated to her new research plan: to 'one major research project … that attempts to have a significant theoretical contribution, but designed so that it includes a very, very strong… relevance to practitioners.' |

Adapted from McAlpine and Amundsen (2016a)

experiences of early career researchers. *Identity-trajectory* is a view of identity development that highlights personal agency and focuses on efforts to be intentional, to construct a way forward regardless of expected or unexpected constraints, though not always successful. It describes academic work as three interrelated strands embedded in personal lives: intellectual (contributing to the field through publications, presentations, educational materials), networking (developing local and global networks to draw on and contribute to), and institutional (negotiating the structural features, positive and/or negative, to best mediate the development of the other two strands). While we propose *identity-trajectory* as a way to understand work experience and identity development generally, it could be argued that for individuals new to research-teaching positions, the necessity to become even more intentional about the three strands of academic work becomes critical, given the greater specificity and depth of work expectations. 'Owning' the responsibility for one's achievement may be more pronounced as someone new to a research-teaching position is expected to show a good deal of autonomy from the beginning. At the same time, the positioning of academic work within personal lives (hopes, desires, and responsibilities) also requires an intentional and most likely longer-term perspective as one's career trajectory and focus become more evident.

We use *identity-trajectory* to frame the discussion in this chapter attending to the interweaving of the various aspects of *identity-trajectory* as it applies to individual experience. We illustrate the discussion with the experiences of those who participated in our research. You may notice that the lives and careers of some of the individuals you met in Chap. 5 emerge again in this chapter as they finally secured research-teaching positions. To be consistent with our narrative approach and the focus on the individual, we begin with three cameos highlighting the whole of an individual's experience. These three cameos also highlight differences in discipline, background, positions held before assuming the research-teaching role, as well as personal circumstances.

## Establishing Oneself as a Researcher in an Institutional Context

Even though most individuals who come to research-teaching positions have experience in other institutions as doctoral students or in various post-PhD positions, many assume there is consistency across institutions. This may be explained by the narrower focus of various post-PhD positions and

the contrasting breadth of a research-teaching position, with all of the attendant pressures to excel in research, teaching, and service. Those who went on to research-teaching positions often experienced unexpected institutional differences in career structures, work expectations, and resources (McAlpine & Amundsen, 2016b). Some of these differences required a relatively small readjustment in perspective and others required time and effort to understand and unpack. For example, Jennifer (SS) moved from Canada to England and had a new unexpected teaching responsibility—pastoral care. Paul (SS) moved from continental Europe to England and noted the different approaches to teaching that were expected. Perhaps more critical to their progress, Nellie (SS) and Fracatun (S) left Canada to go to other countries not realizing that the positions they were offered included unfamiliar career structures and somewhat different criteria for promotion and permanence. Nellie learned after a couple of years that it was not unusual for individuals in her institution not to be offered permanence—'the rejection rate for tenure now is as high as 75%'—a contrast from her previous institution where the rejection rate was very low. Fracatun initially noted only differences related to research practices, for instance, common labs where you pay to participate rather than establishing your own lab. However, as time passed, he also learned that his position was not a research-teaching position as he understood it. Obtaining permanence required him to negotiate how much research funding he would bring in to provide an ongoing portion of his salary, since base teaching and research funds would make up only a portion of his salary. Thus, developing a good and consistent funding stream was critical.

What research participants who moved on to research-teaching positions found in terms of local departmental climate also varied. For the majority who changed institutions to assume their position, there were some surprises, sometimes good and sometimes not so good. Other researchers, for example, Ryan, Healy, and Sullivan (2012) have provided evidence that a positive departmental or institutional climate, one which includes collegiality, supportive administration, and positive practices around work-life balance, will facilitate an individual's efforts to develop, whereas a negative climate lacking such a support requires greater effort to deal with, and may reduce motivation. Our research findings confirm this and provide descriptions of how individuals were generally agentive in working with what they found to forge their way forward (McAlpine & Amundsen, 2016b).

At one extreme was Sophia (S) who worked for two years as a post-PhD researcher in two institutions before taking up a research-teaching position in a third institution. She consistently described her department as uncomfortably hierarchical and sexist. For instance, when she won a research chair and multiple prestigious external grants, there were 'people … saying things to my face about getting recognition in part because I am a woman.' Sophia turned to a mentor outside her department with whom she felt she was able to 'ask anything.' She also developed some research collaborations with this person. Externally, the excellence of her work was being recognized and various offers for collaboration or consultation resulted. Near the end of her participation in our research program, her husband was offered a research-teaching position in another institution and jurisdiction, with a spousal hire for her. She left with 'no regrets,' given how unsupportive her colleagues had been. She already knew some of the people in her new institution and very much looked forward to a more supportive environment.

Like Sophia, Nellie (SS) found the atmosphere in her department, where she moved immediately after completing her PhD, unwelcoming. Upon arriving, she experienced 'huge animosity' resulting from a restructuring process that had taken place shortly before she arrived. She described the climate as 'toxic' and became aware that some other junior academics had already left. Two years after arriving, she went through a reappointment process which was 'appalling.' She was told in quite an unpleasant letter to maximize her output with more sole-authored papers, and that she needed to '"establish a thrust and clear focus for your work"—this really insults me.' As noted earlier, she also learned that it was not unusual for individuals not to be offered permanence and, in fact, one of her colleagues was not reappointed. Nevertheless, she remained determined to succeed and began to meet with a small cohort of like-minded junior colleagues in her department who decided to support one another personally and create research collaborations where possible. She was awarded some internal research funding and managed to collaborate with a couple of former colleagues and by the end of her participation in our research she achieved permanence.

Though their experiences were not as extreme, Jennifer (SS) and Alan (S) were also unhappy or somewhat unhappy in their departmental contexts for reasons including lack of support in setting up the infrastructure needed for their research and personal isolation, what they felt were unrealistic expectations for teaching, unsupportive promotion and tenure processes,

and generally negative politics. For instance, Alan (S) felt somewhat isolated from the beginning as he had no junior colleagues in his area, and efforts to hire others during his first few years were not successful. This isolation was perhaps recognized by his chair who 'took the time … [to] give me … a pep talk, which I really appreciated … in that I'm not alone and not forgotten.' Fortunately, as well, he had a mentor from his previous institution who remained his principal support, but he continued to struggle to find funding and to establish external collaborations necessary for his research. When Jennifer took up her position, she noted the climate as unwelcoming. For instance, her departmental colleagues among other things denigrated her qualitative approach to research and there was a lot of small 'p' politics. It was only when she returned from maternity leave that she felt freer of the expectations of others and more easily able to disengage from departmental politics. Once she received research funding and was assured of permanence, she slowly began to build research and professional relationships with others beyond the department, seeking 'good people' that she would love to work with.

Fracatun's (S) experience was somewhat different. He moved to another country to take up a research-teaching position. He initially felt his expertise and abilities were valued by his departmental colleagues, because he had a set of modeling research skills that others needed to answer some of their research questions. However, he came to realize that these collaborations were largely strategic' on the part of his colleagues, and he longed for closer intellectual collaborations. He decided to establish a research group and initially a lot of senior people seemed interested but in the end, most dropped out. Those left in the group were 'mostly young researchers … and me working to create a road map for future research.' He began developing external networks with like-minded researchers elsewhere in Europe hoping to conduct comparative research.

Others, like PhD (S) and Onova (S), found themselves in very supportive environments. PhD's biggest stress was not obtaining enough research funding, even though he was continuously applying for multiple grants: 'Granting … for junior faculty is a nightmare.' He described a very supportive departmental environment in this regard. Colleagues provided feedback on grant applications, and also assured him he would eventually succeed in the competitive grants process. At one point, the department offered bridge funding for his research. As well, they offered support through the process of gaining promotion and tenure.

Onova (S) was on the point of leaving the academy, having turned down another post-PhD researcher position since it would involve moving yet again, when she was offered a research-teaching position. Upon taking up this position, she found her colleagues to be very supportive: 'I can knock on any door anytime.' Further, 'the resources … are fantastic.' She also established strong research collaborations with an individual in a different department, as well as a few external colleagues in a range of institutions. She worked with this latter group and was awarded a major grant on which she was the PI.

Brookeye (S) and Ginger (SS) generally found their departmental contexts supportive, though they had quite different experiences and concerns. Brookeye really enjoyed his position and was surrounded by a group of individuals at his same career stage that he could call upon. While his initial hope for research collaboration with a more senior departmental colleague was not realized, he continued with a collaboration he had developed in a previous position. As time passed he was invited to join a new group outside the university which he felt would 'help me be a better scientist.' He would have appreciated feedback from his 'completely hands-off' chair. However, externally there was good evidence of his work being cited by others in high-profile journals, so he assumed that all must be well or else he would have been told. He noted that the lack of feedback might be institutionally intentional: 'I think they want to allow people to overachieve … and maybe silence is a way to do that.'

In contrast, Ginger (SS) assumed her research-teaching position just as she learned that her external examiner had failed her PhD thesis: 'I hit this major roadblock.' However, the positive response from her new Dean helped her manage the experience. He arranged for her to continue in her position while she revised and resubmitted her thesis. She spent two years rewriting her thesis during holidays and weekends alongside her regular job responsibilities. Once her PhD was completed, Ginger drew on her external network of more senior colleagues to discuss how to advance her scholarly profile, realizing they could provide better advice than local colleagues. At the same time, she also arranged an office change to be near her like-minded colleagues feeling this better integrated her into the local community. Ultimately, she achieved permanence though she was requested to increase her sole-authored publications. Ginger's case is an important reminder that rejection in one context does not preclude success in another (McAlpine & Amundsen, 2016a).

If they had not realized it before, it became readily apparent to individuals new to research-teaching positions that it was paramount they establish their research programs quickly and successfully as we saw with the individuals described above. Most institutions provide a reduced teaching load in the first year to support research progress. Further, in the best-case scenarios, departmental colleagues provide collegiality and support in helping new appointees achieve their goals, although as we see above, this is not always the case. In the end, individuals must depend on themselves to navigate these challenges, and our research shows that sometimes their experiences in trying to do so were sobering.

## Joys and Challenges of Teaching

Even though it is made abundantly clear that building a strong research profile is critical to seeking permanence, teaching remains a significant part of a research-teaching workload and is often an important feature of review for permanence (McAlpine, 2014; Nir & Zilberstein-Levy, 2006).

Individuals began their research-teaching positions with varying amounts of teaching experience. Some, more often in the sciences as evidenced in our research, were actively discouraged by their PhD and post-PhD supervisors or by departmental policies from pursuing opportunities to teach. Others sought out teaching opportunities on their own, and a few received support from supervisors in finding teaching opportunities (Rath, McAlpine, Turner, & Horn, 2013). Even with some teaching experience and a reduced teaching load in the first year or two, individuals were sometimes faced with courses brand new to them to design and teach. This responsibility was exacerbated by the fact that some individuals were assigned courses usually taught by research-teaching staff on leave or courses that needed another instructor 'temporarily' for various reasons. The net result of this practice was that for some research participants, instead of being assigned courses well matched to their expertise that they could design and teach repeatedly, they found themselves teaching one 'new' course after another.

Changing countries to accept a research-teaching position sometimes brought unexpected expectations around teaching and learning. For instance, as noted earlier, when Jennifer (SS) took on a research-teaching role in the UK, she was unprepared for the extensive pastoral work she was expected to undertake since this was not expected in her home country. Paul (SS) had a similar experience when he moved to the UK; he learned

to shift from giving content-heavy lectures to what he considered a more relaxed approach 'not always hav[ing] to feed in everything, but let the students come and discuss.' Ultimately, he decided that students bore responsibility for their own learning 'now I say, okay, if they haven't read the text, it's their problem.'

Balancing teaching with other responsibilities, primarily research responsibilities, is not an easy task at the best of times. The time demands of teaching are reflected in international studies indicating that many academics spend more time on teaching in a week than research (Bentley & Kyvik, 2012). While recognizing the time involved in providing effective teaching, a number of individuals in our research, such as PhD (S), reported enjoying teaching and seeing undergraduate teaching as a way to interest young students in his field. Both he and Sophia (S) also saw teaching as an opportunity to recruit students into their labs. Albert (S) worked to negotiate and craft his teaching load by intentionally seeking courses he particularly wanted to teach. Sophia sought to teach courses directly linked to her research interests. In the sciences especially, where team teaching may be more common, some research participants were strategic in identifying colleagues to teach with. For example, Brookeye (S) had the opportunity of a teaching assignment with a more senior colleague who might be a potential research collaborator. Findings from other research also indicate that engaging in teaching with colleagues can lead to future research collaborations (Felt, Fochler, & Müller, 2012). Consistent with other research, we found evidence that individuals in our research program became very aware of the institutional affordances, for instance access to students for research, and constraints such as teaching intruding into research and writing, given the time-consuming nature of formal undergraduate teaching (e.g., Bentley & Kyvik, 2012). For those research participants relatively new to research-teaching positions, undergraduate teaching, though they usually enjoyed it, required concentrated attention at specific times and at certain periods of the year. As a result, other responsibilities, especially research, which perhaps had more flexible deadlines, had to be managed around this.

## Student Supervision

Supervision of students' research and thesis work, while sharing many of the characteristics and desired outcomes of teaching, was not generally thought of as teaching by participants in our research. We take a broader

view. We would argue that supervision is the place where all three required aspects of a research-teaching position come together: teaching, research, and service. In the supervisor role, those in research-teaching positions are teachers and mentors and researchers, and fulfill a service obligation both to their institution and to their academic field. Institutions require the timely completion of degrees and a high quality of student work. At the same time, the academic field requires well-prepared new researchers who will contribute in their own right. Participants in our research were clear about the role of students they supervised in advancing their own research program and personal research profile (Åkerlind & McAlpine, 2015). Interestingly, some of the social scientists were in departments without graduate programs, for example, Ginger and Nellie, so they only had the opportunity to co-supervise outside of their departments.

Participants in our research new to teaching-research positions in the sciences, commonly had supervisory experience. As PhD students and post-PhD researchers, they had had responsibility to supervise the work of graduate or undergraduate researchers in their labs, a finding also reported by others, for instance, Delamont and Atkinson (2001) and Hum (2015). Even though this experience tended to be informal, in other words, they were not the supervisor of record, the experience provided an experiential base for their later supervisory practices and an understanding of how effective supervision could benefit their careers as well as those of their students. In contrast, social scientists new to research-teaching positions (Amundsen & McAlpine, 2009) typically did not have experience supervising students during their PhDs, and literally moved from 'one side of the table to the other,' from being a student to supervising a student.

In keeping with the need to balance all work responsibilities successfully and position oneself to achieve tenure or permanence, scientists in our research over time realized the need to carefully choose the students they supervised in terms of progressing their research. Brookeye (S), for example, thought of each student he considered supervising in the context of his research team as a whole. Sophia (S) and PhD (S) reported learning over time what resources needed to be in place to ensure student progress, while at the same time coming to better understand a reasonable balance between the time they realistically had to support a student and the student's personal responsibility in moving toward independence. In some sense and especially in the sciences, students were seen as an institutional resource for research, which brought into focus for those in research-teaching positions the constraints on their ability to attract students, for

example, lack of funding, or lack of physical resources. In some social sciences, there may also be a lack of students to participate in the supervisor's research, given students may be fully employed and only part-time students (Amundsen & McAlpine, 2009).

## The Personal

Backgrounded by most research investigating the research-teaching role are the personal lives of individuals. Our research program has been different in this way. The personal goals, desires, and responsibilities of individuals is foregrounded and is recognized as forming the basis upon which many decisions are made, both personal and work related. This is the thinking underpinning the prominent place of 'the personal' in *identity-trajectory*. We realized early on in our research program that work could not be understood without attention to the personal dimension.

Individuals who attained research-teaching positions struggled to find a balance between heavy workloads and their personal lives throughout their participation in our research program. The difficulty of finding this balance was reflected in the fact that while some individuals were able to enact partial solutions, none of those in research-teaching positions were able to alleviate this tension from their lives completely. Excessive academic workloads have certainly been noted by other researchers (Gornall & Salisbury, 2012), and have been blamed, at least in part, for some individuals noting depression or intent to leave the academy (Petersen, 2011). Still, those in research-teaching posts in our research generally found a way to respond, or had hopes of finding a way to respond, and that allowed them to hang on. We provide some perspectives below, beginning with individuals who had not yet found solutions to the dilemmas in which they found themselves, but hoped to.

Sophia (S) felt the 'massive' workload was affecting her health especially with the arrival of her second child. At one point after returning from maternity leave, she considered seeking professional help to address this. She worked around daycare schedules and her husband's schedule (a researcher on a fellowship) and spent two days at home each week with her baby, stealing every moment she could to work. This was compounded as noted earlier by a very unsupportive department. The only way Sophia saw a way to address her situation was in looking forward to her upcoming move to another institution.

Alan (S) shared childcare with his partner and did little socializing with colleagues after work, limiting his chances to fit in. When his wife experienced health issues after their third child, his increased investment at home reduced his academic productivity. He found that after putting the children to bed, he then worked until two or three in the morning a couple of times a week. This was starting to 'take a toll' and to put a strain on his marriage. Alan could not yet see a way to change his situation, but knew he had to.

Trudi's (SS) ongoing desire for a healthy work-life balance became even more prominent when her partner moved to be with her. They married and bought a house and thought about having children. Trudi was the only individual in our research in a research-teaching position who from time to time seriously thought about a future outside of academia or possibly at another university as she believed the high pressure was an unrelenting aspect of the particular university in which she worked.

Although PhD (S) loved academic work and could not imagine doing anything else, he consistently reported high levels of workload stress that impacted his physical and mental health. He said that if anything chased him from academic work, it would be the constant stress. He could not imagine how to handle this lack of balance if he and his partner had children, noting he could not see himself returning to work in the evenings as others in research-teaching positions around him with young children did. He hoped during his upcoming sabbatical to figure out, with his partner who was better at balance than him, how to address the situation.

In some contrast, Paul (SS), Jennifer (SS), Brookeye (S), and Fracatun (S), who also reported heavy workloads, experienced a change of perspective about work based on dedication to their partners and children. Paul's wife became critically ill part way through his participation in the research and he took on total responsibility for her care and that of his children. Coming out of this experience he noted that 'there are other things that are more important than your academic career.' In his research-teaching position, he also tried to learn from his supervisor and from other colleagues about how to negotiate his work responsibilities as he often felt he should say 'no,' but did not.

In her role, Jennifer (SS) initially felt significant pressure to work long hours, often spending weekends on teaching-related tasks. But after a maternity leave where she was able to disengage from work, she decided that being a good researcher and teacher remained important 'but it's not

everything.' So, she reduced her time invested in work in response to childcare arrangements, 'not sacrificing herself for the job,' and easily disengaged from negative departmental politics.

Brookeye (S) and his partner chose an institution where they could have the lifestyle they valued, and both could get positions. Brookeye maintained throughout his participation in our research that he had a good balance between work, exercise, and family. Still, upon the birth of their child, 'just love it [parenting] more than we probably imagined we would,' he took family leave, and on returning to work lessened the amount of competitive exercise he once did and also worked a little less in order to spend time with his family. He felt comfortable with this decision and did not feel he was an outlier as there were others in his department with young families.

Fracatun (S) also took family leave on the birth of each child and made a conscious decision not to work on week nights or holidays because of his family:

> 'When you do research … it could take all your time … there is basically no end … as soon as I decided to have kids it's like really important … to give them the best … in terms of … attention and time with them.'

He also chose, at least initially, to look only locally in his job search since his wife and children were happy where they were.

Ginger (SS) and Onova (S) did not have children and invested in buying and creating pleasant homes and active social lives. Still, Onova noted a heavy workload, attributing it intentionally to 'pushing myself.' She sometimes wanted to work in the evenings, but noted: 'I wish I wasn't so exhausted. I have papers I really want to read. I have things I really want to write … I really love my job.' Still, she limited the work she did at home to certain activities, for instance reading, which she could do over a glass of wine. Similarly, Ginger described herself at one point as a workaholic and had during her degree sought professional help to deal with stress. While happily settled in her new home, her teaching schedule, which included traveling between two campuses, meant that she needed to 'carve out' time for her research and it was impossible to collect the research data she needed during the term. Thus, at one point she ended up collecting data as part of a vacation. She noted how she no longer had the tremendous energy she had had during the doctorate, and would be unlikely to maintain this pace, but was okay with that.

Individuals responded in different ways to what they all described as heavy and at times impossible workloads, which sometimes seemed unrelenting, posing one deadline after another. The pressure was particularly acute in the process leading up to their submission for permanence and most looked forward to some lessening of pressure, if only 'felt' pressure, once they received permanence.

## Looking Forward Five Years

When we asked these participants what they imagined for their lives in five years' time, there were few surprises. By the end of our research program, several had gotten permanence or completed the first hurdle of contract renewal leading to permanence and were looking toward receiving permanence. In addition to the security that permanence offered (also noted by Nir & Zilberstein-Levy, 2006), all were looking toward advancing their program of research in significant ways. They reiterated the difficulties in doing this amid the challenge of all their work responsibilities. The heavy workload not only impacted their personal lives, but also their ability to further the research interests they loved and were devoted to.

Funding, especially for those in the sciences, was a never ending challenge and so of course when they looked five years hence, it was to envision a productive and well-funded team with enough resources to free up their own time a little. Those in the social sciences did not report as much stress around funding; they generally were able to be productive if they managed to have just one significant grant in place.

There were of course also goals related to personal lives. These mostly centered on stability for partners and children and continuing to build a life for themselves in the community they had chosen. Of course, many noted continuing to work toward a better work-life balance.

## Implications for the Future

The sense of accomplishment in being offered a research-teaching position is quickly tempered in realizing what the road ahead holds. Our research findings of the pleasures, the challenges, and the tensions inextricably linking academic work and personal lives provide a comprehensive view of individual experience. We have captured this in the notion of *identity-trajectory*, which focuses on identity development while at the same time recognizing the impact of work on personal lives and vice versa. As Brookeye (S) noted in looking forward from his first year in a research-teaching position:

> Teaching, supervising students and all those other things that … I just can't get a good grasp on yet … but I can see my colleagues and how busy they are and realizing that, you know, that is going to be me in a year or so, it is a bit daunting in that respect … 'as I get busier with teaching the students … how much time can I devote to doing research myself? … to be successful you need to maintain that … so I want to make sure that I can carve the time necessary to stay productive myself, but also foster productive students and teaching and whatnot.

Those new to research-teaching positions often face heavy workloads with no apparent end in sight. What is of concern for us, as more experienced academics, is that the high expectations and heavy demands on time were generally perceived as normative by participants in our research. Heavy workloads were an issue that they personally had to manage, usually without obvious role models. It bears repeating that individuals in our research who found themselves in less supportive and more challenging institutional environments had to expend additional energy beyond that required by others just to manage heavy workloads. While it has long been argued that autonomy in higher education can offset other work stressors, Kinman and Court (2010) question whether it can offset the negative impact of a combination of factors that some individuals experience: high level of demands, low level of support, poor-quality relationships, and poor administration—all factors influencing academic satisfaction and well-being.

Being constantly and virtually connected also increases demands on time and can impact academics' ability to be present to themselves, which can lead to stress (Menzies & Newsome, 2007). While some aspects of these stressors can be mediated by institutional commitment to, for example, positive practices around work-life balance (Ryan et al., 2012), evidence suggests such practices are not always taken up by those in more senior administrative positions (Petersen, 2011).

There is also the issue of how we can better prepare individuals for the breadth of responsibilities required in a research-teaching position. We have noted above the lack of preparation for teaching and often supervisory responsibilities. A number of the participants in our research also felt they could have received much more preparation for the task of grant writing during their PhD studies and post-PhD appointments—especially given the central importance of research funding in decisions about tenure and permanence and of course, in progressing their research program. Others noted their feelings of unpreparedness in leading and building a research team (McAlpine, Turner, Saunders, & Wilson, 2016), especially

those in the sciences where many noted that without their students, there would be no research program.

Many participants in our research began developing networks during their PhDs or even earlier and this often served them well, leading to opportunities for joint funding and mentorship. Other individuals, who were not encouraged to devote effort to networking or not provided with opportunities to do so or simply did not take the initiative, were sometimes surprised how important this aspect was to building an academic profile. Other studies also show the powerful role of networks for careers in and out of the academy (Arthur, Khapova, & Wilderom, 2005; Eby, Butts, & Lockwood, 2003).

The passion and devotion of academics to their fields of study and the dedication they feel toward developing the knowledge of their students and making a contribution to society really is central to why they persist. It is also why we, as researchers, have so enjoyed hearing their stories. For many, perhaps the majority, there were personal sacrifices made to achieve a research-teaching position and for many, the sacrifices continue along with the pleasures as they progress in their careers. It is the persistence and resilience that has impressed us and helps us to understand the driving force of pursuing academic life.

## Notes

1. Permanence may or may not include tenure. It does not in the UK, for instance, but does in Canada.
2. *S* represents scientist and *SS* social scientist.

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# Chapter 8: Electing an Alternate Future: Professionals, Research Professionals, and Academic Professionals

## Introduction: Types of Positions

Internationally, around 50% of PhD graduates do not take up traditional academic positions (Neumann & Tan, 2011). Exacerbating this situation are changes in higher education systems related to the global economic crisis which have forced new economies on university and research funding, a fact we noted in Chap. 5 regarding post-PhD researchers. Given the reduced number of stable, permanent research-teaching positions, PhD graduates increasingly find themselves considering alternate careers (Wöhrer, 2014). In this chapter we explore in some detail the experiences of those who chose for whatever reasons to follow such a path.

The data that emerged from our research program about alternate careers is a fortuitous and a major contribution since until now little has been reported of the experiences of this relatively large group of individuals who follow non-academic careers (Cruz Castro & Sanz Menendez, 2005). The few studies that are emerging suggest that many who have chosen this trajectory are satisfied with their careers and can identify and describe ways in which they are applying some of the skills and knowledge they learned during their PhD studies (Kyvik & Olsen, 2012).[1] Our goal in this chapter is to make visible the kinds of alternate positions individuals take up and describe the work they actually do. We also recount how they explain the value of the PhD to their careers, and where they see themselves in the future.



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In researching the career trajectories of those who accepted alternate careers, we came to differentiate three types of positions:

- Professional careers outside the academy with no responsibility to carry out research—though literature reviews or program evaluations may be part of the work.
- Research professionals outside the academy with a principal responsibility to carry out research and in some cases support the research of others.
- Academic professionals within the academy who support either research or teaching. This is a growing area of work that does not require a PhD, but a PhD is often highly valued.

We found these alternate career trajectories distributed across four labor sectors. A number of participants in our research went into the public sector, which is principally funded through taxation with the services offered perceived as government responsibilities. By public sector, we mean any level of government from municipal through state or province to national levels. Public sector organizations also operate at the international level, for instance, the EU provides a set of policies that influence and interact with national policies. The focus of public work can range from education, healthcare, military, police, transportation, telecommunications, power, to water supply—though those in our research were in the first two areas.

We treat higher education as a distinct sector, though it could be conceived of as a particular type of public sector employment—though public funding has dropped considerably in the past decades. Its mission incorporates in varying degrees research, education, training, and accreditation and incorporates non-academic, academic-related, and academic roles. Though there are private higher education institutions, no participants in our research worked in such a context. Our interest here is the positions individuals took up that we have characterized above as academic professionals. Again little is known about these academic professional positions which Berman and Pitman (2010) have described as the emergence of a new career path. This category includes individuals who can be classified as academic-related, administrative, or professional staff. In their small-scale study designed to understand the relationship between PhD experience and this professional role, Berman and Pitman (2010) found a

significant number were teaching, supervising, and mentoring. These individuals saw themselves using advanced reading, writing, and oral communication skills developed in their PhDs. As well, their PhDs provided status, legitimacy, and knowledge of the research culture.

A third sector, the para-public sector, is largely funded through donations and membership fees from various sources, including, for instance, government, individuals, corporations, and foundations. Work in this sector incorporates activities and services that focus on enhancing the public good. Such organizations span a broad range of interests from charities, through foundations distributing funds to charities and individuals, to social advocacy groups promoting particular beliefs and goals, and professional organizations supporting people to carry out their work.

Finally, the private sector represents enterprises designed to generate income for owners and shareholders. Often state regulation shapes the parameters of the business. These organizations range from a single person working locally to large multi-national companies, which may be able to pick and choose the regulatory environment that best suits them. An interesting question as regards this sector is what characterizes the organizations that seek out PhD graduates and hire them as research professionals? A study by Cruz Castro and Sanz Menendez (2005) reported that a key factor was whether or not there was a research and development unit in the firm. Companies with such units sought out PhD graduates as research professionals, whereas firms without such units who hired PhDs did so because the PhD graduate made the contact. Most of the research professional positions in these companies involved applied research rather than basic research. Herrera and Nieto (2013) offer another perspective. Their study revealed that firms hired PhD graduates not just for access to scientific knowledge, but also due to previous failures in innovation activities, difficulties in finding innovation partners, as well as accessing external research and development funding. PhD graduates were seen to have the skills that could enhance the innovation process.

The public sector and to some extent the para-public sector are affected very directly by government funding so changes in government funding priorities can influence whether the job market is robust or not or whether full-time continuing positions are on offer. In the case of the private sector, the buoyancy of the market is influenced by government taxation policies but also with optimism, or not, about the market.

## Where Do Those Who Chose Alternate Careers Work?

Eighteen of the 48 individuals we followed ended up in alternate careers. You can see in Table 8.1 that they are distributed across all four sectors in a broad range of positions; the only type of career not represented is the research professional in the para-public sector.

In Chap. 3, you read Regina's (SS) and Katherine's (S) accounts of their identity-trajectories. You may wish to reread their stories because as you may recall, Regina went on to be a research professional in a health-care institution and Katherine, an academic professional with research-related responsibilities in a university. Following are two other cameos: Daniel (SS), who worked as a professional in the para-public sector and Julius (S), a professional in the private sector.

**Table 1** Distribution of participants across labor sectors (italicized names represent those whose jobs are described in this chapter)

| | *Outside academia* | | *Inside academia* | |
|---|---|---|---|---|
| Sector/role | Research professional | Professional | Academic professional: teaching-focused | Academic professional: research-focused |
| Higher education | | | Bridget (SS), *Mike* (SS) | Anne (S), *Katherine* (S), 4 days/week |
| Public | *Hannah* (SS[2]), Regina (SS) (each negotiated a university adjunct position) | Nina (SS), *Shannon* (SS), | | |
| Para-public | | *Daniel* (SS), Charles (SS), Katherine (S), 1 day/week Sam (S) | | |
| Private | *SA* (S) | 13196 (S), Kadyna (S), *Julius* (S) | | |
| Self-employed; seeking HE work | *Elizabeth* (SS) | Monika (SS) | | |

*Daniel* (SS) from Latin America, English second language, was a scientist working as a professional. He moved to the UK with his wife and child for his PhD in 2007. He already had experience of studying abroad since he had done a master's outside his home country and he believed that in the UK he would gain a 'European point of view.' As well, he chose to do a social science PhD to broaden his science perspective. He intended to return to his profession afterward in either the public or private sector, feeling the degree would provide important expertise and legitimacy. During the degree, he sought out opportunities to act as an advisor and consultant in order to develop his academic and non-academic networks, but did not engage in publishing or presentations since he did not foresee an academic future. Given the higher cost of living in the UK compared with his home country, he took on a consulting contract. While this slowed down his PhD progress, it helped develop his non-academic networks. At the same time, the decision to take this contract meant being up until 2:00 or 3:00 am in order to continue with his PhD work. Further, his supervisor advised him to take a leave from his studies so as not to overrun the institutional deadline for completion. Given he was in the UK on a student visa, he could not remain, so he and his family returned to their home country. There he slowly finished his degree while continuing to work as a consultant. He had been concerned about his child's transition into a new environment but that seemed to happen relatively quickly. As well, he felt particularly well suited to his work since his expertise, his 'way of looking at things,' which combined both science and social science perspectives was rare. Upon graduation in 2013 through contacts in the consultancy work, he was offered and accepted a salaried position for a Latin American NGO. 'My technical training and expertise coming out of the PhD, together with [my international mobility mean I can] … make … significant contributions to the organization.'

*Julius* (S) from Canada, a professional trained in the sciences, moved provinces with his partner and family to start his PhD in 2010. His wife was supportive of his decision, but he wanted to complete the degree as quickly as possible, given he was self-financed and his wife had to stop working given the lack of places in day care for their children. During his PhD, they also had another child. This placed additional pressure on finances and continued pressure to finish quickly. Before beginning his PhD, Julius had done a master's in another country and then worked for a while at two private consulting companies before taking on contract work with the federal government. He was not enjoying his work and the economic slowdown made securing another job difficult, which led to his decision to pursue a PhD. While he was open to an academic future depending on what it was and where, he was most interested in starting his own company. His family returned to his hometown the summer before he finished so his children could start school along with their peers in the fall, which meant a long commute to the university for his last year. At the same time, he started his business, even though this involved more debt. 'The challenge for the first year or so is just getting your name out there … the PhD … gives me … something more behind my name that shows that I'm an expert in the field.' He completed the degree in 2012 as planned, and then invested more heavily in building his network and business. He gave himself a year to 'decide if this company is going to work or not.' Despite his heavy investment in growing the company, he was rigorous in spending time with his family, noting he worked fewer hours than academics and some other professionals. A year later, while the business had started growing, he hadn't had 'the opportunity to work with the people I want to work with' but remained hopeful. In fact, two years later the company was continuing.

## What Do Professionals, Research Professionals, and Academic Professionals Actually Do?

Our goal here, since so little is known about the work that PhD graduates do outside the academy or within as academic professionals, is to provide extensive descriptions of the kinds of work that individuals actually did. As well, we report how they felt their PhD came into play in their work.

Questions you may want to consider as you read these accounts include the following. What contributed to these individuals opting for alternate careers? Why were they open to alternate career paths? What was their knowledge of the possibilities? These are, we think, intriguing questions given how those remaining in the academy appeared to have little knowledge of such possibilities. One supposition would be that these individuals had prior experience working in such positions, but this is only true for half of them. Further, in at least a few cases, the positions they found had not previously existed, rather they had emerged as an outcome of the ever-changing labor market. A third supposition is that they had imagined such careers from the beginning, but this is also only descriptive of a small number.

### *Higher Education Sector*

Academic professional positions tend to be either teaching- or research-related. We begin with teaching-related positions.

*Teaching-Related*

- Researcher development officer (support for postdocs)
- Educational or academic developer
- Career counselor
- Social media development advisor
- Student support director
- Director of undergraduate programs
- Student affairs officer
- *Education program director (Mike)*[3]
- *Outreach coordinator (Bridget)*

NB: The educational level expected of these kinds of positions can vary considerably.

*Mike: Academic Program Director (Social Sciences)*
How would you describe your current role?
I am one of several program directors in an online and distance education unit. So, I am involved in the day-to-day running of the center. I am an instructional designer and project manager. This means I oversee course and program development, working with research-teaching staff to develop online distance education course materials. My job is academic-related. I don't directly manage any staff, but work with a team of about 30 to develop the production and delivery of courses once the design is agreed with the faculty member. I also sometimes am involved in the development of international programs. As well, I do student administration, sit on a number of university committees, and sometimes give presentations at conferences.[4]

What do you actually do?
Writing a distance education course is, in some ways, like writing a dissertation. It's a large project which first involves agreeing to the design with research-teaching colleagues. Then, it is my role to guide the course authors in our unit through the production. So, for instance, one of the things that I do is initiate a lot of contact with my course authors, gently prod them to see how things are going, and ways I can assist in the work. I also occasionally teach, and of course administration and committee meetings take up a lot of time.

*Research-Focused*

- Research officer (support for those applying for grants)
- Faculty research facilitator (develop unit's long-term research potential)
- Research and public affairs officer
- *Scientific portfolio manager in research institute (includes dissemination strategies) (Katherine, Anne)*

*Katherine: Research Project Coordinator for Interdisciplinary Research Group (Sciences)*
How would you describe your current role?
I have a university contract for five years as a research project coordinator. I'm classified as academic-related since I am working on commentary and

policy-type publications. I'm not doing what you might call active research. The position involves promoting social impact and outreach in my research field. It's a really exciting project that combines my interests in science and open knowledge. I facilitate and coordinate open science activities and build interuniversity communities all within my area of expertise. It's a completely new field for me, so I've been doing some reading. I also have loads of flexibility in my role so, for instance, I'm managing the Intellectual Property Working Group for the project because it interested me.

What do you actually do?
I work four days a week, coordinating events, research collaborations, and funding schemes across three initiatives, not all in this university. I constantly interact with many people as I manage ethical research, and promote open and collaborative working practices. I particularly like being associated with the university since it has a lot of benefits, just even practical ones like access to research papers in the library and hanging out with scientists.

Katherine had a portfolio career by choice: four days in this job and one in a start-up. The plan for the start-up was to create a company of which she would be a director.

### *Public Sector*

*Research Professionals*
The kinds of jobs that research professionals can do in this sector include:

- Healthcare specialist for NGO
- Senior economic policy researcher
- Senior research scientist for government research center
- Research associate in a pharmaceutical company
- Water quality scientist for a utilities company
- *Social science researcher in research-oriented healthcare institution (Hannah, Regina)*

*Hannah: Head of Research in Healthcare Institution (Sciences and Social Sciences)*
How would you describe your current role?
My primary focus is building capacity for healthcare professionals to be involved with research (developing an organizational strategy, culture,

processes, and systems). Ultimately, it's about leading research in the hospital, so building clinical academic careers, bringing together areas of strengths so we can build an evidence-based culture. Since it is a corporate role in such a large organization, you get drawn into lots of other agendas. So, for instance, we do a lot of training with different levels of staff to help deliver certain key work programs. That's just the nature of the leadership here; you're part of the broader team. The role has expanded beyond the hospital to a more regional presence and I am now leading a bid for funding with the university and a community health partner. Lastly, there's a more corporate dimension including issues surrounding governance and serious incident investigations.

What do you actually do?
I spend about half of each week doing work related to my funded research: reading, data analysis, presenting research, trying to find time to write, and meeting with the project team. It's satisfying to maintain a research component alongside my corporate role of building research capacity for others—which takes up the other half of my week.

Hannah's university adjunct position also allowed her to lecture in a doctoral training center, and do some research with academic colleagues. Recall as well that Hannah changed institutions but not roles during our research, since she found the first institution did not provide the intellectual environment she had been seeking.

*Professionals*
The kinds of jobs that individuals with PhDs might find in the public sector include the following:

- Public engagement and science communication officer
- Research council officer
- *Science and technology policy specialist for government (Sam)*
- *Senior advisor to the chief academic officer (CAO) of a school district (Shannon)*

*Shannon: Senior Advisor to the CAO of a School District (Social Sciences)*
How would you describe your current role?
I am responsible to the CEO for supervising a range of projects and also troubleshooting emerging district issues. In other words, I take on tasks

that my boss needs to know are done successfully. So, I manage budgets, coordinate with the district offices and help develop policy. I need to use considerable managerial and even political skills since I am handling major responsibilities and sometimes find myself resolving substantial problems not of my making against tight deadlines. There is a lot of pressure to meet state policies regarding student success, so I also work externally with the state and other organizations such as funders to coordinate our responses to state policies.

What do you actually do?
My work varies by week, but usually involves working at several levels in the school district. This week I spent much of my time working with three different district office teams: one is developing our professional support for principals on strategic planning; another is designing a district budget tool; and a third, identifying the key problems in our district and how to use this information to guide a district office reorganization. As well, I worked with principals and consultants in several schools to improve their processes for supporting students through the college application process.

### *Para-Public Sector*

*Professionals*
The kinds of jobs that individuals with PhDs might find in this sector include the following:

- Policy analyst for NGO
- Museum curator
- *Program and evaluation specialist for NGO (Charles)*
- *Senior program officer for an NGO (Daniel)*
- *Manager or coordinator, NGO start-up (Katherine)*
- *Senior educational manager (Shannon)*

*Daniel: Senior Program Officer for a Regional NGO (Science and Social Science)*
How would you describe your current role?
I am a program officer, responsible for the development of the grants portfolio for [my home country] and I am helping in the process of

launching the office in [other Latin American country]. I connect possible funding opportunities from international foundations with policy initiatives in my home country related to my area of expertise. So, I focus on supporting policy development and decision-making. As part of my role, I have been involved in intense advocacy work (not lobbying) with many government officers, to the point that one of those activities involves working directly with the office of the presidency. All this has positioned our newly created institution into a serious player in the realm of international North American and European donors working in [my country]. As a result, I maintain frequent exchanges with bilateral and multilateral organizations working in [my country].

What do you actually do?
More specifically, I am responsible for the identification, negotiation, preparation and management of grants that support policy development and its implementation. I also work to build capacity on specific related policy topics. This means that I prepare, organize, and deliver workshops and training sessions for government officials. I write interim and final reports of projects, as well as policy documents for discussion with government officials and organize and participate in meetings with government officials and representatives of other sectors (private and academic).

Daniel was fortunate, in that he had been able to craft his job because he had worked as a consultant for the nonprofit organization in the previous year to help set it up.

*Shannon: Executive Vice President and Later President of an NGO (Social Sciences)*
Recall that earlier Shannon had worked in a much larger public sector educational organization, which she left because she found it impossible to have the quality of life she wanted.

How would you describe your current role?
The organization works with high school students whose parents have not gone to university, to help them to get to college, and then stick with them until they graduate. I am responsible for the vision and direction of the organization, including all aspects of the programs we run. These involve helping students who are preparing to apply for university. For instance, we do test preparation and tutoring, help them decide where to apply and help them apply, and also apply for financial aid. Once they have

their college results, we help them make the best choice of university in terms of social setting and financial considerations. When they are there, we chat with them every week just to keep in touch. As well, near the end of their degrees, we help them apply for internships and jobs, so they're able to get going when they graduate.

What do you actually do?
I develop and oversee the different programs we run. I am also constantly involved in writing financial and other reports, newspaper articles to expand awareness of our work, and grant proposals to fund our projects, as well as developing key networks. I also oversee human resources development for the organization. This can include supporting the different team members, such as helping the development and communications manager or meeting with the director of programs for updates. Finally, I get involved to an extent in working with the students.

### *Private Sector*

*Research Professionals*
The kinds of jobs that PhD graduates can do in this sector include:

- Research & development officer (often working in a team)
- Data analyst (insurance and financial companies)
- Development chemist
- Private research consulting
- *Researcher in private company (SA)*
- *Self-employed research consultant (Elizabeth)*

*SA: Researcher (Science)*
How would you describe your current role?
My work involves computational ecology. I'm on a two-year contract working in a company that's very academic. It's the same one that provided [my] funding during my PhD. Besides doing research, I have opportunities to teach and do outreach. It's interesting that the head of the group has a position both here and at two universities. It's a nice flexible way to work, and when you get higher up in the group, they encourage you to form stronger ties with universities. So it's technically an industry, but not basically. I conduct research, give talks, and do outreach participation.

What do you actually do?
I work in a team consisting of four more senior colleagues, two peers, two interns, and more than 10 technical staff who are not directly part of the group. I mostly work independently and am expected to disseminate work outcomes, have formal, internal interactions, do planning and analysis. I am also publishing papers, contributing to tool development, Beta testing, and providing a researcher's prospective to another group. I am also responsible for two websites.

SA did not feel in taking this position that she was giving up on her original goal of a research-teaching position. Rather, she felt her goals had shifted and that her present job did not require the big sacrifices expected in academia.

*Elizabeth: Self-employed Independent Researcher Seeking Work in Higher Education Sector (Social Science)*
How would you describe your current role?
One aspect of my work involves finding and applying for contracts in surrounding universities as well as expanding my networks. That means I'm constantly looking for opportunities to bid for projects, usually alone though sometimes with colleagues. The other aspect involves carrying out the contracts, in other words, all aspects of research from ethics through data collection to analysis to reporting. The work changes over the life of any project. The 'busy' part, data analysis and writing up, means working much longer hours than normal. I also volunteer my research skills. Of course, there is the administration that goes along with signing contracts and so on.

What do you actually do?
It varies by contract. Right now, I'm on two part-time projects, one started before the other, both involve working with teams. I have been working at one university conducting qualitative research about undergraduate students and have recently started working on a project at another university to evaluate national science programs. As well, recently I did a little data analysis and preparation for a patient group based at my local general practitioners. I also offered two days to a school of engineering as a coevaluator. It's a good way of networking.

Elizabeth was in the unusual position of being outside the academic sector yet seeking work within it. So, finding ways to network academically was very important.

*Professionals*

- Writer, editor for non-academic, academic, and education presses
- Environmental policy consultant
- Quantitative analyst for an investment bank
- Risk and data management team leader for a company
- R&D manager for a chemicals company
- Senior specialist software engineer
- *President start-up (Julius)*

*Julius: President, Owner of Company (Science)*
How would you describe your current role?
My work is rewarding but stressful since I have to oversee all aspects of the business and bring in enough money to be profitable. I spend a lot to time putting together proposals and presentations for clients (similar to a research proposal), and then negotiating agreements. As well, I have to take care of the technical side of any projects under way. And, of course, I have to deal with all financial aspects, including accounting issues, keeping up with the government website for possible tenders. As well, there is the preparation of publications for professional journals, and participating in professional organizations.

What do you actually do?
My days are very varied. In addition to getting contracts and completing them, since it is early days, I'm investing a lot of time in marketing, convincing people that we are offering services that would be good for them. I also do a lot of networking, such as cold calls, 'lunch and learn' seminars, and workshops to develop name recognition. Further, I sponsor activities and maintain the company website to demonstrate our professional accreditations. And, of course, I spend time writing proposals for contracts and for possible public funding to reduce the cost of private contracts.

## How Did Their PhDs Contribute to This Work?

In this part, we focus particularly on how those who had taken up alternate careers viewed the role of their PhDs in their present work. We have structured this part around the three intertwining work strands of *identity-trajectory*: intellectual (contributing in various ways to the chosen field), networking (expanding connections, both interpersonally and

intertextually), and institutional (negotiating the structural features to mediate the development of the other two strands).

### *Institutional Context*

You may have noticed in the accounts of work above, these research participants made frequent reference to the institutional context, the responsibilities, as well the resources. They were involved in attending meetings, providing human resource development, and creating structures. They were often providing some form of leadership.

Most moved outside the academic sector and learned to deal with new organizations with different missions. On the whole, they reported positive work environments. Recall Katherine (S) had done considerable homework to ensure a positive work environment after her PhD experience. Similarly, Daniel (SS) had had the opportunity to take on a job after he had already worked as a consultant in the same organization. In the same fashion, SA (S) knew the organization from prior experience during her PhD. Hannah (SS) and Shannon (SS) in their second positions had chosen their present organizations based on knowledge gained from previous contacts. Julius (S) created his own small organization.

It seems that most of these individuals (with the exception of SA (S)) thought it relatively easy to consider changing jobs as well as institutions in comparison with those who had taken up research-teaching, research, or teaching positions in the academy. Mike (SS) was job searching, in and out of his institution, and saw some possibilities. Hannah (SS) had found her a new position relatively quickly once she decided to leave her previous position because it did not enable her to develop and maintain her research focus as much as she would have liked. Shannon (SS) also quickly found her new position when she decided her job did not offer enough close work with students or a good enough work-life balance. She of course was not alone in describing work-life balance issues. Overall, there were fewer references to the challenge of finding desired positions as compared with those made by individuals in research-teaching, research, or teaching positions.

### *Networking Strand*

You may already have noted in reading the participants' descriptions of their jobs that regardless of whether they were in or out of academia, they often commented on building and working with their networks, both

those established earlier and those emerging from their present work. Further, they described how they used networks to create the type of work life they wanted. For example, Hannah (SS) described what she viewed as the strategic importance of investing in local interinstitutional networking when she moved to her second job:

> From my previous role … I've realized what I need; so I have purposely made an even greater effort this time to really target key leaders, key influencing people, who … if I can … develop working friendships with them, they'll come to me and suggest … have you got any ideas on [xxxx] … I've found that's what you need to do … to succeed.

Shannon (SS), in her first job, reported specific ways in which she connected with organizations that were potential external funders for research her employer wanted to conduct.

> There are a group of funders in the area, who are interested in supporting … education in some way, and so … and most often, they're coming to talk to an academic officer about what major initiatives we're moving forward … so, what I've done … more of this year is connecting with them … doing presentations for them, taking phone calls with them, meeting with them, so I can hear what they want to fund, and I can tell them what we'd like them to fund, and to kind of do a little bit of negotiation that way. It's been a lot of fun. You know, I've met a lot of great folks by doing that, people who are … really concerned about education.

As we described in Chap. 3, Daniel (SS) had built up his international network over time and continued to draw on it. His network included people from his first position before beginning his graduate work (people in the state government and business), his master's contacts including his supervisor's network, his PhD network, and the networks he had developed while consulting to make ends meet during his degree.

Julius (S) was in a somewhat different position having just started a business in a new location, so he was very much focused on developing a new network and had a range of strategies for doing so as noted earlier: 'I'm … convincing people [of] services that would be good for them … [doing] networking … cold calls, 'lunch and learn' seminars and workshops to develop name recognition.'

What comes through strongly in these accounts is that most individuals were agentive and strategic in making connections and developing them.

Networking included volunteering (Elizabeth (SS)), cross-institutional meetings (Shannon (SS), Hannah (SS)), intra-institutional networking (Hannah, Mike (SS)), attending social events, joining formal organizations (Julius (S)), outreach activities of different kinds (SA (S), Daniel (SS)), and having a web presence (Katherine (S), Julius).

Another aspect of networking was the role it played in finding a job. Regina's (SS), Daniel's (SS), SA's (S), and Katherine's (S) first jobs were the result of networking. And both Hannah's (SS) and Shannon's (SS) second positions resulted from networking during their first positions. Their experiences highlight how a long-term investment in networking can produce positive outcomes.

> Over the last two and a half years that I was at [previous organization], I kept in … contact with [individuals at new organization] … through different forums, and … they asked me to present my role and what I was doing at their research strategy group. So it's been something that they've … become gradually convinced that [my new role] a priority … and the people that were involved in trying to initiate it … were asking my advice on … so I knew it was coming out … then, went through the interview process. (Hannah)

> Last year, I got a call from the head of the organisation I currently work for … who … had done some consulting work for us at [my previous position] … I'd brought them in … soon after I started because we were having some issues … [and I had heard about her] … So, I got in touch with her to say … "would you willing to consider doing some consulting for [us]?" which the organisation then did … so, last year, she called me to say that her Vice President … was leaving and they had started a search, but she had stopped the search when she realised that, actually, I'd be a good candidate for the position. She called me to see if I'd be interested, and I was. (Shannon)

### *Intellectual Strand*

In looking at the job descriptions, we found a lot of evidence that individuals were drawing on and developing their intellectual work strand through both research and teaching. For research professionals such as Hannah (SS), Regina (SS), and SA (S), their view of their intellectual work remained much the same as that for post-PhD researchers and those in research-teaching positions. SA felt she drew on her PhD research regularly in her

position, in fact, one of her research projects was an extension of her PhD. Further, she was constantly using the statistical and analytical skills developed during her degree. Hannah's and Regina's additional responsibility to build infrastructure to support research could also be seen as consistent with the additional responsibility that PIs with large teams have in developing and sustaining others in doing good research (McAlpine, Turner, Saunders, & Wilson, 2016).

For those in professional positions, there was a clear sense that their PhD skills related to research were useable in their positions but for most in modified ways. Katherine (S), for instance, still referred to drawing on:

> My biological knowledge on a daily basis in understanding the work of those involved in the initiatives and communicating it. I also draw on my experience around the ethical implications of the work … as my new role involves work on responsible research and innovation.

She also saw her position as an opportunity to 'get involved in some [research] projects on a more casual … informal level, and then decide if … I would enjoy doing [it] in a more formal way later.' Shannon (SS) talked about integrating research more centrally into the work of her second employment position: 'I'm particularly keen to keep up with the current research within the frame of my program with the aim to translate key research findings into meaningful action.'

Daniel (SS) perceived the experience of his PhD as central to his present success. In addition to his network referred to above, his PhD led to a way of thinking that was uncommon in his field—a particular questioning stance that people found attractive.

> In summary, my technical training and expertise coming out of the PhD, together with my learning of other cultures (from living in the UK and [elsewhere]) have allowed me to make relevant and significant contributions to the organization [that are] clearly recognized and evident.

Julius (S) also talked easily about the carryover from what he was learning in the PhD, for instance, his experience writing research proposals gave him initial fluency in writing bids for projects. He also planned to publish his PhD research in professional journals. Not to be overlooked was that 'the PhD shows that I'm an expert in the field [and] that this firm is at the forefront of the research.' Mike (SS) shared a similar view of the

PhD as a form of legitimacy. In fact, he decided to do the PhD to have the credential, to be perceived as more legitimate in the job he was already doing, especially since a number of others in his unit had a PhD and he needed a PhD if he wanted to advance in his career.

## What Do They Foresee as Their Careers in Five Years?

What is striking in contrast to those who held research-teaching, research-only, or teaching-only positions is the way in which those who went into alternate careers imagined their future five years onward. In general, they saw themselves growing, learning, and in some cases, developing a greater leadership role, with a few commenting again on how their PhDs offered them legitimacy. Interestingly, they were often able to describe an evolution in how they imagined their futures. A further difference when compared to those in traditional academic positions is that they could imagine moving institutions if they could not achieve their goals where they were. Lastly, they sometimes expressed hopes for their personal lives. Generally, they had a greater sense of optimism, exploration, and possibilities than was present in the futures of those we followed in academic positions. Still, many did not have the security integral to a research-teaching career and they noted this challenge.

### *Higher Education*

**Katherine (S) (Academic Professional, research-related)** highlighted personal goals as well as her imagined career:

> I'm hoping, in five years, I'll have more of a sense of permanence … I've had to move twice in the last four months so… There's a certain degree of transience … So … it would nice … to be settled in somewhere that's my own space and kind of have my own … office, and my partner wants a dog so … but in terms of work … in five years … I'm not really sure. I think I'm still kind of exploring it … I'd like to be doing something … a bit more … on the research side of things, but … I'm still working out if … the type of research I think I might like to do is in fact what I'd like to do. But certainly a position where I'm … combining … some of the coordination activities [I'm doing now] with a little bit of research and less administration.

**Mike (SS) (Academic Professional, teaching-related)** is unusual, in that he had been in the same position since before he started his PhD. Though he had very much enjoyed his job, upon returning from a leave to complete his PhD research, he was unhappy with the new direction of the unit, but still remained relatively positive about the future:

> In a year's time I will be off on parental leave but I'll be actively searching for an academic administrative position. I've been researching where I want to work in the university and I've found a few possible places [which may involve a demotion] … and so I'm just watching those areas and in a year I'll be more actively watching those areas … I am looking at a couple of the colleges and things that are local [but not any farther given I don't want to move my family] … I've got a good job I can come back to that I'm well paid for, but I'm just unhappy and so I'm sort of hopeful that my current director is gone by then—that would change things considerably as well. In five years I would love to be a director at a university like this, to have a leadership role, doing more research, finding a place where I could blend research, teaching and … so that is where I would really like to be in five years … feel that I am contributing to the university and that my contributions are valued.

### *Public Sector*

**Hannah (SS) (Research Professional)** in describing her future noted how her thinking had changed in terms of developing a leadership role building on her work in her second job:

> A few years ago, I might have said a clinical chair, but I don't think so now … so, one example would be … Health Education England, there's a Director [position] … and that's about clinical academic careers … either a regional or a national role, in five years' time, would be fantastic, if I could have that. So, you know, that would be my dream job at the moment … It may well change, who knows?! But … it's keeping the same theme in terms of where my strengths are and what's driven me to do the PhD and driven me to do the work afterwards. But … I can't see myself doing [a research chair] in five years' time, and I would have done last year … I think it's because I've seen other opportunities and … someone's suggested other opportunities, so my head's not quite here now … my role … is around the bigger, broader corporate agenda. It's around making [things] happen for others. And so, I think that's more of a director strategic role … and I enjoy that.

### *Para-public Sector*

**Shannon (SS) (Professional)** enjoyed directing the organization she was leading in her second job. She saw herself drawing on her PhD experience and hoped to remain where she was if she could lead the organization in the direction she wanted:

> I … will stay at least for the next four years … I guess we'll see from there … this kind of … leadership position … President/Director type role … is a good fit personality-wise … [and] being in a … a relatively small organization, I'm a lot more effective than I think I was in the [other] situation with around 100 employees … I certainly would like to … get [staff] comfortable with some of the research, and research ethics … and I'd like to see the organization more active from a research perspective. I'd like to see the organization seen as more of a thought-leader in … conversations that are happening … across the country … and so just continuing … to have an influence that way … I can use the PhD to … influence in that area … just because there are … people for whom that will be important.

**Daniel (SS) (Professional)**, like Shannon, wanted to provide greater leadership but could see the possibility of moving if there was not enough challenge where he was:

> I have been helping a couple of people in creating this institution … so I envisage myself … belonging to this institution for maybe a couple of years … it will depend on how this grows and how ambitious we become as an institution, because we are now operating in [country X] and [country Y], and I am just handling things in [country X]. It may be the case that eventually I handle more things in both countries or that we push through to work in countries [A and B] … or any other place. So, I guess [staying] would depend on those potential opportunities. If the job becomes more and more interesting, then I may be around here for some more years.

### *Private Sector*

**Julius (S) (Self-employed professional)** stood out for his concrete focus on growing and sustaining his company:

> In five years, 'I would like to have at least a full time administrative assistant and a full time technician. Ideally, I would like to be looking to bring in a second engineer at some point within that time frame as well. Yeah, I need to keep growing the company to make it there.'

**Elizabeth (SS) (Self-employed research professional)** offered a perspective colored by the fact that she was seeking research consultancies in higher education after the global economic crisis. Even in this case, she continued to have hope:

> Well, there would have been a time where you could have, you know, applied for funding for a fellowship. If it was the times of plenty that we've known, that was my goal … If there were ever opportunities, in five years' time, as time gets better … and ladders for post-PhD grads come back … I don't know … we'll have to see … that's what I would like, but whether that will happen, I don't know … [but] they haven't knocked the ambition out of me! I'll still keep trying! "I know what I want—[it's just] the opportunities don't exist!"

**SA (S) (Research professional)**, as our research ended, was near the completion of her two-year contract. She had enjoyed the job and had been job searching in industry. However, she had not found anything with permanence so was rethinking her career direction while ensuring she achieved her life goals:

> A year from now, probably it will look pretty much like the same [laughing] because I'm still doing the same work. In five years, I would really like to see myself at least in a lecture position and … possibly closer to home because, at the moment … I'm working two and half hours away from home … now … I spend the weekdays in a B&B and then come back home during the weekends, so … I hope, in the next year … to settle a bit better … find a place where both me and my husband can work without stressing too much, and in five years' time, obviously I would like to have a lecturer position … it's very important to me that a job is flexible because, even if it's far away, I can be there a few days but I don't really need to be the whole week away from home.

The small body of previous research on alternate careers is focused mostly on research professionals, overlooking the career trajectories of professionals and academic professionals. Our research puts flesh on the experiences of those in all three roles. Still, there is much to know that better demonstrates the interaction of individual agency, particularly the horizons for action, perceived opportunity structures, and the structural elements discussed in Chap. 4.

## Notes

1. There are many online resources to help individuals find such positions, for instance, https://www.findaphd.com/advice/doing/phd-non-academic-careers.aspx
2. *SS* represents social scientist and *S* scientist.
3. Italics in this and subsequent lists highlight those in our research.
4. These role descriptions are written in the first person as they are drawn from what individuals said. However, they are not exact quotes as they were constructed from edited statements from more than one data set.

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# Conclusion and Implications

We argued at the beginning of this part that the empirical results of the research raise important questions about the nature of academic as well as non-academic career choices.

Post-PhD researchers faced the inherent structural challenge of being in a role that was originally conceived as a step to a research-teaching position but has now, for many, become a 'holding pattern' of highly educated and skilled individuals of whom only a small number will gain the desired positions. Despite this, individuals found ways to sustain their motivation in the face of an uncertain future and financial insecurity. Since universities depend on their research labor, the situation is unlikely to change, so post-PhD researchers remain hostages to fortune.

Teaching-only positions appeared to offer a satisfying career to those who cared deeply about teaching. The position offered security, yet could provide a possible stepping stone to a research-teaching career. Two concerns emerged. The first was individual long-term motivation; there appeared to be a lack of opportunities for personal growth, so individuals needed to find ways to remain motivated. The second is structural. While career structures are being developed for this role in a way that is not the case for post-PhD researchers, such career paths are still evolving.

Those in research-teaching positions were clearly happy that they had succeeded in getting their positions. However, they found they had much more and much more varied work than they had previously experienced or imagined. Further, they faced a new benchmark, gaining permanence.



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So the first few years were ones in which they felt under considerable pressure—and sometimes had to deal with a lack of transparency as to what the exact criteria for success were.

The breadth of work that professionals, research professionals, and academic professionals engaged in, as well as their largely satisfied accounts of their work appears promising, given the fact that roughly 50% of PhD graduates do not remain in the academy in traditional positions. Individuals reported drawing on their PhD expertise. They also found it easier than those in research-teaching positions to change jobs if they did not experience a good match between their desires and the institutional structures. They seemed to have a different way of imagining their futures from those in research-teaching, research-only, and teaching-only positions. We wonder the extent to which this is due to professionals, research professionals, and academic professionals perceiving more breadth of opportunity, as well as more chance of finding the best job match.

What was common in looking across the roles and labor sectors was the influence of the specific work environment on motivation. Some were in contexts where they could flourish and others where the workplace was unwelcoming, and sometimes toxic. The former situations enhanced their plans and efforts to develop their careers, whereas the latter made it especially important that they find personal ways to remain agentive and motivated—or think of leaving. As well, in all roles and sectors, networks and networking played a crucial role. Looking beyond the workplace, individuals were all establishing long-term relationships and many were raising children; they also had personal desires for well-being, quality of life, and so on. All of these personal factors collectively influenced their horizons for action and their final career choices. The evidence of the influence of the personal on career choices is a useful reminder that a career development model cannot be based solely on objective measures such as salary and status, but needs to take into account subjective measures of success such as finding time for family or pursuing new learning (Arthur, Khapova, & Wilderom, 2005).

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PART IV

# Methodological Creativity and Transparency: Overview

In this part of the book, consisting of three chapters, we explain how our methodological approach evolved. We pay particular attention to how we worked to make our process transparent, to ourselves, to the team, to the participants, and to the readers and listeners of our reports. We knew from early on that we wanted to investigate individual day-to-day experience longitudinally, but there were few models to guide us—particularly the ones that involved a team geographically separated. We undertook as a team to think creatively, to craft diverse data collection instruments, analysis, and reporting methods that would preserve confidentiality but allow details to emerge. We improved upon these methods as we learned more about early career researcher experience and better understood the longitudinal narrative process. Not to be overlooked, emerging technologies helped us substantially in dealing with the challenges of following people over time, and maintaining team collaboration.

In Chap. 9, 'Our Experience of the Narrative,' we recount how we came to use a narrative methodology and combine it with a longitudinal approach. The two other chapters in this section dig deeper and address the processes of decision-making that we engaged in as we conducted the research. In Chap. 10, 'Tools: Ways of Capturing and Representing Experience,' we describe with examples the decisions we made about data collection describing our efforts to expand the methods we drew upon. Chapter 11, 'Ways of Displaying and Analyzing Stories,' recounts, again with examples, how the focus on individual narrative influenced the analysis process. As with the other sections, we end with 'Conclusions and Implications.'

# Chapter 9: Our Experience of Narrative

## Introduction

In this chapter, we recount how, as a team, we came to use a narrative methodology and combine it with a longitudinal approach. A key theme in the chapter is our conviction to make the purposes for using a narrative methodology clear and the procedures we employed transparent. We first describe the gradual changes in the research program over 10 years. Our goal is to contextualize our practice of narrative within the growing use of it as a research methodology in the social sciences. Further, we explain why and how we link identity and narrative, since not all who use identity as a conceptual tool use the narrative, nor do all those using the narrative link it to identity. We then explore our relationships with the participants, including efforts to be reciprocal: describing how we endeavored to bring an ethic of care to our work with them (Harrison, MacGibbon, & Morton, 2001). We conclude with what we have learned about the challenges of using a narrative approach, based on our experience of using it longitudinally.

## The Team

When we submitted the initial funding proposal for this research in 2005, the two of us had known each other and worked together for more than 10 years. We first worked together at McGill, and when Cheryl moved to Simon Fraser University, we continued our collaboration through a grant



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about faculty development. At a time when technologies were not as supportive of long-distance collaborations as they are now, we developed a sense of shared values and a good working relationship and established a productive way of working together at a distance. For instance, we had already begun using North American conferences as places to meet face-to-face, spend time together, and plan our work. Without this previous experience, it is unlikely that we would have been able to undertake this research. Among the values we shared were: a commitment to ensure the results of our research were directly relevant to practice, a belief in the value of research collaboration to produce more robust results, and a desire to integrate students into our research teams.

When the research began in 2006, we had two teams, one in Vancouver (Cheryl, Gregory Hum and later still, Esma Emmioglu) and the other in Montreal (Lynn, Marian Jazvac-Martek, Shuhua Chen, and Allison Gonsalves). Shortly afterward, Lynn began to work at Oxford as well, returning to McGill on a regular basis. So, this provided an opportunity to start a third team (Lynn, Nick Hopwood, one or two research assistants, Gill Turner, and later Mahima Mitra) collecting parallel data. However, given the constraints of European Union data security regulations, the data sets were not pooled. We did however arrange some collaborative work through joint but separate analyses. We also added European conferences to our face-to-face meetings, and Greg spent an extended period of time with the Oxford team.

We used Skype on a regular basis both for team meetings and for meetings between the two of us. In team meetings, we caught up on team members' own experiences; discussed the year's data collection plan (setting rough dates when different types of data would need to be collected); developed, reviewed, and occasionally modified data collection instruments; established and checked in on protocols for data storage and file names; established agreement on coding definitions and procedures; discussed presentation and publication plans (including copublishing). While these meetings permitted us to establish guidelines and make research progress, we also tried to meet face-to-face once a year at a conference when, besides presenting, the team would spend a day together either at the beginning or the end of the conference.

During the ten-year period, different members of the team completed their master's and PhDs and a postdoc fellowship, sometimes drawing on the longitudinal data alongside other data they collected and sometimes

independently researching topics related to the research. You can find out about some of their work at https://mcgill.ca/doc-work/.

Lastly, while the bulk of our research has been longitudinal, we also conducted a number of smaller studies which involved one-time only data collection. These smaller studies generally emerged out of and were directly related to the findings in the longitudinal study (and were referenced in Part III). When we refer to the studies emerging out of the data, we do not mean that such studies were necessarily based on a theme we saw in the data, though this could be the case, as in the study of becoming a PI (McAlpine, Turner, Saunders, & Wilson, 2016). More often, we realized that we lacked a perspective on an important aspect of early career experience and decided to carry out a separate study. Examples include learning to be a supervisor (Amundsen & McAlpine, 2009), PhD students who had particularly difficult journeys (McAlpine, Paulson, Gonsalves, & Jazvac-Martek, 2012), or early career researcher perceptions and experience of policy (Ashwin, Deem, & McAlpine, 2015). In other words, we tried to be vigilant about what we were not learning from the data as well as what we were learning.

These studies usually involved the team members, but not always. Figure 1 provides a chronological overview of the links between some of the small studies and the larger longitudinal study as well as the integration of the data collected by the Canadian and UK teams. In this diagram you can see that we first began with social scientists focusing largely on Canadian doctoral students, then with social science PhD students, and post-PhD researchers in the UK. The science aspect of our program is of a shorter duration so has fewer independent studies. In the sciences, as with the social sciences, we began in Canada looking at a range of early career researcher roles and then started a related study of PhD students only in the UK.

## The Research Process

One of the things we could not have imagined when we began to visualize this research in the 2005 funding application was not only a deepening understanding of the research approach, but also a growing understanding of ourselves as researchers. The opportunity to engage in the same research for an extended period of time using a little reported approach pushed us to reflect carefully on what we were doing and to explain it to ourselves and others in a concrete, transparent fashion. We believe there was an

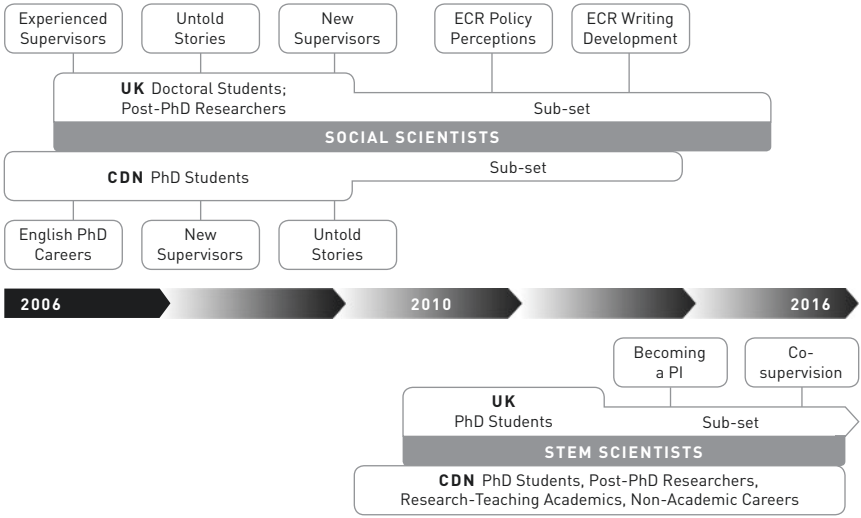


**Fig. 1** Chronological representation of linked longitudinal and one-off studies in Canada and the UK

increasing maturity in our thinking about how we conducted the research, resulting in a clearer and sharpened perspective throughout the research process. In this chapter, we focus on these three aspects: clarifying the methodology, negotiating interest in the research and later access to the research findings, and ethical practices.

## Narrative and Longitudinal Research: Clarifying the Methodology

We began this qualitative research program in 2006 as an exploration of the seemingly intractable, well-reported problem of low doctoral completion. We thought to capture day-to-day doctoral experience to see if this might provide more insight than previous research based on large survey studies or one-time interview studies had. The approach we used was weekly activity logs (see Chap. 10 for more details). In the beginning, we did not conceive of the research as longitudinal and only thought of this potential when we began to prepare to interview participants after they had completed a number of weekly logs. So, while there was little in the

literature to guide us as to how to undertake longitudinal research, we decided to see if participants were willing to continue and asked them this at the end of what became the first interview. A number commented on their participation in the research as being personally supportive and most were willing to continue into the second year. Further, as we read through the data, we became sensitized to the incredible variation in individual experience despite, for instance, some individuals even being in the same program. While much qualitative analysis synthesizes multiple individual experiences, we wondered if we should maintain a focus on the individual. We decided 'yes' but without having thoroughly grappled with the challenges of doing so. At the same time, we still wanted to look across individuals for shared themes.

Naturally, the decision to continue data collection meant we found ourselves tracking people over extended periods of time, which required a major rethinking of how to negotiate our relationship with them. The additional data also required rethinking how to merge and analyze multiple data sources, not to mention how to manage an ever-growing and large dataset. While there was minimal attention in the literature on how to conduct longitudinal research, we drew on the few studies we found to guide us. Probably the most useful, though the research did not focus on higher education, were the reports by Thomson and Holland (2003) and Thomson (2007).[1]

Over time, we developed a robust process that involved repetitions of data collection and analysis. See Fig. 2 which provides an overview of the annual data collection cycle we decided on (more details in Chap. 10), the ways in which we summarized independently the experiences of each participant, and how in analyzing and reporting we kept accounts of individuals separate while also noting similarities and differences between individuals (more details in Chap. 11). Our goal was to preserve a focus on the individual over time, but also look for common patterns or themes across individuals.

We thought of the methodology broadly as emergent and thematic, finding patterns through successive readings of the multiple texts provided by research participants. We clearly saw in the stories that participants were recounting how they were protagonists trying to take action in relation to emerging events. Partly influenced by earlier work that Lynn had done using narrative as a methodological approach (McAlpine, 2016[2]), we began to explore the potential of narrative as a useful methodology. We found it provided a clear mechanism for analysis, and met our desire to provide action-based results.

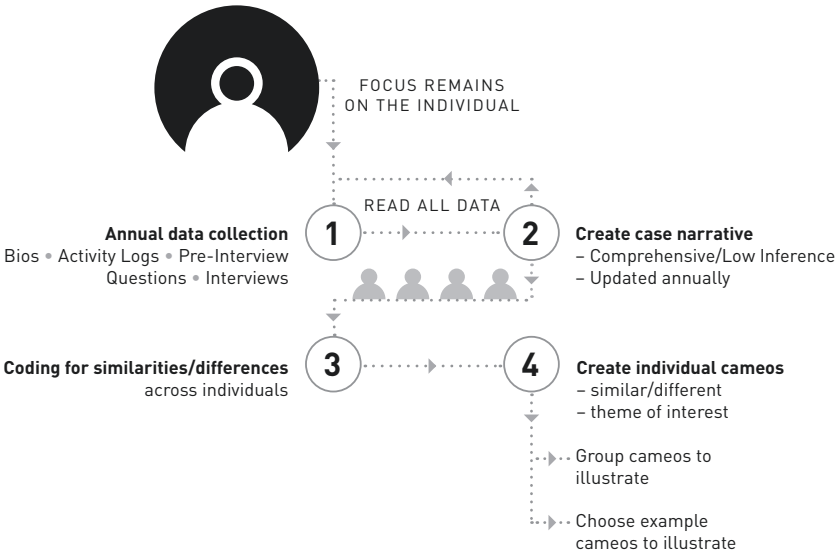


**Fig. 2** Data collection and analysis that maintained a focus on the individual

We are not alone, of course, in coming to see the value of narrative as an interpretive approach. It has, in fact, been used in, for instance, sociology, organizational studies, gender studies, and educational research. Narratives involve recounting—accounting for—how individuals make sense of events and actions in their lives with themselves as the agents of their lives. In other words, narratives provide accounts of how the narrator, the protagonist, engages with and responds to experiences in ways that demonstrate efforts to achieve intentions despite difficulties. Narratives make connections between events, represent the passage of time, and show the intentions of individuals (Coulter & Smith, 2009). Telling stories about our lives is a common feature of daily interaction, and whom we tell them to, as well as when and where influences what is told. So a story told to, for instance, an interviewer, is thus historically, socially, and physically located in a particular space-moment potentially linking the past, present, and future—and a different account would emerge if the 'story' were told later in the week to a close friend.

With this as background, we now turn to the different ways in which social scientists conceive of the narrative as a methodological approach.

This is because those who use narrative do not necessarily have the same practices we do in terms of how data are conceived, collected, analyzed, and reported. It is generally agreed there are three stances in how a narrative methodology is understood and used (Elliott, 2005; Pinnegar & Daynes, 2007). The first reflects a sociocultural perspective and focuses on how broad cultural narratives influence individual experience, for example, Ylijoki (2001). Another starts with a naturalist perspective and seeks rich descriptions of the influence of significant personal issues on life decisions and actions, for instance, Cumming (2009). The third takes a literary perspective and focuses the analytic lens on the discourse that individuals use to describe their experiences; this stance, seen in Hopwood and Paulson (2012), is often blended with one of the other two. The naturalist stance best represents the one underlying our research.

Of course, just as with any research design, a narrative lens can serve as the primary methodology underpinning the design. It can also serve as one approach combined with others, as in mixed method designs.[3] In our case, the narrative served as our primary lens and was integrated throughout the design. In Chap. 10, we describe the methods of data collection we used and why we used them. Chapter 11 takes up our processes of data analysis and reporting. In short, participant narratives compose our dataset. We engage in narrative analysis using a naturalist approach followed by thematic analysis across cases. We then use both narrative cameos and cross-case themes in our reporting.

### *Conceptually Situating Narrative with Identity Development*

As we continued to engage with a narrative methodology, we were led to think more deeply about how our epistemological stance and our interest in identity and development aligned with our approach to the narrative.

We describe our stance as that of critical realism (Archer, 2003), the essence of which is that individuals are agents as they live in, respond to and create cultural, social, and physical spaces, and engage in social interactions and activities. And, their decisions and actions are situated within their own physical beings incorporating, for instance, gender, age, illness, disability—what Billett (2009) refers to as the 'brute.' In other words, a collection of interacting elements offer affordances and constraints for individual thought and action as well as developing a sense of identity.

We believe a naturalist narrative methodological stance aligns well with this epistemology since we were interested in documenting and understanding

the distinctiveness of each individual's trajectory. In other words, each participant narrative represents an oral or textual snapshot on the identity under construction. When individuals tell a story about their lives, whether to themselves or others, that story has the power to influence what they see themselves becoming and how others see them. Each narrative provides the teller with a robust way of locating himself or herself, the agent, in the story along with feelings, motivation, and values. Further, the telling of the story offers the potential to reflect on past experiences for learning. In other words, in our work, we make little distinction between thinking, learning, and the formation of identity (Billett & Somerville, 2004).

Thus, we see ourselves tracking individuals' identity development, an identity that incorporates the permanence of an individual's perception of a unique identity combined with a sense of personal change through time (Riessman, 2008). The accounts or narratives that individuals provide to us at different points in time serve as representations of that developing identity. In examining the multiple accounts, we are seeking to understand how individuals experience life and through their actions, conceive their degrees of freedom, and exercise agency in ways that include efforts to avoid, challenge, or resist perceived practices and policies.

In summary, using narrative to understand identity construction focuses attention on the individual rather than the group. Further, narrative addresses what is often overlooked in other methodological approaches to early career researcher experience—the individual's sense of agency and intention. Linking identity construction to longitudinal narrative research provides a robust basis for using participant data to understand identity as constructed through time.

Making the methodological decisions we did reminded us of the challenges to be mindful of in taking a naturalist narrative stance with a focus on individual identity development. Our focus is on the close-to-home experience rather than the abstract and relatively decontextualized larger economic and public structures (Billett & Somerville, 2004). Thus, given that each narrative is told in a particular time and space, much is left out (and we cannot know what that is), but this makes it difficult to move from the micro level to the structural level (Walker, 2001). Further, Taylor (2008) cautions that those providing narratives seek sense-making about their lives rather than a sense of indeterminacy or complexity. In other words, a narrative approach enables us to understand through individuals' stories their experiences of the physical realities, such as illness, age, as well as social realities, for example, who the participants work with, who they live with. However,

these same stories may not provide insight into the broader social structures or realities in which individuals are embedded, for instance, the job market or the actual possibility of being awarded a grant. We recognize this as a serious concern, and in Chap. 4 described an approach to future data collection and analysis that begins to address this issue. In our research since we came to this broader view in the past few years, the best we have been able to do is draw on national quantitative figures about academic and non-academic positions as well as public records that identify the larger structural context that forms the reality that our participants faced.

## Negotiating Interest in and Access to the Research

We shift now to engaging others in the research, addressing in particular the process of recruiting participants and the feeding back of results to different stakeholders.

### *Recruiting*

In recruiting research participants, our overall message regardless of who we were communicating with (we sometimes had to approach intermediaries) was to highlight the potential value of the research findings for future doctoral students and other early career researchers. With possible participants, we also noted the potential personal value of participating. As the research progressed and participants confirmed this personal value, we spoke of this effect with more authority. We also used different strategies to invite participation in relation to the institutional role we were seeking to recruit and the policies concerning research ethics in each institution. Consequently, when recruiting newly hired research-teaching academics, we tended to approach deans of faculties and ask if they would be prepared to distribute an email that we had written inviting participation and promising confidentiality. With doctoral students, we approached chairs or heads of departments making a similar request. If there was a strong student organization, we asked officers to distribute information through their mail list. Lastly, with post-PhD researchers, we approached the institutional postdoc organization first since departments did not always have complete lists of those in this role.[4]

We have often been asked how we were able to recruit so many participants. We can only speculate, but we are quite sure that the topic itself was attractive, that is, struck a personal chord with many. It was also likely

attractive to a particular subset, those who were interested in their own development and learning. At the same time, we had one instance in which we were not at all successful in recruitment using the strategies described above. We had intended in the first grant to collect data from PhD social scientists and humanists (English and History) and we were singularly unsuccessful in recruiting humanists—though we were able to recruit a small number of research-teaching humanists, who helped us find some PhD students for a one-off study.

As reported earlier, we had not intended a longitudinal study. But as year one ended, we became intrigued by the potential to follow people over time. This, of course, depended on whether participants were willing to continue to participate. So, at the end of the interview related to the completed weekly activity logs, we included a question regarding interest in continuing, and the study grew from there.

### *Reporting Back*

We had originally intended to report the pedagogical findings back to faculties and departments and this was, in some respects, not straightforward. First of all, the longitudinal approach meant it was some time before we began to have useful results (and to publish). As a result, the institutional leaders who had originally been approached about the research were not necessarily still in the same leadership roles. We found it easiest to report back to units responsible for doctoral education in each institution, and provided briefings or short reports to Deans of Graduate Education, for example. We were also able in two instances to be involved in the creation of institutional supervision websites, each of which provided a venue for sharing our research findings (as well as other resources) in ways that could be useful to doctoral students and those who worked with them. As the first grant ended and the work became more widely known, we focused more on reporting to external groups. So, we accepted any university invitations we received to give workshops, both related to policy and practice. We also negotiated a contract which resulted in a book that highlighted the pedagogical implications of our research for those supporting doctoral students (McAlpine & Amundsen, 2011). Finally, we approached interinstitutional organizations which had an interest in doctoral education and in one case were able to post the policy and pedagogical implications of our research on the organization's website.

These dissemination efforts continued as the second grant got under way. We continued to accept invitations to hold workshops and were invited to submit a proposal for a book specifically written for early career researchers, so they could learn from the experiences of our research participants (McAlpine & Amundsen, 2016). We negotiated a companion book for those interested in understanding how we carried out the research (this book). We have also more recently begun to create noninstitutional online resources (still under construction), which will provide information to those considering a range of roles whether in or out of the academy.

## Working with Participants: Negotiating an Ethic of Care

As researchers, we are the ones who seek out relationships with participants since we wish to learn from their experiences. We are therefore given a certain power and expertise by participants, in that 'we listen people into speech' (Josselson, 2007, p. 547) or into writing. In other words we, as researchers, are highly engaged partners in the narratives-under-construction that we collect (Sfard & Prusak, 2005). Nevertheless, we cannot know the unstated expectations of the interviewee nor how the relationship will develop.

We have come to realize that performing longitudinal narrative research heightens awareness of ethical decision-making and practices in relation to those who provide us with insight into their experiences. Over time, we develop a privileged intimate knowledge of an individual—as one participant said 'you know my life.'

Taking a narrative stance as we view it means endeavoring to document and understand an individual's experiences from his or her own perspective. Further, we recognize that the nature of the relationships we have with participants influences the stories they tell (Juzwik, 2006). More importantly, as Josselson (2007) has noted, narrative research is 'fraught with [the] dilemmas of choice that attend all ethics in all relationships' (p. 537); so we face dilemmas which have no 'right' answer. The following scenarios provide just a sampling of the kinds of ethical issues that emerged during our research.

1. A participant in his logs reported serious challenges over several logs, particularly institutional pressure to finish, alongside family and financial concerns; he expressed feelings of depression.

2. A participant endeavored to engage us in a closer relationship than that of research participant.
3. We wanted to create a caring long-term relationship with each participant.
4. We wanted to ensure personal data did not reveal participant identities in publications.
5. A participant contacted us sometime after he had finished participating saying he was concerned that his identity might be revealed and wanted the data destroyed.
6. We wanted to create a more reciprocal relationship between us and the participants.

In the rest of this part, we describe the approach we took to working with participants and in the process describe how we addressed these ethical scenarios.

Globally, formal ethical procedures have increasingly come under institutional oversight and control, so we do not explore this aspect of ethical practice, rather just note that in the different studies we consistently sought and received institutional approval, gathered and safely stored written consent, and established secure data storage.[5] Instead, we focus here on what we found to be particularly profound in our learning from doing longitudinal narrative research, the nature of the relationships in which we engaged over many years. We have come to conceptualize the stance we endeavored to have with participants as an ethic of care.

Gilligan's seminal work (1982) brought to the fore a set of principles distinct from the predominant Western logic of justice for decision-making and action. Based on her research comparing the responses of boys and girls to a moral dilemma, she proposed what she called an ethic of care as a viable principle for decision-making and action. Such an ethic is based on connectivity or relationships through time as the principle underlying action.[6] Like Gilligan, Tronto (1995) has argued the need to move from an Aristotelian and Kantian view of rational ethical decision-making to seeing people as enmeshed in relationships of care. While describing the need for care as universal, Gilligan noted that this need and any response to it must be understood and practiced in culturally specific ways.

While earlier conceptualizations of care and caring focused on the individual, Tronto (1995) has also argued for care to be understood not solely as a private or parochial principle and undertaking, but rather as something that can be taken up by groups and organizations. However, if caring

involves more than one person (as in our team-based approach), caring may be more challenging; still, it can perhaps facilitate a greater range of possible responses (Tronto, 1995). We found this to be the case. Lastly, the standard of care and equity of care rest on judgments that assess needs in personal, social, and political contexts (Kardon, 2005). He argues the quality of these judgments be assessed by considering whether they are similar to the diligence and the best judgment as practiced by reputable professionals in similar situations. Working in a team helped us to work toward such reasoned judgments as we sought to honor and protect the participants while maintaining standards of responsible scholarship.

By seeking to practice an ethic of care, our intent was not to emotionally empathize since this could make us unaware of other perspectives and privilege relationships with some participants over others. Rather, we sought cognitive empathy, identifying and understanding others' emotions and perspectives and, in this way, ensuring that we were mindful of their well-being, while maintaining a scholarly stance. What did this mean in practice? Scenarios 1 and 2 provide examples of how we endeavored to use cognitive empathy to support well-being.

Scenario 1: We had agreed as a team procedure that whenever a weekly log was received, it was immediately read and some email response, as simple as thanks, was made. The reason for this is that it would be easy to just store the log and only look at it before the interview. But the log, completed away from the interviewer, is different from the interview where the researcher is as much a participant as the interviewee so is fully aware of the participant's concerns. Further, since individuals were sometimes revealing challenging issues in the logs, the team agreed that if any one of them noted ongoing reports of challenges that seemed to be leading to a strong negative emotional response, the issue was to be raised in the team. In this instance, one of the teams reported that the participant who was trying to complete his PhD at a distance, and had family and funding issues, had found himself caught up in institutional regulations regarding completion. He reported this constellation of factors as extremely troubling. So, we discussed as a team what we might do. We could not intercede in his relationship with the university in any way. Instead, we agreed to generate a list of all the institutional resources in the participant's university that he could draw on and included these in a carefully drafted email. Our hope was that our effort to demonstrate care and the concrete nature of the resources on offer would help him to develop more resilience as well as the 'head-space' to finish. He responded very positively to the email, sought some help, and completed his degree.

Scenario 2: While we wanted to maintain a caring relationship, we were clear that this needed to be within the boundaries of the research project. In one instance, a participant, a post-PhD researcher, was having difficulties finding a position. He was no longer providing data in a consistent fashion, but started emailing about the difficulties of his situation, asking for our opinions. As Josselson (2007) has noted, participants may seek a continuation of the relationship beyond the requirements of the research due to the attention given to the participant by the researcher. What we did was to politely but clearly restate the role we played as researchers. Note the difference between this and the previous scenario, where the student did not seek help but we developed concern based on the data.

Scenario 3: This presents another aspect of ethical and caring research practices. It is linked to the ways in which we tried to ensure an ongoing caring relationship, within the parameters of the research program, between each participant and members of the research team. To begin with, we undertook to match the role research participants had to play with a team member in a similar role. As best as we could, we matched doctoral student participant with doctoral student team member, post-PhD researcher participant with post-PhD research team member, and so on. Further, the hope was that the same relationship would be maintained throughout the research. Of course, team members completed their degrees and left. In such cases, we would plan ahead, considering who might take over the responsibility for the participant relationship. This team member, after consulting with the team member who was leaving, read through all the previous data from the participant and also listened to the audio recordings of the interviews to get a sense of the ways in which the participant communicated. Then, through email, the present team member contact introduced the new contact to the participant, and when possible there was an email exchange among the three.

Scenario 4: This relates to a further aspect of ethical and caring practices, namely, confidentiality and anonymity. Early on, we began developing protocols to preserve these. Anonymity involves removing or obscuring the names of participants and research sites in order to avoid revealing information that might lead to participants being identified. However, anonymity does not ensure confidentiality, the management of private information, that if revealed could create prejudice against participants (Tilley & Woodthorpe, 2011). The reason anonymizing does not of itself ensure confidentiality is that, for instance, an anonymized account might be recognizable to someone who knows the participant and knows of his

or her involvement in the research. A longitudinal research design makes this even more possible.

While we had attended to these features of ethical and caring research from the beginning, the issues became more complex as we followed individuals for an extended period of time, and we saw the greater potential for harm. At the beginning, all participants chose pseudonyms and the file names given to the data they provided always used these pseudonyms. (We kept a separate file of matching names and pseudonyms.) We also only used pseudonyms in any group discussion of the data. As well, participants were offered the opportunity to review and delete anything of concern in their interviews (there was little use of this opportunity). Data were secured behind an institutional firewall which was also password protected.

However, as a team, we decided not to delete information such as location from the stored data since individuals moved and we needed to keep track of where they were and what their specialism was. However, as transcripts were read for the first time, personal information was highlighted in yellow as a reminder to us of the need to remove or change this information in any public reporting. This is the crux of Scenario 3: ensuring we maintain our scholarly integrity as regards making sense of the data while at the same time ensuring we do not reveal individuals' identities. We developed quite specific protocols around this in our reporting, for instance, not referring to son or daughter but to child or children, not wife or husband but partner, and region or size of cities rather than names of cities.

When we decided at the end of year one to continue the research, we reviewed the consent form to ensure we would still be compliant and sought verbal consent from participants to continue. At this point, individuals had a real understanding of what the research actually involved and were in a better position to decide to continue or opt out. Interestingly, the most loss in terms of participation occurred during the first 15 months. Those who continued that long tended to remain until the study ended.

Of course, consent is always provisional, and even now, individuals could come to us and decide to no longer participate, just as we experienced in Scenario 5. The participant, who had experienced some difficulties institutionally during his participation, was no longer providing data. However, he contacted us concerned that it might conceivably be possible for someone to recognize him so asked us to destroy his data. We did so immediately, but also pointed out to him that while his data would not be drawn on in the future, we could not remove anonymized reference to him from the material that had already been published. Josselson (2007)

has noted that concern about identification can be particularly acute in small communities and, in some respects, academic specialisms are often quite small. We need to be prepared to rescind any material that participants may request even now that the research program has ended.

Scenario 6 is related to our desire to create some reciprocity in the relationship, to give back something of value to the participants since they were so generous of their time and personal experience. There was little discussion of this in the literature, so we brainstormed as a team and generated two strategies to create more reciprocity. The first was to send occasional emails (two to three times a year) in which we summarized the practical relevance of a research article (authored by other researchers) that was related to the participant's role, and also provided a link to the article in case the individual wished to read it. A post-PhD researcher would receive a summary of a different article from that of a doctoral student. We also annually sent a report about our research in which we described how we had been able to use the information they gave us, for instance, in workshops or on supervision websites, and a few links to publications emerging from the research. We do not expect that everyone read these (though we had unsolicited reports that some did), but we felt that we created some reciprocity in the relationship and were also transparent about the uses to which we put their information.

## Challenges of Using a Narrative Longitudinal Team Approach

We are mindful that since we used an inductive approach, the methodology that we used and the data that emerged strongly influenced the way we conceive of identity development. For instance, our choice of a naturalist narrative approach meant we were primed to understand individual experience. This approach also meant that the data collection process we designed was perceived as personally meaningful and useful by research participants. The longitudinal aspect gave us the freedom to collect specific information at different points to flesh out our interpretations and made it easy to take a learning and change perspective.

Further, working in teams meant that we could track a relatively large number of people as well as match by role the participant and the researcher. Further, the geographical distribution of the team meant we could start collecting data in different places and establish face-to-face relationships with participants before they moved on to other roles, for example, doctoral

student relocating to take a post-PhD researcher position. At the same time, having a relatively large number of researchers in the teams meant we had to work harder to develop and maintain a sense of shared commitment and common procedures, given the geographical distribution.

Choosing to do longitudinal research also brought with it the sense that we were making it up as we went. For instance, it was unclear how many participants would remain in the long term, how data collection would go and what might change over time. For instance, we had to find ways to collect data consistently and virtually as individuals became distributed around the globe.

Such an approach demands of the researcher a constant vigilance as to the emerging data, the standing of the participants, the management of ever larger data sets organized in such a way as to ensure data security, participant confidentiality, and ease of access. A positive effect of this uncertainty was that it opened us up to being exploratory and creative, an effect we explore in greater detail in the next two chapters.

Given our desire to report back to different stakeholders in meaningful ways, we viewed the research in some respects as developmental and action-oriented. So, we were pleased to find the kinds of reports we could generate from our design were identified as particularly meaningful by not just the research participants, but also other early career researchers and readers of our papers and reports. More specifically, we have been able to use the narratives of people's identity-trajectories and what we learned about their lives in workshops for a range of stakeholders, as well as in online resources. We invested heavily in sustaining an ethic of care in the design of our research, for instance, by ensuring benefits for the participants and other stakeholders. We hope we have succeeded to some extent, but recognize there are always issues of power and representation of others that remain in any social science research.

## Notes

1. We recently came across another useful resource: Kraus (2000).
2. This article provides an extended explanation of how our view of narrative is related to that of other narrative researchers.
3. In mixed methods, qualitative and quantitative methods can be used within and across stages of research or they can be kept discrete (Johnson & Onwuegbuzie, 2004).
4. While we now recognize the need to recruit those outside the academy, in this research, we always recruited individuals from inside the academy.

5. We have also chosen in this chapter not to address the ethical issues related to co-presenting and co-publishing within a team, though these are certainly of concern in any scholarly team.
6. Since then, caring has been explored in particular contexts, for example, Noddings (1992), Palmer (1998), and Huber (2010)—as a pedagogical undertaking, a style or strategy of instruction; Kardon (2005)—as a professional responsibility in engineering.

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# Chapter 10: Ways of Capturing and Representing Experience

## Introduction

In the previous chapter, we noted that our ideas about the research process developed and were refined over time. In this chapter, we make clearer the decision-making processes we engaged in, particularly our efforts to find other ways, in addition to interviews, for participants to provide narratives about their lives. We also provide examples with the hope that our descriptions and examples are concrete enough that you could, if you wished, try out some of the ideas in your future research. (Please see McAlpine, 2016a and McAlpine, Amundsen, & Turner, 2013 for other descriptions.)

As qualitative researchers, we had tended to use semi-structured interviews in our research while mindful that interviews draw forth accounts of what has overall salience drawing on memory at the time of the interview. Thus, participants might not report critical events and shifts in experience that while pivotal at the time are not recalled or may not seem pertinent in looking back. So while retrospective interview accounts remained important, we also wanted to capture more day-to-day experiences. We chose to do so through weekly activity logs. Logs, as we used them, are reports of happenings in the previous week influencing engagement in work, as well as successes and challenges influencing long-term progress that are not necessarily even processed in terms of meaning at the time. These day-to-day accounts from the logs also provided material to follow up as part of later interviews.



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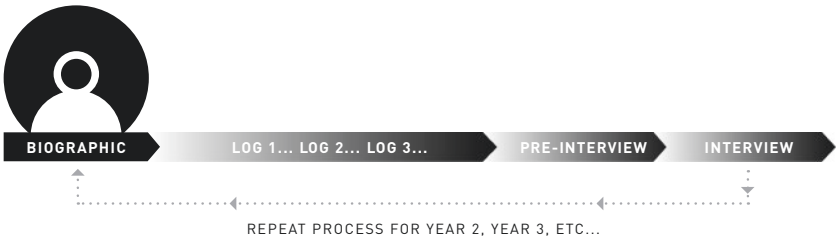


**Fig. 1** Annual data collection cycle: Individual followed for five to eight years

Further, once we had decided to do longitudinal research, we established an annual cycle of data collection (see Fig. 1) in which we consistently collected different types of information each year: a biographic questionnaire (electronic), activity logs (electronic), a pre-interview questionnaire (also electronic), and an interview (face-to-face or Skype). This meant that we were asking participants to provide us information every four to six weeks, a demand on their time but also on our time and organizational skills.

We became aware very quickly of the need for good and clear organization and storage of the data we were accumulating and access protocols for all the members of our team. We also established protocols for handling the log data (when to send out, responding upon receipt, etc.) as well as detailed interview protocols given the many team members in different locations collecting data and conducting interviews. As a result, we developed a 'handbook' representing our collective decisions and revised it as the research proceeded. See the following for a table of contents.

**Contents**

Tools, Techniques, and Procedures for Data Collection
Additional Log Cycles
Where Are Logs Stored?
Checking Logs Once They Are Sent In
Log Formatting and File Naming Convention
Biographical or Background Questionnaires
Pre-interview Questionnaire and Interview Protocol
Interview Conducting Procedures
What about MAXQda?
Modifications to Tools or Method(s): History
Data Collection Flowchart
Case Summaries
Appendices

1. Feedback on logs and subsequent changes
2. Documenting information related to MAXQda
3. Have we done any literature reviews or write-ups?
4. Dissemination
5. General feedback

In relation to both our own organization and the best use of participants' time, we began to use new technologies more intentionally. For instance, to help participants, we created 'fillable' electronic biographic forms, activity logs, and pre-interview questionnaires in order to make their completion relatively straightforward.

We began using Sharepoint hosted on the servers of our institutions for data storage with access for all team members; this involved getting permissions for team members outside the institution on an annual basis. This also ensured that data were securely protected. We created an agreed-upon structure within Sharepoint (see Fig. 2 for the structure of the project on Sharepoint). This was a set of folders in which we stored:

1. Consent forms
2. The table connecting names and pseudonyms
3. All instruments in folders by year since the instruments changed each year, and the logs changed each time within each year

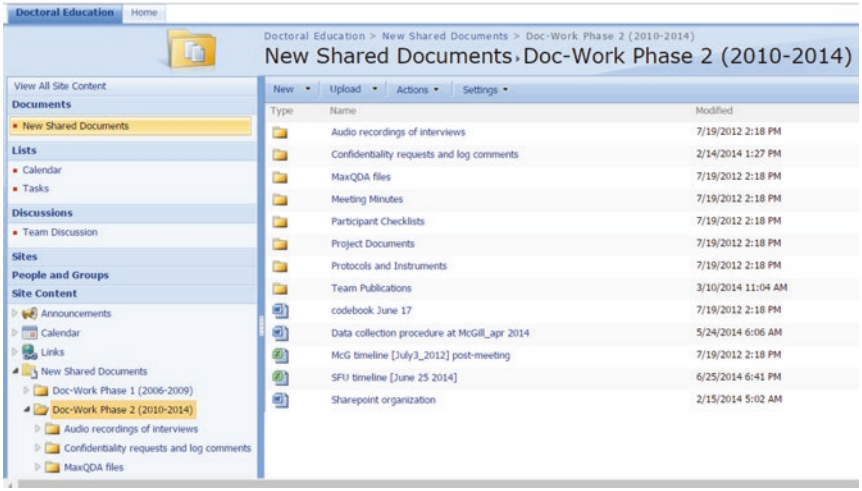


**Fig. 2** Structure of the project on Sharepoint

4. Participant tracking sheet: overview of contacts, data requests sent and received, and so on.
5. All data appropriately filed, named, and stored by year
6. Minutes of meetings with action items, reviewed at the next meeting
7. The master MaxQDA file; we chose MaxQDA qualitative analysis software after a thorough review of the literature on such programs and we trained as a group in its use; here data were stored by participant case
8. The procedures protocols for all data collection and storage
9. Later on, coding handbooks

As noted earlier, we read all incoming data within a short time of receiving it. This enabled team members to bring issues or themes they saw in the data to regular team meetings for discussion. Sometimes this resulted in adding or editing particular items on a data collection instrument or figuring out another way to collect data about something we seemed to be missing or needed to probe in a different way. For example, our growing awareness of the value of the activity logs in providing different perspectives on experience led us to add to the interview a visual method. We observed that eliciting information while interacting with visual materials took the focus away from the interviewer and we think it may have allowed the participants more leeway and freedom in recounting his or her experiences (Bagnoli, 2009).

With this as the broader context in which data collection took place, we focus now on the development of each of the data collection instruments we created, describing how and why we used them. See Table 1 for overview of the instruments, their purposes, and the modifications we made over time.

### *Biographic Questionnaire*

This, originally the background questionnaire, was completed as the first step in the annual cycle of data collection. It provided basic information about the individual's age, specialism, training, and annually updated information about location or institution, publications and presentations (if appropriate), intended future career, and so on. It was invaluable in letting us keep track of changes in individual's lives.

**Table 1** Data collection instruments and related email communication in a chronological order in an annual cycle

| *Instrument* | *Purpose* | *Modifications over time* |
|---|---|---|
| Recruitment emails | Demonstrate the personal and future value of involvement | Adjustments were made in relation to who was being approached (role and discipline) |
| Annual biographical questionnaire *and* emails (originally background questionnaire) | Succinct overview of present status; ensured up-to-date information about participant | Little change |
| Weekly activity logs (aimed for four to six over the year) *and* log request and thanks emails (six each in total) | Document day-to-day experiences of participant | Formatted for easier use[a]; different versions for different roles; changed the last item regularly based on participant suggestions and emerging themes |
| 'In-between' emails (a number each year) | Offer summaries of (a) relevant published materials authored by other researchers and (b) the progress of the research | Sent different information to those in different roles: PhD student, post-PhD researcher, and so on |
| Annual pre-interview questionnaire *and* request and thanks emails | Report major experiences, changes in the year; respond to the theme of interest (different perspective on experience from logs) | Structure remained the same with only the year's theme changing |
| Annual interview *and* request and thanks emails | Explore in depth (a) present experiences based on data provided during year, (b) experiences from previous interview that might be still pertinent, (c) emerging theme, (d) and looking forward | Structure generally consistent across years; one element each year addressed emerging themes so was different; it was in this element of the interview that we used visual methods in two different years, each involving cards to prompt response |
| 'Thank you for participating' email (three versions) | To thank (a) when an individual withdrew or there had been no response despite several contacts; (b) at the end of the funded research; (c) a year after the end of the research; in this case, we included a request to verify and update a composite summary of experience based on all the data they had provided | Little change |

[a]Formatted as a Word table: all question fields were italicized; 'fillable' spaces for responses were provided

### *Weekly Activity Logs*

As noted earlier, we wanted to collect information about doctoral day-to-day experiences to see whether this information might provide insight into issues related to completion. We could not find much in the way of information about how others had done this in doctoral education. However, we found a library study (Agosto & Hughes-Hassell, 2005) that used logs to capture day-to-day experiences of information seeking in young adults. Another study (Cowman, Farrelly, & Gilheany, 2001) used logs with nurses. We also knew of a one-time quantitative study in Australia that had been undertaken to document a particular week in the life of doctoral students (later reported in Pearson, Cumming, Evans, Macauley, & Ryland, 2011). We first created what we came to call a weekly activity log, designed for doctoral students since these were the first individuals we recruited. Participants first named the dates of the week in which they based their responses, present or previous week. The logs queried how much time they spent on work during that week, what activities they engaged in, who they interacted with, significant individuals and experiences and why these were significant, difficulties and how they might be overcome, and so on.

The logs were semi-structured. In the protocol, we often asked them to comment on their responses or asked 'why' to capture the meaning of the experience. We used a range of language structures to scaffold the narratives they created about their experiences:

(a) Statements for completion, for example: 'The most significant individual this week was…' and then 'Why?'
(b) Open-ended questions, for instance: 'What difficulties, if any, did you experience?' and 'How did you respond?'
(c) Short answer, such as: 'How many hours did you work this week?'
(d) Multiple choice with (1) the option to add more information and (2) the possibility of adding to the list of items, for example: 'What activities did you engage in this week?'

We piloted the first logs using email with the log attached and generally settled into a routine of sending a request every four to six weeks. We were not sure how the logs would be received and initially asked two final questions about how long it had taken to complete the log and whether there were experiences or issues that they thought we should ask about.

Individuals reported they had not taken much time to complete, and they continued to complete them. We wanted to respond to their suggestions for additional questions without lengthening the log, so added their proposed questions on a rotating basis. Overall, we felt some confidence that we might be able to collect enough logs to be able to understand more of their day-to-day experiences.

Table 2 provides a sample completed doctoral log (responses edited to reduce the length) and shows the kinds of narrative that such an instrument offers. Note as well that the last question addresses work-life balance. We inserted that question a number of times over the years, given the emerging evidence that this was an ongoing and serious issue for participants.

When we broadened the study to include post-PhD researchers, we retained the same log structure, but modified it in light of what we knew of post-PhD work. We continued to use this same process for creating the remaining new log types for research-teaching academics and professionals. While there was consistency in the type of information requested across roles, the choices and wording on each instrument varied somewhat to be relevant to the particular role. What we also did about this time was find a way to format the logs so that (a) they retained their structure regardless of the program in which participants opened them, and (b) places to write were 'fillable' and appeared in gray, so were easily visible. (This also facilitated some forms of analysis.) We have continued the practice of modifying the last item in the log but rather than doing this solely on the basis of participant suggestion, we have done it as well in relation to emerging themes that we wanted to know more about in a consistent fashion.

### *Pre-interview Questionnaire*

In contrast to the logs, the pre-interview questionnaire was designed to capture broader perspectives, anything salient to participants about the past year as a whole, since the logs provided only accounts about particular weeks. This questionnaire is relatively short and is sent to participants once an interview has been scheduled. They are asked to describe what they see as significant events or achievements in the past year and to update us on any other changes that have occurred since the last interview. They return the questionnaire to the interviewer a few days before the interview. The interviewer is thus familiar with the responses and so can plan to further probe anything of interest. One item on the questionnaire changed each year related to whatever theme had emerged in the overall data that we wanted to explore in greater detail in the interview.

**Table 2** Sample completed log

*Responses to questions are presented in italics with some edits to preserve anonymity and reduce the length.*

1. This week, I spent approximately *_40_hours* on academic work that ultimately contributes to my doctorate.
2. Please note the different activities that contributed to this investment of time. (Mark an X to the left of all that apply, and provide details)
   (a) X reading ____*I spent a lot of time reading web pages about LaTeX, an open-source document-preparation system, while learning to use it to write my first thesis chapter/publication*
   (b) Literature review ____
   (c) Obtaining ethics approval ____
   (d) Preparing for comprehensive exam ____
   (e) Preparing for a research proposal ____
   (f) Fieldwork preparation ____
   (g) X data collection ____*I spent most of my time this week processing samples in a gas chromatograph to collect data from them. I processed about 80 samples this week.*
   (h) X data analysis ____*While waiting for the gas chromatograph to process each sample, I also spent time organizing data files, and writing analysis scripts to process the data once it is available.*
   (i) Writing up thesis ____
   (j) X writing for publication/ conference/reports ____*I wrote the bulk of the methods part for a publication, which will also be a chapter in my thesis.*
   (k) Presented research at conference/ workshop/ seminar (where and on what topic?) ____
   (l) Attended a conference/ seminar/ workshop (where and on what topic?) ____
   (m) X meeting/ speaking/ corresponding with supervisor(s) ____*I had a 1 hour weekly meeting with my supervisor to discuss progress and deadlines. He had asked for a methods part by this week, most of which I achieved. My priority is still to finish data collection, so I can get results and begin formulating the rest of the paper.*
   (n) Meeting/ speaking/ corresponding with other academics ____
   (o) X other (please specify e.g., funding applications): ____ *I spent about an hour looking into a conference I'd like to attend … and investigating costs, preparing a budget, and funding options. I have a couple of travel grant applications to fill out over the next couple of weeks, but I don't need to do that right now.*
3. This week I also ___
   (a) Worked full time in non-academic work ____
   (b) X worked part time in non-academic work ____*4 hours: Organizing committee work & meeting for a Science-Policy Conference to be held [here].*
   (c) X worked part time on research not related to my doctorate (if so, who or what was this for*?)* ____*I spent a couple of hours organizing an EndNote database for a contract job. It is the last task for which I am responsible for the project, so I'm trying to get it "off my plate", although the topic is directly relevant to my research, even if the task itself does not contribute directly to my thesis.*

(*continued*)

(d) Worked as a teacher, tutor, or instructor (if so, please specify what and where)
(e) Attended an academic committee meeting (if so, what committee was this?)
(f) X attended workshops, classes, seminars, or lectures (if so, where and what topic?) ___*2: statistics workshop*
(g) Acted as a caregiver (for children, spouse, other relatives, and so on) ____
(h) Other (please list any you think are important, e.g., sport/leisure activities, voluntary work, socializing, travel, and so on) ____

4. Please add any comments/elaborations relating to how you spent your time this week.
*Although I spend most of my time at a gas chromatograph [GC] putting in samples, the nice thing is that I have 7 minutes to wait in between each sample. I typically set up my laptop beside the GC to do other work while waiting for the GC. It means the samples take a little longer than they need to (I occasionally get distracted and wait longer than necessary between samples), but also means the work is less boring and I get a lot more done. Or at least, I feel like I do.*
5. This week I engaged with the following people to help me with my doctoral work.
(a) X student in my research group/team ____*I emailed technical questions about LaTeX to some colleagues in my lab who have also used it.*
(b) Another student(s) (if so, where were they from?) ____
(c) X my supervisor ____*We had a meeting this week to discuss progress and deadlines*
(d) Program director ____
(e) Other professors (if so, where were they from?) ____
(f) Library staff ____
(g) X other university staff (e.g., secretaries, careers, computing services) (please specify) *I asked some computer staff about backup options, and also coordinated with technical support staff for installation of software on lab computers, for microscope cameras.*
(h) Family ____
(i) Friends ____
(j) Other (please specify) ____
6. This week with regard to my supervisor(s), I feel that I ____. (please mark an X to the left of the ONE response that best fits your experience this week)
(a) X didn't need any help____ *I already knew what I had to do, and just needed uninterrupted time to do it. Although we did have a meeting, we talked in the lab next to the gas chromatograph, so I could continue to process samples during the same time without having to significantly interrupt my research activities.*
(b) needed help____
(c) didn't want any help ____
(d) wanted help____

If you wanted or needed help from your supervisor, please answer the next question; if not, please go to question 8.

7. If you wanted or needed help, what was your concern? ____
(a) Why did you feel your supervisor was the best person to help? ____
(b) Did you get the help you needed? _____
(c) If 'no' please explain why you think this was the case. ____
(d) Did you get the help you needed from someone other than your supervisor? Who was that person(s)? _____

(*continued*)

(continued)

8. This week the most significant individual(s) to my academic progress (whether positively or negatively) was ____
   *(a) The internet: I did a lot of research on LaTeX online. My lab work was largely independent.*
   *(b) They were significant because _____Online content published by other academics provided me with specific information I wanted, and helped me solve problems and make progress on my goals!*
9. If there was a significant event or experience in which you felt like an academic or felt that you belonged to an academic community, please tell us about it. ____ *I felt like an academic the whole time I was in the lab, and especially while learning to use an arcane (but effective!) document-preparation system for technical writing (LaTeX). Beginning the writing process was also important, because it is usually the most difficult. [DELETED TEXT]*
   Why was this event or experience important? _____ *Seeing the product helps me feel a sense of accomplishment, no matter how small. I was also reminded how much I can enjoy writing, and was a little surprised by how motivated I was to continue writing late into some nights, once I got over the initial overwhelming feeling of starting. [DELETED TEXT]*
10. If there was a significant event or experience in which you did not feel like an academic or felt that you were excluded from or not part of an academic community, please tell us about it. _____ *At the start of the meeting I described in the previous question, I did feel excluded from the academic community by some of the other people at the meeting, who seemed to refer to the "resources" of the department and other institutions and the "needs" of students. I quickly pointed out that I felt this was a nonsensical division and pointed out how much graduate students can actually contribute to peer-learning. [DELETED TEXT]*
    Why did this experience make you feel this way? ____
11. What things, if any, do you feel you should have or wanted to focus on this week but couldn't?
    (a) Why was this? ___
12. Please indicate any difficulties you encountered this week. _____*The sample processing I am doing seems to take longer than I had planned. Most things do. Each sample requires a minimum of 8 minutes of the total time, yet it is difficult to stay productive, and put samples in at a fast enough rate, to get enough done in a day for me to feel productive. I like to set daily goals, but to meet them, I sometimes have to stay until very late in the lab, and this interferes with my eating and sleeping schedule, which makes me feel crummy and cranky, until the weekend, when I start to feel more satisfied with my overall progress. I also started to learn a new system for writing scientific manuscripts (LaTeX). I am familiar with the general approach, but not the specific details needed to accomplish what I want.*
    (a) What did you do to try and overcome them? ____ *I do lots of cooking on the weekend, so I have more leftovers during the week, which lets me spend more time in the lab, since I need less time at home.*
    *I overcame my learning needs by searching and reading online content.*
13. To what extent do you feel you are able to achieve work-life balance? What challenges and/or strategies contribute to this balance (or lack thereof)? *I would say relatively a low work-life balance this week, as most of my time was spent working. This is largely due to deadlines approaching, and much work left to do to achieve them. I think this is partly due to too much time spent early on in my PhD doing other things, or not having a clear direction and spending too much time making decisions, rather than making progress toward deadlines. Then again, I also spent a good month over the holidays spending more time with "life" than work, so on the whole, it is perhaps balance, though not at smaller time scales. In retrospect, I might have been able to maintain more balance throughout, but motivation is sometime difficult to maintain.[DELETED TEXT]*

### *Semi-structured Interviews*

The interview was a complex undertaking since it had multiple purposes: (a) elaborate on experiences reported through the year, (b) get updates on any issues raised in the previous year's interview that seemed worthy of revisiting, and (c) explore whatever theme the team had agreed on for that year's interview. Once the pre-interview questionnaire was sent, the interviewer began preparing for the interview itself—whether face-to-face or by Skype. Since there were many team members interviewing and we wanted to maintain consistency in our interview procedures, we developed a detailed protocol that included preparation (e.g., reserve two recorders) and follow-up (such as what to do with the audio), as well as a rationale for each part of the interview (see Table 3, for an example). The most important step in preparation was to reread all the narratives provided by the participant, including in previous years, in order to generate the specific experiences to be explored in the different parts of the interview.

The structure of the interview was generally consistent across the years. After reminding the participant of the purpose of the interview as well as confidentiality and consent, the interviewer explored the individual's present role, so that the interviewee could expand on issues that had been raised in the logs and pre-interview questionnaire. This could include significant changes or events since the last interview, significant experiences and people, difficulties, and how they dealt with them. The next step was to follow-up on events reported in the previous year's interview that might not have been mentioned again in this year's data. Then, whatever theme was being included in this cycle was discussed. For example, in the interview protocol in Table 3 below, the particular theme explored was how the participant feels about his or her ability to shape or influence work toward his or her interests since we were interested in the individual's sense of agency at work. Near the end of the interview, we always switched to looking forward, discussing the short- and long-term future, specifically, after one and five years, as imagined by the participant. In the final year of interviewing, the ending as seen in the protocol below, was slightly different, exploring the changes that had occurred since the individual began participating and the impact of participation. The final step in all interviews, closure, was designed as an opportunity for the interviewee to add or expand on what had been discussed. This was often a particularly fruitful part of the interview as participants added more to previous details or remembered something else they felt we might be interested in. Generally, we did not turn off the recorders until the Skype connection was concluded or in face-to-face interviews as we were leaving the room.

**Table 3** Sample interview instrument

**INTERVIEW PROTOCOL CYCLE 4 (All Participants)**

Purpose: The goals of this interview are to explore:

1. What the participant's present role entails in comparison to the last year
2. Information provided in the previous year worth exploring
3. Changes since you began participating-an overview of participation in the study.

After the first three pages that outline the complete sequence from pre-to post-interview, the protocol sets out the specific tasks and questions to be followed by the interviewer. Rationales are provided as appropriate in the column on the right.

**Overall sequence**

**A. Preparation for the interview**

Medium term preparation

*Choosing interviewee, significant event from logs, significant changes from pre-interview questionnaire, different activities from logs, follow-up events from round 1 interview, work spaces from pre-interview and logs, scheduling interview, booking recorders, customizing card sets based on pre-interview questionnaire response on work spaces*

**B. Short term preparation**

*Review of all interviewee data, copying of relevant logs and pre-interview (if providing to interviewee), verifying of equipment*

**C. Interview process**

Part 1: Set-up and briefing

*Reminding individual of purpose of interview, confidentiality, consent*

⇩

Part 2: What does your present role entail compared with last year?

*Provides more information than we have from the pre-interview form and logs about significant changes/events since last interview, significant academic experiences, significant activities engaged in*

⇩

Part 3: Follow-up of events from cycle 3 interview

*Provides an opportunity to follow up on interesting events/developments/information from the Cycle 2 interview that we haven't had a chance to follow up on since.*

⇩

Part 4: How do you feel you've shaped your role & brought in your interests?

⇩

Part 5: Changes since you began participating

*Provides an opportunity to explore identity trajectory over the course of the study.*

⇩

Part 6: Your future

*Provides an opportunity to discuss the short-and long-term future (i.e. after 1 and 5 years) as imagined by the participant*

Part 7: Impact of participation

Part 8: Closure

*Opportunity for interviewee to add or expand on what has been discussed – often most fruitful part of interview in revealing things they are interested in*

**A. Follow up to interview**

Save best audio to J: drive

Send interview audio for transcription

Write up post-interview notes and upload to MAXQda

Verify transcript (including audio) and save on Sharepoint

*Ensure anonymity, note where anything will need changing if cited*

**Medium term preparation**

| Activity | Done? | Rationale |
|---|---|---|
| Select interviewee (with team) | Done | Check if person should be interviewed |
| Remember we are interested in the variation across individuals, particularly in respect of their identity trajectory - the past, present, future, and the three strands of experience: intellectual, networking and institutional - and in this interview, changes experienced by the participant since joining the study.<br>For part 2, note significant changes in life since last interview from pre-interview questionnaire; issues/ aspects from the Cycle 3 logs it would be interesting to follow up (select 2 but discuss only 1), and different activities engaged in this year (as varying from the last) mentioned in the Cycle 3 logs.<br><br>For part 3, select interesting events/developments from the Cycle 3 interview that we haven't had a chance to follow up on the Cycle 4 cycle tools. Select 3 or 4 but probably only time for 2 or 3.<br><br>For part 5, make note of changes noted by the participant since first joining the study, both academically and personally. | | To gather more details on issues raised in the interviews, logs and pre-interview questionnaires collected over the last 3 years but especially in the last year |
| Schedule interview in a secluded place | | Ensure privacy and quiet |

| | | |
|---|---|---|
| Reconfirm interview time, location with participant | | |
| Book digital recorder(s) (need 2) | | |

**Short term preparation (day before / day of interview)**

| Activity | Done? | Rationale |
|---|---|---|
| → note all information required for completing part 2-5 | | To gather further details or further discuss interesting or significant issues |
| Print off copies of selected log(s) if handing to interviewee | | Copies needed in interview |
| Test digital recorders, make sure have spare batteries | | |
| Print off and read through protocol; add notes as pertinent, e.g., for parts 2, 3, 4 and 5 | | |

**Part 1: Set-up and briefing (about 5 minutes)**

| Activity | Done? | Rationale |
|---|---|---|
| Introduce self, explain nature and purpose of interview; review consent, confidentiality, etc.<br><br>As you know, this study is designed to help us more clearly understand the experiences of doctoral students, as they progress through their programmes and beyond, and research staff / postdocs as they progress through their formal careers and into tenured academic posts or alternative employment.<br><br>Data you provide will be stored anonymously in digital and paper form and may be analysed by all members of the research team. One digital and one paper file linking participants' real names with the pseudonyms used in the study will also be kept for the duration of the study.<br><br>The aim of the interview today is to discuss your overall experiences with your researcher position thus far, any changes in life since the last interview, and for you to reflect on changes (in terms of institution, culture, research field, collaboration, etc) that you may have gone through since we first made contact with you. | | Remind participant of rights |
| Ask interviewee not to mention third parties by name (e.g. supervisors, colleagues) | | |
| Tell interviewees that interview transcript will be sent to them and they should add/delete/clarify as they see fit | | |

| | | |
|---|---|---|
| Seek permission to audio record | | |
| Switch on BOTH recorders and check for signs of life | | |
| Ask if any questions before start | | |

**Part 2: What does your present role entail? (*data for this year*) (10-15 minutes)**

| Question / theme / prompt | Notes |
|---|---|
| In the information you gave us before our meeting today you mentioned **x, y, z** as **significant changes/events/achievements** that have taken place since we last interviewed you.<br><br>Please pick the one that you feel is the most significant and tell me about the impact this has had on you. | ***In preparation, please note down all that were mentioned in the pre-interview questionnaire.*** |
| Could we move on to your role as a doctoral student/ researcher/ lecturer?<br><br>In one of the logs you told us something about X and Y.<br><br>Can you tell me about this in a bit more detail?<br><br>*Probe: How has this event/situation affected your work space and relationships?*<br><br>How did this come about? How and why did you get involved? Why were you doing this?<br><br>How did you feel at the time and how do you feel about it now? What would you say you learned from this experience? | ***Only ask from one log but keep a second event handy in case participant has nothing to say for the first.*** |
| Compared with 12 months ago you mentioned in the logs that X, Y and Z were different activities from what you had been doing in the previous year **(please note down all that were mentioned in the log)**.<br><br>What do you feel has been the impact of these changes? | |

**Part 3: Follow-up events from cycle 3 interview *(10-15 minutes)***

| Question / theme / prompt | Notes |
|---|---|
| I'd now like to ask you about some of the things you told us previously which we find particularly interesting, having to do with:<br><br>[You will likely only have time for two, maybe three, issues so consider which you feel are the most important/interesting to explore.] | ***In preparation, please note down what you think needs to be followed up from the second round interview. For instance, you may find issues raised in the Cycle 2 interview that were deemed important at that time but that weren't mentioned in the Cycle 3 pre-interview. Have 3 or 4 issues to hand but probably only time to follow up 3 maximum.*** |

| | |
|---|---|
| One of the things you have told us about concerns XXX…<br><br>Can you tell me about this in a bit more detail? | |
| **How has this change in the nature of your work impacted your life/ is it impacting on your life now?** | |
| **What are your hopes in relation to this for the future?** | |
| **Looking back, how do you view this experience/ event/ change etc?**<br><br>**What are your feelings about it now?** | |

CHECK RECORDERS FOR CONTINUED SIGNS OF LIFE

**Part 4: How do you feel you've shaped your role & brought in your interests? (5-7 minutes)**

| Question / theme / prompt | Covered? |
|---|---|
| You told us in the pre-interview questionnaire of some ways in which you have been able to shape your work role & how you have brought in your own interests.<br><br>Could you [pick one or two and] tell me more about them? | |
| What are your hopes for this in relation to the future? | |

**Part 5: Changes since you began participating *(1st from pre-interview questionnaire; then from your reading of data) (10 minutes)***

| Question / theme / prompt | Covered? |
|---|---|
| | |
| You first began participating in this study in 2011, when you were a doctoral student.<br><br>If you looked across that time period, how do you feel you have changed?<br>OR how would you/what would you characterise as the main changes academically and personally?<br><br>**After the participant has responded, probe further points based on your summary of the data.** | |
| Then, ask the following questions: now that you have spent a number of years doing academic work, is there anything about it that surprises you or that you didn't expect? | |
| When you look around you, are there people who have a life (personal integrated with academic) that appeals to you or you would like to have?<br><br>If so, can you describe what it is that they are doing that appeals to you?<br>OR<br>What appeals to you about the way they manage their life? | |

**Part 6: Your future (5 minutes)**

| Question / theme / prompt | Notes |
|---|---|
| Finally, I'd like you to look forward from the present to the future and ask you to imagine what you think your life might look like:<br><br>One year from now?<br><br>In 5 years' time?<br><br>Is this how you would like it to look?<br><br>If not, how would you like it to look? | |

**Part 7: Impact of participation (5 minutes)**

| Question / theme / prompt | Covered? |
|---|---|
| You first began participating in this study in 2011. In the pre-interview questionnaire you told us how participation in this study has impacted on you:<br><br>**Could you pick one or two and tell me more about them?** | |

**Part 8: Closure (5 minutes)**

| Question / theme / prompt | Covered? | Rationale |
|---|---|---|
| Is there anything else you think is important or interesting that you would like to talk about? | | Allows interviewee to expand on anything |
| Is there anything you'd like to ask us? | | |
| Do you have any comments or thoughts about this kind of interview?<br>Do you find our research summary emails useful? | | |
| We're intending this year to be the last time we ask people to complete any logs and to be interviewed. We've now been following people for four years which is fantastic for a longitudinal study. Instead, what we would like to do, if you are willing, is to send you a written account of what you have been telling us over the years to be sure it's a fair reflection of what you have told us, and ask you for a brief written update of what will have happened in the intervening year. Would you be happy for us to do this?<br><br>And what would be the best way to get in touch with you, as this is likely to be in 9-12 months' time?<br><br>SWITCH OFF RECORDERS | | |

### *Using Visual Methods in the Interview*

Visual methods, using images to elicit responses, can often capture a less-inhibited, more spontaneous account of experience than interview alone (Bagnoli, 2009), since images engage the interviewee (and the interviewer) in examining an object. Using visual manipulatives (cards) as we did also places the focus on the cards and away from the interviewer, which for some participants provided a little more space for reflection. It also shifts the interviewer's role away from asking questions to prompting responses to the cards. Because of this, visual methods may be better suited to capturing experiences with related emotions through time (Miller & Brimicombe, 2003) since using image elicitation 'mines deeper shafts into a different part of human consciousness than do words-alone interviews' (Harper, 2002, p. 22). Images can be provided by the interviewer, provided by the interviewee, drawn by the interviewee, or be some combination of these three. Visual methods are not seen as stand-alone; a verbal or written interpretation of the participant's thinking is critical to any analysis (Buckingham, 2009). Two points are essential to remember in using visual methods:

- The interviewer must restate orally the interviewee responses since these may not be verbal, for instance, response could be pointing, picking up a card, and so on. Otherwise, it will not be possible later on to make sense of the transcript.
- If the image is created by the interviewee and is not a permanent display, then it needs to be photographed for later reference (as in Fig. 3).

We began using visual data collection methods in the second interview. Members of the team had noted in the logs and previous interview that when participants were describing their relationships and the activities they engaged in they often used emotive language. Further, there was frequent mention of those outside of work who were influential in their lives. We thought we might gain a more synthesized characterization of their experiences if we engaged them in an activity where they demonstrated how they saw the interrelationships among these three elements. We developed three sets of cards, using different colors for emotions, relationships, and work activities. Each card had a word or two and a sketch representing the idea. Further, we provided some blank cards in all three

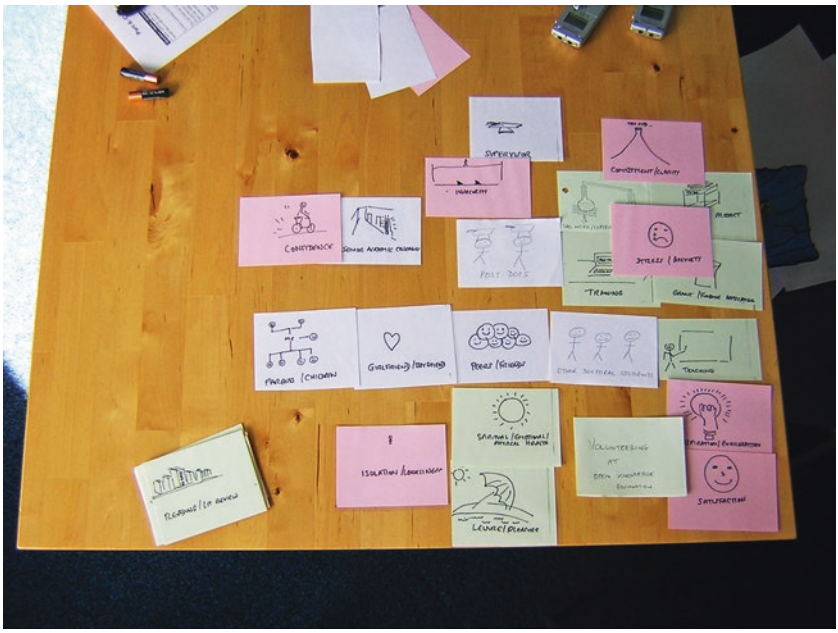


**Fig. 3** Photo of card display from second-year interview

colors so individuals could add items as they wished. Near the end of the interview, individuals were given the cards and the following task:

> In this part of the interview I'd like to explore with you how you relate all aspects of your present life, academic and personal, with the help of some visual prompts.
>
> These sets of cards represent (1) different activities (GREEN), (2) different relationships (WHITE) and (3) different emotions (PINK) that can be part of the experience of doctoral students/ post-PhD researchers/ research-teaching academics.
>
> Not all will be relevant or important to you in thinking about your life at present, and you may wish to draw others (point to blank cards). Don't feel obliged to talk about any of the issues if you would rather not do so.
>
> You can choose how you would like to use them … and feel free to move them around the table. When you find a card to start with, please tell me *why you have chosen it, how/why it is particularly significant/meaningful at the moment, and how it relates to the other cards?*

As you can see from the instructions, it was entirely left up to the interviewees as to how they approached this task. Some shuffled through them all before beginning, others looked at the top card and gave a response or set it aside. Some chose to discuss the relevance of every card, whereas others focused only on a few, discarding the rest. The shapes of the maps they created were also diverse: some hierarchical, some flatter, and others circular. Some added new cards, others did not. The card exercise provided the interviewee with a means to organize and articulate ideas about the connections between these things. We found, in fact, that there were many connections between strictly 'academic' activities and other aspects of their lives. This was probably the point at which we began to attend much more intentionally to individuals' personal lives in understanding their work experiences as well as their emotions.

The next time we used a visual method was again with cards to explore where people were working and why (McAlpine & Mitra, 2015). We had noticed in the logs that individuals reported working in a range of places that were not in the university. We wanted to understand more about this phenomenon, particularly what type of work they did in these different sites and why they chose those sites rather than their institutional offices. So, we generated a series of cards which named all the sites of work that had been reported in the data as well as a number of blank cards. Then, near the end of the interview, we gave them the cards, explained that these were places that individuals had said they worked in and asked them to go through them. If they found one that represented their experience, we asked them to talk about it, to say (a) what they did in that place and (b) why they chose that location rather than another. As they thought of new places, they created new cards. In the interview with the next participant, the new cards from the previous interview were included in the pack given to the interviewee. Over time the number of work locations identified by the cards increased. Given that by this time, many participants were no longer geographically close to us, having moved onto other institutions or professional contexts, we used new technologies to do this exercise over Skype, using an excel sheet in which individuals could move the cards or cells and add new cards or cells.

Our next use of a visual method was journey plots in two one-off studies (post-PhD researcher experience, McAlpine, 2016b; experience as a supervisor, Turner (2015)). In a journey plot, the interviewee draws (and then names) his or her emotional high and low experiences over time in relation to some theme. The journey plot template the interviewees were


**Fig. 4** Sample journey plot

given showed the progress of time on the horizontal axis from left to right and the variation in related emotion from high to low on the vertical axis (top to bottom)—with the mid-point marked (see Fig. 4).

At the start of the interview, participants were asked to map the emotional highs and lows of the experience pertinent to the study, and then write what each of the highs and lows related to. They then, with prompts from the interviewer, reconstructed the journey orally providing more details about the meaning of the different high and low points, and sometimes adding other events as the story progressed and they recalled additional details. (See Fig. 5, where you may note that both personal and work events played an important role in this individual's journey.) Just as with the other visual methods we used, the task appeared intuitively meaningful to interviewees who completed the task very quickly, capturing a quite spontaneous view of experience. As with the use of cards, it was important that the interviewer ensure he or she knew which events matched the emotional highs and lows as the interview progressed.

Since then, we have used journey plots again, as well as network maps in other independent studies, also using new technologies along with Skype; these studies are not yet published.

### *'Thank You for Participating' Email*

There were three conditions under which this email was sent. The first was if we have not heard from the participant for some time despite some email reminders. We wanted to make it clear that we appreciated the time and information already provided even if the individual no longer wanted

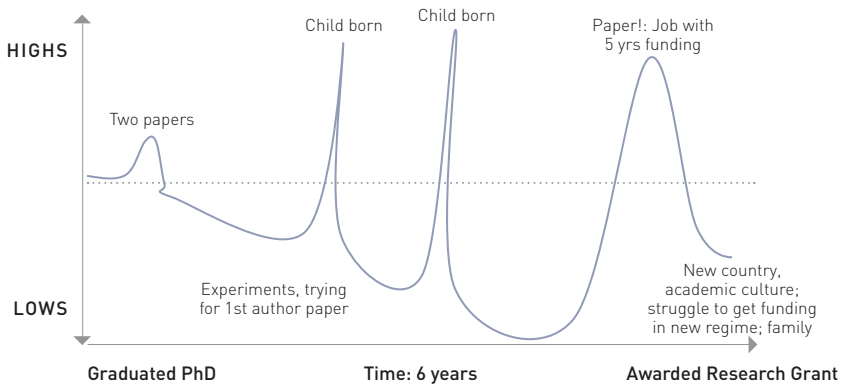


**Fig. 5** Completed journey plot

to continue. Sometimes, this led to renewed participation. The second reason for an email was when funding ceased and we could no longer continue collecting information. The third condition was a follow-up email we sent to participants a year after the completion of the study. Attached to the thank-you email was a two-page low-inference summary based on the data submitted by the individual throughout their involvement in the research. We sent these to each participant with the following request:

> We would like your help to ensure we have got it right. Could you please review the summary of your experiences and tell us if there is anything you feel (a) is left out, (b) is wrong, or (c) could reveal your identity.

We were pleased that on the whole there were very few edits to these accounts so we believe we have found a relatively robust way of ensuring anonymity.

## Using a Longitudinal Multi-mode Approach

The way we approached our longitudinal research was to maintain relatively consistent in the structure of our data collection instruments over repeating cycles of data collection. Still, as described earlier, we made some modifications based on emerging findings, to either gather more data or member check the themes. Further, while we sought the same information

across roles, the choices and wording varied somewhat to suit the particular role. Especially important was that emerging technologies enabled us to continue to document participant experiences regardless of their location—as well as create easily accessible data organization structures for us as researchers.

We also explored some nontraditional modes of data collection and have come to value using different kinds of instruments since this approach opens up new possibilities for the range of perspectives or representations of experience that research participants can report. Further, using a multi-mode approach helps participants see their experiences in different lights. Initially, our belief in the value of this approach was based on unsolicited participant comments as well as our analysis of data. However, we did two one-off empirically-based studies to assess whether our belief was empirically-based. We learned, for instance, that participants found completing the weekly activity logs personally useful in giving them a sense of progress over time (Alexander, Harris-Huemmert, & McAlpine, 2014). They reported that the scaffolding in the log structure provided an easy means to compare the present with the past experiences, and a few reported rereading older logs to remind them of the progress they had made. This was affirming for us given our desire to sustain an ethic of reciprocity in our relationship with participants.

As well, we did an analysis to see if the logs provided different accounts of experience in comparison with the interviews, focusing on accounts of challenges experienced (McAlpine & Amundsen, 2015). In the interviews, participants reported challenges related to structural issues, for example, lack of a future, reduced opportunity to get a research grant; these types of challenges were not reported in the logs. More existential challenges, such as lack of confidence, were reported in both the logs and interviews. In the logs, individuals reported day-to-day and short-term research-related challenges not reported in the interviews. In our analyses, these kinds of challenges, if sustained, influenced motivation negatively. The findings support our view that combining distinct data collection methods may better capture variation in experience—in this case, challenges and responses—than single formats alone. Overall, we conclude that the range of strategies available to us as researchers in collecting narratives are quite numerous and that the possibilities are in some ways only limited by our imaginations.

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# Chapter 11: Ways of Displaying and Analyzing Stories

## Introduction

This chapter describes, with examples, how our focus on individual narrative influenced the analysis processes we undertook. We sought to create approaches to analysis that preserved and displayed the uniqueness of the individual while also enabling an investigation of the broad themes that were visible across individuals. Of course, this was only possible because we had relatively large numbers of participants, which is somewhat rare in narrative qualitative research. Our process developed over time as we gathered data and began to make sense of it. In this chapter, we explain how we first dealt with organizing and managing the multiple data sources provided by each individual in a way that created a coherent sense of the individual case. Then, we describe how we developed a number of strategies to display for ourselves the individual accounts in a way that preserved their uniqueness while enabling us to seek patterns of similarity and difference across individuals. The final challenge was finding ways to display to others the uniqueness of the lives of the participants while drawing out useful scholarly and developmental implications by looking across individuals.

Given our naturalist stance, we focused on the idiosyncratic features of an individual's personal accounts, rather than the shared ones in a sociocultural narrative stance.[1] Our goal was to understand the individual's experiences and how he or she interpreted them. It is particularly as



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regards this point that one sees in very concrete ways how narrative is different from other qualitative methods. Still, the guiding principle that we adhered to, as in many other qualitative approaches, is analysis-in-context in order not to lose the larger individual circumstances in which each narrative was constructed (Juzwik, 2006). We were also aiming to achieve fidelity and coherence.

## Writing for Ourselves: Procedures and Transcripts

One challenge we faced which we had not previously experienced so powerfully was how longitudinal research produced a wealth of data that could appear at times to be overwhelming. In Chap. 10, we described the role of documented procedures that enabled a coherent treatment of the research across team members. We also described some of the ways in which we electronically organized and managed the multiple data sources in order to work toward trustworthy and useful reports of our research. Of interest here is how we chose to treat each individual to ensure the fidelity and authenticity of the stories he or she told. We chose to treat each individual as a case, so each individual had a folder name and within that folder the data were logged in a chronological order. Within each folder, we kept the actual data including the interview audios as well as the annual case summaries (described shortly). It was important to have access to the transcript audio so we could verify the transcripts or recheck them for intonations and so on, which might hold important meaning. Recall in Chap. 9 we described how we used the interview audios whenever there was a change in the researcher who would be paired with a participant. Listening to the audios of the interviews enabled the incoming researcher to have a more comprehensive sense of the participants' history. Given this context, we explore here the ways in which we approached and displayed the data.

## Narrative and Data Display in Analysis: Sustaining Distinct Identities

We had created a way to organize incoming data to preserve the focus on the individual, and over time an individual case folder could include 30 or more documents. We realized after collecting data for over a year from a relatively large number of participants that we needed to find a way to become familiar with each individual case. We needed to create summarizing displays to help us deal with the quantity of data and the different types of

data from each individual. We chose to integrate the different types of data for each individual into researcher-constructed case narratives or cameos, short descriptive texts with minimal interpretation so as to preserve the participant's voice. In other words, we aimed to preserve the individual's collective account before proceeding to additional analyses.

### *Data Displays for the Team: Annual Case Summaries*

After the annual interview each year, individual case summaries were created for every participant by the team member who was the interviewee contact. In creating these summaries, the team member read and reread all the data for the year for a participant (narrative analysis) in order to create a comprehensive, but reduced, narrative construction (Coulter & Smith, 2009). In other words, we retold in reduced form each participant's experiences (Sfard & Prusak, 2005) while retaining the following elements of the narrative: connections between events, the passage of time, and individual intentions. Creating these case summaries meant it was possible for all team members to relatively quickly read through and become familiar with each individual case. These annual summaries, one for each year of participation, also enabled us to look across individual cases for themes of interest to examine in more depth (Stake, 2006).

The annual case summaries for each participant were the most important displays for our own use. So, in order to ensure these were done in a consistent fashion by team members, we created a template that each team member followed. By creating a case summary each year, it was possible to see changes in an individual's experiences and intentions over time, as well as sometimes new ways in which individuals viewed previous experiences. These summaries were the starting point for knowing the data for each individual. Once these were created, we could read through all the stories to track changes, see themes, and begin to see cross-individual themes for analysis.[2]

We needed to be cautious however in making these reduced displays. We had to face the fact that creating reduced representations of the original narratives could lead to changes in interpretations through successive retelling, the loss of the specific context in which the larger narrative emerged, and an overemphasis on intentionality and coherence, whether ours or those of research participants. The push for coherence in narrative accounts lies in their nature to make plausible sense of experience retrospectively; through such accounts meanings materialize that inform and constrain identity and future action (Weick, Sutcliffe, & Obstfeld, 2005).

### *Focused Case Summaries: Narrative Analysis to Display Themes*

Narrative analysis is distinct from the thematic analysis often used in qualitative research where findings are analyzed and organized by themes across individuals (Miles & Huberman, 1994). Narrative analysis, on the other hand, is designed to 'keep … a story intact by theorizing from the case rather than from component themes across cases' (Riessman, 2008, p. 53). This is because the goal of narrative analysis is to understand the chronological arc of an individual's experience.

Thus, we had multiple data sets for each individual and we could find things in earlier data which we could then look for in later data or do the reverse. The key was to seek evidence or lack of it in all the data for each individual. This meant that when we moved to a second focused level of analysis (described next), we already fully understood the chronological sweep of each individual's account.

While we wanted to preserve a focus on individual variation, we had enough participants that we could seek cross-case themes of similarities and differences, that is, undertake a second more focused level of analysis. This level of analysis meant we could move back and forth across individuals, engaging in comparison and negative case analysis as a means to establish the trustworthiness of our interpretations (Miles & Huberman, 1994). So, when seeking to understand the data from the perspective of commonalities as well as differences across individuals, we generally used the following approach. We would read through the annual case summaries for a number of participants seeking potential themes to explore in more depth. This might be done by one team member or several. Then, we would usually discuss what emerged together. If there seemed potential, then we decided how to organize a more in-depth analysis, which always involved returning to the original data. For instance, a number of years ago, based on a reading of the case summaries, we undertook an analysis of how the doctoral students in our research viewed supervision (McAlpine & McKinnon, 2013). In this case, we chose four individuals at random and the research team read all the relevant data for these four. Through this process, a number of questions related to supervision were developed. Then, one member of the team took the ideas that had emerged and analyzed all the data from the full group of participants, with another member of the team verifying samples of the analysis. Finally, a third team member reviewed the analysis in light of her knowledge of all the data. From this analysis, new case narratives (data displays) were created that

focused principally on supervision over a number of years while preserving the individual demographic and biographic information that distinguished each individual. These focused case narratives foregrounded supervision and thus enabled interpretation and links to the literature.

## Narrative Construction and Display in Reporting: Making Our Thinking Transparent

In preparing manuscripts for publication or conference papers or presentations, we construct another form of a narrative. The challenge is how to create authenticity and resonance for the reader: to preserve the fullness and complexity of people's lives in reports often limited to 5000–7000 words. While the individual narratives can take different forms, our purpose is to ensure that the reader gains some sense of the individual in a particular life course, in a way that an excerpt from an interview cannot do. We use two approaches.

One is to provide a few cameo narratives, each based on an individual and often focused on a particular issue or theme (e.g., experience of supervision) that together represent the variation in participants. Such cameos vary in length from 100 to 350 words. You may have noticed that in Part III in this book, the cameos tend to the latter length since we were endeavoring to provide as much description of individuals' identity-trajectories as possible. Shorter cameos would be used when the analysis is more focused. An alternate form of narrative is a table that structures the individual stories related to the themes, but enables the presentation of all research participants. (Both forms of cameos were used in McAlpine, 2010.) As these cases are created, it is particularly important to recheck for anonymity and confidentiality since breaches of this kind are often clerical or unconscious (Josselson, 2007). Further, since our second level of analysis involves seeking patterns across individuals, when we want to highlight such patterns we have used formatting to make it easier for the reader to see the patterns as we did in the chapters in Part III by showing cameos side by side.

Regardless of the form the narratives take, we are mindful that in reporting we have interpretive authority—our accounts will be the ones that others' read. This creates a tension with giving participants a voice. As Josselson (2007) suggests, it is possible to find a stance along this continuum. In our case, we have chosen to include cameos in our reports that are intentionally low inference. In this way, we endeavor to honor the participants' accounts. Still, ultimately, the researcher must take 'full

responsibility for what is written' (549), so the overall report should be about the researcher's interpretation of the personal meanings of the participants' stories. We believe it may be easier for us to do this broader interpretation since we have multiple individual accounts to draw upon.

As well, we need to make the distinction between individual stories and our interpretations transparent. Our interpretations, emerging from our scholarly interest, are meta-syntheses which benefit from our ability to look across cases. Helpfully, Josselson (2007) reminds us that there is no single truth. An ethical attitude requires that we write with great respect, appropriate tentativeness, and be aware that the person we write about may read what we wrote.

Notably, we hardly ever use participant quotes alone in reporting our analyses since this would create a disembodied voice losing the personal context and meaning in which the statement was made. As Juzwik (2006) argues, we are challenged to ensure we do not put boundaries on portions of interview-as-narrative in ways that lose the larger contexts in which the particular narrative was constructed. So, if we decide to use quotes, as we have in Part III of this book, they are often embedded in a brief summary or whenever possible excerpted from the data provided by an individual whose cameo is also included in the rest of the book.

We are mindful of the need to be cautious in constructing cameos for reporting results since their very length forces us to omit much of it. Further, we want to avoid imputing meaning that was not in the original narratives, as we blend diverse experiences into relatively coherent and short narratives meaningful to readers. Just like other narrative researchers, we are seeking to be honest research instruments and striving to represent the multiple narratives adequately in ways that would be credible to the original participants, as well as seeming authentic and plausible to others, namely readers (Webster & Mertova, 2007). At the same time, we are mindful to address issues of anonymity. So, as noted in Chap. 9, we developed as a team a set of agreements to remove personal details that we believe may reveal identity, for example use 'partner' instead of 'husband' or 'wife,' refer to 'child' or 'children' instead of 'son' or 'daughter,' region or size of city instead of city name. We may also at times change details of an individual's account while preserving the essence of the experience if we are concerned that his or her identity might be revealed. We believe this is particularly important in longitudinal research, since reporting the idiosyncratic chronology of an individual's life over a number of years makes recognition somewhat easier than one-off studies.

Overall, in common with other interpretivist researchers, our hope is that reports of our research achieve fidelity, coherence, plausibility, usefulness, authenticity, trustworthiness, and resonance (Coulter & Smith, 2009; Pinnegar & Daynes, 2007).

## Notes

1. See McAlpine (2016) for a more extensive description of narrative as a methodology.
2. As time went by, we also created similar accounts that summarized all the data for each participant, but these summaries were designed more for other readers than ourselves.

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# Conclusions and Implications

While being relatively experienced researchers when we began this research, we had not until this inquiry undertaken any longitudinal research longer than a few months. We found that a longitudinal approach stretched our thinking both as regards the research process and the potential to be more creative than we had been in the past. The result, we believe, is a greater maturity in our thinking and actions related to the conduct of research.

A longitudinal approach heightens attention to a range of organizational issues that do not emerge in short-term research, such as how to collect and store multiple datasets, how to ensure consistency as well as change in procedures over time and across team members. In other words, we had the opportunity for creativity in expanding the range of data collected in light of emerging analyses, the forms of data collection, and even how data were analyzed. But at the same time, we needed constant vigilance to ensure consistency, for instance, that new decisions did not compromise earlier ones, and that team members, especially new ones, learned and used the agreed procedures.

Another key feature was the team approach. The work itself was enriched by drawing on the perspectives of the group given the variability in role, past experience, and research knowledge. New technologies helped us to develop a sense of community despite distance and also learn from each other. These technologies, of course, also enabled data collection that would not have been possible just a few years before our research began.



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The longitudinal approach also sensitized us to our relationships with participants. The length of time we knew them pushed us to develop a practice as well as articulate an ethic or care and reciprocity in a way we had not done in our earlier research. Lastly, the nature of the data and our desire not to lose the richness in each individual's stories pushed us to explore new ways of reporting the results in order to preserve the focus on the individual. In fact, it has made us quite cautious in using quotes which are not contextualized with the broader context of the individual's life.

As you may have gathered, we feel very positive about the potential of this approach to research. So, we have provided below a set of references for those of you interested in further exploring a longitudinal approach, a narrative methodology, or the use of visual methods. You will find some overlap across the categories.

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# Appendix: Longitudinal Program Research Participant Demographics

| *Name* | *Gender* | *Disciplinary cluster* | *Labor sector* | *Role at end of research* |
|---|---|---|---|---|
| 13196 | M | STEM | Private | Consultant; presently one year higher education teaching contract |
| AAA | M | STEM | Higher education | Post-Ph.D. researcher |
| Albert | M | STEM | Higher education | Post-Ph.D. researcher |
| Alan | M | STEM | Higher education | Research-teaching position |
| Ann | F | STEM | Higher education | Post-Ph.D. researcher |
| Barbara | F | SOC SCI | Higher education | Research-teaching position |
| Brookeye | M | STEM | Higher education | Research-teaching position |
| Bridget | F | SOC SCI | Higher education | Academic professional, education coordinator |
| Catherine | F | SOC SCI | Higher education | Post-Ph.D. researcher |
| Cathy | F | SOC SCI | Higher education | Teaching-only position |



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| *Name* | *Gender* | *Disciplinary cluster* | *Labor sector* | *Role at end of research* |
|---|---|---|---|---|
| Claude | F | STEM | Para-public | Consultant |
| Charles | M | SOC SCI | Para-public | Professional, evaluation officer |
| CM | F | SOC SCI | Higher education | Research-teaching position |
| Daniel | M | SOC SCI | Para-public | Professional, senior program officer |
| Elizabeth | F | SOC SCI | Private | Consultant, seeking higher education research contracts |
| Epsilon | M | STEM | Higher education | Post-Ph.D. researcher |
| Flora | F | STEM | Higher education | Post-Ph.D. researcher |
| Fracatun | M | STEM | Higher education | Research-teaching position |
| Funky Monkey | M | STEM | Higher education | Post-Ph.D. researcher |
| Ginger | F | SOC SCI | Higher education | Research-teaching position |
| George | M | STEM | Higher education | Post-Ph.D. researcher |
| Hannah | F | SOC SCI | Public | Research professional, head of research |
| Holly | F | SOC SCI | Higher education | Teaching-only position |
| Jennifer | F | SOC SCI | Higher education | Research-teaching position |
| Julius | M | STEM | Private | Professional, president of own company |
| Kadyna | F | STEM | Higher education (hoping) | Post-Ph.D. researcher (hoping) |
| Katherine | F | STEM | Higher education, Para-public | Academic professional, research project coordinator |
| KS | F | SOC SCI | Higher education | Post-Ph.D. researcher |
| Mike | M | SOC SCI | Higher education | Academic professional, academic program director |
| Nancy | F | SOC SCI | Higher education | Teaching-only position |
| Monika | F | SOC SCI | Private | Professional; consultant seeking higher education teaching-only contracts |

| *Name* | *Gender* | *Disciplinary cluster* | *Labor sector* | *Role at end of research* |
|---|---|---|---|---|
| Nellie | F | SOC SCI | Higher education | Research-teaching position |
| Onova | F | STEM | Higher education | Research-teaching position |
| Nina | F | SOC SCI | Public | Professional, teacher |
| Paul | M | SOC SCI | Higher education | Research-teaching position |
| PhD | M | STEM | Higher education | Research-teaching position |
| Regina | F | SOC SCI | Higher education | Research-teaching position |
| SA | F | STEM | Private | Research professional, research officer |
| SAY | M | STEM | Higher education | Post-Ph.D. researcher |
| Shannon | F | SOC SCI | Para-public | Professional, president of NGO |
| Sam | F | STEM | Para-public | Professional, policy analyst |
| Sophia | F | STEM | Higher education | Research-teaching position |
| Storm | F | STEM | Higher education | Research-teaching position |
| Sophie | M | STEM | Private (hoping) | Unknown |
| TDB | M | STEM | Higher education | Post-Ph.D. researcher |
| Thor Bear | M | STEM | Higher education | Post-Ph.D. researcher |
| Tina | F | STEM | Higher education | Post-Ph.D. researcher |
| Trudi | F | SOC SCI | Higher education | Research-teaching position |

# Glossary

**Academic professional** Professional post in the academic sector that involves educational and/or research-related responsibilities; generally leads to permanence.

**Academic sector** Large and small, public and private higher education institutions that incorporate in varying degrees research, education, training, and accreditation; award undergraduate and/or graduate degrees, diplomas, and certificates; while earlier largely supported by public funding, such funding has dropped considerably in the past decades; jobs can be non-academic, academic-related, and academic roles.

**Higher education sector** See *academic sector*.

**Identity-trajectory** A developmental perspective on identity; it incorporates how individuals represent the (a) continuity of stable personhood through life and, at the same time, (b) experience a sense of ongoing change in perceptions, emotions, knowledge, and abilities; identity-trajectory is attentive to individual agency, conceives of work as one aspect of a broader personal life, and highlights continuity of experience—how the past influences the present and the future.

**Lecturer** In North America, it designates a teaching-only position whether full- or part-time; also used in the UK to designate a research-teaching position; see *lectureship*.



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**Lectureship** In the UK and some other countries, it designates a position that involves demonstrating research, teaching, and administrative success to gain permanence, but not tenure; a five-year period usually precedes permanence, with a review part-way through and at the end; see also *permanence* and *tenure*.

**Para-public sector** Organizations incorporating activities and services that focus on enhancing the public good; can range from charities, through foundations to social advocacy groups and professional organizations; largely funded through donations and membership fees from various sources, including governments, individuals, and corporations.

**Permanence** Open-ended (no endpoint) position in contrast with contingent and contract positions which are temporary; those in research-teaching positions in the UK can achieve permanence but not tenure, in other words, their jobs may be declared redundant; see also *tenure*.

**Portfolio career** Series of part-time concurrent positions, often contingent, that collectively create full-time employment; such careers may be chosen, for instance, deciding to work as a consultant, or not chosen, for example, accepting a series of part-time or temporary jobs since this is all that is available.

**Postdoc** In North America, it refers to a Ph.D. graduate who is employed as a researcher in a university; it does not distinguish whether the individual has a personal fellowship or is contracted on a Principal Investigator's grant.

**Private sector** Enterprises designed to generate income for owners and shareholders; often government regulations shape the parameters of the business; it ranges in size from a single person working locally to large multinational companies, with the latter more able to pick and choose the regulatory environment that best suits them.

**Professional** Position in the public/private sector and not defined by research or teaching responsibilities; the extent to which permanence is possible varies.

**Public sector** Any level of government from municipal through state/province to national and international levels; principally funded through taxation with the services offered perceived as contributing to the public good.

**Research-only position or researcher** Position in academia with responsibility for research, whether salaried or a personal fellowship. Such positions are variously referred to as postdoc—usually, but not always, representing a personal fellowship, contract researcher, or research staff; these positions rarely have permanence.

**Research professional** Post with responsibility for research in the public/private sector; as well as conducting research may involve providing research support to others; work may be done as a contract or permanent staff member or as a self-employed consultant.

**Research-teaching position** Post that involves research, teaching, and service/administration; in some countries, such as Canada, this position is referred to as faculty or tenure-track; in other countries, for instance, the UK, the term used is lecturer or lectureship; see also *tenure-track*, *permanence*, and *lectureship*.

**Sciences** In our longitudinal study, this term refers to a disciplinary cluster made up of the life, natural, and engineering sciences; it included materials, zoology, computer science, theoretical physics, biology, chemistry, engineering, artificial intelligence, and medical imaging.

**Social sciences** In our study, this term refers to a disciplinary cluster made up of fields concerned with society, organizations, and individual relationships; it included sociology, social policy, museum studies, library sciences, educational psychology, counseling psychology, language studies, educational technology, and ecology.

**Spousal hire** A university practice sometimes used to ensure the academic offered the research-teaching appointment will not be put off accepting due to his/her partner not being able to co-locate; the process usually involves sending the CV of the partner to a number of departments to see if they are prepared to offer a position.

**Tenure** In a few countries, particularly Canada and to some extent the USA, research-teaching positions can lead to tenure which generally means that an individual cannot be fired without the university presenting evidence that the individual is incompetent or behaved unprofessionally; see also *permanence*.

**Teaching-only position or teacher** A post-Ph.D. position with responsibility principally for teaching; while often initially contract-based, it can lead to permanence.

**Tenure-track** Tenure, if it exists in the institution, is a process by which an academic is hired into a 'pre-tenure' or 'tenure-track' research-teaching position; after 2–3 years, there is a review through the submission of a dossier demonstrating research, teaching, and service achievements; this is followed by re-appointment and then a final submission before the end of the fifth year when a decision is made as to granting tenure.

# Index





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