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Professional Identity Formation in Physicians in Training

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"I, Judith Tweedie, confirm that the work presented in my thesis is my own. Where information has been derived from other sources, I confirm that this has been indicated in the thesis.

Abstract

Introduction

Professional identity formation is an effective lens to explore the impact of complex contextual changes and expand upon the professionalism movement's foundational work. Using Bandura's social cognitive theory, I sought to describe the determinants of professional identity formation in Doctors in Training.

Approach and gaps in the literature

Empirical research in professional identity formation in doctors in training remains underrepresented. Furthermore, physicians in training, i.e., those specialising in internal medical specialities, are a source of particular research interest as professional ideals meet the realities of clinical practice during postgraduate training. In addition, workplace-based learning is the predominant educational model, with tensions between occupation and academic obligations.

Research questions and aims

The aim of this study was to describe and understand the determinants of professional identity formation in doctors in training.

Qu 1: What are the cognitive determinants of professional identity formation?

Qu 2: What are the behavioural factors influencing professional identity formation?

Qu 3: What are the environmental impacts on professional identity formation?

Qu 4: What is the interplay between these determinants?

Methodology

I approached this research from a constructivist-interpretive perspective.

In this research study, I utilised phenomenology as my overarching methodological approach to acquiring knowledge.

Participants were recruited by electronic communications through academic and professional networks. The research participants chose to enrol in the study and could withdraw at any stage. The participants ranged in seniority from specialist trainee three level to specialist trainee seven. Fourteen of the seventeen trainees had time out of training either due to maternity leave, locum experience or out of programme research, experience or fellowship. Seventeen semi-structured interviews were undertaken and captured the lived experience of the research participant in alignment with the study's methodology. The interviews varied in length between forty and ninety-five minutes.

Data analysis was undertaken in line with a phenomenology approach.

Findings

Cognitive, environmental and behavioural determinants were critical to professional identity formation. Cognitive determinants of professional identity formation represented the participant's idealised identity.

Environmental determinants were critical as they worked to constrain or facilitate idealised identity, thus representing realised identity.

Behavioural determinants bridged the gap between idealised and realised identities and facilitated work and professional identity formation alignment.

Discussion and implications

This research study is the first to identify workforce pressures as a critical determinant of PIF and contributing to misalignment between what one does in work (in its broadest sense) and how one sees oneself in an occupation role. There are several implications for medical educationalists, theory and research.

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Impact Statement

There has never been a more critical time to understand the lived experience of healthcare workers as the National Health Service (NHS) in the United Kingdom (UK) wrestles with a profound and widespread workforce crisis. Doctors in training (DIT) are at the forefront of providing acute and unscheduled care and are the future of the workforce.

Recent years have seen the most profound remodelling of postgraduate medical education (PGME) with the introduction of competency-based medical education (CBME), the European Working Time Directive (EWTD), and the expansion of the professionalism movement. DIT are underrepresented in the empirical research in PGME. Educational strategies are frequently extrapolated from findings in undergraduate studies. The usefulness of current educational interventions in these shifting contexts requires exploration and improved understanding. Physicians in training (PIT) represent a diverse group of DIT specialising within a branch of internal medicine. It has been postulated that due to the nature of the work undertaken by PIT, they may be particularly susceptible to workforce pressures and are thus the focus of this inquiry.

This research explores professional identity formation (PIF) in PIT utilising Social Cognitive Theory (SCT). The majority of empirical research in PIF has been focused on undergraduate students. Determinants of PIF in undergraduate medicine have been posited by academics, drawing on developmental and psychosocial theories of identity, empirical research in professionalism and undergraduate studies.

Communities of practice are typically the predominant theoretical lens for exploring PIF in medical education. However, this research study utilised Bandura's Social Cognitive Theory (SCT) as the theoretical lens to ensure the inclusion of contextual determinants.

Cognitive, environmental and behavioural determinants were critical to PIF in PIT. The participants had a well-defined and shared conceptualisation of the good doctor. Six sub-themes were identified to represent the good doctor: doctors as healer, patient-centred, excellent communicators, team players, professionals and clinically adept. The cognitive determinants of PIF defined the PIT idealised identity.

Environmental determinants included educational interventions, feedback, workplace pressures, workplace-based postgraduate medicine, and the occupational community.

Environmental determinants were crucial as they worked to constrain or facilitate the PIT idealised identity. The PIT demonstrated perfectionism, high expectations and a commitment to going the extra mile in their workplaces. The constraining or enabling impacts of environmental determinants represented the PIF realised identity.

Behavioural determinants bridged the gap between idealised and realised identities and facilitated work-PIF alignment, i.e. enabled the contents of their work to better align with the cognitive constructs of their professional identity. Work-PIF alignment was associated with confidence and commitment. Behavioural determinants included role models, mentors, occupational communities, safe spaces, and experience. Guilt and disillusionment were associated with work-PIF misalignment, i.e., the contents of their work did not align with their view of themselves in their occupational role.

This is the first study to identify workforce pressures as a critical determinant of PIF and contributing to work-PIF misalignment. In addition, to the best of my knowledge, this is the first empirical study to identify the breadth of PIF in PIT spanning cognitive, environmental and behavioural constructs.

There are several implications for medical educationalists, theory and research. The findings of this study highlight three key implications for medical educationalists, which are 1) prioritisation of PIF in the postgraduate curriculum, 2) facilitating educational interventions which promote PIF and 3) to debate the moral and ethical implications of the role of an idealised identity as outlined in this research in a CLE with significant workforce challenges. Key research priorities include the exploration of participants' characteristics on PIF, evaluating education interventions that may facilitate work-PIF alignment and exploring the moderating influences of out of programme experiences on PIF.

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Dedication

I dedicate this thesis to my parents.

To my Mammy, Margo, for absolutely always believing I could achieve anything, no matter how big the scale and for teaching me tenacity and perseverance

To my late Dad, Ken- not present, but holding presence in my life

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Abbreviations

ACAT: Acute care assessment tool

ARCP: Annual review of competency progression

CBME: Competency-based medical education

CCT: Certificate of completion of training

CEX: Clinical evaluation exercise

CLE: Clinical learning environment

DIT: Doctors in training

EWTD: European Working Time Directive

GDPR: General data protection regulations

GMC: General Medical Council

GMP: Good Medical Practice

IMG: International medical graduate

MDT: Multidisciplinary team

MMC: Modernising medical careers

NHS: National Health Service

OOP: Out of programme

PDP: Professional development plan

PE: Pulmonary embolism

PEP: Post exposure prophyaxis

PG: Postgraduate

PGME: Postgraduate medical education

PMTP: Postgraduate medical training programme

PI: Professional identity

PIF: Professional identity formation

PIT: Physicians in training

SCT: Social cognitive theory

SHO: Senior House Officer

ST: Specialist trainee

UCL: University College London

UG: Undergraduate

Chapter 1. Introduction

This introductory chapter will overview the key concepts underpinning this research study. These will be discussed in more depth in the following chapter. The purpose of the chapter is to orientate the reader to the overarching structure of the research before exploring complex constructs in more depth in the following chapters. In this study, I sought to explore professional identity formation (PIF) in doctors in training, utilising Social Cognitive Theory (SCT) as my theoretical lens. In this research, PIF is defined as a dynamic process that is both socially and cognitively mediated to provide structure and meaning. (Dutton, Roberts and Bednar, 2010; Goldie, 2012; Cruess et al., 2014, 2016; Lepisto, Crosina and Pratt, 2015; Santivasi et al., 2022) Determinants of PIF in undergraduate medicine have been studied widely in recent years, including emotional effects, role models, feedback, institutional norms, and formal and informal curricula. (Volpe et al., 2019; Sarraf-Yazdi et al., 2021; Wyatt et al., 2021; Teo et al., 2022) Determinants of PIF in postgraduate medical education have been less widely studied and highlight an important area for research. (Snell, 2016; Barnhoorn et al., 2022)

Doctors in training (DIT) are vital components of the healthcare workforce as both current providers of healthcare and representing the future of the medical workforce. (Spilg, Siebert and Martin, 2012) As I will describe in further detail, significant shifts have occurred in the sociocultural context where DIT operate, particularly in healthcare and medical education policy delivery. The implications of these changes on DIT remain poorly understood, with a paucity of empirical research (Barnhoorn et al., 2022) dedicated to this area. The potential impact contextual shifts may have on the validity and appropriateness of medical education initiatives and DIT engagement with educational tools is significant to the medical educationalist. In this chapter, I will outline the sociocultural changes impacting DIT and discuss my research strategy for this study.

1.1. Shifting landscapes

DIT have experienced three different but overlapping contextual shifts, which have driven a need for contemporaneous research in the postgraduate medical education (PGME) arena. I will outline these and how these shifts may impact PIF in DIT. The three pressing contextual shifts are 1) a workforce crisis, 2) the remodelling of PGME and 3) the rise and fall of the

professionalism movement. I will now describe these in detail as providing the context for this study.

1.1.1. A workforce crisis

The clinical learning environment (CLE) has long been recognised as an essential determinant of PIF in undergraduate medical students, with medical educationalists highlighting contextual determinants that act to undermine the formal curriculum. (Hafferty and Franks , 1994; Wirtz, Cribb and Barber, 2003; Dornan et al., 2007; West and Shanafelt, 2007; Gaufberg et al., 2010; Benbassat, 2013; Wilson et al., 2013; Lawrence et al., 2018) Mounting workforce and resource challenges represent one of the most profound changes in the CLE for current DIT and are likely to have a profound impact on PIF. The NHS provides the clinical context for DIT in the United Kingdom. Doctors in training are employees with contractual obligations to the NHS running in tandem with educational commitments to their deanery. The mounting challenges within the NHS have been well documented in recent years, including work pressures, staff shortages, financial constraints and increasing demand (Mossialos et al., 2018; Papanicolas et al., 2019; Morgan, 2022; Rebolledo and Charlesworth, 2022; Shembavnekar et al., 2022; Beech et al., 2023; Ham, 2023) culminating in a significant workforce crisis within the NHS. The House Of Commons 2022 report on the NHS workforce described the NHS and social care sector as '*facing the greatest workforce crisis in their history*'. (Health and Social Care Select Committee, 2022, p. 3) In addition, the UK medical college's 2021 census demonstrated record levels of unfilled medical consultant posts, accounting for over half (52%) of all advertised posts in England and Wales. (Logan, Phillips and Newbery, 2022) These operational pressures disproportionally impact those in adult medicine managing the care of older and medically complex patients and those providing frontline acute care on a regular basis. (Chaudhuri, Mason and Goddard, 2013)

The medical registrar is one such role with a significant acute care component, including the more elderly and medically complex. The medical registrar is a terminology used to describe doctors in training who are at least four years postgraduate and are specialising in a 'medical' speciality such as respiratory as opposed to paediatrics or surgery. These doctors in training (DIT) are typically responsible for all acute admission of medical patients in the out-of-hours periods (5 pm to 9 am Mon to Friday and across the weekend). Furthermore, they provide senior responsibility for all inpatients with medical problems during the out-of-hours periods. (Goddard, Evans and Phillips, 2011) Research has consistently demonstrated that this group of

doctors are '*critically pressurised by the increase in hospital admissions and changes to the working environment*'. (Chaudhuri, Mason and Goddard, 2013, p. 6) In a national survey, less than half (48.7%) of medical registrars reported being satisfied with their role. (Goddard, Evans and Phillips, 2011)

A further study found that nearly one-third of participants had considered giving up their occupational roles within the six months preceding the questionnaire study. (Fisher et al., 2017) The intensity of demands placed on the role holder has led to significant challenges in recruitment and retention. (RCP London 2013) Burnout rates for internal medicine residents have been cited as the highest among all specialities (Abedini et al., 2018), and one-third of medical registrars have considered giving up general medical training. (Chaudhuri et al., 2013)

A junior doctor workforce crisis has mirrored the broader healthcare crisis, resulting in the first full junior doctors strike in the history of UK medicine in 2016 and subsequent industrial action in 2023. A series of reports and research has demonstrated a widespread loss of morale among junior doctors accompanied by ever-declining numbers entering speciality training. (Royal College of Physicians, 2016; Walesby et al., 2016; General Medical Council, 2021; Petrie et al., 2021; Lock and Carrieri, 2022) Operational and workforce pressures are leading to increasing concerns regarding patient safety, with reports suggesting that junior doctors are experiencing adverse effects such as discontent, disengagement and excess occupational stress associated with providing sub-standard levels of care. (Royal College of Physicians, 2016; Lock and Carrieri, 2022)

Critical workforce and broader healthcare challenges impact PIF in DIT through several mechanisms. Role models, mentors, reflection, and experiences have all been identified as essential determinants of PIF in undergraduate medicine. (Dornan et al., 2007; Sharpless et al., 2015; Wald, 2015a; Cruess et al., 2016; Cruess, Cruess and Steinert, 2018; Sarraf-Yazdi et al., 2021; Lock and Carrieri, 2022) The wider workforce crisis places significant pressure not just on the DIT but also on the senior medical staff, who are likely to be highly influential in the process of PIF. (Blouin, 2018; Petrie et al., 2021; Lock and Carrieri, 2022)

Furthermore, staff vacancies have been shown to increase service demands on current staff (RCP, 2016), thus typing the balance increasingly toward service provision with a compensatory

deficit in dedicated training opportunities. This move will likely reduce the potential for reflection upon difficult experiences and may impact the DIT's ability to reconcile identity tensions in the workplace successfully. (Wald, 2015b)

DIT have reported significant patient safety issues as a consequence of understaffing. (Royal College of Physicians, 2016) There is a paucity of research exploring potential identity violations that may occur in the context of persistently engaging in care delivery, which is perceived to be beneath professional standards. (Pratt, Rockmann and Kaufmann, 2006) It has been argued that sociocultural influences on PIF have been underexplored throughout medical education research. (Sawatsky et al., 2020) To my knowledge, no previous studies have analysed the impact of significant workforce pressures on PIF in DIT, thus highlighting the urgent need for research in this area.

1.1.2. Remodelling of PGME in the UK and globally

Over the last twenty years, PGME has undergone its most fundamental evolution since the publication of the landmark Flexner report in 1910. (Leach, 2004; Weinberger, Smith and Collier, 2006; Cate, 2007; Lillevang et al., 2009; Guitierrez, Cox and Dalrymple, 2016) In the UK, medical education reformation hinged around three significant medical education policy shifts: 1) Modernising Medical Careers (MMC), 2) the European Working Time Directive (EWTD) and 3) Competency-based medical education (CBME). The expansion of CBME was accompanied in parallel by the rise and fall of the professionalism movement, which I will outline in the next section and discuss in more detail in Chapter 2. I will explore these reforms and highlight the potential implications for PIF in DIT.

I first consider the introduction of MMC in the UK. In 2002, the then Chief Medical Officer, Sir Liam Donaldson, published *Unfinished Business—Proposals for Reform of the Senior House Officer Grade,* outlining proposals for modernising PGME in the UK. (Health Committee, 2008) The report argued that medical training in the UK lacked structure, particularly impacting the Senior House Officer (SHO) grade (typically between one and four years postgraduate). According to Sir Donaldson, this lack of structure resulted in doctors remaining at the SHO level for longer than was deemed necessary and prompted them to be described as the 'lost tribe'. (Sritharan, 2005; Health Committee, 2008) Critically, Donaldson recommended restructuring the first SHO

year to include a 2-year foundation programme and further specialist training. (Health Committee, 2008; Mair, Ewing and Murchison, 2012)

The operational arm of this proposal, MMC, was set up in 2005 and introduced the most significant overhaul of PGME of the last century. (Mair, Ewing and Murchison, 2012) Foundation, core and specialist training programmes were central to MMC and aimed to reduce the overall time for completion of speciality training. (Health Committee, 2008) MMC sought to restructure, modernise and standardise PGME. Recruitment was regionalised and nationalised, and fixed core and specialist training entry points were appointed. However, the operational arm of MMC strayed far from the original recommendations of Sir Donaldson, which, along with other faults, resulted in a series of overwhelming problems at the time of implementation. (Health Committee, 2008) An independent inquiry in 2008 ultimately judged MMC reforms to represent a failure of educational reform and recommended further corrective reforms. (Eaton, 2007; Delamothe, 2008; Health Committee, 2008)

After the introduction of MMC, PGME in the UK consisted of competency-based training programmes where participants frequently rotated between individual posts within the training programme. (Health Education England, 2018) DIT typically collate proof of completion of competencies in an online ePortfolio, which includes templates for reflective practice, personal development plans (PDP) and document abilities and achievements. (Health Education England, 2018) Ongoing assessment of skills and activities is a compulsory training programme component, typically collated in an online ePortfolio. In addition, medical graduates engage in a two-year Foundation Programme, which replaced the previous single junior house officer year. (Health Education England, 2018)

The overall goal of the training programmes is to ensure timely completion of pre-defined competencies, resulting in the award of a certificate of completion of training, which identifies the recipient as capable of independent practice. The process is regulated in the UK by the General Medical Council (GMC), and standards for PGME are laid out in *Excellence by design: standard for postgraduate curricula.* (General Medical Council, 2017)

Alongside these significant changes to PGME, the European Working Time Directive (EWTD) was introduced in 2009, which sought to improve the conditions of workers by limiting the number

of total and consecutive hours that may be worked. Concerns were raised regarding the adequacy of training experience within the reduced working hours. (Brown et al., 2010; Nishigori et al., 2015; Ny Jefferis et al., 2015) Senior doctors expressed apprehensions about the 'adequacy of junior doctor's training' under the new EWTD, citing concerns about competency, lack of responsibility and clock-watching. (Lambert, Smith and Goldacre, 2014, 2016) Debates regarding the suitability of nationally mandated medical working hours over time morphed into a negative discourse on 'work ethic', commitment and responsibility. (Holmboe, Ginsburg and Bernabeo, 2011; Ginsburg, 2014) Researchers continue to debate the merits of working hours policies and the impact of such policies on professionalism and professional identity formation. (Spilg, Siebert and Martin, 2012; Collum, Moreton and Booth, 2013; Nishigori et al., 2015; Lambert, Smith and Goldacre, 2016; Taylor et al., 2017; Amery and Griffin, 2020; Mukherjee et al., 2021) Changes brought about by introducing the EWTD occurred in tandem with significant changes in the UK and globally regarding how PGME should be conceptualised and operationalised.

There was a global move to ensure that postgraduate training and completion of training (CCT) was competency-based instead of time-based, representing a third fundamental change for doctors in training. (Leach, 2004; Frank and Danoff, 2007; Graham et al., 2007; Scheele et al., 2009; Frank et al., 2010; Iobst et al., 2010)

Traditionally, learning and training in medicine have occurred predominantly in an apprenticeship model with the acquisition of specialist knowledge through a prolonged training period and observation of more experienced doctors. (Spilg, Siebert and Martin, 2012) However, critics of the apprenticeship model cited the lack of competency standardisation, assessment and assurance. (Frank et al., 2010; Iobst et al., 2010) Competency-based education encompasses clearly defined outcomes grouped in a hierarchy to form a curriculum; competency is demonstrable and assessable. (Frank et al., 2010) *'The intended outcome is a health-professional who can practice medicine at a defined level of proficiency in accordance with local conditions to meet local needs'*. (McGaghie et al., 1978, p. 18) While competency-based education has been advocated across disciplines for some time, the last decade has seen this concept grow exponentially within PGME. (Touchie and Ten Cate, 2016)

The move to competency-based training increased the type and volume of assessments for required competencies. Clinical abilities and, thus, justification for progression were assured by completing the necessary curricular components rather than assuming competence from a sufficient duration of clinical experience. (Iobst et al., 2010) Additionally, greater emphasis was placed on attendance at formal educational sessions and training courses. The stated goals of competency-based PGME include a focus on what the learner does rather than knows, learner-directed education and flexibility for diverse learning needs. (Graham et al., 2007; Frank et al., 2010) Proponents argue that competency-based education supports the growing patient safety agenda, focusing on skills beyond those traditionally associated with medicine of knowledge acquisition and application to include skills in teamwork and communication. (Walton et al., 2006; Okuyama, Martowirono and Bijnen, 2011; Ross, Hauer and Van Melle, 2018; Canadian Patient Safety Institute, 2020)

While there has been widespread adoption of competency-based medical education (CBME) globally, several critiques have emerged, including concerns regarding the validity of competencies encompassing the breadth of an occupational role and a lack of empirical evidence in medicine to support widescale reforms. (Leung, 2002; Morcke, Dornan and Eika, 2013; Klamen et al., 2016; Boyd et al., 2018) However, for this research, the most pressing criticism relates to the potentially reductive impact of competency-based medical education on the process of PIF. In PIF, the stated outcome is integrating professional and personal values, attitudes and beliefs, resulting in an integrated whole capable of managing complexity. It has been argued that CBME emphasises observable and assessable behaviours rather than complex educational concepts such as professional values, clinical judgment and moral reasoning, which are critical for the complex decision-making that defines the doctor's role. (De Cossart, 2007)

In contrast, the professionalism movement and the subsequent focus on professional identity formation sought to promote the integration of professional and personal values, ethical reasoning and the need to develop professionals capable of grappling with complexity as core to medical education. (Hafferty and Levinson, 2008; Hafferty and Castellani, 2010; Jarvis-Selinger, Pratt and Regehr, 2012; Wald, 2015a; Cruess, Cruess and Steinert, 2016, 2019; Jarvis-Selinger et al., 2019) In the next section, I will explore the professionalism movement in medical education as a predecessor to PIF in more detail.

1.1.3. The professionalism movement

A renewed focus on teaching and assessing medical professionalism within medical education occurred in parallel to a move towards competency-based education. This era of medical education was described by commentators as the 'professionalism movement' (Wear and Kuczewski, 2004) and generated significant reforms in the teaching and assessment of medical professionalism. The medical professionalism movement of the 1990s, 2000s and early 2010s developed in response to several perceived threats to 'medical professionalism', which will be discussed in more detail in Chapter 2.

Considering these perceived threats, the medical community, particularly the medical education community, returned its attention to the concepts of professionalism in what came to be known as the 'professionalism agenda'. (Cruess and Cruess, 2012) Definitions of professionalism were debated and refined (Swick, 2000; Birden et al., 2014) and tools were developed to measure and assess professionalism. (Wilkinson, Wade and Knock, 2009; Hodges et al., 2011)

However, as this progressed, unintended consequences of curricula and educational development led to a focus on the demonstrable aspects of professionalism (behaviours) instead of the movement's broader aims and objectives. (Wear and Kuczewski, 2004; Hilton and Slotnick, 2005; Jarvis-Selinger, Pratt and Regehr, 2012) Professionalism as a core competency was no longer enough to ensure independent clinicians were ready to manage the complexities of modern healthcare. (Jarvis-Selinger, Pratt and Regehr, 2012)

As I will discuss in more depth in Chapter 2, the professionalism era was a predecessor for the current focus in medical education and educational research on PIF. Proponents of professional identity formation (including leaders of the professionalism movement) offered PIF as a more comprehensive theoretical concept for guiding medical education curricula and assessment. (Hafferty and Castellani, 2009; Goldie, 2012; Jarvis-Selinger, Pratt and Regehr, 2012; Cruess et al., 2014, 2016; Cruess, Cruess and Steinert, 2019) Proponents called for a more holistic approach to developing doctors in training, focusing on integrating professional and personal identities over time and incorporating the profession's values, norms and characteristics. (Cruess et al., 2014) Medical educationalists are now tasked with balancing CBME as the predominant medical education model in the UK and transitioning from professionalism to professional identity formation. The former focuses on standardised, observable and assessable behaviours, whereas

the latter focuses on the holistic development of the individual clinician with unique identities and worldviews. Empirical evidence to guide medical educationalists is lacking, with research typically concentrating on *either* the introduction of competency-based medical education *or* the benefits of PIF without discourse to the other. (Sawatsky et al., 2020; Santivasi et al., 2022) Furthermore, competency-based medical education ultimately risks mimicking the critiques of the professionalism movements with a pejorative focus on a tick-box list of demonstrable actions. (Klamen et al., 2016; Boyd et al., 2018) Having outlined the converging and significant shifts in the sociocultural context of the DIT and their implications for PIF, I now outline my rationale for this study and how it frames my research question.

1.2. Study rationale

This study aims to identify the determinants of PIF in 'Physicians in Training'. It is envisioned that the findings will be necessary for medical educationalists designing curricula and educational interventions supporting the development of PIF in DIT and policymakers in education and healthcare. I will first outline why physicians in training are an essential focus for research and then outline the utility of SCT as a theoretical lens.

1.2.1. Physicians in Training

A doctor's education continues across the lifespan of a career, beginning at an undergraduate level when the layperson enrols into a learned university until retirement and beyond for some. Postgraduate medical education (PGME) is a critically important phase of this evolution and provides the context for this research study. (Pratt, Rockmann and Kaufmann, 2006)

PGME commences with the student's transition into an occupational role (in the United Kingdom recognised as *Foundation Year 1*) and concludes with the individual's successful completion of a training programme and transition to independent practitioner. The World Federation for Medical Educators defines PGME as '*the phase of planned preparation for specialisation that may occur between graduation from medical school and recognition as a qualified independent practitioner.*' (World Federation For Medical Education, 2023, pg6) Similar to undergraduate students, individuals enrolled in PGME are supervised and required to meet ongoing pre-defined educational outcomes. Unlike undergraduate (UG) students, doctors registered in PGME are also contracted to provide medical services to an employing organisation, typically a hospital or general practice. During this period, the doctors in training are likely to be influenced by a wide

range of external and internal factors that may move the individual away from or toward the stated goals of PGME. Much of the learning environment will remain out with the locus of control of educational faculty. The doctor in training must balance commitments to their occupational employer, patients, and academic obligations. The inherent tension within this presents a fundamentally important area for educational research. Without awareness and appreciation of these interlocking identities and subsequent commitments, educationalists cannot be assured that well-intentioned initiatives are not undermined and thus rendered ineffective by other competing forces.

Across PGME, a comprehensive nomenclature is utilised to describe doctors in this stage of their career, including, but not limited to, doctors in training, residents, junior doctors, senior house officers, registrars and speciality trainees. (World Federation For Medical Education, 2023) In this study, I refer to doctors enrolled in national training programmes as doctors in training. I use Physicians in Training to describe DIT specialising in internal medicine. The Royal College of Physicians describes a physician as a medical doctor who usually focuses on the non-surgical treatment of patients' conditions. (Royal College of Physicians, 2019) Thirty adult specialities come under the umbrella term of physician speciality. Examples include dermatology, gastroenterology, cardiology and genitourinary medicine. (Royal College of Physicians, 2019)

Physicians in training are of particular interest due to their central role in the delivery of healthcare, documented changes in how the medical registrar role is perceived (Goddard, Evans and Phillips, 2011) and the heterogeneity of specialities within the physician grouping, potentially incorporating shared and diverse identities. Furthermore, specialist trainees (at least four years postgraduate) frequently provide senior decision-making responsibilities but are still classed as doctors-in-training, introducing a possible conflict in professional identity. (Mobilio et al., 2020; Santivasi et al., 2022) Doctors enrolled in postgraduate medical education have been identified by medical educationalists as underrepresented in empirical research. (Snell, 2016) As described in the early paragraphs of this chapter, contemporary doctors in training have been at the centre of converging paradigm shifts in how education in PGME is conceptualised, how duty hours are restricted and monitored and how professionalism has evolved in medical education. (Brown et al., 2010; Frank et al., 2010; Iobst et al., 2010; Jarvis-Selinger, Pratt and Regehr, 2012; Cruess et al., 2014; Nishigori et al., 2015; Lambert, Smith and Goldacre, 2016; Ross, Hauer and Melle, 2018) This is further confounded by severe workforce shortages in an ever-pressurised

healthcare system. (Ham, 2023) PIF is the product of converging influences with sociocultural context shaping professional identity formation, as I will describe in more detail in later chapters. (Stryker and Burke, 2000; Côté and Schwartz, 2002; Kroger, 2007; Owens, Robinson and Smith-Lovin, 2010; Burford, 2012) For example, the hidden curriculum has long been recognised as a strong influence in medical education. (Hafferty and Franks, 1994; Hilton and Slotnick, 2005; Haidet and Stein, 2006; Gaufberg et al., 2010; Altirkawi, 2014; Lawrence et al., 2018) The impact of these contextual changes on PIF at the postgraduate level remains poorly understood and represents a significant gap in the medical education literature.

1.2.2. SCT and PIF

SCT and PIF are discussed in more detail in Chapters 3 and 4, and here I provide an overview of the rationale for this study and the central research question. In the introduction to this chapter, I defined PIF as a dynamic process which is socially and cognitively mediated and context-dependent. I subsequently described the converging workforce crisis, significant remodelling of PGME and the evolution of professionalism in medical education as critical contextual changes and reflected upon how these may impact PIF. In the previous section, I have outlined why physicians in training are an essential research population. I now turn to SCT as a theoretical lens for analysing PIF.

As I will detail further in Chapter 3, I conceptualise identity as comprising who we are and who we are seen to be. (Monrouxe, 2010) I understand identity to incorporate self-concept and self-image and is thus situated in the individual, and I also recognise the integral influences of socio-cultural influences. I view identity formation as a dynamic process of identity revision occurring across a lifespan for commitment and cohesion. (Erikson, 1994; Marcia, 1966; Berzonsky, 2011) As an extension of identity formation, I conceptualise PIF as an active process of professional identity revision across a working life. Determinants of PIF occur at a cognitive, relational and contextual level. (Ashforth and Kreiner, 1999; Ashforth, Harrison and Corley, 2008; Caza and Wilson, 2009; Wenger, 2010; Luycks et al., 2011; Burford, 2012) For this reason, I view SCT as an effective lens to analyse PIF.

As I will discuss further in Chapter 3, PIF processes are typically determined by the underpinning theoretical orientation and, broadly, are divided into psychology, sociopsychology and sociology theories of identity formation. Most empirical research in medical education has tended to

analyse PIF from either a psychological or sociological perspective. (Santivasi et al., 2022) SCT spans the individual-social divide due to the central role of triadic reciprocal determinism. (Bandura, 1986)

Bandura theorised that behaviour, environment, and cognition are essential determinants and exert bi-directional influence on one another. (Bandura, 1986) Thus, the environment will shape behaviours, but behaviours will also shape the environment. SCT, therefore, *requires* the researcher to explore and integrate situational context alongside cognitive and behavioural constructs. To truly appreciate the complexity and interplay of determinants of PIF, integration of contextual determinants is required and thus aligns with SCT as a theoretical framework.

Furthermore, as I have outlined, I conceptualise PIF as a dynamic process which can be fully appreciated by utilising triadic reciprocal determinism as the theoretical lens. As I will discuss in Chapter 4, I approached this research from the constructivist paradigm. I believe that there are multiple subjective realities, and I sought, in this study, to understand and describe the phenomena of PIF in PIT. As I developed my understanding of PIF and identified SCT as an effective organising structure for exploring research data, I chose to utilise a research question to shape how I collected the research data and engaged with the coding and thematic analysis of the data. This provided a framework to explore the data in a manner which was meaningful to what I sought to understand and describe. While this framework provided structure, as a constructivist-interpretivist researcher, I explored emerging concepts and themes that shaped my understanding of the phenomena under inquiry.

Research questions

What are the determinants of professional identity formation in physicians in training?

Qu 1: What are the cognitive determinants of PIF

Qu 2: What are the behavioural determinants of PIF

Qu 3: What are the contextual determinants of PIF

Qu 4: What is the interplay between these determinants

Given the array of changes outlined in this chapter, without empirical research, medical educators are forced to extrapolate the determinants of PIF in DIT from literature which may predominantly represent undergraduate medicine or does not integrate sociocultural influences. The aim of this study is thus to describe and understand the determinants of PIF in doctors in training situated in the current healthcare and educational context. The findings of this study will benefit medical educationalists designing curricula and inform broader medical education and healthcare policy. Finally, the results of this research will guide future empirical work in the area.

In Chapter 2, I will explore the evolution of medical professionalism, its role as the predecessor of the current interest in PIF in medical education, and the limitations of professionalism as relevant to PIF. In Chapter 3, I will discuss the evolution of PIF as a potential solution to overcoming some of the challenges of the professionalism movement and outline theoretical approaches to understanding PIF. In this Chapter, I will explore identity, identity formation and professional identity in relation to PIF in medical education. I will focus on clarity around the terms' identity and professional identity as they are understood in this research and theoretical interpretations of identity formation and professional identity formation. In Chapter 4, I will outline the methodology and methods of this research, aligning my ontology, epistemology, methodology and methods. In Chapter 5, I will describe the research findings in-depth, including themes and subthemes. Finally, in Chapter 6, I will discuss my results with respect to the broader literature, concluding with implications for theory and practice.

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Chapter 2. The medical professionalism movement

In this chapter, I will reflect upon the 1990s and early 2000s medical professionalism movement, which had a powerful impact on teaching and assessing medical professionalism. At a micro level, this was operationalised through tools such as multi-source feedback, patient surveys, and workplace-based assessments, and at a macro level, it was operationalised through overarching initiatives such as appraisal alongside undergraduate and postgraduate assessment portfolios. (Swick, 2000; Wilkinson, Wade and Knock, 2009; Hodges et al., 2011; Cruess and Cruess, 2012; Brody and Doukas, 2014) Within this chapter, I first explore the concept of professionals as the origin of the current professionalism movement in medical education. From here, I will explore in more detail the medical professionalism movement in medical education and the limitations of this educational endeavour in achieving its objectives.

The cited literature had predominantly been identified through the snowball technique. My initial reference source was the Royal College of Physicians' working group paper titled *Doctors in Society: Medical professionalism in a changing world* (Royal College of Physicians, 2005). *Doctors in Society* was an influential report from the Royal College of Physicians working group. The working group had sought to define medical professionalism for modern practice and had critically reviewed and synthesised a wide range of literature from the academic and grey literature in their quest to redefine medical professionalism. I utilised the reference list as the start set and undertook a forward and back approach. (Teunissen and Westerman, 2011; Wohlin, 2014) I reviewed all references in the initial publication, undertaking full-text reviews after excluding references that were not relevant and identifying further references from the full-text review. I also took a forward approach by identifying new papers based on their citations of *Doctors in society* (citation tracking). (Kupar, Nicolson and Hemingway, 2006). I supplemented this with library search strategies, although these were typically of limited benefit for this research as they either focused on specific aspects of medical professionalism or produced extensive datasets when considering medical professionalism as a concept or entity.

I included grey literature in this work as an acknowledgement of the role society (and policy, e.g. Good Medical Practice) plays in shaping perceptions of professionalism both within and outside medicine. I also sought to understand the historical connotations of medical professionalism as

a lens for viewing modern practice and understanding how contemporary conceptualisations of professionalism have arisen and where perceived limitations have arisen.

Medical professionalism and the societal contract

Professionals and professionalism hold a distinct role in society, both of which have been under scrutiny and debate for as long as they have existed. (Hafferty, 2006) Professionals have been described as having 'sp*ecific and distinctive social goals'* (Cribb and Gerwitz, 2015, p. 1) with a license for both invasion and intimacy in a way other members of society do not. (Cribb and Gerwitz, 2015)

Specialist skills and knowledge typically characterise professions in addition to

- An extended period of education and training
- Control over the admission to the profession
- Varying degrees of self-regulation
- Autonomy and specialist status

(Cruess, Johnston and Cruess, 2004; Rosen and Dewar, 2004; Hafferty, 2006; Cruess and Cruess, 2016)

In return for the special privileges and monopoly of information afforded to the professions, individuals and society could be reassured by the fiduciary responsibility of the professionals and the profession to act in the best interests of those it served.

As understood in contemporary sociology, modern professions began in medieval England and Europe guilds and universities. (Cruess and Cruess, 2016) The first three learned professions were law, medicine, and the clergy. The professions arose in response to a societal need to organise and deliver critical services (medicine, law, religion), which required expertise not readily comprehensible to the average person. (Hilton and Slotnick, 2005) Professions were characterised by '*elaborate systems of instruction and training, together with entry by examination and other formal prerequisites.'* (Martimianakis, Maniate and Hodges, 2009)

Professions typically held a shared code of ethics of behaviours that provided standards for self-regulation. (Martimianakis, Maniate and Hodges, 2009)

Medical professionals were seen to combine the millennia-old role of the healer and the more modern concept of a profession as outlined above. First, I consider the influences of the healing tradition. The role of the healer can be found throughout recorded history. It answers a fundamental and universal human need to be cared for in times of difficulty. Healers use specialist skills and knowledge to heal or help and place their patients' interests before their own. (Pellegrino, 2002)

In the mid-19th century, the concepts of the healer and the professional came together to form the modern doctor. The influential sociologist Eliot Friedson described professions as:

- Controlling their work
- Organised by a special set of institutions
- Sustained by a particular ideology of expertise and service

(Freidson, 2001)

In this vein, medical professionals have typically been characterised by an extended period of education and training, control over admission to the profession, varying degrees of self-regulation and autonomy and specialist service. (Rosen and Dewar, 2004; F. Hafferty, 2006; Cruess and Cruess, 2016)

There have been many attempts by medical professionals and scholars in the area to define medical professionalism. (Swick, 2000; Royal College of Physicians, 2005; F. Hafferty, 2006; Birden et al., 2013; Wynia et al., 2014; DeAngelis, 2015; Shapiro et al., 2015) Through my interpretation of works in this area, I perceive medical professionalism as the display of behaviours reflecting the original roots of this concept, i.e., that of the healer (compassion, responsibility, trust, integrity and respect) with that of the professional (competence, autonomy, self-regulation and service). (Arnold, 2002) These behaviours form the basis of what has been described as the societal contract between the medical profession and the public it serves. In return for the humanistic values of care, respect and integrity, the medical profession is granted autonomy and varying degrees of self-regulation. (Rosen and Dewar, 2004; Cruess, 2006) This

contract represents a quid pro quo where professionals strive to meet the needs of individuals and the collective by displaying this professionalism. At the same time, society supports the individual and the collective by providing a social-cultural environment for professionalism to flourish. This contract is summarised in **Error! Reference source not found.**.

What society needs from the professional	*What the professional needs from society*
Service of a healer *Assured competence* *Altruistic service* *Morality (a particular system of values and principles of conduct)* *Integrity (being honest and having strong moral principles)* *Accountability* *Transparency* *Objective advice* *Promotion of public good*	*Autonomy* *Self-regulation* *A healthcare system which is value-driven and adequately funded* *Shared responsibility for health* *Participation in public policy* *Both financial and non-financial rewards* *Monopoly* *Trust*

Table 1 Society-professional contract, adapted from Cruess and Cruess, 2016

Thus, medical professionalism is foundational to the patient-doctor relationship at a micro level and the professional-societal relationship at a macro level. In the UK, the General Medical Council (GMC) is currently the statutory body responsible for regulating medical practice alongside undergraduate and postgraduate medical education.

Good Medical Practice (GMP), produced by the GMC, defines the regulatory standards set for all practising doctors in the UK and acts to operationalise the medical-societal contract. GMP provides the framework for assessing medical professionalism within the UK, including oversight

of governing initiatives such as appraisal, revalidation and undergraduate and postgraduate assessment portfolios. At this point, I will explore the medical professionalism movement within medical education in more depth.

2.1. The medical professionalism movement and its perceived limitations

I have outlined my interpretation of medical professionalism with origins in the concepts of the healer and the professional and its close relation to the medical-societal relationship. I now move on to explore the medical education professionalism movement of the 1990s and early 2000s as a result of perceived threats to the medical-societal relationship. In doing so, I will highlight its limitations and the consequent drive to integrate PIF as a potentially more sophisticated medium for developing professionals and professionalism.

In the 1980s and 1990s, an increasing body of influential clinicians called for a re-examination and re-prioritisation of medical professionalism in academia, professional development and medical education. (Relman, 1980; Lundberg, 1985, 1990; Irvine, 2001; ABIM Foundation. American Board of Internal Medicine; ACP-ASIM Foundation. American College of Physicians-American Society of Internal Medicine; European Federation of Internal Medicine, 2002) There were a number of perceived threats to the medical-societal contract.

1) the increasing influence of market forces in healthcare and what was deemed the medical-industrial complex in North America (Relman, 1980; Lundberg, 1985, 1990; Ham and Alberti, 2002)

2) anticipated changes in the contract between society and medicine potentially resulting in a loss of status, authority and influence for the professions (Freidson, 2001)

3) a perceived loss of the vocational aspects of medicine with changes in working patterns (Irvine, 2001; Rosen and Dewar, 2004)

4) the increasing dominance of 'external regulation' and, with this, the migration of the governance of professionalism from the professional societies and Royal Colleges to the regulatory bodies (Irvine 1999)

5) several high-profile 'scandals' in healthcare (Dixon-Woods, Yeung and Bosk, 2011)

These perceived threats to medical professionalism prompted a series of national and international bodies to redefine and reconceptualise professionalism for the new millennia. (ABIM Foundation. American Board of Internal Medicine; ACP-ASIM Foundation. American College of Physicians-American Society of Internal Medicine; European Federation of Internal Medicine, 2002; Royal College of Physicians, 2005) In the United Kingdom, the Royal College of Physicians led a wide-ranging working group in defining medical professionalism, settling upon the following;

> *'a set of values, behaviours and relationships that underpin the trust the public has in doctor'* (Royal College of Physicians, 2005)

The professionalism agenda resulted in a growing theoretical, empirical and pedagogical interest in professionalism in medical education. (Cruess and Cruess, 2012) Professionalism was recognised as a distinct competency within educational frameworks accompanied by an increasing imperative for explicitly teaching professionalism throughout curricula. (Frank and Danoff, 2007; Waite, 2018; Eno et al., 2020) However, despite the progress made in contemporising medical professionalism and advances in education and practice, unintended consequences began to undermine its stated goals. (Hafferty and Levinson, 2008; Jarvis-Selinger, Pratt and Regehr, 2012; Frost and Regehr, 2013; Cruess et al., 2016)

Medical educationalists Professor Richard and Sylvia Cruess, pioneers of the reinvention of professionalism in medical education, eventually critiqued the operationalism of professionalism in medical education. (Cruess et al., 2014) Educators became increasingly concerned about the focus on observable behaviours and the potential development of a 'superficial professionalism'. (Hilton and Slotnick, 2005; Monrouxe, 2010; Jarvis-Selinger, Pratt and Regehr, 2012) Much of the development of the formal teaching of the professionalism movement concentrated on the societal and regulatory constructs outlined above. Critics argued that this resulted in a lack of appreciation or understanding of the humanity of the individuals who collectively make up the profession. (Wear and Kuczewski, 2004)

The perceived threats to medical professionalism prompting the movement had not, in reality, led to a crisis in the profession. For example, high-profile healthcare ‘scandals' have not convincingly been shown to undermine society's trust in the profession or irrevocably alter the social-professional contract. (Hamilton, 2019) Furthermore, research has not demonstrated an

association between changes in working patterns and a subsequent de-professionalisation of the doctor. (Van Eaton, Horvath and Pellegrini, 2005; Rybock, 2009; Szymczak et al., 2010) Finally, educators and proponents of the movement found it challenging to teach medical professionalism, as it was understood at this time, in a meaningful and authentic manner. (Bryden et al., 2010; Birden et al., 2013)

The academic arguments align with my experience of medical professionalism as a doctor in training and as a researcher in the field. In 2016, I was tasked with updating the Royal College of Physicians' position on medical professionalism. This work had been preceded by *Doctors in Society* (Royal College of Physicians, 2005) and *Future Physician* (Royal College of Physicians, 2010) and set out to explore medical professionalism in modern healthcare. The research protocol included semi-structured interviews and focus groups with senior medical leaders, consultants, doctors in training and medical students. (Tweedie, Hordern and Dacre, 2018)

Participants struggled to find relevance in the assessment tools commonly utilised in medical professionalism and described a gulf between their working conditions laid before them and their professional ideals. Furthermore, participants decried the increasing plethora of assessments which assessed micro-level components of professionalism without space to reflect on broader aspects of professionalism. As one doctor in training reflects, *'It feels as if people have had lots of clever ideas, and in isolation, that worked, but no one goes back and looks at a system as a whole.'* (Tweedie, Hordern and Dacre, 2018, p. 81) Medical professionalism drew heavily from the 'professional' aspect, i.e. the measurable components of what is deemed to be professional behaviour, but left behind the humanistic element of what is necessary to be a 'healer'.

These findings of my work correlate with scholars who contend that professionalism within medical education has evolved into a checklist of behaviours rather than the more needed, more profound and more complex ideology engaging with broader contextual forces. (Wear and Kuczewski, 2004; Hafferty and Levinson, 2008) Increasingly, educators have advanced a call to recognise doctors (and medical students) as '*people, individuals with their own personal, emotional and cultural stories which influence their professional identities'.* (Monrouxe, 2010, p. 44)

The culmination of these limitations and a growing appreciation of the broader theories of psychology and sociology led to the Carnegie Foundation's call for PIF to become the central tenet of medical education. (Cooke, Irby and O'Brien, 2010) Integrating PIF into medical education empowers the educator to develop professionalism beyond a checklist of attributes and behaviours to incorporate professional and personal values and environmental determinants. PIF will be discussed in further detail in Chapter 3.

In this chapter, I have discussed the importance of professionals and professionalism in society and explored the concept of the societal-professional contract, which has important implications for our modern understanding of professionalism. Next, I have outlined the motivation for the contemporary professionalism movement and its evolution in policy and medical education. Finally, I have brought together the main limitations of the professionalism movement. In Chapter 3, I will explore PIF in more detail, drawing upon origins in the identity, development and sociology literature before outlining the utility of PIF in medical education.

Chapter 3. Identity and professional identity

In Chapter 1, I provided an overview of the rationale for this study and described the shifting landscapes in medical education prompting this research. In Chapter 2, I explored medical professionalism as a predecessor to PIF while detailing the importance of medical professionalism and its perceived limitations. In this chapter, I will provide a definition and a more detailed description of the concept of Identity. In detailing the concept of identity, I will describe ideas regarding how identity is formed and some key similarities and differences that arise from different disciplinary perspectives. Next, I will highlight critical arguments regarding whether identity is a static or dynamic phenomenon, examining ideas of multiple identities and identity salience. What will follow will be an exposition of the literature around professional identity and that pertaining to medicine. In each of these three sections, I will analyse the literature regarding how identity is formed. I will examine and synthesise the literature regarding how professional identity is formed across the three areas of identity, professional identity and professional identity in medicine. I will draw upon the literature and my professional experience to argue that I believe identity is a dynamic process influenced by individual values and beliefs and is shaped by external factors.

Having undertaken research in medical professionalism and recognising the limitations encountered, as outlined in Chapter 2, I explored the theories and literature of identity and professional identity to provide a more nuanced and multifaceted lens for this research. (Cruess et al., 2014) To understand professional identity and medical professional identity, I consider first identity in the broadest sense, as much professional identity research originates in the theoretical and empirical work of identity. (Ibarra, 1999; Kreiner, Hollensbe and Sheep, 2006; Pratt, Rockmann and Kaufmann, 2006; Alvesson, 2010; Slay and Smith, 2011; Cruess et al., 2014)

In this section, I will first outline my understanding of the concepts of identity and, subsequently, professional identity. I will explore identity formation as a construct and, later, professional identity formation and PIF in medicine. Finally, I will examine PIF in PGME and outline my interpretation of PIF in PGME as analysed through the lens of SCT, drawing upon the fundamental concepts outlined in this chapter. First, I consider identity as a construct and then professional identity as a component of identity,

3.1. Identity and professional identity

Identity is a critical lens for understanding ourselves and the world around us. (Erikson, 1994; McAdams, 2001; Oyserman, Elmore and Smith, 2012) Erikson argued that identity provides meaning, purpose and structure to the lived experience. (Erikson, 1968) Identity is a component of a human being's unique abilities of self-consciousness, self-reflection and imagination and, thus, the ability to adapt oneself. How an individual, or an individual as part of a collective, views and engages with their world will be profoundly shaped by their identity. (Vignoles, Schwartz and Luyckx, 2011) Despite the centrality of this construct of identity to life, the definition of identity remains ambiguous both in academic literature and in the broader world. (Vignoles, Schwartz and Lulcks, 2011) As I understand the concept and how it is represented in this research, identity comprises who we are and who we are seen to be. (Monrouxe, 2010)

Identity theories and research span many schools of academia, including psychology, philosophy, anthropology, psychology, and sociology. (Stryker and Burke, 2000; Peticca-Harris and McKenna, 2013) The literature on identity is vast and benefits from diverging views of identity, typically governed by the ontological viewpoint of the academic school. (Wetherell and Mohadnty, 2010; Vignoles, Schwartz and Luyckx, 2011) Research and theorists have used identity conceptualisations such as self-concept,(Gecas, 1982; Markus and Wurf, 1987; Oyserman, Elmore and Smith, 2012) self-definition, (Dutton, Roberts and Bednar, 2010) self-identity, (Alvesson, 2010), self-theory, (Berzonsky and Kuk, 2021) and self-efficacy (Bandura, 1986) to represent identity. These concepts all represent a form of self-evaluation yet expose subtle differences in the meaning of identity and will, therefore, shape any empirical research or theoretical development within the recognised paradigm. For example, self-efficacy primarily reflects how one evaluates one's ability to effect change within one's environment, whereas self-concept encompasses the totality of how one views oneself. (Gecas, 1982; Bandura, 1986; Markus and Cross, 1990)

Whilst I understand there are many different disciplines which draw upon concepts of identity and many interpretations of identity, my analysis of the theories and experience both as a researcher and practitioner in the field informed my view that the social psychological perspective was the most appropriate lens for this research. Building upon the principles of social psychology, I sought to explore identity as an internal and an external construct. In this research,

I draw on the conceptualisation of identity as consisting of self-concept (how we see ourselves) and self-image (who we are seen to be). (Gecas, 1982; Adams and Marshall, 1996; Oyserman, Elmore and Smith, 2012) Therefore, our identity is constructed by understanding who we are as individuals with distinctive qualities, traits, and relationships within the external (social) world. (Erikson, 1994; Marcia, 1966; Tajfel, 1981)

For example, one of the identities that I acquired later in life is my identity as a runner. I belong to a running group, and I enter into races. I am not an elite runner, but I enjoy what 'being a runner' brings to my life. It gives me a sense of purpose outside of my work, family and social roles and promotes self-esteem. I often view challenges I encounter in, for example, my professional life through the lens of a runner. For instance, if I am struggling with a problematic practical procedure at work, I will make analogies with challenging runs that I was able to work through and overcome and in this way, it builds my confidence and self-esteem and provides skills for experiences outside running. I also like being seen by others as a runner, which promotes my self-esteem. My identity as a runner makes it more likely that I will commit to habits and routines that support my running ability, and it also provides me with a community of other runners and a sense of social inclusion. I am proud of my running, and when I partake in activities that do not support that identity, such as unhealthy eating or not training consistently, I feel guilt and sometimes shame. In these ways, my identity as a runner influences how I see myself and how I view the world in both the context of running and in my wider life. Having outlined my conceptualisation of identity, I now consider the concept of professional identity and then, subsequently, identity formation and professional identity formation.

Based upon my understanding of the broader concept of identity and from my interpretation of relevant literature, I define professional identity as how one views oneself in relation to work and one of many identities forming an individual's self-concept. (Ibarra, 1999; Caza and Wilson, 2009; Dutton, Roberts and Bednar, 2010; Trede, Macklin and Bridges, 2012; Caza and Creary, 2016)

Professional identity

Professional identity is one of several identities an individual holds, including gender, race, religion and ethnicity. It has been labelled as a secondary identity in that it develops later in life

than the primary identities such as sex, race or ethnicity. (Slay and Smith, 2011) Professional identity, as with identity, has a variety of definitions throughout the academic literature, which shape the scope and focus of empirical research. The term' professional identity' can represent;

- occupational identity in its broadest sense of partaking in work (Van Maanen and Barley, 1984)
- organisational identity as it relates to an organisation (Ashforth and Mael, 1989; Kreiner, Hollensbe and Sheep, 2006; Dutton, Roberts and Bednar, 2010)
- a professional occupation as relates to the recognised professions demarcated by esoteric knowledge, regulation and control over admission (Kreiner, Hollensbe and Sheep, 2006; Pratt, Rockmann and Kaufmann, 2006)

Occupational identity is associated with any occupational role, such as a domestic cleaner or a banker. (Skorikov and Vondracek, 2011) Organisational identity relates to a view of one's occupational self-aligned to the company or organisation within which one works, e.g. 'I work for Google'. A professional occupation draws from its ancestry in the sociological constructs of the traditional professions, which include a code of conduct, specialist knowledge, a long training period and ethical conduct. (Martimianakis, Maniate and Hodges, 2009). In this research, professional identity draws upon research from the field of medical professionalism (i.e. that of a traditional profession) and the broader occupational literature. I recognise the professional identity of the doctor to be shaped by aspects of the traditional profession and broader occupational determinants.

A professional identity (as it relates to any occupational role) is an essential element of identity as it has micro, meso and macro benefits. At a micro level, it has been argued that a professional identity provides a necessary meaning in one's life and is a critically defining identity for many individuals. (Ashforth and Kreiner, 1999; Kreiner, Hollensbe and Sheep, 2006; Dutton, Roberts and Bednar, 2010) Organisational scholars argue that individuals have a strong desire to view themselves in favourable terms. Holding a socially validated and important occupational role enhances self-image. (Ashforth and Kreiner, 1999) Positive professional identities are linked to improved self-esteem, resilience, resourcefulness, creativity and self-efficacy. (Ashforth and Kreiner, 1999; Ashforth, Harrison and Corley, 2008; Caza and Wilson, 2009; Dutton, Roberts and Bednar, 2010; Canrinus et al., 2012; Caza and Creary, 2016; Winkel et al., 2019) Identity violation

or poorly formed identities have been identified as a triggering mechanism for developing maladaptive coping strategies. (Berzonsky and Kuk, 2021) At a meso level, professional identity is critical to the performance of teams and organisations, providing structure, collegiality, hierarchy, responsibility and individual and group development. (Ashforth, Harrison and Corley, 2008; Wenger, 2010) Finally, at a macro level, professional identities perform a societal good and carry implicit and explicit expectations for an individual and a profession. (Stets and Burke, 2000a; Caza and Wilson, 2009; Goldie, 2012) For example, we can consider the medical profession; if doctors internalise the moral and ethical expectations of the medical profession and view themselves as moral and ethical beings, they are more likely to align with this identity, putting the patient's interests first individually and collectively. It has been posited that identity-aligned behaviours become increasingly important to society as work becomes more complex and ambiguous. (Hafferty and Castellani, 2009) In medicine, it has been argued that this aspect of professional identity is crucial given the challenges of navigating contemporary healthcare. (Hilton and Slotnick, 2005; Wilson et al., 2013)

Having described my understanding of identity and professional identity, which has shaped this research, and why these concepts are essential, I will now consider identity formation and professional identity formation.

3.2. Identity formation and professional identity formation

Having defined identity in this research and identified the relevance of social psychology, I now move on to explain identity formation as understood from a social psychology perspective.

Identity formation has been described as *'people being engaged in forming, repairing, maintaining, strengthening or revising the constructions that are productive of a sense of coherence and distinctiveness'.* (Sveningsson and Alvesson, 2003, p. 1165) jBroadly, the theoretical frameworks underpinning identity formation relevant to this research can be divided into developmental theories (Marcia, 1966; Erikson, 1968; Kegan, 1983; Levinson, 1986) and theories of social psychology. (Tajfel, 1981; Wenger, 2010)

Developmental theories explore how individuals understand themselves and the world over time. (McCauley et al., 2006) In the theories of Erikson, Levinson, Marcia and Kegan, identity development is a progressive, adaptive process occurring in stages across a life cycle. (Marcia,

1966; Erikson, 1968; Kegan, 1983; Levinson, 1986) Erikson's work remains highly influential throughout the theories of identity formation. He described eight stages across the life cycle, with movement between stages typically generated by an internal crisis, turning point or an external transition described as a time of self-exploration. (Sokol, 2009; Malone et al., 2016) In his work, Erikson conceptualised a crisis as an era of heightened potential and opportunity. (Erikson, 1968)

Identity formation, as understood through the lens of developmental theorists, is not fixed but represents a process of ongoing development mediated by cognitive and social constructs. However, developmental theorists typically describe this as a staged process where identity formation is layered through exploring identity issues around a central axis. (Muuss, 1995)

Where the developmental and social-psychology theories diverge is the respective emphasis placed on cognitive versus social influences mediating the identity formation process. In developmental theories, identity formation occurs predominantly within the individual's mind, whereas identity theories of social psychology emphasise social groups and social categories as a source of identity work. (Stets and Burke, 2003)

Theories of identity formation originating from social psychology include Tajfel and Turner's Social Identity Theory, Cote's Identity Capital Model, Marcus and Wurf's dynamic self-concept and Lave and Wenger's Communities of Practice. (Côté and Schwartz, 2002) In this school of thought, identity is consistently negotiated within social roles, institutions and group memberships. Tajfel and Turner's Social Identity Theory (SIT) has been influential in this arena, posing that robust in-group identification is associated with ideological commitment, behaviours congruent with identity and positive self-evaluation. (Ashforth and Mael, 1989; Stets and Burke, 2000b) Within social psychological constructs, individuals can have multiple identities, which shift in importance in different contexts, whereas developmental theorists believe in a self-structure carried into and adapted through differing contexts. (Owens, Robinson and Smith-Lovin, 2010)

3.2.1. Identity dynamism

Development and social psychology theorists agree that identity formation is a dynamic process across the lifespan but tend to diverge over the degree of dynamism. Furthermore,

developmental and sociopsychology theories agree upon the multifaceted nature of identity but divide as to whether this represents multiple identities or constructs of a single identity. (Tajfel and Turner, 1979; Lave and Wenger, 1991; McAdams, 2018)

First, I consider single vs multiple identities. Broadly, it is recognised that identity is multifaceted. An individual will have a range of identities, which may be:

- predetermined or primary identities, e.g., Race or ethnicity, age, and biological sex or,

- learned and internalised through interaction, e.g., values and beliefs or,

- assigned through the roles we play in our lives, such as mother, boyfriend, doctor, and friend.

Whether one believes an individual has one unifying identity with multiple categories or domains or multiple identities will depend on the underlying theoretical orientation. For example, Erikson's theories focus on identity as an ongoing developmental process across the life space, with each stage arising from the successful resolution of the previous under a unifying identity. (Erikson, 1968) In comparison, SIT posits that individuals hold multiple group identities elicited in specific social contexts. (Stets and Burke, 2003a; Owens, Robinson and Smith-Lovin, 2010) Identity formation is dynamic. However, one's interpretation of the degree of dynamism (particularly in adulthood) is contingent upon the theoretical approach.

I return to my identity as a runner to conceptualise this further. Ideally, I hope others see me as consistent, goal-orientated, self-disciplined and resilient. Alongside running, I also swim in the sea once a week; therefore, one of my identities or an identity construct, depending on the school of thought, is that of a sea swimmer. However, I typically swim short distances and do not regularly train mid-week or enter races. As a runner, I run three to four times per week, enter races and additionally undertake weight training to support my running. My identity as a runner has more value because it aligns with my overall ideal identity of being committed, goal orientated and resilient. I label this my ideal identity as I recognise that while I wish to be seen in this manner, I can sometimes lose commitment, not be clear about my goals, and take on too many divergent obligations. This is also part of who I am but not part of my ideal identity.

In this example, I have portrayed identity as a more stable entity. If I consider a more dynamic view of identity salience, I would argue that my running identity is one identity, my sea-swimming identity is another, and the hierarchy of these identities will depend on the social context and group membership. For example, I am more likely to identify as a sea swimmer with a community of sea swimmers.

Thus far, I have considered the differences between identity theories arising from psychology and social psychology. However, similarities exist between the theoretical viewpoints, providing an integrated view of identity formation and a framework for identity-spanning empirical research. (Stryker and Burke, 2000; Côté and Schwartz, 2002; Stets and Burke, 2003b; Vignoles, Schwartz and Luyckx, 2011) This underpinning framework, spanning contemporary theories in identity formation, has informed my understanding of identity formation and influenced my choice of theoretical analysis, which I will discuss in more detail later. Thus, I recognise identity formation as;

1) A dynamic process through which identity can be formed, maintained and changed over time.
2) Both cognitively and socially mediated, the balance between these influences tends to depend on the discipline in which the theory originates.
3) Broadly, that commitment to an identity is a positive development.

Drawing from the literature and my interpretation, I understand identity formation as dynamic and occurring across one's life span. I recognise identity formation as a process which includes exploration and commitment and is cognitively and socially mediated. I align more with psychological theories of identity and understand identity as self-concept and self-image created by the individual but recognise the integral nature of socio-cultural influences on identity formation. I posit that the goal of identity formation is cohesion into a unifying identity, with identity revision occurring across a lifespan.

Having conceptualised my understanding of identity formation, I now move on to consider PIF.

3.3. Professional identity formation

PIF is a dynamic process of professional identity formation and revision that is both cognitively and socially mediated to provide structure, organisation, and meaning of self. (Van Maanen and

Barley, 1984; Ibarra, 1999; Kreiner, Hollensbe and Sheep, 2006; Dutton, Roberts and Bednar, 2010; Cardoso, Batista and Graça, 2014) PIF encompasses who one is and who one wishes to be seen as.

PIF theories typically arise from identity theories and thus embrace the same theoretical orientations. PIF is universally recognised as a dynamic process, with the origins of the PIF theory conferring the extent of this dynamism. Empirical research in PIF meets the same challenges as in identity formation. Firstly, there is no clear universal definition of PIF, and definitions will vary according to the underpinning theoretical considerations. PIF has been described interchangeably as professional identity work, professional identity adaptation, and professional identity construction. (Ibarra, 1999; Kreiner, Hollensbe and Sheep, 2006; Pratt, Rockmann and Kaufmann, 2006)

Secondly, no clear and shared organising structure is recognised across the literature in PIF, resulting in research studies that are perceived to have little in common. (Lepisto, Crosina and Pratt, 2015) Unifying theoretical conceptualisations of PIF follow those of identity in that PIF is:

1) Recognised to be dynamic.

2) Is constructed both socially and cognitively.

3) Has an overall positive contribution to self-concept.

(Niemi, 1997; Ibarra, 1999; Pratt, Rockmann and Kaufmann, 2006; Wenger, 2010; Dutton, Roberts and Bednar, 2010; Cardoso, Batista and Graça, 2014)

Pratt and colleagues synthesised the diverse literature on PIF, generating a three-stage model for PIF where PIF is initiated by identity triggers, modified by identity work and results in identity and non-identity-related outcomes. (Lepisto, Crosina and Pratt, 2015) Pratt and colleagues utilise the phrase ‘identity work’ to represent what I have described in this research as identity formation. (Pratt, Rockmann and Kaufmann, 2006)

PIF occurs in response to this trigger and is characterised by the tactics or process used to make PI adaption, variously described as splinting, enriching, patching, forming, repairing, maintaining, strengthening, observing, experimenting and reflecting. (Ibarra, 1999; Sveningsson and Alvesson,

2003; Lepisto, Crosina and Pratt, 2015) Pratt broadly summarised these identity activities under adding, retaining and subtracting. (Lepisto, Crosina and Pratt, 2015) I conceptualise identity formation as enrichment, maintenance, and modification in this research.

PIF determinants include role models, mentors, occupational communities, and work content. (Ibarra, 1999; Kreiner, Hollensbe and Sheep, 2006; Ashforth, Harrison and Corley, 2008) PIF enables individuals to reconcile current and future work with their internal and shared professional identity to promote commitment, coherence and self-esteem. (Niemi, 1997; Caza and Wilson, 2009; Lepisto, Crosina and Pratt, 2015) Successful negotiation of PIF processes provides a cohesive story of the professional self and a stable and integrated sense of professional and personal self-development if supported.

3.3.1. Idealised identity and professional roles

Idealised identities represent a projection of the ideals of an occupation, which may or may not be grounded in the realities of the role. Typically, idealised identities relate to an occupation's values, perspectives and norms. (Markus and Nurius, 1986; Strauss, Griffin and Parker, 2012; Morales and Lambert, 2013; Ashforth and Schinoff, 2016; Wolf et al., 2020; DiBenigno, 2022) In the empirical research, idealised identities have been conceptualised as future and contemporary entities. Idealised identities in current work typically become prominent when work content and individual or group PI are not aligned. (Ashforth and Kreiner, 1999)

I return to my identity as a runner to exemplify the concept of idealised identity. My idealised identity as a runner is to be consistent, goal-orientated, self-disciplined and resilient. My idealised runner identity incorporates my cognitive constructs of what I understand runners to exemplify and how I would like to be seen by others in my social groups.

When, for example, I miss training due to a lack of organisation in completing my working day on time, I will experience misalignment between what I am doing (my running activities or lack thereof) and my idealised runner identity (activity-identity misalignment), resulting in negative affect. To reduce this misalignment in the future, I have two broad choices in the short term. I can alter my behaviours to be on time for the next training session and thus be consistent. Or I can choose to adapt how I view consistency as a construct of my idealised runner identity, recognising that I may not always attend training, but I will maximise all the runs I participate in.

Through either behavioural or cognitive adaption, I have enhanced alignment between my actual (realised) running activities and my idealised identity as a runner without fundamentally undermining my runner identity.

In the example, I outlined my ideal identity in the example of my running and swimming identity. Ideal or idealised identities represent an aspiration for whom one wishes to be or be seen by others and have been conceptualised particularly in the PIF literature. (Maudsley, Williams and Taylor, 2007; Miles and Leinster, 2010; Findyartini et al., 2022; Teo et al., 2022) Returning to this study, I utilise the label 'work' to represent the contents of an occupation. I, therefore, conceptualise 'work' to define a broad domain encompassing activities, tasks, roles, groups and memberships. (Dutton, Roberts and Bednar, 2010) Work-PIF misalignment (also described as identity violation) occurs when there is a significant divergence between the contents of work (activities of work) and the idealised PI held by an individual. (Pratt, Rockmann and Kaufmann, 2006; Morales and Lambert, 2013; DiBenigno, 2022)

In summary, I conceptualise identity as who we are and who we are seen to be, a construct internally and externally mediated and modified by identity formation processes. Therefore, I further conceptualise PI as *who we are* and *who we wish to be seen as* in relation to an occupational role which is both externally and internally mediated and modified by PIF processes. PIF processes can be viewed mainly as activities that lead to identity addition, subtraction or retainment to provide coherence and commitment. (Lepisto, Crosina and Pratt, 2015) SCT is an effective theoretical framework to analyse PIF in that it incorporates each of these critical conceptualisations of PIF.

Having outlined the relevant theories and research in PIF, I now move on to consider PIF in medicine in more detail.

3.3.2. PIF in medicine

PIF in medicine has been defined as *'an ongoing developmental process that is shaped by the beliefs and values of the individual as well as by the environment, including both the formal planned and informal "hidden" curricula of medical education, healthcare delivery, and larger social forces'* (Kalet et al., 2018, p.3)

Interest in PIF within medical education dates back several decades (Cruess and Cruess, 2016) but gained prominence in medical education and medical education research after its recognition as one of the four pillars of medical education by the influential Carnegie Foundation. (Cooke, Irby and O'Brien, 2010) The Carnegie Foundation had been home to the landmark Flexner Report of 1910, which led to substantial reforms in medical education and training, advancing the biomedical model as the optimal standard for education and training doctors. (Duffy, 2011) The 2010 work by the Foundation, *Educating Physicians: A Call for Reform of Medical School and Residency,* was created in the same vein and proposed four core pillars of undergraduate and postgraduate medical education, of which professional identity formation was one. (Cooke, Irby and O'Brien, 2010)

Learners would internalise the values and attributes of the profession and reconcile conflicts between personal, professional and social identities. (Ginsburg, Regehr and Lingard, 2004; Hafferty and Levinson, 2008; Goldie, 2012; Jarvis-Selinger, Pratt and Regehr, 2012; Frost and Regehr, 2013; Wilson et al., 2013; Cruess et al., 2014, 2016; Wald, 2015a; Wald et al., 2015c; Cruess, Cruess and Steinert, 2016; Jarvis-Selinger et al., 2019) This presents a more complex entity for educators to facilitate within curriculum and practice but potentially leads to a more integrated, pragmatic and effective mechanism for educating clinicians.

The goal of an integrated PIF aligns with the stated aim of the precursory professionalism agenda, which is to enable clinicians to do the right thing at the right time in the right way for the benefit of patients, the public and society. At a macro level, the 'right thing' is defined by the societal–professional contract, which grants special privileges to professions in return for a commitment to competence, morality, and maintenance of ethical standards. This unwritten contract is operationalised by regulatory, professional, and educational bodies and laid out in GMP. (General Medical Council, 2020) At a meso level, the 'right thing' is defined by the team and organisations in which one works and the educational agreements undertaken for a doctor in training. At a micro level, the 'right thing' is defined by an internalised professional identity underpinned by values, attitudes and beliefs which guide daily decisions, actions and interactions. If educators are to effectively facilitate a professional identity during undergraduate and postgraduate, illuminating the determinants of PIF will be critical to developing effective curricula and educational interventions.

PIF in medical education is rooted in the professionalism movement described in Section 2.3 and the broader identity work described in this chapter. Cruess and Cruess are among the leading scholars of both the professionalism and professional identity movement in medical education and describe PIF as *'a representation of self, achieved in stages over time during which the characteristics, values, and norms of the medical profession are internalized, resulting in an individual thinking, acting, and feeling like a physician'*. (Cruess et al., 2014, p. 1447) Professional identity formation is an effective lens to explore the internalisation and reconciliation of professional values, and its utility has been well evidenced within medical education research. (Hilton and Southgate, 2007; Hafferty and Levinson, 2008; Cooke Molly, Irby David and O'Brien B, 2010; Cruess et al., 2014) The theoretical orientation of PIF in medical education research follows the trajectory of identity formation and the broader PIF literature drawing on, for example, the theories of Erikson, Marcia, Kegan, Tajfel and Turner, Lave and Wenger. (Monrouxe, 2010; Holden et al., 2012; Cruess et al., 2016; Cruess, Cruess and Steinert, 2018; Morris, 2018; Lewin et al., 2019)

Undergraduate and postgraduate medical education are developmental experiences with well-demarcated sequential stages towards an idealised professional self and profound social experiences with firmly held common identities. (Jarvis-Selinger, Pratt and Regehr, 2012) Neimi argued for a dynamic approach to PIF in medical education where a '*dynamic and dialectic equilibrium is maintained between the formation and maintenance of structure (i.e. commitment and the definition of self, e.g. who am I?) and flexibility and openness to change (i.e. exploration, e.g.…what is possible for me?)'.* (Niemi, 1997, p.409) Empirical research in undergraduate medicine supports these findings in identifying the critical determinants of PIF in medical education. At a contextual or environmental level, the culture of the profession, institutional norms, expectation and structure, formal and informal curriculum and societal expectations were identified (Dornan *et al.*, 2007; Weaver *et al.*, 2011; Wong and Trollope-Kumar, 2014; Tahim, 2015; Hughes *et al.*, 2016; Sawatsky *et al.*, 2018; Jarvis-Selinger *et al.*, 2019; Volpe *et al.*, 2019; Haruta, Ozone and Hamano, 2020) At a social or inter-relational level participation, enactment of roles, relationships, role models, feedback, work-PIF cycles, team integration, norms and expectations were critical. (Niemi, 1997; Pratt, Rockmann and Kaufmann, 2006; Dornan et al., 2007; Jarvis-Selinger, Pratt and Regehr, 2012; Wong and Trollope-Kumar, 2014; Tahim, 2015; Vivekananda-Schmidt, Crossley and Murdoch-Eaton, 2015; Volpe et al., 2019)

At a cognitive level, attitudes, beliefs, values and affect, including fear, anxiety and guilt, narrative development, confidence, autonomy and responsibility, have been identified as determinants of PIF. (Pratt, Rockmann and Kaufmann, 2006; Monrouxe, 2009; Wong and Trollope-Kumar, 2014; Vivekananda-Schmidt, Crossley and Murdoch-Eaton, 2015; Jones et al., 2016; Cope et al., 2017; Sturman, Tan and Turner, 2017; Swats et al., 2018, 2020; Jarvis-Selinger et al., 2019; Volpe et al., 2019) It has been argued that PIF is a critical foundation for developing committed, satisfied, and engaged clinicians. (Monrouxe, 2010; Goldie, 2012; Wilson et al., 2013; Byram, Robertson and Dilly, 2021)

Having outlined PIF across the continuum of medical education, I now consider how DIT may diverge from undergraduate students as relates to PIF.

3.3.2.1. PIF in DIT, implications for educators

DIT has several unique characteristics separating PIF in PG trainees from UG students. Critically, DIT play important occupational roles in delivering medical care, diagnosing, managing and treating patients under their care. The role of active participants occurs in tandem with development as learners, presenting significant identity tensions for the DIT not experienced at the UG level. (Mobilio et al., 2020; Santivasi et al., 2022) DIT hold professional roles with expectations and obligations and may project idealised images to meet these goals in conditions that challenge professional identity work. (LaDonna, Ginsburg and Watling, 2018a; McGaghie, 2018; Huffman et al., 2021)

Critically, individual and social professional values and beliefs met the messy realities of the world of clinical practice where value and identity clashes occur. (Monrouxe, 2010; Wald et al., 2015a; Sawatsky et al., 2020; Santivasi et al., 2022) The determinants of PIF in undergraduate medical education may be less influential in PGME, and other currently unspecified factors may play a more critical role.

Hilton and Slotnick argue that the critical role of educators across the continuum of medical education is to '*optimise the conditions for the acquisition and maintenance of professionalism in medicine'*. (Hilton and Slotnick, 2005, p. 64) It is imperative, therefore, to identify the determinants of PIF in PGME and prioritise effective educational strategies targeted at crucial mediating factors. As with medicine, the goal of medical educators should first be to do no harm.

It is, therefore, necessary for educators to be aware of the determinants of professional identity adaptation to ensure, at worst, educational interventions are not causing harm and, at best, are supporting the development of committed and engaged practitioners.

Traditionally, educationalists have argued that postgraduate DIT are less well represented despite the growth of literature and empirical research on PIF in undergraduate education. (Teunissen and Westerman, 2011; Snell, 2016; Barnhoorn et al., 2022) Increasingly, in the last five years, the focus of medical education editorials and theoretical overviews has moved to the postgraduate medical arena and the process of PIF situated in the realities of modern medicine. (Cope et al., 2017; Blouin, 2018; Sawatsky et al., 2020, 2018; Hansen et al., 2019; Chang et al., 2020; Mobilio et al., 2020; Kline et al., 2020; Wyatt et al., 2021; Chew, Steinert and Sim, 2021; Brandford et al., 2022; Santivasi et al., 2022) However, this remains an underrepresentation in comparison to the UG literature. To the best of my knowledge, there are no empirical studies of PIF in internal medicine registrars in the UK.

This research study describes the determinants of professional identity formation in PIT. I am focusing on the specialist trainee (ST) grade 3-7, previously known as the registrar level. This group is relatively underrepresented in the literature on PIF in medicine and poses an exciting study group given the significant number of changes experienced in their career to date, as outlined in Chapter 1.

In this chapter, I have explored the concepts of identity and professional identity, identity formation, and PIF in general and in medicine. I have identified DIT as having unique PI characteristics that require further research. In the next chapter, I will outline the utility of SCT as the theoretical lens for this research study and my broader approach to the methodology and methods underpinning this study.

Chapter 4. Methods and methodology

Having explored the current context and rationale for this study, I now move on in this chapter to outline the methodology underpinning this research and the data acquisition and interpretation method. Initially, I will describe my constructivist viewpoint as a foundation for this research and outline how the study was undertaken.

4.1. Ontology and epistemology

This research study is underpinned by a constructivist ontological approach with assumptions of a world in which multiple realities are constructed through lived experience and interactions with others. (Cresswell, 2003)

As mentioned, the inquiry draws upon Bandura's SCT as a theoretical approach that aligns with the theories of identity formation described in Chapter 3 and provides a methodological framework to interpret and create consensus in the research findings. In the next section, I will outline the consistent assumptions that draw together and dictate each of the three stages of this research (outlined below), (Crotty, 1998) thereby answering the principal inquiry to understand and describe PIF's determinants in training physicians.

1) The ontological and epistemological assumptions informing theoretical perspectives
2) The theoretical perspective delineating the methodology
3) The methodology governing the choice and use of methods

Through this research work, I am following a broadly constructivist paradigm. Guba and Lincoln described the constructivist approach as a relativist ontology. Multiple realities are constructed through lived experience and are socially mediated. (Guba and Lincoln, 1994; Cresswell, 2003)

Constructivist ontology emphasises the ability of the individual to construct meaning and encourages an interpretive approach in the researcher. Guba and Lincoln, in their constructivist paradigm, describe the epistemological approach as 'transactional and subjectivist'; thus '*the investigator and the object of investigation are assumed to be interactively linked so that the "findings" are literally created as the investigation proceeds'*. (Guba and Lincoln, 1994, p. 111) Unlike the positivist approach to epistemology, where

knowledge is judged to be 'true' and constitutes a fixed, stable, knowable reality, the constructivist approach embraces subjective interpretations and individual world perceptions as a valid starting point. (Brown and Dueñas, 2019)

By its nature, a constructivist approach acknowledges that there is more than one interpretation of the world. This contrasts with other worldviews focusing on the factual characteristics of the object under study. (Silverman, 2011) In a constructivist epistemological approach, the research methodology is designed to include and interpret multiple viewpoints. Constructivism differs from a positivist approach, where the correlation of findings is critical to the integrity of the research and subsequent generation of knowledge with or without the verification of a hypothesis. Experiences influencing PIF are multi-faceted and contextualised by the individual's values and beliefs and the environment and social arena in which they are actors, enabling an individual to construct their model of reality.

How one views oneself in their occupation (professional identity) and, indeed, in the broader meaning of identity is emotional and subjective; therefore, a philosophically constructivist approach is appropriate for this research study. (Dennick, 2016) In the preceding chapters of this thesis, I have outlined the potential determinants of PIF in physicians in training identified from the theoretical and empirical research. However, the methodological approach to the study was such that, while providing a context, these potentially influencing factors were not embedded into the research tool. Instead, a broad emergent approach was favoured, focusing on experiences of a world which are subjectively understood. (Green and Thorogood, 2018)

This approach aligns with Guba and Lincoln's description of a constructivist paradigm: "*The aim of inquiry is understanding and reconstruction of the constructions that people (including the inquirer) initially hold, aiming toward consensus but still open to new interpretations as information and sophistication improve*." (Guba and Lincoln, 1994, p. 113) This broad approach enables participants to construct meaning and allows the researcher to focus on specific contexts in which people live and work, thereby encapsulating historical and cultural settings to interpret others' meaning of the world they inhabit. (Cresswell, 2003)

Philosophically, this research aligns with an interpretivist approach to generating knowledge and understanding and explaining human experience. (Al-Ababneh, 2020) Interpretivism is based on the philosophy that reality is subjective, multiple and socially constructed. (Kivunja and Kuyini, 2017) Central to the interpretivist approach, research and subsequent methodology and methods seek to understand the realities of research participants as experienced by them, thus aligning with a qualitative approach. (Guba and Lincoln, 1989) Researchers seek to understand *'the individual and their interpretation of the world around them'.* (Kivunja and Kuyini, 2017, p. 33)

In addition to aligning with my ontology and epistemology, I perceive SCT to be an effective lens to investigate the process of PIF, as I will move on to detail in the following sections.

4.2 Social Cognitive Theory

SCT is a complex learning theory with origins in behaviourism, cognitivism, constructionism, social learning and humanism, developed by Professor Albert Bandura during his time at Stanford University. (Bandura, 2001) SCT was influenced by and also influenced behaviourism, cognitivism, constructivism, and humanism theories. (Mann, 2011) Bandura described SCT as '*a model of causation involving triadic reciprocal determinism. In this model of reciprocal causation, behaviour, cognition and other personal factors, and environmental influences all operate as interacting determinants that influence each other bidirectionally'*. (Bandura, 1989, p. 2) Fundamentally, individuals are recognised to have an internal locus of control and are influenced by environmental factors.

Bandura posited that environmental, behavioural and cognitive processes were all necessary for both the process and empirical analysis of learning. Furthermore, each aspect of the triad was functionally dependent on another; therefore, learning could not be understood or analysed by exploring any major determinants in isolation. (Bandura, 1989) Banduara described this as triadic reciprocal determinism.

Triadic Reciprocal Determinism.

In developing SCT, Bandura recognised the integral importance of social context (environment) and cognitive processes both from the view of information processing and the impact of memory and knowledge alongside the impact of thoughts, feelings and beliefs

(cognitive) and incorporated the behaviourist theories of behavioural impacts and outcome expectations (behaviours). (Bandura, 2001) A given construct's dominance and influence varies depending on environment, preferences and activities. A specific construct will exert bidirectional influences within this triad, i.e. environmental determinants will influence behaviour, *and* behaviours will create the environment. (Bandura, 2001)

SCT encompasses the individual and social processes of PIF and enables the researcher to explore how these processes influence one another. It has been argued that medical education literature has previously analysed identity formation from a psychological or sociological perspective, resulting in a loss of depth and complexity. (Santivasi et al., 2022) SCT incorporates converging concepts within psychological and social theories of identity formation. Therefore, Bandura's triadic reciprocal determinism is an excellent framework for analysing the moderating influences of cognition, behaviour and environment, thus overcoming the perceived limitations of the previous professionalism movement.

The central theory of SCT aligns with my understanding of PIF developed through this research study and originating in previous work on professionalism. PIF, and any aspect of identity formation, is complex and multifaceted, and it is unlikely that one unifying theory will draw together all aspects of that complexity. (Sharpless et al., 2015), As I have laid out in Chapter 1, I argue that the context of postgraduate training has undergone its most profound changes in a century. Context is, therefore, an essential component in this study and can be explicitly analysed through the environmental determinant of SCT. The professionalism movement described in Chapter 2 suffered for its reliance on observable behaviours as a measure of professionalism and its representation of core values. SCT includes observable behaviours, but a central tenet of the theory is the recognition that many other factors influence behaviours in both positive and negative ways. Finally, while Bandura's work has often been utilised in positivist research studies focusing on measurement and quantification, SCT embodies thoughts, feelings, imagination and self-assessment; therefore, reality is created and constructed by the individual interacting with others. SCT can thus be interpreted within an interpretivist epistemology and aligned with a qualitative research methodology.

SCT complex and broad nature makes it an effective theoretical lens for examining medical professional identity formation.

Figure 3-1 is a schematic representation of the triadic reciprocal determinism of SCT integrated with Pratts' three-stage PIF model and the hypothetical determinants of PIF drawn from UG empirical research.

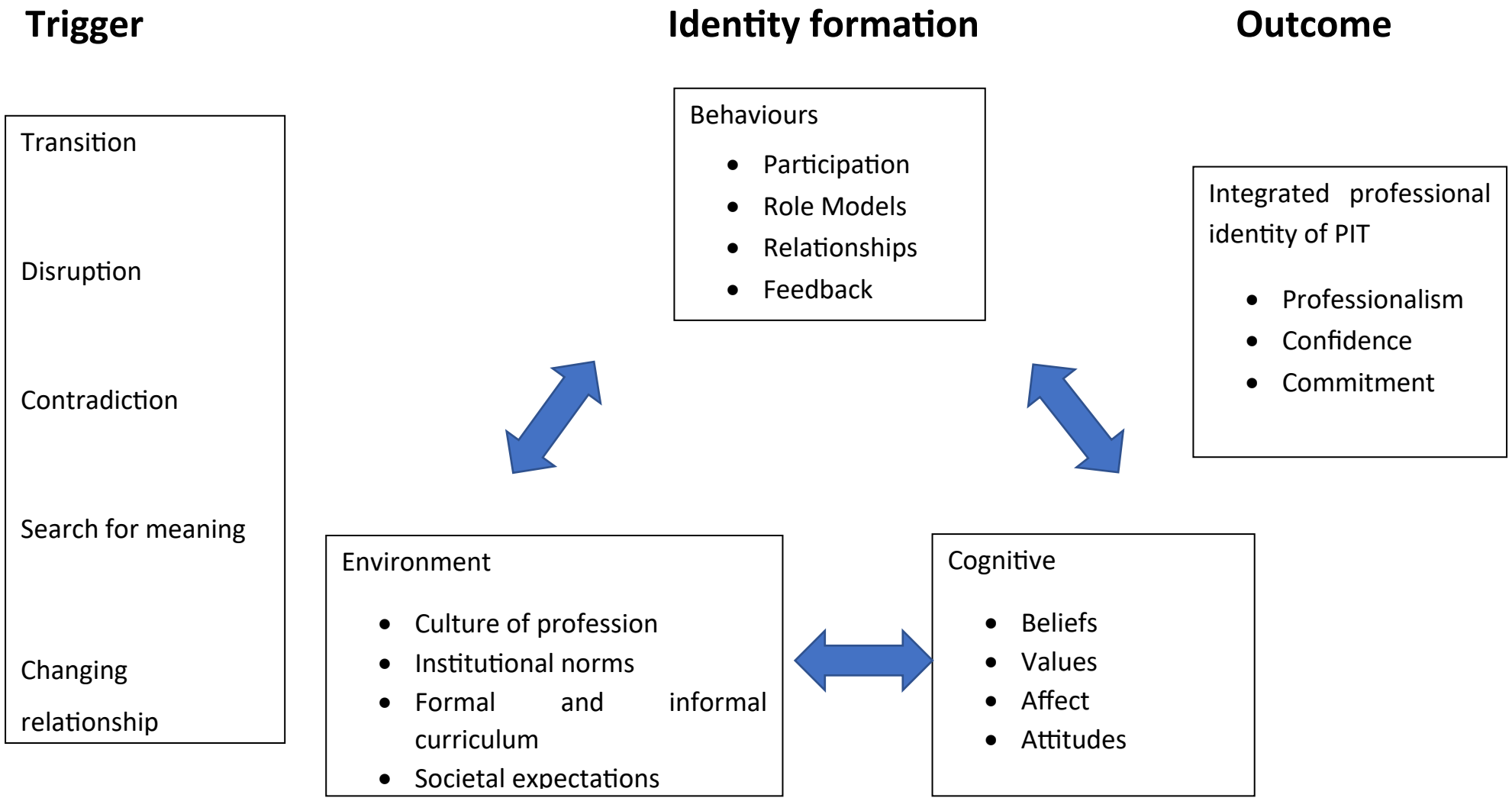

Figure 4-1. Schematic representation of potential determinants of PIF in DIT

However, there are critiques of this theory's utilisation in medical education. SCT was developed primarily as a theory of behavioural change. While SCT is widely utilised and recognised across the medical education literature, (Mann, 2011) behavioural change is not always a prerequisite for learning. SCT may have limitations when applied to exploring learning and adaption.

Secondly, it has also been argued that the central concepts of SCT lack a clear definition and thus limit reproducibility among researchers. The lack of shared understanding of meanings and wide variances in applicability in research and practice has weakened the utility of SCT as a unifying theoretical lens. (Mann, 2011)

In this chapter, I have described my methodological approach as constructivist and interpretive, and Bandura's SCT and, more specifically, triadic reciprocal determinism as the theoretical lens for analysis. I will now describe the methodology and methods as they align with my worldview and theoretical understanding of identity, professional identity, and medical identity.

4.2. Methodology

Aligned with my constructivist epistemology, I utilised phenomenology as my overarching methodological approach to acquiring knowledge in this research study. As I have outlined, I believe there to be multiple constructed realities, with knowledge being subjective and formed at an individual level. (Brown and Dueñas, 2019) Phenomenology aims to describe an individual's experience to understand the essence of a phenomenon and its meaning to subjective experience. (Rodriguez and Smith, 2018) In this manner, a phenomenological research approach facilitates a new appreciation of how an experience is understood. (Neubauer, Witkop and Varpio, 2019) My research methods align with an interpretive phenomenology approach characterised by a deep engagement with the research data. (Rodriquez and Smith, 2018) Phenomenology has been recognised as an appropriate approach for healthcare research as it facilitates the researcher to illuminate a breadth of influencing factors from the research participant's experience. (Rodriguez and Smith, 2018)

By undertaking this approach, knowledge of the phenomenon under study is consistently layered into a complex multi-dimensional appreciation of the lived experience of the research

participants. In addition to aligning with my epistemological stance, interpretive phenomenology aligns with my understanding of identity formation and therefore PIF. As I have outlined in Chapter 3, identity formation is complex, multifaceted and constructed by individuals based on their lived experiences. A single experience can hold multiple perceptions for the individual and numerous meanings to identity.

Critiques of a phenomenology approach suggest it is difficult for the researcher to engage with the data in a genuinely interpretive manner, i.e. to put aside one's beliefs, attitudes or suppositions to step entirely into the mindset of the research participant. (Pringle, Hendry and McLafferty, 2011; Zahavi and Martiny, 2019) Furthermore, while deep engagement with the literature provides an appreciation of complexity, frequent re-engagement and reflections may lead to over-interpretation of meaning, undermining the methodology's very goal, which is to appreciate the participant's lived experience. (Jasper, 1994; Pringle, Hendry and McLafferty, 2011) Despite these limitations, phenomenology is widely accepted in healthcare research to represent an appropriate approach to studying the lived experience of the healthcare workforce and users. (Smith, Cheater and Bekker, 2015; Rodriguez and Smith, 2018; Arakelian and Rudolfsson, 2021; Petersen et al., 2021; Rosenstrøm et al., 2022)

As I sought to understand the lived experience in my research and aligned with my constructivist interpretation of knowledge as subjective and formed at an individual level, I identified qualitative research as the appropriate method for data gathering, specifically semi-structured interviews. (Garner and Scott, 2013; Green and Thorogood, 2018) Qualitative research depends on human experience and allows the exploration of complex values and attitudes, providing depth and unveiling subtleties unlikely to be captured in quantitative enquiry. (Malterud, 2001; Green and Thorogood, 2018)

Data was collected through semi-structured interviews in keeping with the constructivist ontological approach underpinning this research. The semi-structured interviews aligned with SCT, consisting of open questions on behavioural, cognitive, and environmental determinants. These questions were purposely broad and enabled the participants to discuss topics they viewed as necessary. The interview topic guide is included in Appendix A.

I identified semi-structured interviews as the most effective method to answer the primary research question. Firstly, compared with questionnaires, semi-structured interviews enable the researcher to identify novel findings, which is important due to the limited research within the postgraduate field. Secondly, semi-structured interviews allow the researcher to explore topics of particular importance in further detail. Thirdly, semi-structured interviews facilitate the exploration of thoughts, feelings and beliefs. (DeJonckheere and Vaughn, 2019) Furthermore, unlike group interviews, participants could speak to problematic or sensitive topics without social censorship.

However, there are some limitations to using semi-structured interviews in this research. Firstly, semi-structured interviews can be biased by the interviewer in selecting topics to probe and follow-up questions. I was also a doctor-in-training at the time of the research and may have been biased in favour of my choice of follow-up questions. Secondly, professional identity is a complex phenomenon, and there were challenges in translating this to a semi-structured interview with which the participants could fully engage. Thirdly, the semi-structured interviews asked the participants to identify the components of a 'good doctor', which may inadvertently have evoked reference to 'Good Medical Practice', which outlines the standards of professionalism for doctors in training. Finally, the participants' responses may have been attenuated by my position as a research fellow at the Royal College of Physicians. My role may also have influenced the interviewees to provide answers in keeping with externalised standards as set by the RCP. Nevertheless, the research findings reflect an idealised identity to which all participants spoke.

Qualitative enquiry enables new theories that are relevant and authentic to the participants, reflecting their experience, framed from their unique perspective, and reflective of how they think and feel. (Glaser and Strauss A, 1967) Critics of qualitative research suggest a lack of scientific rigour in qualitative research, with a lack of consistency in methods and significant researcher bias. (Sandelowski, 1993; Rolfe, 2006; Noble and Smith, 2015) In this research, I have ensured alignment of ontology, epistemology, methodology and methods. I have documented my methods in this chapter and acknowledged my limitations as the primary researcher. Semi-structured audio-recorded interviews enabled me to repeatedly revisit data and maintain immersion in the participant's experience. I will now move on to outline the methods of this research study.

4.2.1. Methods

I will now outline the methods utilised in this study for data collection and data analysis.

Sample

The research participants must be registered with the GMC and hold a national training number in a medical speciality. Participants were enrolled in specialist training and spanned from specialist training level 3 (ST3) to specialist training level 7 (ST7). Purposeful sampling was undertaken to include specialist trainees at all stages. (Sawatsky et al., 2020) DIT were enrolled from early specialist training (ST) (ST3-ST4), from mid-ST (ST5-ST6) and late ST (ST7) to ensure a spectrum of views and experiences and to cover any sub-groups that may exist within the registrar grade.

All participants were enrolled in a postgraduate medical education programme, typically 4-5 years in the United Kingdom. The programme requires the completion of training, ensuring enrolment onto the Specialist Register and enabling independent practice in the UK.

DIT typically rotate between training posts within the training programme every six to twelve months. Participants typically record the completion of competencies in an online tool known as an ePortfolio. The ePortfolio encompasses educational agreements, workplace-based assessments, personal development plans and multi-source feedback tools. The ePortfolio is assessed annually by a body of consultants as part of an Annual Review of Competency Progression (ARCP). As a doctor-in-training, the training programme will include formal education events within a local or regional hospital and the opportunity to attend national and international conferences.

Context and training environment were identified as essential factors in the process of professional identity formation at the postgraduate level. Therefore, participants from acute (i.e. dual accrediting in General Internal Medicine (GIM) and non-acute medical specialities (i.e. not dual accrediting) were included. It was anticipated before recruitment that 8 participants from acute specialities and 7 participants from non-acute specialities would be enrolled on the study.

Recruitment

Participants were invited to join the project via electronic communications. I developed the email communication to include a description of the study's origin, the study's overall aim, and the broad structure of the interviews. The invitation to participate in this study was disseminated via email through educational and professional trainee networks, including the Royal College of Physicians trainee network, the Scottish postgraduate dean's network, and the Northern Irish postgraduate deanery network between February 2019 and April 2019. NHS routes were not included as this was outside the ethical permissions for this study. Potential participants registered their interest in enrolling in the study via email. All potential participants received a participant information sheet in advance and a copy of the consent form.

Seventeen semi-structured interviews occurred between February 2019 and June 2019, predating the Covid-19 pandemic. Table 2 outlines the gender, stage of training and speciality of the research participants. I did not collect data on the ethnicity of participants as I did not set out to explore this aspect of PIF, however, this would be an interesting area for future research.

Interview number	Primary speciality	Dual	Age	Gender	Level	OOP	Details of OOP	FT/LTFT	Primary degree
1	Neurology	N	33	F	ST4	Y	Fellowship and OOPE	FT	Y
2	Palliative care	N	37	F	ST5	Y	Maternity	LTFT	Y
3	Respiratory	Y	33	M	ST4	Y	LAS and PhD/OOPR	FT	Y
4	Respiratory	Y	32	M	ST6	Y	Educational fellowship	FT	Y
5	Renal	Y	32	F	ST5	Y	Fellowship and maternity	LTFT	Y
6	GUM and HIV	N	35	M	ST5	Y	Fellowship and maternity	FT	Y
7	Respiratory	Y	34	M	ST4	Y	FY3 and PHD/OOPR	FT	Y
8	Nephrology	Y	33	F	ST6	Y	Maternity and OOPE	FT	Y
9	Nephrology	y	33	M	ST7	N		FT	Y
10	Respiratory	Y	31	F	ST5	N		FT	Y
11	Respiratory	Y	36	F	ST7	Y	Maternity and PhD/OOPR	FT	Y
12	GUM	Y	31	M	ST5	N		FT	Y
13	Gastroenterology	Y	39	F	ST6	Y	Teaching fellow and maternity	LTFT	Y
14	Medical oncology	N	38	M	ST3	Y	Worked abroad and maternity	LTFT	Y
15	Oncology	N	35	F	ST5	Y	PhD/OOPR and fellowship	FT	Y
16	Gastroenterology	Y	37	F	ST6	Y	Maternity and PhD/OOPR	LTFT	Y
17	Geriatric medicine	Y	32	F	ST5	Y	Locum Australia and UK	FT	Y

Table 2. Overview of research participants

Key: OOP = Out of Programme FT= Fulltime LTFT= Less Than Full Time. OOPE = Out of Programme Experience OOPR = Out of Programme Research. Dual = dual accrediting in GIM

Twelve of the interviewees were undertaking formal training in their specialist area and in general internal medicine, and five were training only in their specialist area. Two trainees took time out of the training programme at the time of the interview, one undertaking a formal research degree and a second on an out-of-programme (OOP) experience. The trainee ranged in seniority from specialist trainee three (ST3, approximately 4-6 postgraduate) to specialist trainee seven (ST7, approximately 8-10 year postgraduate). All participants had experience in a training programme as specialist trainees and previous experience as core medical and foundation trainees.

Semi-structured interviews

Semi-structured interviews facilitate the collection of data as relates to the lived experience of the individual (Garner and Scott, 2013) and an inductive-deductive analytic approach to data in keeping with an interpretive phenomenology methodology. (Rosenstrøm et al., 2022) As I have outlined thus far, my theoretical lens for this research is SCT, specifically, the central tenant of triadic reciprocal determinism. Semi-structured interviews are the ideal data collection tool as the interview guide can ensure complete coverage of all three major themes (cognitive, behavioural, emotional) while eschewing any pre-coded answers and enabling participants to frame and answer questions from their lived perspective. (Garner and Scott, 2013) Critiques have suggested that semi-structured interviews lack the depth that observational data can add to the interpretation and analysis of empirical research. (Green and Thorogood, 2018) However, as I have outlined in Chapter 3, I understand identity formation as self-concept and self-image created by the individual. Therefore, the perception of participants and the meaning they internally apply is critical to this research study, and semi-structured interviews are an appropriate data collection tool.

I developed the semi-structured interview data collection tool drawing on the theory, relevant points in the literature, and my own experience. I reviewed the tool in supervisory meetings to ensure academic rigour and alignment with the research question. I piloted the tool in the field with several undergraduate medical students, with subsequent minor corrections to clarity and order.

The final interview schedule is attached as Appendix A.

Data was collected through semi-structured interviews. Each interview lasted at least 40 minutes. During the semi-structured interview, participants were encouraged to frame answers from their perspectives, speak freely, expand answers, and follow topical trajectories. The topic guide could be used as preformed questions or as a topic aid memoire at the researcher's discretion, dependent on the trajectory of the interview.

Audio tapes were uploaded by the researcher collecting the data (JT) and sent to a professional transcriber. Audio tapes from interviews were uploaded to the transcriber by secure networks. Audio files were deleted (and recycle bins emptied) once transcribed. A professional UCL transcriber was used to transcribe audio tapes from UCL procurement lists and is aware of the responsibilities of GDPR. I validated all transcriptions against the contents of all audio tapes to ensure accurate transcription. I anonymised the transcripts, and these were not shared further. Interview transcriptions were stored on password-protected, regularly updated UCL servers. Identifying personal data was removed from the interview transcripts. Transcribed material carried a unique reference number. Real names were only known to the data collector. Transcripts will be deleted after the final examination.

Ethics

The consent form was discussed and signed by the participant and the researcher. All participation was voluntary, and withdrawal could have occurred without consequence. Verbal consent was sought before commencement, and participants were reminded about the voluntary nature of the study.

All the participants in this study were informed about the nature of the study, how data was to be used and the intended outcomes. Participants were provided with information sheets in advance and on the day of the interview. Participants could decline to take part in the study at any point in the process without concerns of coercion. Informed consent was confirmed on the day of the interview. Appendix B and C include participant information sheets and consent forms.

The purpose of the interviews was to understand the context in which training takes place, the relationships that have informed the trainee's professional identity adaptation, and the experiences of the trainee. There was the potential to evoke a range of emotional responses

in the participants. The participants had the right to terminate the interview at any point should they find it difficult to continue. The interviewer had a printed list of resources the trainee could access after the interview, such as the practitioner's health practice and the British Medical Association helpline. The interviews were conducted professionally and were neither overly intrusive nor friendly.

All participants in the research study had a reasonable expectation of confidentiality. As a GMC registered doctor, I was aware of my professional duty to raise concerns if patient safety, dignity or comfort is being compromised, recognising the limits to absolute confidentiality. There was the potential for the trainee to raise concerns about the practice of other individuals or teams. If the participant appears to be in an emergency situation, I was aware that confidentiality could be breached for the good of the individual or others.

As a research fellow employed by the Royal College of Physicians, I recognised there may be concerns about my impartiality and use of data. In the consent and information sheets, it was explained that all data is anonymised and anonymised. Furthermore, all material potentially identifying the participant would be removed from quotations published in reports or academic literature. I also verbally informed participants of the aims and use of the study.

There were no financial incentives or access to services not available pre-participation in this study.

Ethical was sought and gained from UCL Research and Ethics Committee, ethical approval number 12559/001

Data analysis

Semi-structured interviews were audio-taped and transcribed verbatim. As this study sought to understand the breadth of PIF determinants, I explored the entire data set, identifying themes relevant to the participants and utilising an interpretive phenomenology approach.

Firstly, with this approach, the researcher becomes familiar with the data, subsequently undertaking data reduction and thematic analysis. Secondly, the researcher undertakes an ongoing iterative process of comparing data, reflecting and writing summaries, subsequently

re-engaging with the data and repeating the process of comparing, reflecting and summary writing, continuing this ongoing process until the essence of the phenomenon under scrutiny can be described. (Neubauer, Witkop and Varpio, 2019)

In Figure 4-2 below, I have outlined the methods of this research study aligned with an interpretivist-constructivist and interpretive phenomenology approach. What is said and what is meant for identity formation often require deeper analysis and reflection, returning to data with a growing appreciation of the broader narrative. See the data analysis below for more details.

For example, I return once more to my identity as a runner and consider myself in the third person as the runner and the first person as the researcher. Jude may say, "I was pleased I ran the 10k two minutes faster than the last one", which, at surface level, may not appear to relate to identity formation and outcome. However, as I (the researcher) continue to analyse the data and build a picture of Jude's preferred identity, I recognise her as goal-orientated and consistent in my reflections and writing. When I re-engage with the data as per my methodology, I can now see how the above statement enriches Jude's identity as goal-focused and consistent and could motivate further training. Thus, understanding the role of identity in moderating experience requires deep engagement with research data and immersion in the participants' experience in keeping with an interpretive phenomenology approach.

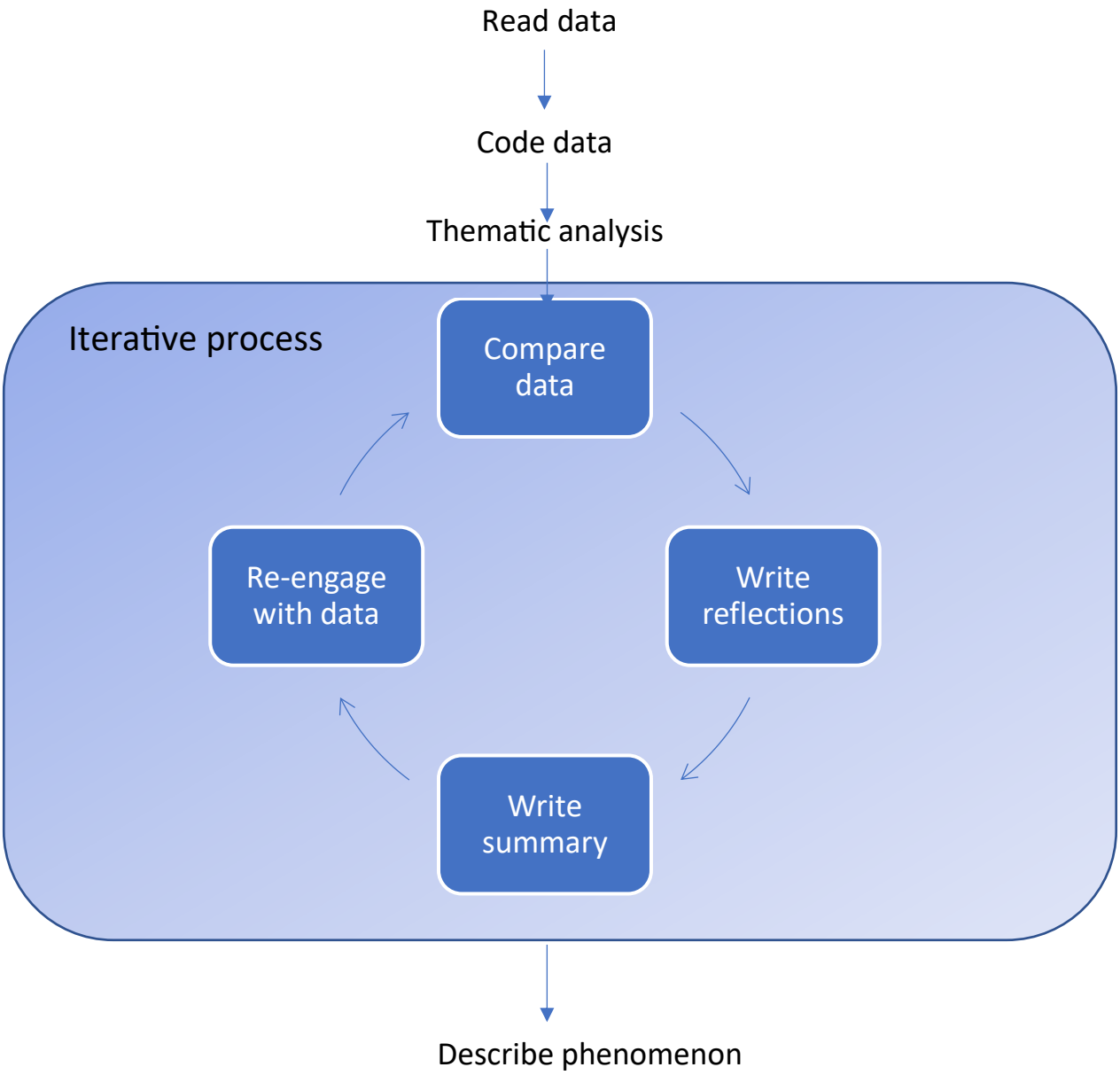

Figure 4-2 Summary of the method utilised to analyse data in this study in line with an Interpretative phenomenological approach.

4.2.1.1. Process

1. Read and code data

Initially, I familiarised myself with the data relistening to audiotaped recordings and reviewing transcripts. I subsequently reduced and coded the data utilising line-by-line coding of the entire data set. I utilised an inductive-deductive approach for coding the research data.

(Garner and Scott, 2013; Barnhoorn et al., 2022) I entered coding with a pre-specified analytical framework of behavioural, environmental, and cognitive determinants identified from SCT. However, I undertook line-by-line open coding of the entire data set, identifying concepts as they emerged, thus encompassing a deductive-inductive approach to coding. (Bingham and Witkowsky, 2022) Data coding was supported by using NVIVO.

2. Thematic analysis

I utilised thematic analysis as a theoretically flexible method for identifying themes and subthemes within the data set. (Braun and Clarke, 2006) After coding the entire data set, I grouped the codes into potential themes under the broader analytical framework (environment, behaviours, cognitive) and collated all codes pertaining to the identified themes. (Braun and Clarke, 2006) I reviewed the themes, removing themes without enough or non-consistent data and merging themes with significantly overlapping codes. (Braun and Clarke, 2006) Figure 4-3 demonstrates the themes and subthemes identified through this process.

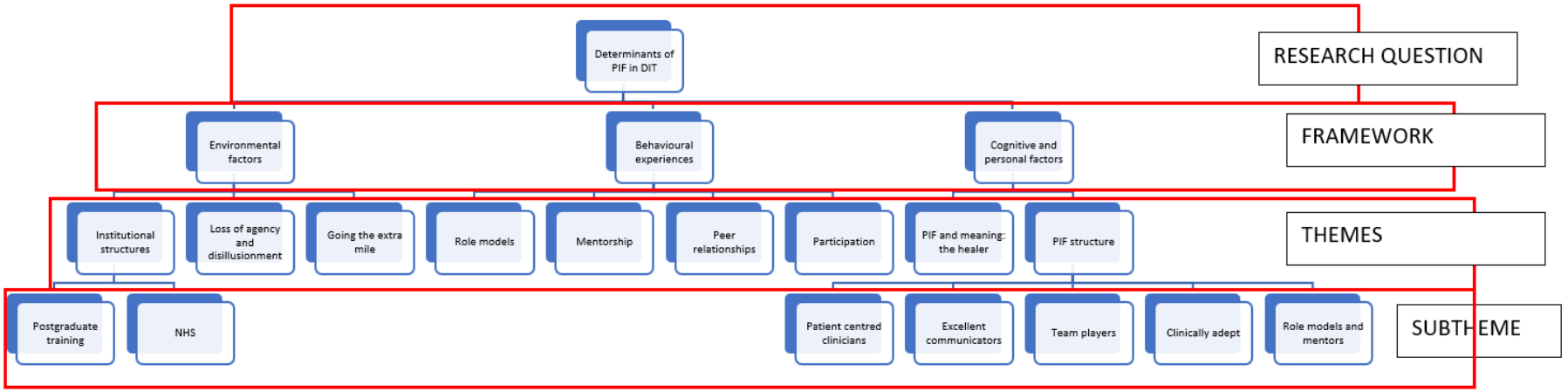

Figure 4-3 Initial themes and sub-themes identified by thematic analysis

3. Comparison, reflection and summary writing

Having identified the major themes and subthemes, I then iteratively reflected upon and summarised the findings of the thematic analysis. Summary reflections and writings were shared with the primary supervisor, and the themes were continually refined. All data not relating to PIF was removed from the analysis set, and themes were clarified in relation to the theoretical framework. During this process, I continually re-engaged with the data per my methodology (outlined in Figure 4-2) in keeping with an interpretive phenomenology approach. Through iteratively re-engaging with the data, I recognised that aspects of the phenomenon under investigation (PIF) were not captured in the framework outlined in the figure above.

The SCT analytical framework captured much of the relevant data about PIF in DIT. However, reviewing the full interviews, I identified essential codes and themes concerning PIF arising from the data that had not been fully captured in the SCT framework. This is mainly related to the concept of socialised identities, environmental determinants of PIF and the concept of work-PIF misalignment.

Three fundamental limitations of the SCT analytical framework in its original form were identified by engaging with the data in the interpretative phenomenology approach outlined above.

1. Difficulty maintaining consistency throughout as to whether a code or theme belonged to a particular construct, e.g., ‘team player’ could be considered a cognitive belief, a behaviour or an environmental construct leading to duplication within themes, inconsistency in thematic analysis and challenges in reproducibility in future research

2. Environmental determinants were only relevant as to how they impacted the participants' sense of professional identity in that they worked to either move them towards their ideal professional identity (work-PIF alignment) or away from their idealised identity (work-PIF misalignment). Therefore, PIF's cognitive determinants (or ideals) were a critical lens through which to view the participants' environment.

3. Reductionist: As Bandura himself recognised, there is a dynamic interaction between the constructs of SCT. Any data analysis on PIF and SCT must integrate elements of this or risk reductionism perpetuating the challenges of the original professionalism movement in separating behaviours and environments and the individual from the whole.

Therefore, I adapted the SCT analytical framework to capture both the elements of the framework and the reciprocal interacting nature of concepts within the framework by introducing the concepts of idealised and realised identities, work-PIF alignment and bridging the gap, permitting a deeper understanding of the complex interplay between identity and environment and affect.

Idealised identity thus describes the participant's firmly held and internalised cognitive beliefs and ideals about what it means to be a doctor and how, in an environment without constrictions, the participants would describe and enact their professional identity.

Realised identity (activities of work) describes the enactment of this professional identity within the lived realities of the participants' environment. In this research, environmental constructs were relevant only as understood as how they facilitated or restricted the participant's idealised identity.

Behavioural determinants were important as they enabled alignment between work (in its broadest sense) and idealised PIF. Bridging the gap describes the predominantly behavioural determinants used by the participants to reduce the impact of work-PIF misalignment. Behavioural determinants enabled the participants to better align their work with their idealised identity through identity formation processes.

Figure 4-4 summarises results from stage 3 of data analysis.

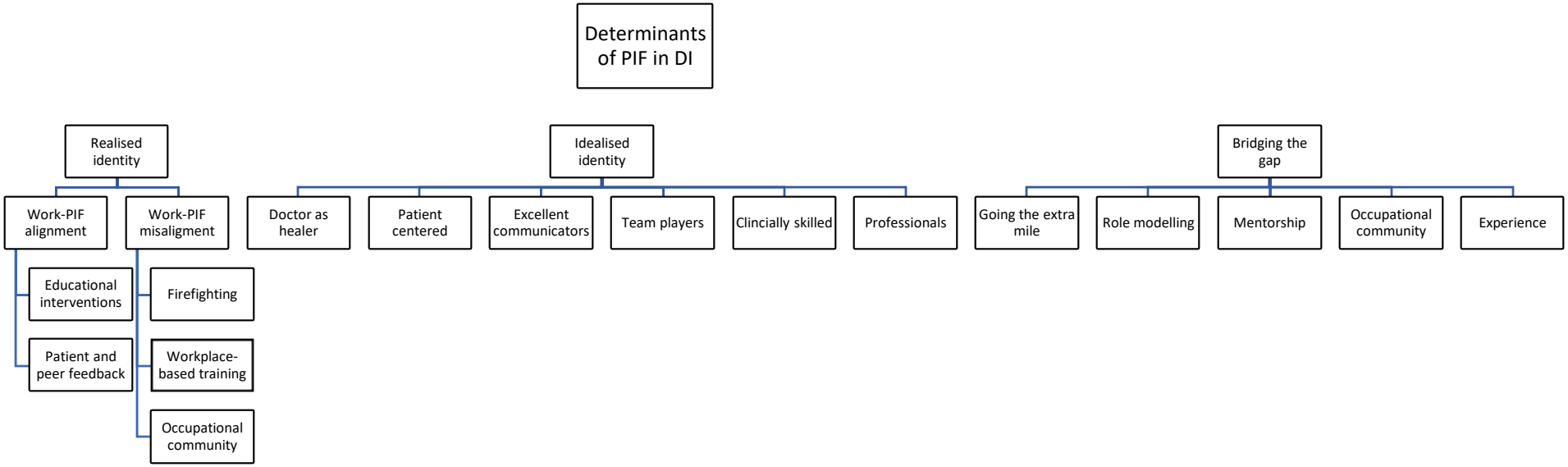

Figure 4-4 Final themes and subthemes as identified by thematic analysis and reflective writing

4.2.2. Role of the researcher

I was also, at the time, a doctor in training dual accrediting in general internal medicine and cardiology. Semi-structured interviews '*risk directed or probing questions from an interviewer is evidence of bias, that is, that they are mining for data that will affirm their preconceptions*'. (Galdas, 2017, p. 1) During the interviews, the research participants acknowledged my professional identity by using phrases such as 'I am sure you know what I mean' and 'You know what it's like', highlighting the potential for blurred boundaries between myself and the participants. (Galdas, 2017) Potentially, this may have led to the participants withholding data for fear of peer disapproval or assuming complicity and failing to describe their own experience fully. (Dwyer and Buckle, 2009) Alternatively, as the interviewer, I may have unconsciously pursued follow-up questions around areas that resonated personally and professionally or treated the participants with less critical appraisal than an outsider. (Dwyer and Buckle, 2009) It has been argued, however, that despite recognised limitations, 'insider' academic research can benefit the study, including 1) interviewer-interviewee acceptance leading to a more open interview. 2) the benefit of tacit clinical knowledge in data capture and analysis, and 3) potentially bringing deeper meaning through an understanding of the healthcare environment. (Greenhalgh and Taylor, 1997; Richards and Emslie, 2000; Brannick and Coghlan, 2007; McNair, Taft and Hegarty, 2008) With this awareness, I sought to bring reflexivity to the research semi-structured interviews, as suggested by McNair and colleagues, to reduce clinician 'insider' status limiting interview data (McNair, Taft and Hegarty, 2008) by:

1) Encouraging participants to discuss and follow important data out with the interview proforma

Interviewer: It's quite a nice reflection, I guess, of what you were saying about being a professional, that there's being a professional, but there's sometimes a cost or an impact that comes with that, isn't there? It's not completely straight-forward, is it?

2) Exploring feelings and meaning

Interviewer Yes. You said that there's some job satisfaction associated with...

Interviewee Yes.

Interviewer Can you talk to me a little bit more about that?

3) Ensuring interpretation

Interviewer: What is it that makes you feel, or makes your colleagues feel that you do have to offer that choice?

Taking these limitations into account, there were nonetheless several important findings in the research that have implications for educators and faculty as they seek to influence PIF towards a stable, engaged, and satisfied professional identity.

In this chapter, I have outlined my ontological and epistemological approach to this research. I approached this research from a constructionist-interpretive perspective. Multiple realities are constructed through lived experience and are socially mediated. In holding an interpretivist view of identity formation, I sought to understand the phenomenon through the lived realities of the participants, utilising SCT as the theoretical lens. In keeping with this, my overall approach aligned with an interpretive phenomenology methodology. Qualitative research methods were identified to answer the research questions and in keeping with the ontological-epistemological-methodological approach. Semi-structured interviews were chosen as the data-gathering tool in this research. Data analysis consisted of 1) line-by-line coding of data, 2) grouping of themes under the broader analytical framework, and 3) reflecting upon and summarising the findings of the thematic analysis generating the final themes and sub-themes. I now move to present the research findings.

Chapter 5. Findings

Semi-structured interviews

Seventeen semi-structured interviews took place between February 2019 and June 2019. Data was analysed as outlined in this thesis's methodology and methods section. (Chapter 4) Table 2 demonstrates the overall findings of the data analysis with respect to the theoretical framework, themes, subthemes and examples. I now describe the findings in more depth, presenting the results under the theoretical framework of cognitive, environmental and behavioural determinants.

Table 3. Overview of research findings

Theoretical framework	Theme	Subtheme	*Examples*
Cognitive	Identity of the good doctor	Doctor as healer	*IV16: And also, being a doctor, the main drive to me to be a doctor is to be able to help other people, and there are always different ways and better ways that you can do that*
		Patient-centred	*IV6: Someone who is interested in their patients, someone who puts the patient at the centre of their care, listens to them, listens to the patient*
		Excellent communicator	*IV15: So, to my mind… I think communication is one of the highest things, you know top of things that you need*
		Team player	*IV8: So, I think a good doctor…so someone who is approachable, who can adapt to patients and staff and works well within a team*
		Clinically skilled	*IV10: I'd like people to think that I'm good at my job from a clinical perspective and knowledgeable that's one aspect*
		Professionals	*IV3: …work of responsibility, like I think it's a job where you have to take your responsibilities seriously*
		Idealised identity	*IV12: Like, everyone wants to be seen as a good doctor...*
Environmental	Work-PIF alignment	Educational interventions	*IV4: I think I'm lucky that actually the way I want to be viewed, I know about it already through our ePortfolio*

Determinants		Patient and peer feedback	*IV11: And I've had feedback from patients who say, oh, gosh, nobody has even explained it to me like that, that's really helpful. I think that's probably one of my key strengths*
	Work-PIF misalignment	Firefighting and perception of underperformance	*IV8: Well, I think, in the workplace, it's the time pressures, and the big thing at the minute anywhere you work because it's so short-staffed… But, you know, you're constantly being pulled in every direction, and you constantly feel the pressure*
		The pressures in workplace-based postgraduate training	*IV7: But actually, in the evenings and the weekend you're doing your EPortfolio or you're actually even becoming a worse doctor because of the EPortfolio because you're not reading around these subjects, you're filling in a form.*
		Occupational community	*IV5: And I suppose in terms of negative, I suppose I had a colleague that had a difficult time, was undermined to the point of bullying and to the point where mainly they had to take a period of stress leave.*
	Realised identity	Perfectionism and high expectations	*IV10: I think it's mainly the service demands really...I think I've got quite a sort of do I say type A that sounds quite negative, like perfectionist type personality but I think being that person is quite difficult to work in the NHS when you're a bit obsessive and a bit of a perfectionist because it's difficult to let go.*
Behavioural determinants of PIF	Bridging the gap between idealised and realised identities	Going the extra mile	*IV4: I kind of feel historically the role of a doctor is in going the extra mile. And if you're not prepared to, you probably shouldn't be a doctor.*
		Role modelling	*IV9: And that's the sort of case where it was one particular person that inspired me to go to it. It was just that general enthusiasm, that passion. Just passion for that form of speciality that influenced me, I think. Thinking wouldn't it be great if I could be like him.*

		Mentorship	*IV16: It was the first time I came across someone that wanted to make you grow in your role and not just someone that wanted to give you orders and just make you do a day-to-day job for them. That's what was important. That's what I feel a mentor is, someone that helps you grow.*
		Occupational community and safe space	*IV15: What was really nice is that we met once a week for a day, and we were all first-year oncologists, and we could just debrief, and talk about the horrific case that we saw, or the difficulties we were having, and stuff like that.*
		Experience	*IV3: it's a bit of a process, isn't it? Like you don't start as an FY1 being the finished article, you know you have to develop into it a little bit. And you know it's balancing an awful lot of things being a good doctor.*

5.1. Cognitive determinants of professional identity

Across the research participants, there was a well-defined and shared cognitive ideology of the professional identity of a doctor. The data analysis generated by the semi-structured interviews identified shared characteristics that the participants perceived to form the doctor's professional identity.

In the results section, I refer to the research participants as Physicians in Training (PIT).

5.1.1. Theme 1: Idealised identity of the good doctor

Six central subthemes emerged from the data analysis, which represented the good doctor's constructs. These are outlined in Figure 5-1 and are 1) doctor as healer, 2) patient-centred, 3) excellent communicator, 4) team player, 5) professional and 6) clinically adept. These constructs were expressed throughout the semi-structured interviews with minimal deviation among participants. I now move out to outline each of these constructs in turn, as summarised in Figure 5-1.

Figure 5-1 Cognitive constructs of the good doctor

5.1.1.1. Doctor as healer

All participants in the study strongly identified with the central concept of the doctor as a healer, which is to use their professional skills and attributes to relieve pain and suffering.

> *IV 9: And I think a lot of doctors I meet still value that opportunity to sort of treat patients and use the scientific knowledge that we have to help improve people's health*

This characteristic was central to the research participants' professional identity and a core motivator in their occupation role.

> *IV16: And also, being a doctor, the main drive to me to be a doctor is to be able to help other people, and there are always different ways and better ways that you can do that, so what it gives me is satisfaction in my job in making sure my patients are better and happier,*

> *IV5: So, I suppose it is a great profession to be able to help people and I suppose that's why I'd be proud*

The importance of this characteristic within their professional identity was evident by the meaning and satisfaction they derived from its enactment.

> *IV11: I think it's really satisfying when there are certain things that you do that make the patient feel better or cure them or make them well, or just make their whole experience less awful… Or even just to put people at ease or make them less anxious about their diagnosis or potential diagnosis or whatever that is. That's one aspect that I find really fulfilling and rewarding and that's one of the main reasons I do it.*

5.1.1.2. Patient-centred

All participants in the study believed it was an essential characteristic of a modern doctor to provide and support patient-centred care.

> *IV6: Someone who is interested in their patients, someone who puts the patient at the centre of their care, listens to them, listens to the patient.*

The participants described patient-centred care in practice as a stated or explicit acknowledgement of the patient's concerns and expectations within the consultation, an individualisation of management strategies and a prioritisation of the patient's own goals and desires.

IV6: It's listening to the patient to see... I suppose one can say it's not necessarily, the patient's not always looking for the cure or what the medical expert answer is. It's sometimes what's important to them is not what we consider important.

As part of this, the participants recognised the importance and value of being able to provide individualised care.

IV3: And I'd like my patients to think that I care and that I've got their best interests at heart …, and also wanted to get to the bottom of what was wrong with them – wanted the best for them rather than just them being a number on a clinic list.

IV16: And compassionate will be the same. You need to be compassionate towards your patient, understand what their needs are, and try to reach out not just to treat a disease but you're treating a person who has a life and feelings, and you need to take all this into consideration.

The PIT described working with patients in a partnership role and empowering them to make decisions about their health.

IV10: You've got some people who say well, you've had an unprovoked PE [pulmonary embolism], we should just be on anti-coagulant all life long and then you've got other patients who go well, your risk from thromboembolism is X and Y, your risk of bleeding on anti-coagulant is this. What do you think about it? And that's much more sort of holistic, patient-centred care in my opinion rather than saying well this is what I think you should do.

Again, the participants derived fulfilment and meaning in their occupational role when they were facilitated or had the opportunity to enact this characteristic of their identity in their workplace.

> *IV17: The bit I find the most enjoyable is whenever you… I really like it when you support them to make the big decisions for themselves, about what they want and about their health and particularly what they don't want done.*

> *IV1: So, what I think I really like about it is being that doctor who sees them, but also engages them, explains to them what's going on, and developing that relationship and that bond with the patient.*

5.1.1.3. Excellent communicators

The research participants prized strong communication skills as essential to the doctor's professional identity.

> *IV15: So, to my mind… I think communication is one of the highest things, you know top of things that you need*

> *IV9: I love patient interaction. I think the best thing that a doctor can do is to be an effective communicator with patients and relatives.*

The PIT perceived an effective communicator to present information in a way the patient could understand, establish a relationship with the patient and meet the patient at their level.

> *IV10: I guess just explaining things, jargon-free, active listening skills and just trying to just it sounds silly but actually being nice and caring what the patients' concerns and expectations are and trying to address them and a lot of that is being able to give them time.*

> *IV17: Probably the one that would strike most is probably a kind of compassion towards patients and the ability to develop a rapport, in order to be able to communicate with patients at their level and work on their best interests.*

Many of the participants described their strength in communication as a particular attribute and often described it as a critical component of their self-esteem within their occupational role.

IV11: Yes, how I see myself. Yes, I think my strengths definitely, I would say are talking to patients and hopefully kind of working with them and explaining things to them. I do tend to use pictures and diagrams or show them their scans.

IV1: I think that they can understand me and feel they can open up with me and develop a good rapport. I like to think of myself as an intelligent doctor as well, but I definitely think that my strength lies within my communication skills with the patients and that's the part that I enjoy the most as well.

5.1.1.4. Team players

The fourth characteristic identified in the research which formed the participants' professional identity was an individual who values the teams in which they work and is themselves a good member of the team.

IV8: So, I think a good doctor…so someone who is approachable, who can adapt to patients and staff and works well within a team

IV15: And one of the things that I think is important to us… a good team player, approachable, and able to work well within the team.

Being a team player was characterised by respect for others, collaborating and listening to other members of the multi-disciplinary team.

IV14: I think teams are one of the most important things that we have in healthcare….. everyone brings something to that team that has an expertise and is able to improve the patient. And therefore, it's about making sure that an effective team, whether that's everyone has the ability to contribute, rather than being like a dictatorial kind of head of the

organisation, telling a team what to do within a MDT [multi-disciplinary team], for example

IV6: Well, I hope that they think I'm approachable and an effective team worker and, pleasant to work with and a good leader when necessary. I hope they think all of those things.

5.1.1.5. Clinically skilled

The PIT prized clinical skills as an important component of their PI, particularly as related to knowledge and clinical decision-making,

IV10: I'd like people to think that I'm good at my job from a clinical perspective and knowledgeable that's one aspect.

Research participants recognised advanced clinical reasoning and critical thinking as essential, reflecting, in part, their stage in training and considering their advancement to a consultant position.

IV 7: The ability to be able to put together information in such a way as to make a diagnosis… pattern recognition and analysing bits of information to be able to come to a diagnosis and management of that.

IV17: The other things would be good clinical judgement so it would be some of the consultants who just are very… have a really good base in clinical knowledge but are actually able to apply it well to the presentation and are really able to get the focus down in their kinda differential diagnosis their history and examination, they have a clear idea with what they think's going on.

Clinical skills, including data interpretation and specialist knowledge, were universally recognised by the participants as necessary for the good doctor.

IV1: I mean, you do have to have specialist knowledge. You do have to have put in a lot of hard work, actually tracking down, investigations, putting things together, talking to people, but, at the same time, you also need the specialist knowledge to know what is important and what isn't.

IV3: Well, I think obviously going beyond kind of sort of competence at the job – intelligent medicine and good clinical skills, which I assume are a bit of a given because irrespective of any other qualities, you won't be a good doctor if you don't know any medicine.

5.1.1.6. Professionals

Alongside the abovementioned characteristics, the PIT viewed themselves as professionals and were aware of their fiduciary responsibility. Being a doctor was described as a privilege associated with possessing and deploying specialist skills for the greater good.

IV13: So, I think people are at their most vulnerable, and it actually, I think, is a privilege to be that person who provides that care, provides that specialist knowledge, provides those decisions.

IV8: I think as a doctor, we're actually very privileged. I think, you know, people put a lot of trust in us, and I think it's just appreciating that you know.

The participants recognised and acknowledged their duty of care and were cognisant of the obligations placed upon them in their professional roles.

IV3: … like I think it's a job where you have to take your responsibilities seriously.

IV8: So, I guess, you know, we are expected to behave in a certain way. You know, we're expected to have a certain bedside manner that we address our patients with, you know, a certain level of professionalism, that we dress appropriately. I suppose it's just that kind of expectation from a public perspective, but also with our colleagues as well.

As professionals, the trainee doctors perceived their professional identity to include standards of behaviour and carry professional expectations.

IV4: But I think there are certain standards that people don't always adhere to that I think you should in something like medicine.

IV12: So, you don't want to be making mistakes. So, I do feel like I do read up, I do keep up-to-date. And then I try and maintain a good working relationship with all my colleagues. So, I'd like to think I'd be viewed as being professional.

5.1.1.7. Cognitive determinants as Idealised identity

Thus far, I have outlined the characteristics of the PIT professional identity: doctor as a healer, patient-centred, excellent communicator, team player, clinically skilled and professional. The doctors in this study recognise and have internalised the values and attributes of what is commonly understood as the good doctor. The PIT had well-defined ideals and social norms which underpinned their professional identity. Enacting these ideals gave the PIT meaning and fulfilment in their occupational roles.

IV7: You'd want to, you do want to help people. I suppose that does sound a little bit cliché. It is important, I think, to get something out of that.

IV8: I like fixing things; I like helping people. That's probably why I went into medicine, you know. I like the fact that, you know, someone comes into you with a problem and, you know, where you can, you sort it out. I think there's some satisfaction in that, you know.

The participants shared a clear ideal of the interweaving characteristics that define a good doctor. When reflecting upon this ideal the PIT drew upon traditional and more modern concepts of who the doctor should be. The more contemporary characteristics, i.e. patient-centred, strong communicators and team players, held as much precedence for the trainees as traditional ideals such as clinical and professional attributes. It could be argued that the characteristics identified by the participants (idealised identities) reflect the professional competencies of most modern postgraduate curricula.

The trainees had internalised the recognised norms and values and thus had acquired the identity of the doctor as a cognitive construct.

IV15: As I've mentioned, fairness, honesty, respect. I think a large part of what we do is working in teams. And in order to work in teams you need to be able to respect each and every one of the other professions.

Professional identity was important to the participants in how they viewed themselves and who they were seen to be.

IV12: Like, everyone wants to be seen as a good doctor...

IV9: ..if there was ever a problem, you always… whenever you saw him coming that it's going to get sorted. He knows what he's doing, and I can talk to him. He can sort this out, and that's the type of doctor that I always want for people to think of me as. He knows what he's talking about, he'll support me, I have confidence in that he will make the right decision.

Participants typically described the cognitive construct of their professional identity abstractly. As demonstrated in the quotes outlined in this theme, the PIT spoke to ideals and positive affect experienced in enacting these ideals in abstract terms, i.e., there was no consideration or acknowledgement of either external or internal constraints. For example, interviewee six details the preferred characteristic of the team player as an ideal irrespective of the context in which it is enacted.

IV6: And a person who's a good team worker, who works well and appreciates what other people can contribute to the team and realises that they can't necessarily do everything by themselves. Someone who listens to those around them, the other members of the multidisciplinary team, who listens to their concerns and responds to them in an appropriate way instead of working in isolation. Someone who's aware that the team is greater together rather than their individual contribution.

For this reason, the cognitive determinants of their professional identity can be considered their idealised identity. Idealised identity is the identity perceived to align with the values and norms of the doctor and how they perceived this identity to be performed without constraints. Thus, the participants' professional identity consisted of how they saw themselves in their occupational role and how they were seen to be. Furthermore, this idealised identity is comparable with the stated goals of the professionalism movement, which was to recognise a cognitive basis for professionalism and internalise preferred values and norms as laid out in the doctor-societal contract. It also mirrors some of the critiques

described in Chapter 3 in representing essentially an external construct, a loss of focus on the individual, and largely separated from the clinical context.

In summary, I have outlined the cognitive determinants of the research participants' professional identity and considered how this identity relates to the goals of medical education. I now move on to consider the clinical context in more detail with respect to identity and elicit the environmental determinants of professional identity for the PIT.

5.2. Environmental determinants of professional identity

I now move to explore the environmental determinants as they relate to PIF. A central focus of this research is to explore the relationship between the cognitive constructs of professional identity and the environment in which it is enacted through the lens of triadic reciprocal determinism.

The goal of PIF in medical education is to organise and integrate experiences into a meaningful whole identity representing both the individual and the profession's expectations. As outlined in the first theme, the doctor's identity, participants recognised and acknowledged the values and norms of the profession into which they had entered. In alignment with the theory of triadic determinism, environmental determinants influenced the trajectory of this process.

First, I will provide a brief overview of the environment as perceived by the research participants and then outline the environmental determinants influencing participants' PIF with the understanding that identity is more than a cognitive construct but is also shaped by what individuals *do.* In this study, the CLE was formed from two main structures: 1) The educational structure, the postgraduate medical training programme (PMTP), and 2) The occupational structure, the National Health Service (NHS). Formal educational opportunities, assessment, and the rotational structure of the educational programme characterised the PMTP.

> *IV6: So, it's good to be thought of as someone, in some ways, it's good to be thought of as someone who is on a training programme because it enables opportunities, things like going to a conference or presenting at a conference or being supported to do that and getting study leave. I suppose that can be, is really valuable because that's all part of your training.*

The clinical environment was characterised mainly by their occupational role within the NHS. The research participants functioned as senior decision-makers in the out-of-hours periods (Monday to Friday, 5 pm to 9 am, and weekends) whilst also holding responsibility for patient care within standard hours. 70% of the participants were engaged in the acute general medicine rota, providing care for urgent and emergency medical patients.

5.2.1. Theme 2: Work-PIF alignment and misalignment

Work-PIF alignment and misalignment emerged from analysing environmental determinants as the most significant environmental influence. Concerning PIF, environmental determinants were vital as they acted to constrain or facilitate the cognitive determinants of their professional identity, which I have described as their idealised identity. Thus, aspects of the CLE influencing PIF in alignment with their idealised identity were perceived as positive identity work and represented work-PIF alignment. Conversely, aspects of the CLE which resulted in misalignment with their idealised identity were coded as work-PIF misalignment.

I utilise the phrase 'work' in this concept to incorporate all aspects of the CLE as identified by the research participants. In PGME, education and service provision are interrelated, and any attempts to draw mutually exclusive boundaries are futile.

> *IV3: What aspects of my training do I enjoy most. I find it hard to kind of separate the training bit from the job really.*

Conversely, participants frequently and universally spoke about the difficulties they were encountering within the clinical environment, particularly concerning workload, staffing, and resourcing, reflecting upon their perceived negative impact on educational engagement.

> *IV13: I think in general being a doctor there are challenges. But I think probably what I meant is just all the challenges. You hear a lot of doctors talk about, it tends to be a lot of the external things, in terms of resources, time, staffing.*

> *IV7: I just think that perhaps we just don't really have the time to be able to do it properly. To make the most of those opportunities. I mean there's loads of opportunities like that, but yes, it's difficult to try and get them into a normal working week.*

Therefore, in this research, 'work' is considered to encapsulate all the determinants of the CLE both within and outside of the hospital setting. The work of the CLE both facilitated and diminished the participant's ability to enact their idealised identities, which I will describe in further detail as work-PIF alignment and work-PIF misalignment.

5.2.1.1. Work-PIF alignment

Work-PIF alignment occurred when work, as understood in the context of this research, aligned with the cognitive constructs of PI as outlined in the preceding section. In this context, the CLE maintained or enriched PI as evaluated against their idealised identity. Perceptions of work-PIF alignment were typically engendered from external sources rather than by self-evaluation.

The participants' evaluation of Work-PIF alignment (or misalignment) predominantly arose from external sources. The determinants of perceived work-PIF alignment were 1) educational interventions and 2) patient and peer feedback. I have utilised the term educational interventions as an umbrella term to encompass formal teaching, self-directed learning, ePortfolio engagement ,and examinations as identified from the data analysis.

> *IV3: So, it's kind of hard to get an idea from yourself, I think you kind of depend a bit on feedback externally*

As I will outline, when work-PIF alignment occurred, the PIT reported commitment and confidence. I will now outline the relationship between educational interventions and PIF and consider each of these experiences in turn.

Educational interventions

Educational interventions are considered broadly as 1) educational events and 2) engagement with ePortfolio. Firstly, attendance at educational events influenced PIF and improved self-evaluation and their perception of work-PIF alignment. For example, interviewee seven reflects on the impact of formal education sessions on their occupational self-concept.

> *IV7: You know if you have a great teaching session, I think you should feel really enthused and really and it comes back to the knowledge confidence thing that I mentioned before that you know if you have a great session or even just ad hoc. I think, it's something that really does shape how you feel and affects your confidence in a particular area.*

The PIT perceived formal teaching sessions to represent a controlled learning environment facilitating knowledge development and worked to maintain or enrich PIF by aligning with their cognitive beliefs of the doctors being skilled and clinically sound.

IV4: I like learning, so I like learning about new diseases, new ways of managing things, but in a safe way. So, say I'm going to an Xray meeting, you know just sitting in a room for half an hour to be taught by a radiologist or hear what the consultants are talking to the radiologists about – I really value that

This identity enrichment extended to self-directed learning, where participants directly related knowledge development with a positive view of the professional self.

IV6: So that's nice to have confidence in myself because I've given myself the time to read most up to date recommendations in the speciality. But also, it's nice to have the confidence of other people within the team who trust you.

Finally, examinations were a further external source of professional identity maintenance.

IV2: Also, I need to pass my speciality exam and I think once I get that as well, I'll feel a bit more confident.

IV6: And people ask me, some members of the team ask me what my views are, how would I manage this or ask for support and that. That's nurses and more senior, and trainees, but also some of the consultants. And the only reason for that is because I've been studying up the guidelines for a particular exam.

Secondly, engagement with the ePortfolio functioned to both improve and undermine work identity alignment. In this section, I will explore its function in work-PIF alignment, in section 5.2.1.1. the ePortfolio and work-PIF misalignment.

The research participants frequently reflected on the role of ePortfolio engagement in shaping their professional identity. The ePortfolio was viewed as an important source of external feedback and, thus, identity maintenance/strengthening by some of the research participants.

IV4: I think I'm lucky that actually the way I want to be viewed I know about it already through our ePortfolio.

IV3: Like a lot of what I think of myself comes from feedback from other people, so it comes from like the continual appraisal process, so if you get through with good comments on your ARCP and your supervisor, you know, okay, so I'm doing fine.

In this way, engagement with ePortfolio functioned to improve work-PIF alignment and provided identity maintenance and enrichment.

IV4: So, one of the good things about the ePortfolio is that actually it is a really good way of giving you feedback if used properly, and the overwhelming majority of sort of comments by consultants or multisource feedback does actually correlate with how I feel I come across. So, I feel like I'm quite lucky in that I kind of know how I want to be perceived because I've got feedback that I am that

Patient and peer feedback

Two external sources of feedback promoted PIF processes, predominately by identity maintenance, which were patient and peer feedback. Identity maintenance occurred when feedback aligned the participant's self-evaluation with their idealised PI (cognitive constructs), generating commitment to their identity and role.

Exploration of the data identified patient feedback as a critical source for evaluating PIF and thus promoting any subsequent PIF processes required by the individual.

IV6: I think it's more so at certain times. So, in clinic when someone smiles and says thank you, I think I feel a sense of professionalism at the point.

IV11: Obviously, the upside to that is that you do feel that you've made an impact on the patient, so that helps and that's what gets you through ultimately.

Patient feedback worked to enhance identity maintenance when it aligned with the PI of the good doctor, which I conceptualised in the previous section as their idealised identities.

IV11: And I've had feedback from patients who say, oh, gosh, nobody has ever explained it to me like that, that's really helpful. I think that's probably one of my key strengths.

IV8:…three years ago then I met her within the last two months she had been transplanted she cried to me, she said: Thanks very much I had my transplant the other specialist never told me that I would need this. So, I actually found that quite satisfying.

Feedback from patients aligning with PI engendered a positive effect within the PIT.

IV2: When patients or family voice their appreciation, it just makes me feel valued, and I think that promotes my happiness within the speciality and within myself.

IV3: If you get good feedback from your patients and you think okay so, the patients must think I'm quite nice because they send me cards, or they send emails or letters to the hospital, which is quite nice.

Patient feedback was a critical evaluation source for the participants; therefore, feedback perceived as less favourable was challenging for the PIT to reconcile with their PI ideals. Interviewees eleven and six reflect on their own experiences with difficult patient feedback.

IV11: There are a couple of conversations like that that I can remember that I can sort of picture standing in the hospital corridor having a chat or in a certain room or wherever it was and at one point being singled out as being responsible for the reason that patient wasn't doing well or whatever. Which is really harsh, I think.

IV6: I don't think I managed it particularly well on Friday. And I suppose I don't have the answer but I'm more prepared for that in the future because I know it's not going to be the last time. And in a way, it was very stressful. I talked to two consultants about it afterwards and reflected on it. I still don't have the answer.

The second important source of external feedback originated from peers, typically defined by the research participants as more junior or senior medical colleagues.

IV7: But I think probably the most important relationships are the ones who are the nearest to you and you work closest with and that would be your junior team and also your senior team

Interviewees seventeen and seven reflect on the importance of peer validation in maintaining their PI.

IV17: So, a lot of or some people really have respect from their colleagues throughout the hospital. So, I think being respected by your peers is actually quite important.

IV7: I just think that's what we all want to get that appreciation from our peers, I think.

Consultants provided a further important source of validation of PI.

IV3: When they [consultants] give the impression that they're happy for you to go and see patients on their behalf and they're happy with your decision making, not feeling like they need to do lots of oversight and that you can be trusted to see the patients that you're comfortable with and coming to them with the ones that you're not, kind of validates your own clinical judgement a little bit and your own confidence in your abilities

IV12: So, yes. It does make you feel valued, when someone is actually interested in your training and is looking out for you.

When work, as interpreted in this research, facilitated PIF in the direction of their idealised identities, the research participants described commitment and confidence in their PI and ongoing PIF processes. Interviewees eleven and four reflect on the direct relationship between validating feedback concerning the work they were engaged in and commitment.

IV11: But I think it is nice to also have that from your colleagues. You know, just once in a while for people to say, oh, thanks, well done, that's a

really good feeling. And it makes you much more motivated to continue to work hard and continue to do well, really.

IV4: And then yeah, similarly feedback from consultants, like if a consultant comes back and says oh you're doing a really good job, you know it doesn't happen often, but when it does happen you're like 'Ah okay, thank God' - because I've been really busy this last 3 months, but if the consultant thinks that I'm doing a good job then it gives you that motivation to keep going.

Consultant feedback, in particular, promoted PIF processes mainly through identity maintenance and enrichment.

IV1: Or seeing a consultant support you makes you then feel that, if this then happens, this is what I do, and it's learning by experience.

IV14: Lovely with her junior staff, and I think very, I mean she always used to say, and here's my wonderful registrar. And I think we'll find that she actually said that about all the registrars, but I thought it was lovely, and it did give you the confidence.

Similarly, patient feedback aligned with the participant's professional identity constructs promoted PI enrichment.

IV2: It's really lovely to sometimes get positive feedback from patients and families and it makes you feel like you're doing a worthwhile job and it makes you want to keep doing as good a job.

Work-PIF alignment occurred when environmental determinants enabled professional identity maintenance or enrichment as evaluated against the PIT idealised identity and engendered positive such as commitment and confidence. For the research participants, this was typically derived from education experiences and patient and peer feedback. Educational interventions included formal teaching, self-directed learning, engagement with work-based assessments and formal examinations. These formed essential data sources for the participants to evaluate their PI in relation to their idealised identity. However, when work,

as understood in this research to incorporate all the activities of the CLE, did not align with professional identity ideals, work-PIF misalignment occurred.

5.2.1.2. Work-PIF misalignment

Work-PIF misalignment in this research describes the environmental determinants of the CLE, which acted to constrain the participant's projection of their idealised identities. In this section, I explore the CLE as perceived by the participants, typically described as over-stretched and pressurised. I then explore the impact of a pressurised environment on environmental determinants, which have been previously shown to promote work-PIF alignment. Finally, in this section, I outline the implications of environmental determinants on PIF and how this leads to the concept of a realised identity.

All participants described tensions in their CLE that significantly impacted PIF. Participants described an environment which they perceived to be consistently pressurised and under-resourced.

> *Interviewer: So, what stops you from being the professional you want to be?*
>
> *IV4: Just pressure – time pressure and workload.*
>
> *IV8: But you just constantly feel like you're firefighting, which isn't really a nice position to be in at times.*

Firefighting and perceptions of underperformance

The healthcare environment where the participants performed their occupational role consisted of the hospital trusts to which the PIT were allocated for prespecified periods. The participants consistently described the healthcare environment as pressured and challenging.

> *IV3: So, the work always feels like it's firefighting and it's always we've not the bed for this patient, or … you know bed management meetings where they say okay, we have two beds tonight and there seven patients in A and E and another 12 coming in tonight. Staffing, volume of workload and resources were commonly cited as the most significant challenges in the workplace.*

IV8: Well, I think, in the workplace, it's the time pressures, and the big thing at the minute anywhere you work because it's so short-staffed… But, you know, you're constantly being pulled in every direction, and you constantly feel the pressure.

Challenges with accessing necessary resources extended to physical space, infrastructure and administrative support.

IV5: In terms of the patient, being able to examine patients in a dignified way. I guess space in the wards, curtains, side rooms. Being able to talk to relatives in a setting on the ward that's not around the patient's bed where other patients can hear.

IV12: IT is terrible. So, our particularly GUM clinics we're paper light. So, we're mostly, we'll see computers, there's maybe a paper card axis, that will be about it. IT is ridiculously slow and really holds up the clinic.

This resulted in the PIT delivering patient care misaligned with the cognitive constructs of the good doctor as they had understood and internalised. Fundamental to their PI was this concept of the doctor as a healer using professional skills and attributes to alleviate suffering. Instead, within their lived occupational environments, they described themselves as unable to utilise those skills and thus project their PI in line with their idealised identities.

V11: I think there's a lot of staffing pressures at the moment and that makes everything really challenging both within doctors and nursing and everywhere basically within the NHS… I think also as a result, if you've got 10 urgent things to do, you can't really do 10 things all at the same time so ultimately that impacts patient care.

IV6: I suppose if it's just really busy and you feel like, and someone's off sick and it's just quite pressurised then it tends to be less enjoyable. You feel like you're not able to do things well.

Working in pressurised environments impacted the ability of the PIT to engage in critical PIF processes, such as reflection, which are necessary for identity work.

IV13: I think a lot of people, once you start a job you are so, there is so much emphasis on doing the job, providing the service, being there, doing the things you need to be doing, that often reflection on your learning, and your development kind of become secondary.

Participants perceived the pressurised working environment to negatively impact patient and peer feedback, identified in this research as a critical source of PI evaluation (see 5.2.1.1). In the following quotes, interviewees seventeen and fourteen reflect upon the challenges in the healthcare environment and their perception of the negative impact on patient feedback.

IV 17: You're not getting kind of oh thank you and blah, blah, you're just getting rightly frustrated patients and frustrated family members, and it feels very thankless. And you are the front, you're taking the flak of the over-run things, and I think that's definitely the worst bit, I would say, far more than any mundane service provision or anything else.

IV14: I feel sometimes, at least, the interaction with patients sometimes is not as pleasant, because they've waited two hours to be seen. So, by the time they see you, they're already maybe a bit annoyed, and understandably in a way. So, the interaction I think is never quite as, it's not as pleasant, because you're already on the back foot. So yes, I don't think it does feel as good, or as nice, or as rewarding.

Challenges in the working environment also impacted the PIT relationship with peers, a further important source of external validation for PIF.

IV3: And sometimes just tiredness and overwork would stop me from being more sympathetic to patients' families you know if they're having other pressures or phoning you about something that you've been to see them about 15 minutes ago and you're busy and it's 2am and you maybe get a bit ratty.

IV4: I think it's pressure, I think inherently most people in our profession and environment are inherently good people, but I think when things are stressful, time pressured, it brings out the worse behaviours of people. I

know it's happened to me as well, you know we've all been angry, or you can be a bit short or … yeah, maybe a bit cutting, scathing, cynical with things that happen.

As I have outlined, the research participants perceived the healthcare environment to be pressurised and challenging, leading to misalignment between the PIT idealised identity and the enacting of this idealised identity within a challenging environment. Additionally, the participants perceived the pressurised healthcare environment negatively impacting patient and peer feedback, essential determinants of PIF. Furthermore, the pressure placed upon the workforce was felt to impact educational interventions negatively, which I will now describe in more detail.

The pressures of workplace-based postgraduate training

Aspects of the postgraduate medical training programme contributed to work-PIF misalignment experienced by the research participants and exacerbated, in turn, by the pressurised healthcare environment.

Participants typically referred to workplace-based assessments and documentation of attainment of competencies required for completion of postgraduate medical training under the phrase 'ePortfolio'. While elements of the ePortfolio functioned to align PIF and work, as described in section 5.2.1.1, other aspects exacerbated work-PIF misalignment.

IV10: Your portfolio is an absolute nightmare. I hate the portfolio. I hate that I have to reflect on paper.

Participants with an overall unfavourable view of the ePortfolio did not identify positive influences on PIF like those described in Section 5.2.1.1. Instead, for participants with a largely negative view of the ePortfolio, engagement with the ePortfolio undermined their sense of PI (identity modification).

IV9: Just constant pressure. So, for example in my head a good doctor is someone that we've talked about who manages his patients, he tries to get the best outcome from the patients. And you put your heart and soul into trying to do the best thing for them. In the end someone says like 'now

that's all very well and good but you have to look at your portfolio we have to look at career progression'.

IV7: But actually, in the evenings and the weekend you're doing your EPortfolio or you're actually even becoming a worse doctor because of the EPortfolio because you're not reading around these subjects, you're filling in a form.

Many participants, including doctors-in-training who had derived positive PI reinforcement from the ePortfolio, described significant challenges in completing ePortfolio requirements within and out of the work environment, augmenting the sense of pressure generated from their NHS (occupational) roles.

IV3: I feel there's a lot of administerial hoops to jump through that we don't get given time for. So, things like ePortfolio and all the stuff that you have to do to record your progress, which basically there's no allowance of any time to do it. So, it's always done on Saturdays and Sundays and whenever you can fit it in. Cos clinical jobs don't leave you enough time to do it.

IV10: I mean there's all of these CBD [case based discussions], ACAT [acute care assessment tool], CEX [clinical evaluation exercises] that we need to get done just to prove that you're doing them. And I get the rationale behind it but they're really difficult to do.

For others, engagement with the ePortfolio was primarily an administrative exercise and did not significantly influence PIF.

IV12: Everybody probably says this, but it's probably the ePortfolio and filling it in getting all the assessments done on time. So, I guess the formalities of it. I don't mind the actual training and learning the stuff. But it's the formalities of getting it all recorded properly on ePortfolio it's time consuming and, yes. And it's pinning people down to complete assessments for you, and bits and pieces like that. Sometimes it can be challenging.

In addition to completing work-based assessments and engagement with the ePortfolio, clinical rotations were an important aspect of the postgraduate training programme, influencing PIF. Relational influences on PIF included patient and peer feedback and team engagement, as discussed in the previous sections, as well as role modelling, mentorship, and the occupational community, which I will explore in section 5.2.1.3. Broadly, clinical rotations were perceived to be disruptive to these very influential relationships.

> *IV15: I think one of the most difficult things I find is when you rotate round because you just don't know quite where the consultant sits, you know, what are their expectations, and whether they trust you. And it takes a good three months if not longer, to get the lay of the land before they kind of like say, oh yes, of course.*

Typically, the research participants described their working practices as disjointed with regard to teams and mentors, a problem further exacerbated by frequent rotations.

> *IV15: Weekend on calls have changed a lot, and I dislike them now. That's because we've never met the SHO [senior house officer], we've never met the house office, that's not to say that you can form those relationships, but as I said, those teams are part of what makes you want to go to work. So, that's tricky.*

Again, for the doctors-in-training, this compounded the sense of tension or pressure which they had described in managing their NHS workflow and in their training requirements.

> *IV4: Yeah, just you know if you're only in a place for 4 months it's like the clock is ticking so you're worried about what am I going to get out of this. You may not see people for weeks because of on calls etc, so building relationships, demonstrating your competency to people that need to know about it is difficult.*

For the trainees, rotations were frequently associated with times of uncertainty where they had to re-examine their PI.

IV3: I remember the first day when I was a registrar in respiratory and I got phoned up for a respiratory opinion and I was like 'Why are you phoning me?' – I've never worked in a respiratory ward, and I've been doing this for one day.

IV5: I suppose in stressful situations as well, I suppose I can feel out of my depth. For example, I've come, and I have to manage stroke lysis this year at X, and I've never managed a stroke lysis before. So, I would get anxious maybe about certain things would be fair to say.

This was accompanied by a disruption in mentoring relationships which, as I will describe in section 5.3.1.3. were found to be essential to identity maintenance.

IV3: We don't attach ourselves to a consultant or a unit, so we don't have the same kind of mentoring we used to have. So, you know it's much more broken up into shifts of different consultants, different people all the time.

While the PIT found frequent rotations challenging, there were contrasting views, with a number of the participants citing the benefit of skill development.

IV11: I think there's benefits in moving different places sometimes; you learn something different, I think, from everybody you work with, so I think that's good.

Occupational community; friend and foe

Before considering the occupational community as a source of work-PIF misalignment, I will outline briefly the importance participants placed on belonging to their community before describing its relation to work-PIF misalignment.

All participants described a sense of belonging within their working community as critical to their perception of their experiences. These communities were typically comprised of medical colleagues of varying levels.

IV11: I think generally that applies again to the rest of the team as well; so yes, teaching, being supportive, and being taught and being supported and all of that, really. And actually, again, also really for the morale, I think.

That's really important, getting on with people and having a nice relationship with them so that you enjoy your job.

IV13: Even though it was, for me, quite a challenging speciality and the environment, I really enjoyed it because there were quite a few of us, and we could all just… There were loads of SHO, and we'd all often meet up socially, or we'd hang out after our shift, and things like that. And that was a real good source of peer support.

Work communities moderated the impacts of environmental i.e. workplace challenges experienced by the participants.

IV11: And although there are difficulties, I'm surrounded by people both junior and senior who are really, really good at their jobs. I think that's inspirational and it means you can learn from each other and it means you can then entrust things upon others without worrying about it too much.

Workplace communities were also critical to the perception of the workplace environment and enjoyment within their occupational role.

IV10: It's probably the people that I work with, I think. I think that's probably the thing that'll make or break whether I like the rotation, not the rotation but the place I'm working at.

Therefore, work-PIF misalignment occurred when the participants' actions or inactions made them feel alienated from their occupational community. This happened either when they acted towards members of their community in a manner not in keeping with the ideal PI they sought to project or when others in their community acted in a manner that undermined their PI.

IV4:… he came to me to apologise and I wanted to come to him to apologise, and actually we both concluded that we were both really sorry, it was really busy, we're both really stressed, we've both got really high workloads, it just happened, and then in the end we just ended up blaming the system.

The primary mechanism by which others in the community undermined PIF was through bullying and undermining. The participants reported bullying and undermining to have a significant and lasting impact on the PIT either in what they had witnessed or had experienced themselves.

Interviewer Oh right okay, okay. So, there's been instances of undermining by consultants and more junior colleagues is that correct?

IV9: Yes, so consultant to consultant or consultant to junior.

IV Right, okay. And what sort of impact did that have on the people who were subject to the undermining?

IV9: So obviously it had a negative impact on these people and still does to this day. We as a group shall we say, we had a unit meeting that was organised for us by the Trust to come to terms with the issues that we were working through as a group, though not me particularly though I was affected in the peripheries. I do think that it has coloured, or it has jaded some of those junior people that were involved. And that's even to this day.

IV5: And I suppose in terms of negative, I suppose I had a colleague that had a difficult time, was undermined to the point of bullying and to the point where mainly they had to take a period of stress leave.

Bullying and undermining resulted in work-PIF misalignment as it worked to produce conflict in the individuals' (or groups') self-evaluation of their PI in relation to their idealised identity. In contrast to positive peer feedback experiences reported by the participants, which functioned to align the evaluation of their PI with idealised identity, bullying and undermining widened the deficit between the assessment of PI and idealised identities.

IV10: Can you not just look in your department and actually realise that this is the culture that you've fostered? That's having a negative impact on trainees… You know do you think I just didn't like my job? Did I not like my

job then? Was I really crap at my job? Do you see me as a respiratory physician in five years' time?

Work-PIF misalignment occurred when environmental determinants constrained the enactment of PI's cognitive constructs, which I have described as their idealised identity. Those can broadly be considered as 1) a pressurised workplace with perceptions of underperformance, 2) constructs of the postgraduate medical training programme, and 3) any perception of loss of the occupational community. While the participants had internalised the ideals of the good doctor, environmental determinants functioned both to facilitate and constrain the enactment of these ideals in the realities of their work situation. I, therefore, described this as their realised identity.

5.2.1.3. Environmental determinants as realised identity

Environmental determinants were significant in as far as they enabled or prevented the research participants from enacting the cognitive constructs of the good doctor in their lived reality. As I have outlined thus far, environmental determinants could lead to identity maintenance or enrichment when aligned with the research participant's PIF goals. When work-PIF misalignment occurred, the participants experienced conflict between their idealised identities and the realities of their practice.

This conflict was further exacerbated by traits of perfectionism and high standards, which were identified by coding the data and thematic analysis as further constructs of their professional identities. The cognitive constructs outlined in the initial section can be seen to align with the stated competencies or goals of most postgraduate formal curricula. The participants had identified and internalised these constructs underpinning the PI of the good doctor. However, the participants had also identified and internalised perfectionism, high standards and, as will be explored within behavioural determinants, 'going the extra mile' as necessary constructs of their PI. In this research, I consider this to represent the hidden curriculum of medical education. Perfectionism, high standards, and 'going the extra mile' are not stated curricular goals, such as good communication skills, yet, across the research data, they were found to be shared and pervasive elements of the PIT PI.

Identity conflict was thus heightened by the juxtaposition of perfectionism and high standards within an over-stretched and under-resourced healthcare system.

IV10: I think it's mainly the service demands really…I think I've got quite a sort of do I say type A that sounds quite negative, like perfectionist type personality but I think being that person is quite difficult to work in the NHS when you're a bit obsessive and a bit of a perfectionist because it's difficult to let go.

Traits of perfectionism were expressed in several ways. The following quote highlights the unattainable goals the participants incorporated into their PI. Interviewee five describes 'never' panicking, and interviewee eleven wishes to 'be in control of everything'.

IV5: Oh, I'd like them to say that I would be unfazed, able to handle stress, I'd never panic, to be knowledgeable, thorough, and what's the word, someone that they can look up to, particularly for junior staff. That's what I would like.

IV11: In control of everything and up to date with things…confident, I guess, in my decision making.

In keeping with traits of perfectionism, the research participants preferred to be in environments where they could control variables and outcomes. -

IV8: probably my favourite thing is the clinic because you… there's nobody annoying you, you're… it's just you and your patient and you're coming up with your plans and it's nice and controlled and, yes, I… it's that kind of… that's what I enjoy about my job.

IV12: And taking more responsibility for say inpatients and just being very on top of things, and just showing them I'm in control of what's expected of me.

As perfectionist type people in their occupational roles, the PIT struggled with any perceived criticism regarding their skills and abilities. Often, they would manage this by perfecting their work to avoid criticism or by avoiding delegation of tasks.

IV7: I'd be on that side of things I would try and spend a bit more time in trying to really get the patient to understand things. I think that's to avoid

making a mistake rather than any inherent kindness on my part……. I do work harder and that maybe just to avoid that criticism because I really don't like it.

IV12: So, people will be coming in for PEP [post-exposure prophylaxis] or, you know, maybe acute sexual assaults or something. So, those are the kind of patients you can't really tell to go away.

Interviewer: And what is it, do you think, that makes you want to do that?

IV12: Probably the patients need it like, so that would be the main driver. So, if I was to hand it over to someone else, it either wouldn't get done or it wouldn't get done properly, do you know?

For the participants, maintaining high expectations remained central, and, at this stage in their process of PIF, they were unwilling to modify expectations and ideals. All the participants felt they should be able to maintain workload and meet expectations irrespective of or with little regard to the environment in which they were sited. An inability to achieve this was viewed as a failure and prompted a period of identity conflict.

IV6: We have high expectations of ourselves and others in the profession and that's driven by the people that we're around and by the exams that we're expected to do, which are challenging, challenging exams, and we're expected to do them whilst working full-time as well. And so sometimes we forget that, because things can go wrong, and you can fail an exam and that can be really demoralising.

IV5: The pressure to work to high standard plus work on extracurricular things, like publications, presentations, posters and teaching. That's hard because you have to do that in your spare time, so you don't have the time really to do that. But you feel under pressure because in order to get a consultant job we need a strong CV.

The participants described self-critical traits in their self-evaluation of PI and an aversion to looking for external support or demonstrating what they perceived to be in weaknesses in their professional persona.

IV1: And I think that's part of what doctors do.... We define ourselves as being this strong, you know, we are there for our patients to lean on. We are there to support other people. And you don't think of yourself as needing the support

IV8: That's a very good question. I think by nature, I'm probably quite self-critical. I think I always could be better

There were notable implications for the PIT when they perceived the CLE to undermine their ability to perform in line with their professional identity and to maintain the high standards they expected of themselves. While work-PIF alignment engendered commitment and confidence, work-PIF misalignment led to disillusionment, frustration and guilt.

Disillusionment was primarily driven by the mismatch between the expectations of being a good doctor, as encompassed by the PIT idealised identity, and the extent to which these ideals could facilitated or constrained in the CLE.

IV4: When you leave uni, you're a doctor, you want to stamp your authority like you made it, you know let's be a good doctor and make things better - you rapidly discover that still actually your opinion doesn't count for much. (laughs) And that can be quite disheartening and challenging because you were going into something where you know you were in charge, and then you realise that actually, you are disposable.

Disillusionment encompassed the disparity between what they had envisioned for themselves at their stage of training and where they now perceived themselves to be, the divergence between their idealised or envisioned professional selves and their lived realities.

IV10: You're always working to other people's rules and regulations, protocols, blah blah blah, managers telling you to see more patients, managers telling you if you're not on the ward you need to go help on the take, you need to swap your on-calls to allow service provision. You don't get your rota on time. I mean it's all of that stuff where you're essentially a service provision monkey and that has so many negative impacts on trainees.

Disillusionment was further intensified by the mismatch between the standards of care deemed acceptable as evaluated against internalised cognitive constructs of the good doctor and internalised traits of perfectionism with the limitations of the working environment.

> *IV14: I think the staff just generally, there is not enough time, or people to do it as well as you normally would. And I think inevitably corners get cut, and you just, yes, it just doesn't feel very good. You feel sort of what you are, the caring you're providing is a bit sub-optimum.*

> *IV11: So I think time would be great. And as I said, about staffing. And that would give us more time, you'll just have more time with more of us around and then we could all do a better job.*

This led to the PIT experiencing frustration and guilt. The PIT felt particularly frustrated when they were unable to achieve what they had set out to do or perceived themselves unable to change circumstances to meet goals.

> *IV5: Like for example telemetry, if a patient needs telemetry you have to go around the whole hospital and you have to identify patients who can come off from other teams … That's so time-consuming and there has to be a better way. So, things like that would be very frustrating and definitely would affect your ability to doctor better.*

Alongside frustration, the participants experienced the feeling of guilt when they perceived their actions and behaviours to fall beneath the standards they had internalised within their PI. Perceptions of guilt were particularly marked when relating to patient care.

> *IV17: you feel like you're kind of … so, I suppose what I enjoy least about training is the, not even the service-provision element, but providing, not a poor service in terms of your clinical, but… somebody sitting in a chair for two days in an A and E is not a good service. So, I suppose the thing I enjoy the least is being one of the frontline staff at the front of what is a sub-optimal service…so that aspect I hate. That restraint of… I hate it.*

IV13: But, for example, if you're a busy take, and you're admitting lots of patients on shift, during your shift and there's unfortunately not that time to give to the patient, that poses a challenge because you know that you also have a professional duty to make sure that you're fulfilling your responsibility as the medical registrar

The PIT described guilt when not maintaining the standards they had internalised from themselves in their professional roles.

IV10: Sometimes as awful as it sounds…. patients become numbers on your list that you just need to get through. If you're overbooked, you don't necessarily have the time to give people, address all of their concerns.

The research participants described guilt and frustration as taxing upon their emotional welfare.

IV17: I think it leads a lot into fatigue and the mental drain of that acute medical take because you're not going around to see people in the ideal environment and enjoying your… so I think that it is mentally quite draining, and you become a bit disillusioned whenever you're constantly not resourced, to provide the best care. And you know it; the patient knows it, and nursing staff know it, and everybody knows it.

IV1: there's also a lot of emotion that goes into the frustration, which can be counter-productive to everything really.

While seeking to appear confident and collected to their peers and patients, internally, the research participants grappled with self-doubt. Confidence, or perceived lack of it, was depicted as a barrier to fulfilling their PI for many of the research participants.

Interviewer: what stops you from being the professional, the doctor you want to be?

IV5: I suppose confidence levels maybe

IV2: To be honest, there's probably a lack of confidence in my own abilities, which I know has always been a thing for me. It's been hard

Additionally, for their stage of training, the participants had not anticipated the level of self-doubt they still described.

IV3: First and foremost, I want to be at the stage where I'm very comfortable with my kind of clinical abilities and not having the slight sort of … the slight imposter syndrome when you got phoned up

IV10: I am aware though that I'm not as good as I thought I would be. Maybe when I started training

This was further exacerbated by the prospect of transitioning into consultant roles.

IV13: But I feel like for me, definitely one thing that I can see that I need to develop is the confidence of that role as a consultant

IV9: How do I view myself as a doctor……supposing I'm coming near the end of my training I wonder am I good enough to progress and maybe not to be a consultant. Will I make the right decisions, will I make the wrong decision?

Thus far, I have introduced the concept of work-PIF alignment and misalignment, explored determinants of work-PIF alignment and misalignment and described the effect of alignment and misalignment on the research participants. Educational interventions and patient and peer feedback were influential in aligning work and PIF. The pressurised healthcare, workplace-based postgraduate training and occupational communities contributed to the misalignment of work (as defined in this research) and PIF. In addition to the cognitive constructs outlined in 5.1.1, the PIT PI included traits of perfectionism and high expectations of themselves in their professional roles. This further heightened the work-PIF misalignment affected by the CLE, resulting in disillusionment, frustration and guilt as opposed to the confidence and commitment engendered by work-PIF alignment.

Realised identities, therefore, comprised the cognitive constructs of the good doctor, the constraining and facilitating environmental circumstances and the internalised characteristics of perfectionism and high expectation. Threats to self-concept can occur when there is a significant discrepancy between realised and idealised identities, such as those that seem

incompatible within the current context. As I will now move on to explore, behavioural determinants of PIF were critical for maintaining PI when there was a significant divergence between idealised and realised identities.

5.3. Behavioural determinants of professional identity

In the preceding sections, I have described PIF's cognitive and environmental determinants as explored through the theoretical lens of SCT. In this section, I will move on to consider behavioural determinants. Disillusionment, frustration and guilt occurred when the research participants experienced significant dissonance between their idealised and realised identities. As described in this section, behavioural determinants were critical to improving congruency between realised and idealised identities.

5.3.1. Theme 3: Bridging the gap between idealised and realised identities.

Behavioural determinants of PIF were crucial to identity maintenance and enrichment and moderated the repercussions of identity conflicts. Coding and analysis of the data identified four critical behavioural determinants of PIF, which were 1) 'Going the extra mile', 2) Mentorship, 3) Role modelling and 4) Occupational community and safe space. Firstly, I will explore 'going the extra mile' in more detail and then consider each of the remaining behavioural determinants.

5.3.1.1. 'Going the extra mile'

'Going the extra mile' is an in vivo code that emerged consistently from the data analysis. At this stage, the participants sought to maintain cognitive constructs of their PI (i.e., their idealised identity) alongside traits of perfection and high internalised expectations. The PIT did not perceive themselves to be able to significantly modify the external (clinical learning) environment to improve work-PIF alignment. Thus, when the PIT could not change cognitive or environmental determinants to ameliorate work-PIF misalignment, they instead modified what was available to them, which was their behaviours, typically by 'going the extra mile'.

Going the extra mile represents a shared construct of the PIT PI and a behavioural modification enacted by the participants. The participants described this concept of going the extra mile as critical to the PI of the good doctor and, in tandem with perfectionism, formed part of the internalised hidden curriculum.

IV4: I kind of feel historically the role of a doctor is in going the extra mile. And if you're not prepared to, you probably shouldn't be a doctor.

IV1: I think we, I went into medicine assuming that this sort of workload, this sort of work-life balance, at least for the first few years, is expected, is what, and you always go in thinking that this is what will make me a good doctor.

To the participants, going the extra mile represented doing what was necessary to maintain standards of care aligned with idealised PI irrespective of the environmental context. Typically, this described working beyond contractual hours, making professional and personal sacrifices and working under pressure for a significant portion of the job hours.

Interviewer: Okay, that's really interesting. So, the values in the sort of registrar group are what, mainly? What do you sort of feel would define those?

IV1: You get the job done.

IV11: Typically, especially a clinical day will be 10 hours long at least. There isn't really much time for anything else. If not, a bit longer to be honest. And that doesn't mean a lot of time for anything else.

The participant believed there to be a cultural expectation to work beyond contractual hours and judged peers by these standards.

IV11: I think everyone stays late. I think everyone works longer than they're supposed to be doing because that's what they need to do to get the work done.

IV5: And I would say that I would value that hard work. Rightly or wrongly, I'm not sure where I think, actually, I don't think I've had enough time to think about that in great detail, but I definitely value people who do more than a nine-to-five job.

For the PIT, going the extra mile in their daily practice was an essential method of enacting core cognitive constructs of what it means to be a doctor and its associated responsibilities.

IV13: I think as doctors, we have a real, a very real responsibility towards our patients. So, I think showing a dedication to the job, things like turning up when you are meant to turn up, doing what you say you're going to do, doing more than just the absolute barest minimum for your patients. All those are important behaviours.

IV15: I think that's a good attribute to have since we're in a caring profession. A caring, yes, to care about, not only the patient, but you care about what you do. And therefore, you're willing to go above and beyond, because you're passionate about it, so there's caring on two aspects there.

Furthermore, their reflections on junior doctor colleagues further exposed the centrality of 'going the extra mile' to the PI of the good doctor. The research participants consistently described a tension between how they valued going the extra mile as integral to being a good doctor and how they perceived this to be less critical to their more junior colleagues.

IV1: And it's, there's an unsaid sort of antagonistic feeling based on the different views of, almost the different views of professionalism between the doctors……and it changes slightly from this is the patient that I will treat to this is what I'm being paid to do.

IV10: that's a bit of a shame because everyone is working very, very hard and if you have people with that attitude and being sort of very entitled, I think it creates quite difficult work dynamics.

One of the main sources of this tension is related to working beyond contractual hours. The research participants believed commitment, dedication, and professionalism were necessary to being a good doctor, whereas they perceived more junior doctors not to place the same importance.

IV3: We used to like stay 3, 4 hours post night shift on a post take ward, and if you weren't released … whereas I think juniors now would just say 'I finish at 9 – I need to go'. Whereas kind of we were always much more unlikely to be stomping off early sort of thing.

IV13: So, I feel like there are two things that I've probably observed in terms of my interaction with doctors. One is, the going above and beyond, you know...I feel as if doctors, the younger doctors coming through, some of them not all of them, might not necessarily feel like they want to stay much longer beyond their finishing time to either finish up something to do with a complicated patient.

The research participants viewed this perceived change in behaviours to demonstrate a loss of sense of obligation they held fundamental to their professional identity.

IV1: I don't believe that any of the F1 and F2 that I have met, who I think may not be doing the same job that we did, I don't think that any of them see it as I'm deliberately bunking off. I don't think they see it as an I'm being lazy.

IV12: I guess I feel like junior doctors maybe don't have just the same commitment, outside of what's expected. As I, we would have had.

The research participants related this construct of going the extra mile to resilience and commitment.

IV9: Again, it's not directly through my work but I know that there are staffing issues with people calling in sick, people going off on stress. It then puts pressure on us as more senior people to keep going, but I don't know that we have more than a bit of resilience.

IV1: But I think it's now breeding two different sets of values that don't sit well beside each other.

While 'going the extra mile' aligned work-PIF for the participants in the shorter term, in the longer term, this, alongside perfectionism and sustained work pressures, led to a crisis for participants.

IV1: I think that almost goes to say that if you're the kind of person that prides themselves on going the extra mile, there is a line to be had and it

can be difficult knowing or sometimes realising that you've gone the extra four miles rather than the extra mile.

Interviewee eight described a challenging time in their career, resulting in time away from work. In this first quote, the interviewee reflects upon their experience of this situation and, in the second quote, how they modified their PIF and, thus, their expectations on returning to their occupational role.

IV8: I was anxious. You know, I felt palpitations one morning I got up and I couldn't breathe at the thought of going to work and that wouldn't be me. So, I ended up having to take… well, I took a month off at the time. So yes, negative – it very much negatively impacted at the time.

IV8: So, I think I got to the point where I had sick time off work because I couldn't function; you know, I couldn't sleep, I couldn't concentrate, I couldn't… like, physically, like, I was a wreck. So, it made me re-evaluate things and reprioritise. I had to… when I got back to work, I had to say, right, I'm not doing any extra, you know, taking those students on a Thursday night when actually I don't need to do that. You know, I, kind of, reprioritised.

Participants described symptoms of burnout that they had experienced or had witnessed in others.

IV10: If I'm honest I think I'm hugely burnt out at the moment…although now I do think, I was telling my educational supervisor this, I need to come out of training because for my own sanity. And it's not… I think lots of people go through this.

IV1: I know who pushed themselves too much too fast and have just said, actually, I'm out, this is not for me. And, overall, I think you're going to get many more years of work from people who are much more aware of where that limit is for them and being careful to toe that line.

This combination of sustained work pressures and a rigidly held PI encompassing firmly held ideals of the good doctor, perfectionism and going the extra mile had significant implications

for the welfare of the PIT, as illustrated in the following quotations. Interviewees seventeen and fifteen reflect on the impact competing forces had on their welfare and their confidence in their occupational roles.

> *IV 17: There was no way, I was so tired and fatigued. Foundation years one and two, I think, were probably a big shock. I had some very busy jobs, and I was really exhausted after them and I think I needed a bit of headspace and a bit of time just out of training away from the really heavy demands of the kinda NHS rotas. Plus, portfolio, plus exams, all of that.*

> *IV15: So, and I think when you feel like you're drowning, and you just can't take it all on, and you can't make a decision, then you have struggles making a decision, you're not confident that that decision is maybe the right one, or you don't have the support from your seniors.*

As I have described, the participants experienced external pressures, typically driven by pressures in the healthcare environment and requirements of postgraduate medical training, alongside internal pressures of perfectionism, high expectations and going the extra mile, resulting in conflict between idealised identities and realised identities. Three critical behavioural determinants were identified from the interview data as helping to bridge the gap between these entities with the outcome of maintaining, modifying or enriching PIF.

5.3.1.2. Role modelling

Role modelling was a crucial source of identity enrichment for the PIT. Role models functioned to inspire the PIT and represented individuals who embodied their PI ideals and could enact those in the clinical environment despite challenges.

These aspirational individuals typically were 1) self-selected by the PIT, 2) embodied constructs of their idealised professional identity and 3) engendered identity enrichment. The vast majority of the role models were consultant-grade medical staff. However, on a few occasions' participants would describe a registrar-grade role model at a stage when they were more junior doctors. Role models tended to be described as enthusiastic, engaged in education, effective communicators, approachable and caring.

The role models typically described by the participants were doctors at a more senior level. No participants described a nurse, manager or allied health professional as a role model.

> *IV13: So I think where there's been, or when there's been a consultant who I really feel like, wow, the way that they work, the way that they've shaped their career is very close to what I would like, and the way they work kind of resonates with how I work, or how I adapt to things, and that also helps.*

Role models were self-selected by the PIT and were often not in a formal supervisory role with the trainee. For some participants, role models had primarily an identity maintenance role as they reflected attributes the participants saw in themselves. For others, role models provided identity enrichment, a way of being the PIT wished to emulate and a demonstration of what was possible.

> *IV9: And that's the sort of case where it was one particular person that inspired me to go to it. It was just that general enthusiasm, that passion. Just passion for that form of speciality that influenced me, I think. Thinking wouldn't it be great if I could be like him.*

> *IV14: He was just very encouraging about the whole education aspect, never seemed... Again, that kind of person who I'd sort of like to be, but I'm never quite sure I am, because I am always so in a rush, or doing something that he would never have got like that, particularly flustered.*

Role models frequently embodied the core constructs of the idealised identity the participants outlined earlier, particularly displaying patient-centred care, communicating well, working with the team and acting as role models to the PIT.

> *IV6: So, another, a consultant, HIV consultant who was, I mean, he was very, I guess what stuck out in my mind about him was that he was very patient. He never got flustered. He was always approachable. You could always ask him a question. He listened to the patient. He made them feel they were the most important thing to him.*

V15: I remember this particular consultant who was very good with his patients, very good with his team, and you kind of want to be like that person…I think he made himself quite accessible and talking on a very kinda of like plain level with me, who was an SHO [senior house officer] at the time. But he also took people under their wing and wanted to inspire people to go into the profession.

Role models inspired the PIT and provided evidence of a future occupational role aligned with their idealised identity.

IV4: So particularly in my last place of work there were two female consultants – their praise, their criticism – all those kind of things – yeah have been really really valuable in going forward in you know how I practise, but also how I think and where I envisage myself going in the future.

IV10: And I think having her and doing respiratory medicine and being really successful and dealing with whatever adversity that she had in her life just made me feel like I quite want to be you when I grow up

The research participants frequently cited imitation and observational learning of role models as ways in which they worked to adapt their professional identity.

IV9: Yes, you try to emulate that, or you try to take that with you in training. So, for example, if you see someone that's particularly good communicating with patients about either diagnosis or you know how they do their management plan you then try to use their phrases and use how they explain it to patients, and you try to take that forward with you.

IV4: But in terms of relationships, the most important has definitely been consultants. So those consultants that I have had a good relationship with and the advice … or even just their role modelling that I try to incorporate in my practice … has been invaluable, and it kind of influences everything that I do.

The converse was also valid, the research participants adapted PIF away from individuals who did not meet or embody the professional identity traits they valued in their professional roles.

> *IV9: …particularly poor, I think that's a part of experience on you because you know that you would never want to do that like that. You never want to be that type of doctor. So, as it goes, you know, in that what you perceive has been done negatively is actually experience for you and it shifts how you want to practice*

Alongside imitation, the role models played a crucial role in inspiring and thus enriching PIF. The participants self-selected role models who incorporated tenants of their idealised identities. They provided evidence for the PIT that it was possible to align work and PI within the challenging environment that they had experienced. Role models inspired the PIT while mentors provided education in its broadest sense, supporting or enabling the PIT to grow in alignment with their idealised identities. Mentorship was a complimentary but distinct driver for PIF processes, and I will move on to describe this in further detail.

5.3.1.3. Mentorship

In addition to role modelling, mentorship provided by consultant colleagues was critical to PIF processes.

Mentorship describes experiences of receiving support from a consultant colleague, which is developmental, as opposed to role modelling based on emulating an individual. Not only did mentorship have practical implications in helping the doctors overcome barriers in enacting their professional identity in the workplace, but enhanced confidence and self-evaluation.

> *IV16: It was the first time I came across someone that wanted to make you grow in your role and not just someone that wanted to give you orders and just make you do a day-to-day job for them. That's what was important. That's what I feel a mentor is, someone that helps you grow.*

> *Interviewee: When we talked about with your relationship with the consultant in X, and it was positive and enjoyable, how do you think that impacted upon you then?*

IV8: Oh, massively encouraged me. So, I went from considering leaving medicine altogether to really enjoying and seeing why I, you know, didn't do GP or, you know, to why I really loved renal.

The mentors or mentoring typically encompassed a one-to-one relationship between the PIT and the mentor, who was a respected senior and, in this study, almost universally in a consultant role.

IV12: So, particularly, I guess, like, your educational supervisor, clinical supervisors. They're probably the ones, at the moment, that I would be most involved with, in terms of directing where my career's going, or giving me advice

IV9: I think the relationship between a consultant and junior members of staff is particularly important. Because I think that that shapes me certainly in my past and how I practice medicine and what I aspire to be and who I aspire to be like.

Acts of mentorship outside the trainee-clinical/educational supervisor axis influenced PIF processes.

IV4: So, I will remember when my consultant says 'You did a good job in that clinic' or 'When you were talking to that patient I heard you behind the curtain, that was really nice' - that's the stuff that really sticks in my mind.

IV7: You would just end up sitting down with them sometimes into their office not for any particular reason...not any sort of formal basis but they would just kind of offer their thoughts on or advice on whatever it is. You could take it or leave it what's not there, it doesn't have to be documented sort of stuff, just their thoughts really. And I think that, those sorts of things have been really important for me

To the PIT, a substantial component of the mentor-mentee relationship was gleaned from the perceived professional investment from which they received identity enrichment. This

experience was antithetical to their perceptions of unimportance in the working environment.

IV1: Going above and beyond what needed to be done rather than just a simple sort of tick, tick, tick, we've touched base, you know, draw a line under it, makes a huge difference to your working life……. It made you feel valued as a team member because it made you feel more than just another number in the system. It made me feel that I wasn't just there to provide a service, I was there as an individual with my own, you know, personal life and personal problems. And it was almost being acknowledged as a unique being, whereas I think, otherwise, you're sort of, like, you're almost a faceless entity.

IV4: Um it was a consultant taking interest in my career, and sort of extracurricular stuff that I'm doing, but without any prompting, helping me with that.

Interviewer: Okay, and how did that sort of make you feel then? What was the outcome of that for you?

IV4: Oh, it was incredible, I was … cos this doesn't happen often, so … you know most consultants probably will ask 'What are you going to do?' or 'What interests you?' but that's it. (laughs) I think the ones that actually help you there and then – they're few and far between.

Mentors provided the research participants with the tools and support to effect change within the CLE, resulting in participants reporting improved occupational engagement and self-evaluation.

IV13: So that was just phenomenal. I mean I just loved this guy, because I was thinking, wow, you are looking at the person, and you are looking at the training, and you are looking at the future, and you are making it happen. And I think that was really, that really impacted me, again, boosted my confidence.

IV12: She has, kind of, taken me under her wing to direct me and to bits and pieces of what's going to be good for me, in terms of the future and my career. So, helping me out with, you know, audits, research, getting me involved in specialist interest groups, do you know?

Interview: What does that mean to you?

IV12: Yes, it makes… You know, I mean, you feel valued.

Mentors frequently played an important role in enabling participants to transition into speciality training.

IV13: She knew all our names, and it was just really good, and she was very helpful, even after I'd left the job in just helping me with seeing the next steps towards applying for gastroenterology.

Crucially, acts of mentorship from a respected senior enhanced the evaluation of individual self-efficacy and what PIT believed to be possible for their professional selves.

IV16: But he also made me believe in myself as being able to achieve things. He never once forgot to thank me or to praise if I did something good.

IV1: And he basically said you're the frontline, you understand what's going on, tell me what you need, and I will support you…but I think that made a difference, because that made me think that, actually, this is possible, this is how it should be

The converse also held that when participants did not feel supported by their consultant, this significantly impacted their confidence and the integrity of their professional identity.

IV10: But I think for me it's that it's the frustration that you could cripple someone's confidence by just basically not giving a shit. Just being really clumsy in the way you deal with them.

Acts of mentorship from consultant colleagues ranged from involving participants in quality improvement projects, sharing educational resources and opening career opportunities to

providing support during personal or professional challenges. The mentoring relationships described by the participants were a mixture of formal (mainly clinical and educational supervisors) and informal (arising without an authority role). Participants consistently described how these acts improved their confidence, motivation and feeling valued in the workplace.

Formal and informal mentors and mentorship played an essential role in improving their sense of self-evaluation of PIF. Occupational communities and safe spaces enhanced work-PIF alignment through PIF processes, primarily identity maintenance.

5.3.1.4. Occupational community and safe space

As I have outlined, peers (specifically medical colleagues) influenced PIF through feedback and social inclusion. Additionally, peer support was a significant determinant in identity maintenance when participants perceived dissonance between realised and idealised identities. Critically, the occupational community provided a safe space for participants to negotiate identity conflicts and maintain PI in the external environment.

> *IV13: I feel like relationships with my peers have been very important. I feel like that's been a real source of support, and just having people to compare notes with, to discuss cases with, to sort of just sound off. Like you've had a bad shift, and you explain what the day's been like, and they have had a similar situation, or giving each other tips, that kind of thing.*

Community safe spaces were typically comprised of other PIT or speciality doctors and enabled the participants to risk exposing aspects of their PI not in keeping with their idealised identity. For example, interview twelve utilises community safe space to demonstrate frustration, which is at odds with the unfazed, always-in-control persona the participants typically wished to project. Interview fifteen describes the importance of safe spaces to share and reflect upon difficult experiences.

> *Interviewer: how do you, if you are feeling frustrated or feeling a little bit under pressure, how do you manage to maintain that calmness?*
>
> *IV12: So, either the other reg or a speciality doctor or whoever you know, a colleague of some description and talk about why you're annoyed. It's*

probably the most important thing. Offloading it is usually quite helpful. And then you're back on track again.

IV15: What was really nice is that we met once a week for a day, and we were all first-year oncologists, and we could just debrief, and talk about the horrific case that we saw, or the difficulties we were having, and stuff like that.

Safe spaces were underpinned by a shared understanding among the community members, which was accepting and non-judgemental of others without fear of embarrassment, criticism or irreversible damage to PI. In this way, PIT could reflect upon identity conflicts and experiment with identity modification or elimination without unnecessary exposure to the wider environment.

IV17: People with a similar level of training are very kind of non-threatening or non-judgemental environment where you're sharing ideas and sharing thoughts and bouncing ideas off each other in a very safe space.

IV2: Then also having people that you know you can turn around and say to, oh, I don't know what to do with this patient, what do you think, without feeling stupid, is also important.

Thus far, I have outlined role models, mentorship and community safe spaces as important behavioural determinants of PIF, providing participants with opportunities for identity maintenance, enrichment and modification. The final aspect to consider within behavioural determinants is experience within and out of training programmes and the facilitation of identity modification through elimination processes.

5.3.1.5. Experience

The participants had a well-defined and shared cognitive construct of the good doctor, representing their idealised identity. Additionally, participants had internalised traits of perfectionism, high expectations and going the extra mile within their PI. They experienced barriers to and facilitators of their idealised identity in the CLE, leading to work-PIF misalignment and work-PIF alignment, respectively. Behavioural determinants, as described,

offered an opportunity to undertake identity work in aligning idealised and realised identities, typically by identity maintenance, modification or enrichment. Experience provided the participants with the opportunity to engage in identity modification through elimination, which thus far they had avoided mainly, resulting in professional and personal sacrifice.

The participants recognised and internalised the concept of PIF in which experience was a vital component.

IV3: it's a bit of a process, isn't it? Like you don't start as an FY1 being the finished article, you know you have to develop into it a little bit. And you know it's balancing an awful lot of things being a good doctor.

The research participants were senior trainees who had performed their occupational roles for several years within their CLEs. Experiential learning and development improved the participant's perception of work-PIF alignment.

IV17: I've had a couple of busy years, though, actually, so maybe that's … I would feel a lot more relaxed in out-of-hours this year.

Interviewer: And do you know why that is?

IV17: I think it's probably just a confidence thing, where you're always building knowledge and experience

IV16: Getting to know, I think the more senior you become, the more you kind of feel more comfortable, and confident in yourself. Now I'm not sure whether that is necessarily related to knowledge, but maybe ways of accruing knowledge, and kind of confidence in your own abilities

The participants, therefore, became less reliant on external sources for evaluating their professional performance against their ideals.

IV3: Because there's good days and bad days, and the good days feel like you're really smart and the bad days feel like you're a moron, so it's having a less emotional external kind of validation of the fact that you're actually not a total imposter.

As the participants matured, they developed the confidence to integrate feedback without significant identity conflict. For example, in the following quotation, interviewee thirteen describes their experience evaluating feedback, assimilating applicable content, and rejecting aspects incongruent with their sense of PI as they progress through their training experience.

> *IV13: I wasn't going to kind of change how I did things, I was just going to speed up, and be a bit more, kind of a bit more efficient with my time. But it certainly helped me realise that actually there's a certain kind of way of working that suits me, that suits you.*

As they developed in their experiences, the PIT could engage in identity modification, i.e., they were able to reject from their PI traits that were no longer serving them as professionals. For the research participants, this mainly applied to identity constructs of perfectionism and unrealistic expectations, as illustrated in the subsequent quotations.

> *IV11: I now feel like, okay, I don't know everything and I'm not perfect at everything. But that's okay. Whereas in the past I kind of felt maybe a little bit inadequate and that I didn't know everything, and I wasn't perfect at everything. Now I'm kind of okay with that. So, confidence is something. And I'm still working on it, but it definitely is a lot better.*

> *IV8: But I think the more experience I'm getting, the more I'm realising that actually, I think it's quite normal to feel that way, I guess. You, sort of, think that when you get to a certain level, you'll feel like you know it all, and I think when you're quite junior, you look at your consultants and think they're amazing and they know everything. And the more senior you get, the more you realise that, actually, none of us know everything and we're continually having to learn.*

Out of programme (OOP) experiences emerged from the data as influential in creating opportunities for PIF. As outlined previously, the research participants perceived the demands of their NHS role to constrain opportunities to reflect and develop PI. OOP experiences enabled the PIT to engage in PIF processes outside the CLE.

IV11: And I think learning more about people. It sounds daft, but I think medicine is a bit of a conveyor belt and you go from being at school to being at university to being on this conveyor belt of being a junior doctor…I think you can get quite consumed by that that you don't grow as much as a person.

In the CLE, the PIT perceived themselves as having limited autonomy to change their environment and found themselves in externally and internally pressurised environments. OOP enabled the PIT to step away from this environment, presenting opportunities to evaluate and modify their PIF in a supported environment.

IV1: And I think it gives you that space to breathe on the outside and then go back to clinical work.

IV 17: I think that just gave me time and space to work out where I wanted to go, what I wanted to do...and kind of get a bit of energy back and bit more enthusiasm back, even for doing the exams and to get a bit of a run-up to them

OOP experiences allowed the research participants to experiment with identity modification and enrichment in safe spaces protected from exposure to the broader healthcare environment.

IV10: And I think that's what's really nice with research and education and doing something separate to clinical medicine which you have that autonomy to influence a bit of change. You get to have your own projects and do something that interests you rather than be driven by external pressures I guess.

IV11: You do obviously think for yourself when you're making decisions for patients, but you don't have to think of yourself in the same way as you when you're in research. In research, you've almost got that freedom of, which direction should I take? That creativity, what's interesting, what might be considered interesting, and to think of things more critically.

Experience within and outside the CLE supported the participants to modify or eliminate perfectionism and unrealistic expectations from their PI. This is reflected in how they were beginning to perceive the transition to consultant grade and were able to contemplate realistic ideals.

> *IV2: The way that would make me feel proud would be if I had a consultant's job that I felt comfortable in, that I felt respected in, and that I felt like I knew what I was doing, so that's what would make me feel proud.*

> *IV6: But I suppose the bigger picture is that what do we need to be? We need to be responsible consultants who are going to provide safe and effective care for patients.*

As they acquired experience, the PI became more adept at navigating identity tensions within the CLE without escalating to an identity crisis or significantly undermining their self-evaluation of their PIF.

> *IV13: But I just think that doctors need to be true to themselves, know your strengths, know your weaknesses, and just don't try to be anyone else because you think that's what's going to provide success……But you just need to be true to yourself and know what your strengths are, know where you need to improve, and just work on that.*

The behavioural determinants of PIF were critical to supporting identity work triggered by the perceived dissonance between idealised and realised identities. Going the extra mile was both a construct of the PI and an action the participants undertook to align work and PI. Role modelling, mentorship, community safe spaces and experience supported identity maintenance, enrichment, modification and elimination processes within PIF.

Summary

In this research, I have explored environmental, cognitive and behavioural determinants of PIF. I have described the determinants within the theoretical framework and identified three themes which are critical to PIF in PIT, which were, 1) the identity of the good doctor as an

idealised identity, 2) work-PIF alignment and misalignment and realised identities and 3) bridging the gap between realised and idealised identities. The research participants experienced PI commitment and confidence when work-PIF alignment occurred and disillusionment and guilt when work-PIF misalignment occurred. When work-PIF misalignment occurred, the participants would initially not relinquish professional ideals but instead altered behaviours ('going the extra mile'). While this was effective in the short term at preserving work-PIF, in the longer term, it had deleterious consequences. Positive identity adaptive determinants that bridged the gap between realised and idealised identities included role models, mentoring and experience.

Chapter 6. Discussion

6.1. Limitations of the research and implications for theory

Before discussing the findings of this study, I consider the limitations and the implications for rigour and generalisability. First, I will consider the limitations of the study methodology and methods and data analysis before considering the limitations of the theoretical framework.

Limitations of the study

Several limitations are related to the generalisability or transferability of the research findings. Participants enrolled in this study were self-selected and may not be representative of all DIT. Several factors contributed to this and were important to reflect upon while considering the interpretation and extrapolation of the findings of this study. Firstly, all participants in this study were enrolled in speciality training programmes in general medicine. Influencing factors of PIF may differ in content or hierarchy in alternative branches of medicine. For example, a general surgical trainee may emphasise technical ability or risk assessment over patient-centred care. (Rivard et al. 2022) However, studies of PIF in surgical trainees have shown substantial overlap between the findings of this research, including the importance of being a team player, the formative nature of patient feedback, the role of supportive colleagues and experience, perfectionism, accountability and self-criticism. (Rivard et al. 2022; Cope et al. 2017) These findings suggest that while there are potential differences between the branches of medicine in constructs PIF, core values, beliefs and attributes transcend speciality boundaries.

Secondly, I set out to recruit seven participants from non-acute and eight from acute internal medicine specialities. However, of the seventeen interviews undertaken, five were from a non-acute speciality. As interviewing continued, it was evident that saturation of themes had occurred, and there was no discernible difference between acute and non-acute specialities. However, the preponderance of participant's dual accrediting in GIM may have resulted in some bias in the findings, particularly toward the role of acute and unscheduled care. Purposeful sampling ensured a range of participants between ST3 and ST7. However, ST3 and ST4 had the lowest representation, which may have made the findings more reflective of the senior-grade trainees. Participants volunteered to participate in the study, which will likely

have influenced the findings. For example, no participant in the study had recounted experience remediation for underperformance or had been the subject of significant professional misconduct. Many participants (11/17) had engaged in fellowships, OOP experiences, or research. This finding may signal that the participants in this study were particularly involved in research, education or management, which may have influenced both the generalisability of the findings and how participants reflected upon their own experiences. Furthermore, the research sample may represent a particularly driven or ambitious cross section of PIT, influencing constructs of PIF such as perfectionism and high expectations. As I will further discuss in 6.2, the findings of this study align with the wider empirical research on PIF in PGME. However, these studies may also recruit a similar sample type. Future research should focus on identifying DIT who are typically more challenging to reach in regards to enrolling in research studies such as this.

Thirdly, while it was not the aim of this research to explore identity salience as it relates to the participants' competing identities, I recognise that the different identities held by the PIT, such as parents or carers, potentially may influence their professional identities. It would be of interest to explore identity salience in DIT who had left medicine for varying reasons, e.g. do other identities have precedence over their medical identity? Do workforce pressures impact or alter identity salience? Do other identities facilitate or constrict work-PIF alignment? Furthermore, I recognise PI as a dynamic process occurring across a life space. It would be particularly illuminating to interview the same research participants as they enter their early consultant years and explore how their PI has been maintained, enriched or modified as they have transitioned into these new roles.

Finally, this study did not aim to explore the role of gender, ethnicity and IMG status on PIF as I sought to describe and understand PIF and the role of workforce pressures for doctors enrolled in medical specialist training. Sampling in this study focused on a mixture of acute and non-acute medical ST and a breadth of seniority. Volpe and colleagues undertook a scoping review and qualitative metasynthesis of PIF in medicine, nursing and psychology. (Volpe et al., 2019) A minority of studies included in the scoping review were found to systematically examine participants' characteristics such as gender, ethnicity, sexual orientation or socio-economic status. Volpe and colleagues raise a critical issue for future research and the role of participant characteristics in describing and understanding

determinants of PIF. Including these characteristics also opens further research opportunities to examine and explore identity salience in understanding the interplay between identities e.g. does ethnic group status influence the moderating impacts of occupational groups in PIF processes or e.g. does gender play a role in the receiving and interpreting feedback as it moderates PIF.

In sections 4.2.1. and 4.2.2., I have explored the limitations of semi-structured interviews and my role as the researcher. In addition to the limitations I have previously outlined, I may have biased the interviews by utilising the terminology of the 'good doctor'. Participants may have connotations with GMP, the standards set for medical doctors by the GMC, and these connotations may have influenced the participants' responses to align with the stated aims of GMP. The 'good doctor' has been used in comparative research studies as an effective tool for discussing PIF, (Draper and Louw, 2007; Lambe and Bristow, 2010; Taylor and MacRae, 2011; Kavas et al., 2015; Walsh et al., 2016; Brown et al., 2017; Eigeland et al., 2022) which is somewhat of an abstract conceptualisation for the participants.

I outlined my methodology and methods in Chapter 4. Iteratively re-engaging with the data raises the risk of overinterpreting findings. However, the findings were comparable to studies within the field. For future research, I would consider sharing the data findings during the iterative process and facilitating participants to comment on how the findings resonate with their interpretation of their experience. These comments could be included in my reflective writing process and may add depth to my interpretation of the data and potentially prevent over-interpretation, which is a critique of the interpretative phenomenology approach, as I have outlined in 4.2.

I coded the entire data set to understand the breadth of determinants influencing PIF; consequently, some depth of understanding is sacrificed. However, as my primary goal was to identify determinants of PIF, I recognised the importance of coding the entire data set. Providing a broad overview of the determinants of PIF in PIT highlights future areas for in-depth research on the individual constructs, for example, the impact of gender on determinants of work-PIF alignment and work-PIF misalignment.

Theoretical framework; limitations of SCT and implications for theory

The theoretical framework identified to analyse the data was Bandura's Social Cognitive Theory. As the principal researcher, this theoretical framework enabled me to capture the breadth of determinants influencing the participants' professional identity formation, mainly encompassing determinants beyond observable behaviours. One of the central critiques of the medical professionalism movement has been the reliance on observed behaviour as an adjudicator of an individual's professionalism (Jarvis-Selinger, Pratt and Regehr, 2012), with a lack of appreciation for other significant influencing factors. (Frost and Regehr, 2013)

While using SCT as an organising framework provided a breadth of information for the semi-structured interviews and their subsequent analysis, there were also limitations to utilising this framework for data analysis. Firstly, much of the identity literature acknowledges the existence of multiple identities and the co-existing concept of identity salience (Monrouxe, 2010: Owens, Robinson and Smith-Lovin, 2010). Identities are ranked hierarchically, and those higher are more likely to be enacted. (Burford, 2012) Using SCT as a framework, professional identity is explored as a single entity influenced by behavioural, environmental, and cognitive factors, leading to a potential lack of understanding of any significant influence identity salience may play in PIF.

Secondly, for reproducibility of research and interpretation of results, the sub-constructs encompassed in the triad of determinants (behavioural, environmental and cognitive) of Social Cognitive Theory are not clearly defined within Bandura's framework. (Mann, 2011) In this study, the participants' idealised identities were predominantly cognitive determinants encompassing beliefs, attitudes, and values. However, another researcher may also code these determinants as behavioural determinants. For example, being a team player was defined as a cognitive construct but could also be viewed as a behaviour one exhibits in a team environment. It could be argued that the impact of role models and mentoring is predominantly cognitive through identity maintenance or enrichment; therefore, these represent cognitive constructs.

Additionally, dividing data into the three constructs of PIF was somewhat reductionist at times. For example, essential codes and subthemes relating to PI were excluded from the original analytical framework as they fell out with the environmental, behavioural and cognitive labels. However, exploring the bidirectional influences helped to ameliorate this

limitation. Finally, it is worth noting that SCT is not an identity theory but primarily a theory of behaviour and, subsequently, learning. Researchers need to be cognisant of this when applying SCT in PIF studies and consider any required adaptions to data analysis.

Thirdly, while SCT enables the breadth of analysis, there is a compensatory loss of in-depth exploration. For this reason, researchers have often utilised selective components of the theory to analyse and theorise research findings (Tougas et al., 2015; Stacey et al., 2016) or utilised other commonly used theoretical frameworks for exploring PIF, such as communities of practice. (Cruess, Cruess and Steinert, 2019) Utilising SCT as the primary theoretical lens will mean the researcher will not, for example, illuminate all the nuances of role modelling on professional identity but will identify role modelling as an important determinant alongside other equally essential determinants, thus answering the primary research question. This study aimed to identify areas for further research, and several vital findings lend themselves to further exploration.

Considering these limitations, there were nonetheless several important findings in the research that have implications for educators and faculty as they seek to influence PIF towards a stable, engaged, and satisfied professional identity.

6.2. Interpretation of research findings

This research study aimed to describe the determinants of PIF in physicians in training as analysed through the lens of SCT. Figure 6-1, beneath, schematically presents a high-level overview of the thematic analysis of the research data. I will now move on to discuss the research findings.

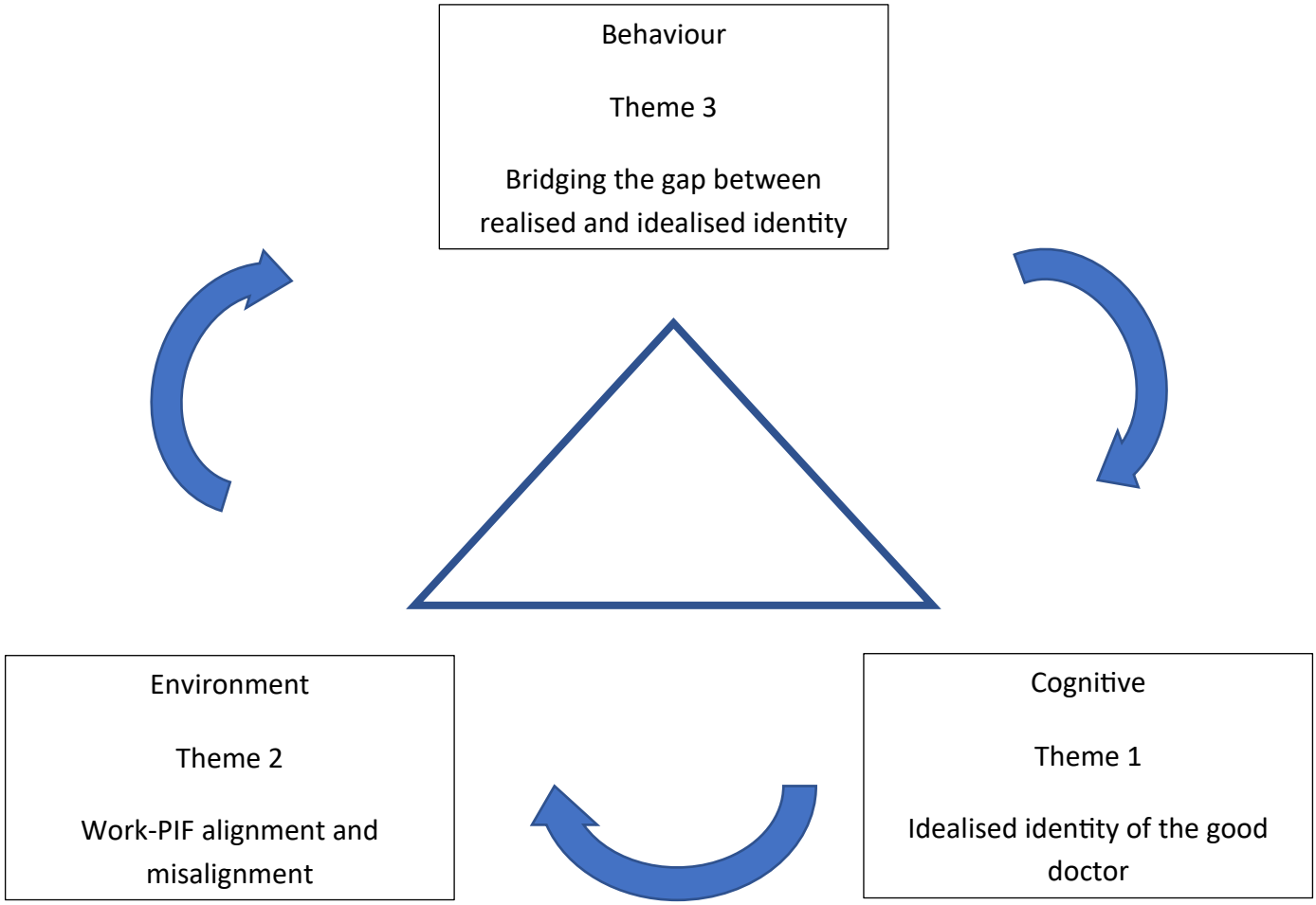

Figure 6-1. Overview of research themes and relation to SCT determinants

Three over-arching themes were determined from the data exploration as aligned with the constructs of SCT. First, cognitive determinants represented the idealised identity of the doctor, i.e. how the participants aspired to practice medicine without personal or environmental constraints. Second, environmental determinants behaved to either constrain or facilitate the idealised identity and thus shaped the PIT realised identities. When environmental determinants enabled work-PIF alignment, PIT reported confidence and competence, and the converse held. Third, behavioural determinants bridged the gap between idealised and realised identities by triggering identity formation processes, including identity maintenance, enrichment and elimination.

6.2.1. Theme 1: Idealised identity of the good doctor: the cognitive determinants of PIF in physicians in training

The participants in this study had a well-defined and shared concept of the good doctor, which was a complex interplay of 1) doctor as a healer, 2) patient-centred, 3) excellent communicator, 4) team player, 5) clinically skilled and 6) professional. For the participants, in modern healthcare, these pillars were the embodiment of the core values of the doctor. The constructs in this study align with the stated goals of undergraduate and postgraduate medical education and with the tenets of GMP. (Frank, Snell and Sherbino, 2015; Eno et al., 2020; General Medical Council, 2020) Therefore, this represents the internalisation of the formal curriculum. (Hafferty, 2006; Santivasi et al., 2022) I, therefore, have not explored the validity of each of these constructs but instead draw upon research related to the overarching finding of the constructs of the good doctor and an idealised identity.

Studies exploring the concept of the 'good doctor' have described similar findings. (Fones, Kua and Goh, 1998; Draper and Louw, 2007; Maudsley, Williams and Taylor, 2007; Lambe and Bristow, 2010; Sehiralti, Akpinar and Ersoy, 2010; Taylor and MacRae, 2011; Kavas et al., 2015; Walsh et al., 2016; Brown et al., 2017; Borracci et al., 2020; Coventry et al., 2022; Eigeland et al., 2022) Communication, interpersonal skills and teamwork have previously been identified in a study of medical students, doctors and patients as characteristic of the 'ideal doctor'. (Miles and Leinster, 2010) A qualitative study of medical students identified three main characteristics of the good doctor, which were 1) competence, 2) good communication, and 3) a good teacher. (Cuesta-Briand et al., 2014)

As became evident with further analysis of the research data, the PIT remained tightly wed to the cognitive constructs of the good doctor despite the challenges experienced in the CLE. Thus, in this research, these cognitive determinants were defined as the participants idealised identity. Idealised identities have been explored in the broader PIF literature. (Bebeau and V. Monson, 2011; Elvey, Hassell and Hall, 2013; Vivekananda-Schmidt, Crossley and Murdoch-Eaton, 2015; Cruess, Cruess and Steinert, 2019) Idealised identities were critical to PIF processes as this was the standard against which PIT evaluated their professional performance and significantly influenced how they viewed themselves in their professional role. Idealised identities were the lens through which participants evaluated their CLE.

The idealised identity draws on the theoretical work of Markus and Nurius, who described a *possible self* as separate from the now self but intimately connected and an essential concept for linking cognition and behaviours. (Markus and Nurius, 1986; Strauss, Griffin and Parker, 2012) Idealised selves have been recognised as a critical benchmark for self-evaluation and shaping perception (Ibarra, 1999) and conceptualised in PIF research in healthcare. (Draper and Louw, 2007; Maudsley, Williams and Taylor, 2007; Miles and Leinster, 2010; Wang, Swinton and You, 2019; Findyartini et al., 2022; Teo et al., 2022)

Much research has been conducted in the undergraduate sphere in PIF, which has been influential in developing educational programmes and curricula. (Niemi, 1997; Apker and Eggly, 2004; Gude et al., 2005; Dornan et al., 2007; Crossley and Vivekananda-Schmidt, 2009; Jarvis-Selinger, Pratt and Regehr, 2012; Wong and Trollope-Kumar, 2014; Vivekananda-Schmidt, Crossley and Murdoch-Eaton, 2015; Kalet et al., 2017; Jarvis-Selinger et al., 2019; Sarraf-Yazdi et al., 2021) However, at an undergraduate level the focus is typically on forming a PI, the participants in this study had internalised the values and attributes of the doctor as their idealised identity. However, they were faced with the challenges of enacting this within the CLE.

6.2.2. Theme 2: Work-PIF alignment and misalignment: the environmental determinants of PIF

Environmental determinants influencing PIF were 1) educational interventions, particularly engagement with the ePortfolio, 2) patient and peer feedback, 3) firefighting and perceptions of underperformance, 4) pressures of workplace-based postgraduate training and 5) the occupational community. Environmental determinants differed from the cognitive and behavioural determinants in that they were only significant in this research as they constrained or facilitated the enactment of the participants' idealised identity.

Identity is recognised to be more than a cognitive construct and is further defined by what an individual or group of individuals *do*. (Pratt, Rockmann and Kaufmann, 2006; Monrouxe, 2009) Data analysis revealed that environmental determinants were critical in how they facilitated or constrained the enactment of the participant's idealised identity. When work activities, i.e., what the participants were *doing*, supported professional identity ideals, work-PIF alignment occurred, associated with commitment and confidence. The converse also was true; work-PIF misalignment was associated with disillusionment and guilt. It has previously been argued

that the impact of actual or perceived work-PIF misalignment in medical practice is poorly understood. (Ladonna, Ginsburg and Watling, 2018b)

Therefore, I explore environmental determinants through the lens of work-PIF alignment and work-PIF misalignment, where work alignment is evaluated against the constructs of the participant's idealised identities.

Environmental determinants were constructed by the PMTP and the NHS. The PMTP was largely characterised by PIT to consist of educational opportunities, ePortfolio engagement and training structure with clinical rotations. The structures of the NHS characterise their occupational role. I will now consider the determinants and impact of work-PIF alignment and, subsequently, work-PIF misalignment.

Work-PIF alignment occurred when participants perceived overall integrity between their work and their idealised identity. A study of clinical educators highlighted the positive reciprocal nature of work activities in alignment with PIF and PI reinforcement. (Byram, Robertson and Dilly, 2021)

The participants identified two primary sources facilitating work-PIF alignment: educational interventions, particularly workplace-based assessments (WBPA) and ePortfolios and patient and peer feedback outlined in Figure 6-2.

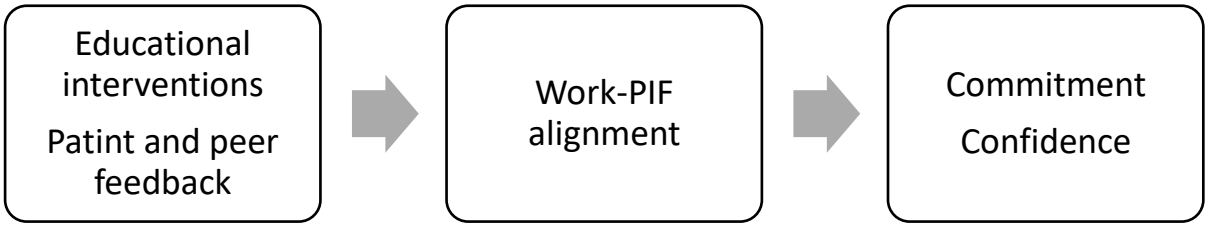

Figure 6-2 Sources of evaluation for work-PIF alignment and outcomes of successful alignment

Educational interventions include formal teaching, self-directed learning, and engagement with WPBA. Formal and informal education has previously been identified as necessary for PIF. (Kendall, Hesketh and Macpherson, 2005; Cruess, Cruess and Steinert, 2019; Findyartini et al., 2022) WBPA and ePortfolio engagement both engendered work-PIF alignment and

misalignment. Some participants viewed WBPA and the wider ePortfolio as affording identity maintenance and enrichment by providing feedback aligned with how they wished to view themselves and how they wished to be seen in their occupational roles. However, for several participants, WBPA and ePortfolio engagement had a neutral influence (i.e. no impact on work-PIF alignment) or led to work-PIF misalignment. Research relating to ePortfolio supports this mixed picture, and therefore, I present the evidence for work-PIF alignment and work-PIF misalignment within this theme.

For participants who experienced identity maintenance or enrichment through ePortfolio engagement, receiving feedback aligned with professional ideals was the primary mechanism for this to occur. It was not the process of engaging with the ePortfolio or the reflective aspects of WPBA, per se, that led to PIF but rather the feedback from others, which aligned with how the participants wished to view themselves and how they wished to be viewed by others. For those who did not experience this identity maintenance or enhancement, the ePortfolio was broadly considered an administrative task that compounded the pressures experienced by the participants.

The findings of this study align with the broader literature examining the use of ePortfolio in PGME. Studies exploring the utility of portfolios in medical education tended to describe a mixed picture of their effectiveness in professional development, particularly in the postgraduate arena. (Driessen et al., 2007) For ePortfolios to be effective, they benefit from clear goals for students and trainees, flexible structure, structured mentoring, curriculum integration and workplace feasibility. (Tochel et al., 2009; Driessen, 2017) Studies of the general effectiveness of ePortfolio as an educational tool also paint a mixed picture. Earlier studies trended towards more positive perceptions of the ePortfolio, mainly focusing on the perceived opportunities of moving to a structured electronic portfolio. (Ryland et al., 2006) As the ePortfolio progressed, trainees described more mixed perceptions of the strengths of the ePortfolio as a development tool. (Johnson et al., 2012; Tailor, Dubrey and Das, 2014; Grennan et al., 2016; Driessen, 2017; Rouse and Green, 2018; Scarff et al., 2019) A survey of UK core medical trainees (the training precursor to the specialist trainees in this study) found that 60% of respondents did not describe any meaningful development with the use of an ePortfolio, 53% felt feedback sessions with trainers were valuable, and 70% cited difficulties balancing completion of the required number of assessments with clinical work. (Tailor,

Dubrey and Das, 2014) A similar study surveying medical senior house officers (trainees at least one-year postgraduate) in the Republic of Ireland found that 74.1% of trainees did not find the ePortfolio an effective educational tool. (Grennan et al., 2016) Again, trainees cited time constraints as a particular barrier to meaningful engagement. (Grennan et al., 2016) Participants in a qualitative study of junior doctors' work-life balance found similar findings to this study describing the challenges of completing ePortfolio requirements without working hours. (Rich et al., 2016)

A qualitative study of General Practice Specialist Trainees' engagement with their ePortfolio generated similar findings to this study. Engagement with the portfolio was driven by 1) trainee trust in the portfolio and assessment processes, 2) decisions regarding the cost-benefit ratio of investing time and 3) internalising its purpose. (Rouse and Green, 2018) Time was a consistently cited constraint of engagement with the ePortfolio. (Rouse and Green, 2018) In keeping with the findings of this research, trainees described a lack of trust in the processes and scepticism regarding the developmental aspects of the ePortfolio, which, in turn, led to reduced engagement. (Rouse and Green, 2018)

Furthermore, an international qualitative review of rheumatology trainees described a need to improve the usefulness of ePortfolio engagement, identifying the clinical environment and time required for completion as barriers. (Najm et al., 2020) A systematic review published in 2019 reiterated the findings of this study and other qualitative work in the field, identifying a minority cohort of trainees who valued the developmental aspect while many disagreed. (Scarff et al., 2019)

It is important to note that none of the participants in this study disclosed any significant issues with underperformance. Workplace-based assessments and engagement with ePortfolio in this situation may have a different influence on PIF. Furthermore, the impact of a discrete WBPA may have more of an influence on PIF, e.g. multi-source feedback may be more influential than other WBPA. This was not explored in this study but would be essential for future research. I now move on to consider patient and peer feedback.

Patient and peer feedback was a further source of identity maintenance and enrichment when the feedback content aligned with professional ideals. Patient feedback was essential

to the participants and typically reflected directly from the patient to the PIT. Tensions arose for the participants when feedback did not align with professional ideals. Research has highlighted a potential relationship between complaints and professional identity conflicts. (Allsop and Mulcahy, 1998; Nash, Tennant and Walton, 2004; Scott and Grant, 2018)

Peer feedback was a further important source of identity maintenance and enrichment. Miles and colleagues' qualitative work with residents demonstrated peer feedback to be most influential when provided by someone with medical expertise and often in a more powerful position. (Miles et al., 2020) A Cochrane systematic review, meta-regression and cumulative analysis of feedback in healthcare found recipients to be more receptive when delivered by a respected colleague or more senior doctor. (Ivers et al., 2014) In Pratt and colleagues' work exploring identity revision and PIF in US residents, feedback was found to have a validating role for PIF. A systematic review of the literature on feedback and clinical performance found that feedback was most effective when delivered by a credible figure engaged in a longitudinal relationship. (Veloski et al., 2006)

Thus far, I have outlined the critical determinants of work-PIF alignment in this research study: educational interventions and patient and peer feedback. Educational interventions, particularly engagement with the ePortfolio, facilitated identity maintenance and enrichment by reinforcing feedback in line with patient and peer feedback. As the research participants reflected upon, all self-evaluation of PIF at this stage of development was externally driven. Furthermore, all sources of external feedback outlined by the participants in this study were part of the same ecosystem, namely the UK NHS and therefore were at risk of the same environmental pressures as the PIT.

Work-PIF misalignment

Work-PIF misalignment has been described and studied in the professional identity literature within and outside medicine. (Pratt, Rockmann and Kaufmann, 2006; Ibarra and Barbulescu, 2010; Wald et al., 2019; Ribeiro et al., 2021; DiBenigno, 2022; Santivasi et al., 2022) Figure 6-3 outlines the main determinants of work-identity misalignment as described by the research participants. The environmental determinants related to work-PIF misalignment identified in

this study were firefighting and underperformance, pressures of workplace-based postgraduate training and occupational community.

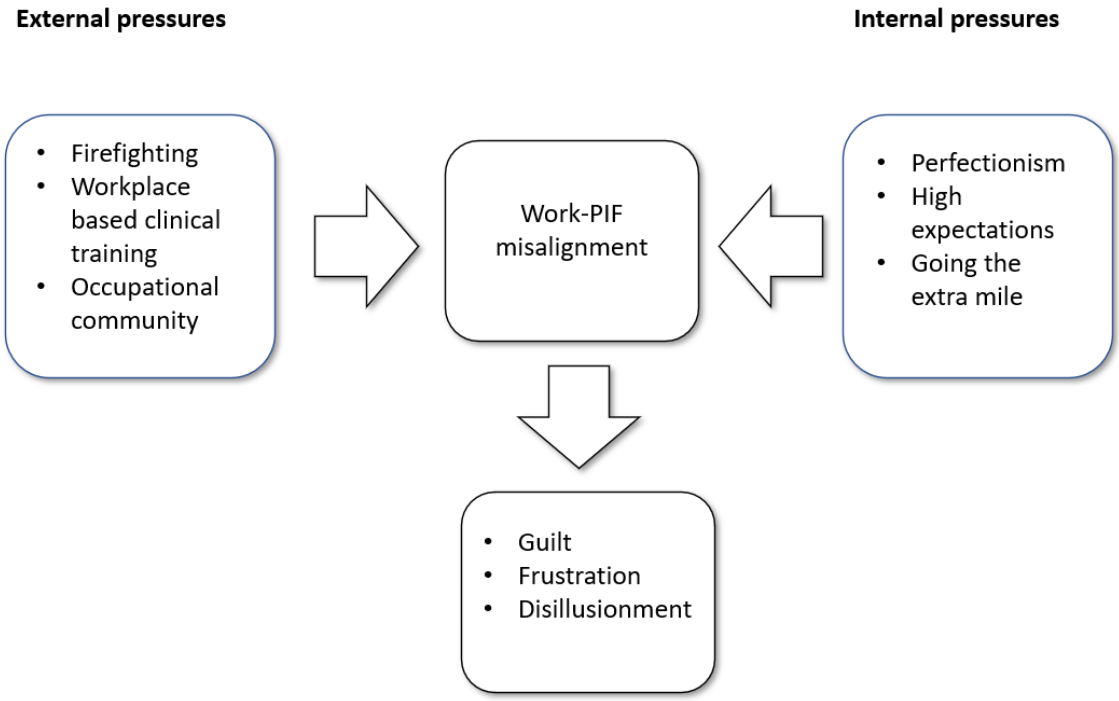

Figure 6-3 Environmental determinants of work-PIF misalignment.

The CLE often created barriers to translating professional ideals into the realities of clinical practice, as found in similar studies. (Kavas et al., 2015; Schei et al., 2018) A scoping review of UG students identified contextual elements as critical to aligning *'intended and enacted professional values and behaviours'.* (Sarraf-Yazdi et al., 2021, p. 6)

The participants consistently described the environment in which they participated in their professional role as pressured and challenging. Research participants described significant difficulties in delivering care in line with their idealised identities within the constraints of their working environment. The PIT chronically provided care they perceived to be below the standards of the doctor, which they had internalised. It is important to note that this was the perception of the participants. It was out of the scope of this research to evaluate patient perceptions or outcomes as the focus of the study was the lived experience of the research participants.

The CLE has long been recognised as an important determinant in supporting or undermining PIF. (Brainard and Brislen, 2007; Hafferty and Castellani, 2009; Lesser et al., 2010; Benbassat, 2013; Caverzagie, Goldenberg and Hall, 2019) Working in a pressurised, understaffed, and under-resourced healthcare environment resulted in significant work-PIF misalignment, as the participants perceived themselves as unable to deliver care in line with their internalised standards. The pressures of workplace-based postgraduate training further exacerbated this.

I have explored the role of WBPA and the wider ePortfolio in work-PIF misalignment alongside the literature in the field in section 6.1.1.

Frequent clinical rotations further exacerbated Work-PIF misalignment. Like ePortfolio, clinical rotations could result in both work-PIF alignment and misalignment. However, overall, clinical rotations largely exacerbated work-PIF misalignment. Clinical rotations were viewed as enriching PI when they resulted in clinical skills or knowledge accrual. Relocating to a new department on a rotational basis exacerbated work-PIF mismatch when it prevented or interrupted the formation of developmental workplace relationships and impacted their ability to learn and improve, resulting in a loss of agency to modify professional or personal aspects of their life. The participants' perceptions of clinical rotations demonstrate the tensions between CBME and PIF in medical education. Rotations improved clinical skill competencies but fragmented meaningful relationships critical to PIF processes and necessary for navigating identity crises.

While there have been several opinion pieces and empirical research on the perceived impact of EWTD on professionalism, (Ratanawongsa, Howell and Wright, 2006; Reed et al., 2007; Szymczak et al., 2010; Arora, Farnan and Humphrey, 2012; Schumacher et al., 2012; Collum, Moreton and Booth, 2013) there is less on the impact of clinical rotations. Empirical research in longitudinal clerkship in undergraduate education suggests equivalent clinical knowledge between longitudinal and block rotations but less engagement with role models, less patient-centred experiences and loss of the positive aspects of a consistent system and stable relationship with peers and mentors. (Ogur and Hirsh, 2009; Teherani, Irby and Loeser, 2013; Myhre et al., 2014; Woloschuk et al., 2014)

Rich and colleagues described trainees' challenges in moving regularly between clinical rotations. (Rich et al., 2016) Participants consistently cited the difficulties in rebuilding relationships, becoming competent in new systems and 'having to prove themselves' again. If we follow the psychosocial theories of development, then development occurs in a layered manner, which builds to incorporate increasing complexity, one of the cited benefits of focusing on PIF. (Hafferty and Castellani, 2010) However, for the participants in this study, PGME consisted of a regular series of new beginnings, creating limited opportunities to advance to later stages of professional identity formation.

In an opinion piece in 2012, Schumcher and colleagues highlight the role of continuity and the development of meaningful relationships as critical components of professional identity development, citing Hirsh and colleagues' empirical work on the efficacy of longitudinal student clerkships. (Ogur and Hirsh, 2009; Schumacher et al., 2012) Schumcher and colleagues argue that block rotations undermine professional identity development to a greater extent than duty hours. (Schumacher et al., 2012) Ten Cate and colleagues argue for using longitudinal integrated clerkships in undergraduate education, citing rotational blocks as a barrier to development and the necessity of time to develop trust between learner and trainer. (Hirsh, Holmboe and Ten Cate, 2014) Holmbon and colleagues' theoretical approach to clinical rotations argues that much more attention should be paid to the impact on professionalism and teamwork when viewed through the lens of social learning theories. (Holmboe, Ginsburg and Bernabeo, 2011) Socialisation is consistently cited as a critical component of professional identity formation, (Apker and Eggly, 2004; Bebeau and V. E. Monson, 2011; Jarvis-Selinger, Pratt and Regehr, 2012; Vivekananda-Schmidt, Crossley and Murdoch-Eaton, 2015; Wald, 2015a) however when meaningful bonds are weak or limited so are the processes of socialisation. (Ibarra, 1999)

The research participant's occupational community was a further determinant of PIF. The occupational community has been defined in the PIF literature as a *'group of people who consider themselves to be engaged in the same sort of work; whose identity is drawn from the work; who share a set of values, norms, and perspectives that apply to but extend beyond the work-related matters; and whose social relationships meld work and leisure'*. (Van Maanen, 2010, p. 6) Professional inclusivity has been associated with a strong sense of professional identity. (Santivasi et al., 2022) The primary mechanism by which participants perceived

themselves (or had witnessed others) to lose social inclusivity was through bullying and undermining. Social exclusion occurred when participants were the object of bullying and undermining and also when they witnessed these events happen to others.

Pratt and colleagues describe the discrepancy between the ideals or expectations of an occupational role and the work one is doing as a work-identity violation. (Pratt, Rockmann and Kaufmann, 2006) In Pratt and colleagues' study of medical residents in the US (radiology trainees), work-identity violations occurred when the work of the research participants did not match their professional identity. (Pratt, Rockmann and Kaufmann, 2006) Work identity violations triggered identity work and the elimination of certain professional ideals. When the trainees in Pratt and colleagues' qualitative study could not change their work to align with their professional identity, they adapted by changing their identity. (Pratt, Rockmann and Kaufmann, 2006) Pratt described this as identity deletion and occurring only under severe circumstances. (Pratt, Rockmann and Kaufmann, 2006)

Santivasi and colleagues explored PIF in medical residents in the US, utilising SCT as the theoretical framework. (Santivasi et al., 2022) In Santivasi's study, the residents reframed professional ideals by navigating identity tensions. However, the research group found that a failure to reframe unrealistic ideals resulted in self-doubt, shame and imposter syndrome. (Santivasi et al., 2022)

In this research study, the participants continued to view their idealised identity as the standard against which they evaluated their clinical practice. However, in addition to their idealised identity, enacting their professional activities in the CLE exposed further elements of their PI, including perfectionism, high expectations and going the extra mile. I describe the juxtaposition of perfectionism, high expectations, going the extra mile, and working in an under-resourced healthcare system as the participants realised identity. The concept of realised identity aligns with the *'intended and enacted professional values'* (Sarraf-Yazdi et al., 2021, p. 6) described by Sarraf-Yazdi and colleagues in their scoping review of PIF in UG medical education.

In this study, the lack of alignment between idealised and realised identity engendered guilt, disillusionment, and, for some, a crisis point. An identity is more than a cognitive construct; it

represents what one *does*. (Amery and Griffin, 2020) If I return to my identity as a runner. When I returned to running after a prolonged injury time, I experienced identity enrichment. Cognitively, I had consistently recognised myself as a runner, returning to complete my first post-injury. Park Run brought me significant joy and fulfilment as what I *was doing* was aligned with how I viewed myself. My identity as a runner was thus reinforced and continues to undergo revisions as I pursue running.

Disillusionment for the participants arose from the gap between *who* the participants viewed themselves as and *what* they were doing. The participants consistently described experiences where their actions were at odds with the fundamental constructs of their PI in tandem with a deep sense of obligation to their patients. An integrative review of forty-seven papers exploring junior doctor workforce retention described DIT as experiencing guilt and discontent when unable to maintain standards of patient care. (Lock and Carrieri, 2022)

Affect and role of emotions in professional identity and medical education have come to the fore in recent years. (West and Shanafelt, 2007; Monrouxe and Rees, 2011; Canrinus et al., 2012; Mcnaughton, 2013; Dornan et al., 2015; Hill and Curran, 2016; Yu, Chae and Chang, 2016; Monrouxe et al., 2017; Bynum and Artino, 2018; Lundin et al., 2018; Thomas and Bigatti, 2020; Ribeiro et al., 2021) Bynum and colleagues argue that emotions such as shame, guilt and pride are under-recognized and under-researched in medical education. (Bynum and Artino, 2018) Increasingly, researchers are evaluating the correlation between perfectionism, self-doubt and symptoms of burnout and anxiety. (Monrouxe et al., 2017; LaDonna, Ginsburg and Watling, 2018a; Ladonna, Ginsburg and Watling, 2018b; Lundin et al., 2018; Gill, 2020; Gottlieb et al., 2020; Ribeiro et al., 2021; Freeman and Peisah, 2022) 'Negative' emotions are likely to play an important role in identity development as they can lead to uncertainty and anxiety, which may trigger PIF processes. (Mcnaughton, 2013; Ribeiro et al., 2021)

The participants in this study experienced guilt, disillusionment and frustration in the CLE for failing to meet their own internalised standards. If I compare this with my example of failing to attend my training session on time, I fell below my internalised standards (idealised running identity) on this occasion. To change this, moving forward in the short term, I had the option of changing my behaviours to ensure I left work on time or changing how I viewed the

constructs of my identity as a runner. In the longer term, I could also have considered changing my environment by changing the location of my running club or my job.

The participants of this study did not describe any sense of being able to meaningfully adapt the CLE (their environment) and, would not (or could not), at this stage, change their internalised cognitive constructs of PI. Instead, the PIT altered their behaviours to maintain their PI and reduce work-PIF misalignment (identity maintenance). This finding may be reflective of the participants who volunteered to take part in this study. PIT who had modified their idealised identity as a consequence of workforce pressures by, for example, eliminating aspects of their idealised identity to reduce work-PIF misalignment may not have participated in this trial. While the participants in this study did not describe degrading their PIF in response to workforce pressures, this may reflect the attributes of the study sample. Similarly, those unable to moderate work-PIF misalignment may choose to adapt their environment rather than their behaviour and either modify their occupation or the occupational environment they work in.

6.2.3. Theme 3: Bridging the gap between realised and idealised identities: the behavioural determinants of PIF

Data analysis identified five behavioural determinants that were influential to PIF, 1) going the extra mile, 2) role modelling, 3) mentorship, 4) occupational community and safe space, and 5) experience. The participants had well-defined idealised identities based on the constructs of the good doctor. Alongside their ideal identity, participants had high expectations of themselves and displayed traits of perfectionism. As I outlined in section 6.1.2., the participants met challenges in enacting these ideals in the clinical training environment. I have described their idealised identity meeting the realities of clinical practice as their realised identities. In this study, behavioural determinants functioned to bridge the gap between idealised and realised identities, thus improving work-PIF alignment and reducing work-PIF misalignment by triggering identity revision. Behavioural determinants engendered identity maintenance, enrichment and modification, thus influencing the processes of PIF.

Going the extra mile was an in vivo code and sub-theme which emerged from data analysis. Rich and colleagues report similar findings in their qualitative study of DIT, where trainees felt

they were obligated to prioritise work over home life. (Rich et al., 2016) The participants described *going the extra mile* as a cognitive construct of their PI and a behaviour that enabled them to bridge perceived work-PIF misalignment. I will now explore behavioural determinants of PIF as bridging work-PIF misalignment. All behavioural determinants improved work-PIF alignment. However, going the extra mile had more deleterious effects in the longer term. Some of the participants in this study experienced a crisis point, resulting in time away from clinical practice. This is similar to the findings of Lock and Carrieri's review, where they describe junior doctors as needing a break from medical training as a consequence of their experiences within the NHS.

Role models, mentoring and occupational communities were the antidote to the external and internal pressures experienced by the PIT and played a significant role in identity maintenance and enrichment. I will consider first role modelling and move on to the other behavioural determinants. Role models played a critical role in identity enrichment. Typically, they were 1) self-selected by the doctors in training, 2) embodied constructs of their idealised professional identity and 3) influenced PIF by identity enrichment. Most of the role models were consultant-grade medical staff. However, on a few occasions' participants would describe a registrar-grade role model, usually from an earlier stage in their career. The participants described role models as generally being in some way unique among the senior colleagues they had worked with. They tended to be described as enthusiastic, engaged in education, effective communicators, approachable and caring.

The research participants described imitating role models and incorporating their behaviours into their practices. Imitation with subsequent identity enrichment occurred on small and large scales. Participants would incorporate communication styles or approaches into their practice. Role models were also transformative by shifting the participant's practice globally or changing how they viewed themselves or their roles. The research participants consistently identified role models as a key influence in choosing speciality training.

Role models are recognised in the broader literature as critical in PIF. (Wright, 1996; Wright et al., 1998; Elzubeir and Rizk, 2008; Jochemsen-Van Der Leeuw et al., 2013; Wilson et al., 2013) In Wright and colleagues' study of postgraduate doctors in America (residents), clinical skills, teaching ability, and personality were rated as the most important determinants of role

models. (Wright, 1996) These findings were replicated in a 2008 questionnaire study of students, interns and residents, (Elzubeir and Rizk, 2008) a systematic review in PGME (Jochemsen-Van Der Leeuw et al., 2013) and studies of undergraduate students (Passi et al., 2013) The review published in 2013 validates the findings in this study, demonstrating that the scientific achievements were among the least important attributes. (Jochemsen-van der Leeuw et al., 2013) Dedication to teaching and education, emphasis on the patient-doctor relationship and teaching of the psychosocial aspects of medicine were identified as attributes of outstanding clinical role models. (Wright et al., 1998)

Parks and colleagues undertook a qualitative survey of surgery residents and described three aspects of learning from role models: 1) observation, 2) reflection, and 3) reinforcement, similar to the findings in this study. (Park et al., 2010) Utilizing motivational theories to conceptualise how role models inspire outcomes, Morgenroth and colleagues described three functions of role models: 1) representing the possible, 2) being inspirational, and 3) acting as behavioural models. (Morgenroth, Ryan and Peters, 2015) Kenny and colleagues analysed the impact of role modelling and, in alignment with this work, identified their critical role in bridging idealised and realised identities and thus providing inspiration and contextual development. (Kenny, Mann and Macleod, 2003)

Role models influenced PIF by displaying traits and characteristics the participants wished to embody. In contrast to role models, mentors influenced PIF by engaging in a professional relationship with the doctors in training and providing active support to the PIT. Role models influence by example, while mentors have a two-way relationship with mentees. (Ricer, 1998)

Not only did mentorship have practical implications in helping the doctors overcome barriers in enacting their professional identity in the workplace, but it also positively improved commitment and confidence. In a survey of US internal medicine residents, 93% of respondents acknowledged the importance of mentorship during residency, while mentorship was associated with better career preparation. (Ramanan et al., 2006) A Swiss study exploring the impact of mentorship on postgraduate trainees demonstrated improvements in objective and subjective career success. (Stamm and Buddeberg-Fischer, 2011) Mentorship has been identified as one of the crucial determinants in PIF alongside role models. (Holden et al., 2015; Mann and Gaufberb, 2016; Cruess, Cruess and Steinert, 2019)

Acts of mentorship from consultant colleagues ranged from involving participants in quality improvement projects, sharing educational resources and opening career opportunities to providing support during personal or professional challenges. The mentoring relationships described by the participants were a mixture of formal (mainly clinical and educational supervisors) and informal (arising without an authority role). (Mann and Gaufberb, 2016) The supportive acts the participants described as formative generally occurred during their day-to-day working lives. Participants consistently related how these acts improved their confidence, motivation, and feeling of value in the workplace.

Mentees have been previously shown to develop professional identity through career-enhancing support (including coaching and providing challenge work) and psychosocial support (including acceptance, confirmation and counselling) similar to the acts of mentorship the participants described in this study. (Kram, 1985) A systematic review of quantitative research in the field published in 2006 documented the importance of mentorship on professional development and career choice. (Sambunjak, Straus and Marušić, 2006) Sumbunjak and colleagues undertook a further systematic review of qualitative research in the area and found mentoring functions to develop both professional and personal growth. (Sambunjak, Straus and Marusic, 2010) Conversely, a study on burnout in junior doctors found that dissatisfaction with emotional support from supervisors demonstrated a significant association with emotional exhaustion and depersonalisation. (Prins et al., 2007)

As emerged from the data, peer relationships played a critical role in identity maintenance and strengthening. Peer relationships are an essential social signal validating an individual's progression towards their idealised identity. (Ibarra, 1999) Several studies have highlighted the importance of peer relationships in mediating professional identity formation. (Satterfield and Becerra, 2010; Weaver et al., 2011; Jarvis-Selinger et al., 2019; Chang et al., 2020) The participants emphasised the role of peer relationships in maintaining their PI during uncertainty by providing safe spaces, emotional support, resilience, and motivation. For peer support to be effective, it was required to be non-judgemental and confidential; preferentially, the peer had experienced similar circumstances. Supportive medical colleagues enabled the participants to work through challenges they had experienced without undermining their professional identity.

In a qualitative study, Spooner et al. demonstrated the importance of supportive environments in transforming a challenging situation into a positive experience. (Spooner et al., 2017) Social support, good morale, and a sense of 'team spirit' have been shown to mediate the detrimental effects of intense workloads and demanding schedules. (Brown et al., 2020)

A randomised control study of a peer-peer mentoring programme found that peer mentorship improved morale, job satisfaction and psychosocial well-being. (Chanchlani et al., 2018) A 2015 study evaluated the use of debriefing sessions in reducing stress in junior doctors, 89% of participants described the sessions as a source of emotional support. (Gunasingam et al., 2015) In a study of professional identity development in Japanese postgraduate doctors, Haruta and colleagues illuminated findings similar to those of this research. (Haruta, Ozone and Hamano, 2020) They described peer community as an 'inner group' where they derived support and friendship. Similar to this study, they described the importance of providing a safe space and 'catharsis when they shared such feelings'. (Haruta, Ozone and Hamano, 2020)

The final behavioural determinant identified in this study was experience, both within and outside of the CLE. Experience in their occupational role helped the participants gain more confidence in their own PI and reduced reliance on external validation. In this way, the goal of PIF was increasingly met with the reconciliation of personal and professional identities. (Cruess et al., 2014)

Experience also led the participants to shed ideals of perfectionism and high expectations. For some, this had occurred in response to an identity crisis. Pratt and colleagues found identity deletion to be the most challenging activity of identity revision, often driven by an intense experience, similar to the findings of this study. (Pratt, Rockmann and Kaufmann, 2006) Setting more realistic expectations and reconciling perfectionist traits had reduced work-PIF misalignment, resulting in improved commitment and confidence.

OOP was an essential experience for the participants in facilitating PIF. OOP provided the participants with the space away from the pressures of clinical practice to reflect upon their PI and modify their identities, particularly concerning perfectionism and high expectations.

6.3. What is the interplay between these determinants?

When I developed the main research questions and sub-questions, I delineated the interplay between cognitive, behavioural and environmental determinants as a separate research question. However, during the data analysis, as laid out in the methodology and methods, it was evident that the importance of a particular PIF determinant was contingent upon its relationship to a neighbouring determinant of PIF, thus mirroring Bandura's triadic reciprocal determinism of bidirectional influence. (Bandura, 1986) Cognitive constructs were critical to how the participants perceived the environment and set the internalised standards for how the PIT viewed their behaviours. Environmental determinations were relevant in how they constrain or facilitate idealised identities. Behavioural determinates reinforced PI and worked to reduce work-PIF misalignment due to environmental or cognitive constructs. Therefore, the interplay between the determinants has been explored throughout Chapters 5 and 6 in relation to each construct.

6.4. Summary

In this research, I have explored environmental, cognitive and behavioural determinants of PIF. I have described the determinants within the theoretical framework and identified three themes critical to PIF in Physicians in Training, which were 1) the idealised identity of the good doctor, 2) work-PIF alignment and misalignment and 3) bridging the gap between realised and idealised identities.

The idealised identity of the good doctor was represented by six constructs: doctor as a healer, patient-centred, excellent communicator, team player, clinically skilled and professional. The PIT felt deeply obligated to the patients under their care and had internalised professional ideals into a tightly held PI. Environmental determinants influencing PIF were educational interventions, feedback (patient, peer and WBPA/ePortfolio), workplace pressures, workplace-based postgraduate medicine, and the occupational community.

The research participants experienced PI commitment and confidence when work-PIF alignment occurred and disillusionment and guilt when work-PIF misalignment occurred. When work-PIF misalignment occurred, the participants initially did not relinquish professional ideals but instead adapted behaviours, including working outside contractual hours, to align work-PIF. While this was effective in the short term at preserving work-PIF, in

the longer term, it had deleterious consequences. In addition to external workplace pressures, all the participants described internal pressures of perfectionism, high expectations and going the extra mile. For participants, work-PIF misalignment combined with traits of perfectionism, high expectations and a culture of going the extra mile led to a crisis, with some participants moving out of clinical practice for a period of time.

Behavioural determinants were crucial to bridging the gap between realised and idealised identities, engendering identity maintenance and enrichment. This research identified behavioural determinants as role modelling, mentoring, occupational community, safe spaces, and experience. When behavioural determinants reduced work-PIF misalignment, participants experienced confidence and commitment. It has been argued that PIF '*is at the core of why people join organisations and why they voluntarily leave*'. (Ashforth, Harrison and Corley, 2008, p. 334) For this reason, behavioural determinants played a vital role in maintaining commitment and supporting the PIT to remain engaged in their occupational role.

6.5. What this study adds

6.5.1. What this study adds to the literature

To the best of my knowledge, this is the first study exploring PIF in Physicians in Training. SCT was a valuable lens for exploring PIF in PGME, although there were limitations described in section 6.1.1. This study aimed to explore the determinants of PIF in PIT as understood through the lived realities of the research participants. As I will outline further, this is the first study in PIF to identify workforce pressures as a critical determinant of PIF.

While the empirical research in PIF in PGME remains underrepresented compared to UG studies (Pratt, Rockmann and Kaufmann, 2006; Snell, 2016; Barnhoorn et al., 2022), relevant studies demonstrate comparable findings to this study.

Pratt and colleagues undertook similar qualitative research on US residents. (Pratt, Rockmann and Kaufmann, 2006) The study sampled Surgical, Radiology and General Practice trainees. Participants were typically in their late twenties. Processes of PIF were triggered by work-identity violations, which consisted of identity splinting, enriching and patching. Performance feedback and role models were essential for identity validation. Pratt and colleagues did not

comment on peer communities, mentorship, or experience. Furthermore, Pratt's study did not explore the role of emotions in PIF.

Santivasi and colleagues also explored PIF in US residents, utilising SCT as their theoretical lens. (Santivasi et al., 2022) In line with this study, cognitive constructs represented professional identity. Similar to the participants in this study, residents had limited agency to alter contextual determinants and found role models to play an important role in identity enrichment and alignment with idealised identity. (Santivasi et al., 2022) The US residents modified PI when unrealistic ideals created tension with the realities of practice. However, a failure to positively reframe ideals led to self-doubt, shame and impostor syndrome. In this study, identity tensions related to enacting professional ideals, such as the doctor knowing everything and always being right. Like the participants in this study, the US residents believed that seeking help or displaying uncertainty was a sign of weakness.

Santivasi's work was part of a more extensive study exploring PIF in residents. (Sawatsky et al., 2018) As part of this work, Sawatsky and colleagues explored PIF in residents conducting one-to-one interviews and utilising SCT as the theoretical framework for data exploration. They found SCT to be an appropriate theoretical framework for exploring PIF, mainly commenting on the ability of triadic reciprocal determinism to conceptualise the complex process of PIF fully. (Swatasky et al, 2020) Like this study, Sawatsky's findings suggested that consistency and longevity of influencing relationships are important to PIF and highlight the challenges of providing this in the CBME era. (Swatasky et al, 2020) The researchers posited that learning from failure was critical to successful PIF but highlighted the difficulties of learning from failure in a clinical environment with consequences for patients. Potentially, OOP allows participants to experiment with failure in an alternative learning environment and receive feedback from trusted mentors and colleagues with whom they have built longitudinal relationships.

Barnhoorn and colleagues undertook empirical qualitative research on PIF in GP residents in the Netherlands. (Barnhoorn et al., 2022) They also found clinical experience, clinical supervisor-DIT relationship and self-evaluation significant. Self-evaluation was derived from patient feedback and occupational community safe spaces in alignment with the findings of this study. Participants described a value conflict with GP trainers around work-life balance

and going the extra mile. Identity enrichment arose from increasing competency, clinical supervisor feedback and self-assessment. Barnhoorn and colleagues called for future research to explore a richer picture of PIF in PGME. Brown and colleagues also studied PIF in Australian GP trainees using a critical realist approach. (Brown et al., 2020) The authors identified three critical discourses on clinical responsibility, ownership of clinical knowledge and measures of trainee competency.

Importantly, none of these studies identified work-PIF misalignment due to workplace pressures as a critical source of identity tension. In the empirical studies, identity tensions were typically related to the traditional ideals of the doctor, value conflicts with senior colleagues, and engagement with general medical duties at the expense of speciality-specific activities. (Pratt, Rockmann and Kaufmann, 2006; Barnhoorn et al., 2022; Santivasi et al., 2022) However, while PIT in this study reflected upon similar challenges, workforce pressures were the predominant source of identity tension. I argue that this is a more profound type of work-PIF violation as it is core to the participants' PI as the healer and what it means to be a good doctor. The professional identity violation was further exacerbated by the chronicity of the insult (i.e. the ongoing and unrelenting workforce pressures) and the lack of agency possessed by the PIT to modify their environment.

Internal medical registrars are at the forefront of providing acute care, which may account for the perversity of workforce pressure disrupting work-PIF alignment. However, work-PIF misalignment due to workforce pressures was universally described by the participants, including those undertaking speciality-specific work and not engaged in the acute medical take. More likely, this reflects the context of the CLE and the worsening workforce and healthcare crisis. In Pratt and Sawatsky's studies (Pratt, Rockmann and Kaufmann, 2006; Sawatsky et al., 2020), participants were able to relinquish professional ideals to reduce work-PIF discordance, whereas, in this study, PIT would not relinquish idealised identities despite significant work-PIF misalignment with professional and personal consequences. Participants in this study were typically older and had been employed in a healthcare role for longer than in comparative studies, which may have been influential. However, I argue that the PIT could and would not relinquish ideals such as doctors as healers or excellent communicators as, to them, this was the very meaning of what it was to be a doctor. Furthermore, these constructs,

particularly the doctor as a healer, brought them meaning and fulfilment in their occupational role and were not readily relinquishable.

This work is the first study to identify workforce pressures as a critical determinant of PIF and contributing to work-PIF misalignment. In addition, to the best of my knowledge, this is the first empirical study to identify a breadth of the complexity of PIF spanning cognitive, environmental and behavioural constructs.

6.5.2. What this study adds to my understanding

Through this research, I have identified three key learnings that have profoundly shaped my perceptions as a doctor, researcher and person. Firstly, I have become aware of the influence of 'others' in modifying and enriching PIF. The impact of role models and mentors profoundly shaped the participants' perceptions of themselves in their occupational role and their self-evaluation, which is intrinsically linked to confidence in the work setting. Comparatively, small acts engendered significant responses in the participants' views of themselves and their place in the occupational world, enabling identity enrichment in challenging and pressurised circumstances. The converse also held that bullying or undermining by significant others was associated with an identity crisis. As I completed this thesis, I transitioned from a specialist trainee to a consultant role. My interactions with junior colleagues have been shaped by the findings of this work and the correlation with the broader academic literature. Before undertaking this research, I lacked appreciation for the role 'others' can play in the occupational setting and the impact on PIF.

Secondly, through this research, I now recognise the critical role of PIF as the lens through which the working environment is viewed and as the standard for self-evaluation in an occupational role. When activities of work and PIF are aligned, occupational self-evaluation is largely positive and associated with confidence and commitment. When activities of work and PIF are misaligned, occupational self-evaluation is largely negative and associated with disillusionment. PI and PIF are, therefore, essential to how we view our occupational roles and our commitment and fulfilment in the workplace. The influence of PIF on our perception of our working environments is, therefore, a key research tool for understanding workforce retention and occupational fulfilment that I will continue to explore in my research work.

Thirdly, I entered this research from a positivist research background with a strong pull in this direction. I am leaving this work as an interpretivist researcher, where my research aims to understand and interpret rather than to control and predict. This paradigm shift has impacted my worldview as I recognise there is no single truth to be identified. Instead, perceptions are based on the lived experience of the individual or group. I have learned to develop qualitative research skills, particularly in observation and interpretation, which have benefited me in my occupational and broader life.

Having now developed a deep understanding of identity, professional identity and professional identity formation, in future research into PIF, I would seek to explore the role and influence of other primary and secondary identities on PIF and, particularly, how this relates to resilience or lack of resilience in the workplace. In future work, I hope to describe and understand the role of participant characteristics on the nuances of PIF, such as ethnicity or IMG status. I am also interested in PIF at different stages across the medical continuum, including independent practitioners such as consultants and GP. It would be interesting to explore and contrast other PIF processes of other roles within the healthcare system, such as managers and regulators and incorporate the experiences of patients and their interpretation of the modern doctor.

6.6. Implications for medical educationalists and research

Implications for medical educationalists

The role of medical educationalists in supporting PIF has differing goals in UG and PG medical education. At an undergraduate level, medical educationalists support medical students in *forming* professional identities, i.e., facilitating or enabling the internalisation of the stated values and attributes of the medical profession while reconciling them with personal values and beliefs. At a postgraduate level, medical educationalists are tasked with facilitating the ongoing process of PIF, resulting in ethical and moral practitioners skilled for contemporary practice and competent to act independently.

The findings of this study highlight three key implications for medical educationalists, which are 1) prioritisation of PIF in the postgraduate curriculum, 2) facilitating educational interventions which promote PIF and 3) to debate the moral and ethical implications of the role of an idealised identity as outlined in this research in a CLE with significant workforce challenges.

1) Prioritisation of PIF in the undergraduate and postgraduate curriculum

Over the last decade, CBME has dominated PG curriculum, positively impacting skill acquisition, standardisation and assurance. However, this has occurred to some degree at the expense of the key determinants of PIF, which require meaningful relationships, safe space for reflective experiential learning, and longitudinal professional development. By its nature, CBME lends itself to curricular development and assessment, whereas integration of PIF is more challenging as it represents a developmental process not readily available for formative assessment. However, PIF is critical to developing committed, confident clinicians who can meet the complexities of modern healthcare. Medical educationalists should, therefore, be tasked with reshaping PG medical education at a macro, micro and meso level to facilitate PIF.

At a macro level, this involves influencing educational policy through educational regulators and organisations tasked with leadership within medical education. At a meso level, this involves shaping curricula to facilitate a focus on developing and being rather than purely doing, to recognise when standardisation is needed and when individual development is

required and to ensure meaningful, longitudinal relationships which can facilitate PIF and competency development(which may include restructuring postgraduate training to ensure periodic rotations of longer duration). At a micro level, this involves facilitating educational interventions that promote PIF and minimising those that do not.

2) Educational interventions

Given the challenges faced in the workplace, educationalists should facilitate educational interventions that promote PIF. As this thesis outlines, this research study and the wider empirical literature have identified formal education sessions, coaching, mentoring, continuity in meaningful relationships, guided experiential learning and OOP as important educational tools for PIF. Where possible, educationalists should seek to promote the integration of evidence-based educational interventions in PG medical education. OOP and guided experiential learning are two areas where medical educationalists could pilot educational interventions. OOP experiences may take various forms, including research, education, management, medical humanities, medical communications or medical consulting and may be for varying lengths of duration.

Conversely, educationalists must consider rationalising educational interventions without a strong ongoing evidence base. In this study and wider literature, there remains a mixed picture regarding the utility of WBPA and ePortfolio. In this study, WBPA and ePortfolio engagements were largely completed outside scheduled hours, somewhat undermining the principle of WBPA and compounding the pressures the PIT were experiencing in their occupational roles. There was limited utility in professional development beyond validating feedback. Educationalists should evaluate the utility of WBPA and ePortfolio engagement in a pressurised working environment, considering what is required for assurance, what is formative to PIF, and what rationalist expectations are.

3) Debate the moral and ethical implications of the role of an idealised identity as outlined in this research in a CLE with significant workforce challenges

All participants in this study described a significant misalignment between their idealised identity and their daily work activities. This was coupled with traits of perfectionism and high expectations of themselves. When work-PIF misalignment occurred, the participants

described guilt and disillusionment. The guilt they experienced was proportional to the strong sense of obligation they felt to their patients. The PIT felt they had sufficient agency to adapt their environment to reduce work-PIF misalignment and instead adopted behaviours that resulted in crisis points. Medical educationalists have responsibilities to medical students at a UG level, doctors in training at a PG level, patients, and broader society to produce doctors who have internalised a code of conduct and values of the profession in line with what patients and the public need. This is outlined in Table 1 Society-professional contract, adapted from Cruess and Cruess, 2016.

Individual patients and society need doctors to advocate for and provide high standards of care, particularly considering the esoteric nature of the profession. However, that contract also provides the medical professional with autonomy, a healthcare system that is value-driven and adequately funded, and participation in public policy and trust to enable the professional to enact their ideals. Much of the grey literature focuses on when professionals do not fulfil their fiduciary responsibilities, but what happens when society does not make good on their agreement? Does this, therefore, require a change in the profession's or professional's ideals? Medical educationalists are tasked with supporting the formation of PI, but what happens when it is no longer possible for doctors to enact those ideals? Are medical educationalists failing medical students and trainees in preparing them for the realities of practice by embracing a PI that can never be enacted with all the consequences that will be felt by the individual professional and the profession? These are the challenges medical educationalists will face and navigate as workforce pressures increase, requiring awareness and debate within the community.

Implications for research

The findings of this research highlight three critical areas for further research.

1. The role of participant characteristics and identity salience in PIF

As I have identified in this thesis, future research should explore the role of participants' characteristics, including gender, ethnicity, sexual orientation and IMG status on PIF in postgraduate and undergraduate medical education. Furthermore, research exploring the influence of other secondary identities, e.g. parent, athlete, and carer, on PIF would be

helpful, particularly in exploring resilience and workforce retention, and would be significant to future workforce interventions.

Future research studies should also seek to enrol 'hard to reach' participants and those who underwent remediation processes previously.

2. Empirical research into educational interventions that facilitate work-PIF alignment,

The findings of this study highlight the crucial role of work-PIF alignment and, thus, positive self-evaluation in engendering commitment and confidence. Future empirical research should explore interventions which may be beneficial to work-PIF alignment. As noted in this study, external validation arises from three sources for the participants; feedback from WBPA/ePortfolio and patients and peers (to include neer-peer and consultants). These were identified as critical data sources. However, these sources are also likely to be significantly impacted by pressures within the health service with implications for feedback and engagement with educational interventions. Empirical research could be utilised to explore the use of education interventions that are not contingent on these data sources to develop PIF.

3. The role of OOP experiences (including research and fellowships) in influencing PIF

OOP experiences (including research and fellowships) were identified in this study as facilitating PIF processes. Researchers should explore the aspects of OOP most relevant to PIF processes and which may be incorporated within medical postgraduate training. Potential moderating factors of OOP include 1) an opportunity to experiment with failure, 2) an increased time of autonomy and creativity, 3) space to reflect and identify PIF processes and needs, 4) longitudinal relationships with significant others. It would be helpful to include participants who were considering OOP, had undertaken OOP and participants with no stated intention of moving into OOP.

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Appendix A: Semi structured interview topic guide

Interview schedule

Aim of study

This study aims to examine how junior doctors form their professional identity. In addition, this study seeks to explore how junior doctors shape their professional identity in response to modern healthcare settings and describe the key factors impacting upon this.

Summary of project

You will be asked questions on how you view or think of yourself as a doctor, what you think makes a good doctor and what values, principles and behaviours you believe to be particularly important. You will also be asked to describe any particular experiences in your training to date which has influenced either how you view yourself as doctors or how you view the role of a doctor.

This project is for my doctoral studies and results will be presented in my thesis.

We want to hear your views about your experience of training and working as a junior doctor.

I would like to audio record this interview and take some notes to help me accurately remember what was said. The recording will be sent to an independent professional transcriber. We will anonymise the transcript, which means we will remove anything that might identify you. All notes will also be anonymised.

Process

- This discussion will be recorded and analysed, looking for common themes that arise from this and other interviews.

- Transcripts will be analysed by myself and my supervisor who works at the Research Department of Medical Education UCL medical school.

- Transcripts will be anonymized, and no identifying data will be presented in the report to the RCP

Topic guide for semi-structured interviews

Background

How old are you?

What level of speciality training are you currently?

What is your speciality

Have you taken any time out of training before this point?

Do you work full time or less than full time?

Were you a graduate entry student or was medicine your first degree?

1) Cognitive determinants

How do you think of yourself as a professional?

How do you think of yourself as a doctor?

What do you enjoy most about your training?

What values and attributes do you think are important to you in developing as a doctor?

2) Behavioural determinants

What behaviours make a good doctor?

How do you demonstrate that?

What values and attributes do you think are important?

Are there any relationships within your work you view as particularly important?

3) Environmental determinants

What stops you from being the professional you want to be?

Which factors in your environment enable you to practice professionally?

Which factors in your environment act as a barrier to practising professionally?

Appendix B: Participant Information Sheet

Participant Information Sheet for Interview Participants

You will be emailed a copy of this information sheet

Title of Study:

Professional identity construction in contemporary healthcare

Department:

University College London Medical School

Name and Contact Details of the Researcher

Dr Jude Tweedie

Email: judith.tweedie.16@ucl.ac.uk

Name and Contact Details of the Principal Researcher

Dr Ann Griffin

Email: a.griffin@ucl.ac.uk

1. **Invitation Paragraph**

You are being invited to take part in a research project. Before you decide, it is important for you to understand why the research us being done and what participation will involve. Please take time to read the following information carefully and discuss it with others if you wish. Ask us if there is anything that is not clear or if you would like more information. Take time to decide whether or not you wish to take part. Thank you for reading this.

2. **What is the project's purpose?**

The project is designed to explore how doctors in training develop their identity as a doctor and a professional and what type of experiences impact upon this. Professional identity can be understood as how one views oneself in an occupational role and influences how we behave. The development of an appropriate professional identity is the ultimate goal of

medical education and training. We believe it is important to understand these experiences to enable educators to better support doctors in training.

3. Why have I been chosen?

You have been recruited having responded to the call for volunteers and meeting the criteria to be included within the study.

4. Do I have to take part?

It is up to you to decide whether or not to take part. If you do decide to take part you will be given this information sheet to keep and give written consent to participate in the study. You can withdraw at any time without giving a reason and without it affecting any benefits that you are entitled to. If you decide to withdraw you will be asked what you wish to happen to the data you have provided up that point.

5. What will happen to me if I take part?

You will be asked a series of questions about your experiences as a doctor up to now and you will be free to respond as you wish, or not to respond. Each interview will last approximately 40-50 minutes.

6. Will I be recorded and how will the recorded media be used?

The audio recordings of your activities made during this research will be used for transcription

and subsequent analysis, and for illustration in conference presentations, lectures or published papers. No other use will be made of them without your written permission, and no one outside the project will be allowed access to the original recordings. You will not be identifiable from the data that is recorded and so used.

7. What are the possible disadvantages and risks of taking part?

There is the potential that you may find talking about some of your experiences upsetting. If this happens, the interviewer can give you a printed list of resources of places you can seek further help such as the practitioner health practice and British Medical Association helpline. You can terminate the interview at any point.

8. What are the possible benefits of taking part?

Whilst there are no immediate benefits for those people participating in the project, it is hoped that this work will assist in furthering our understanding of how doctors in training develop in practice beyond the theories described in the literature. The results of this study will be published in a doctoral thesis as well as a report for the Royal College of Physicians and findings will be used to guide future education and training.

9. What if something goes wrong?

In the unlikely event of something going wrong with the research, you should contact the researcher and/or the research supervisor, whose details appear at the top of this document.

10. Will my taking part in this project be kept confidential?

Any information that we collect about you during the course of the research will be kept strictly confidential. You will not be able to be identified in any ensuing reports or publications.

11. Limits to confidentiality

Please note that assurances on confidentiality will be strictly adhered to unless evidence of wrongdoing or potential harm is uncovered. In such cases the University may be obliged to contact relevant statutory bodies/agencies.

12. Use of Deception

Not used.

13. What will happen to the results of the research project?

The results of the research will be written up in the form of a thesis for the Doctor of Medicine in Medical Education at University College London. The results may also be used for publication and to inform and guide future research.

14. Data Protection Privacy Notice

Personal data will not be recorded for the purposes of this project.

15. Who is organising and funding the research?

This study is part of a Postgraduate Doctor of Medicine funded by the student.

Thank you for reading this information sheet and for considering taking part in this research study.

Appendix C: Consent Form

YOU WILL BE GIVEN A COPY OF THIS CONSENT FORM

Title: Professional identity formation in doctors in training

Department: Research Department for Medical Education

Name and Contact Details of the Principal Researcher: Dr Ann Griffin - a.griffin@ucl.ac.uk

Name and Contact Details of the Data Collector: Dr Jude Tweedie - judith.tweedie.16@ucl.ac.uk

Name and Contact Details of the UCL Data Protection Officer: Lee Shailer data-protection@ucl.ac.uk

***This study has been approved by the UCL Research Ethics Committee: Project ID number:** 12559/001

[* - this line has been included for the purposes of visualisation of the consent form. Ethical consent will be sought once data protection registration has been completed]

Thank you for considering taking part in this research. The person organising the research must explain the project to you before you agree to take part. If you have any questions arising from the Information Sheet or explanation already given to you, please ask the researcher before you decide whether to join in.

Please complete this form after you have read the Information Sheet and/or listened to an explanation about the research.

- I confirm that I understand that by ticking/initialling each box below I am consenting to this element of the study.
- I understand that it will be assumed that unticked/initialled boxes means that I DO NOT consent to that part of the study.
- I understand that by not giving consent for any one element that I may be deemed ineligible for the study.

		Tick Box
1.	I agree to the following statements: • I confirm that I have read and understood the Information Sheet for the above study. • I have had an opportunity to consider the information and what will be expected of me. • I have also had the opportunity to ask questions which have been answered to my satisfaction.	
2.	I agree to take part in a one-to-one interview lasting approx. 40 - 50 minutes.	
3.	I agree to the following statements: • That quotes from my interview can be reported in an anonymised manner. • That my interview data can be written up as an anonymous case study if selected by the research team.	
4.	I consent to my interview being audio recorded and understand that the recordings will be destroyed following transcription.	
5.	I consent to the processing of my personal information for the purposes explained to me and I understand that such information will be handled in accordance with all applicable data protection legislation.	
6.	I understand that my data gathered in this study will be stored anonymously and securely.	
7.	I understand that confidentiality will be respected unless there are compelling and legitimate reasons for this to be breached. (If this was the case, we would inform you of any decision that might limit your confidentiality).	
8.	I understand that my data will be anonymised and that all efforts will be made to ensure that both myself and my organisation cannot be identified so that it will not be possible to identify me in any publications, reports or conference presentations.	

9.	I understand that my **participation** is voluntary and that I am free to withdraw at any time up until 10th June 2019, any personal information and data I have provided up to that point will be deleted unless I agree otherwise.	
10.	I understand the potential risks of participating and the support that will be available to me should I become distressed during the course of the research.	
11.	I understand that the data will not be made available to any commercial organisations but is solely the responsibility of the researcher(s) undertaking this study.	
12.	I understand that the information I have submitted will be published as a report and I wish to receive a copy of it.	
13.	I am aware of who I should contact if I wish to lodge a complaint.	

Name of participant Date Signature

Researcher Date Signature