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Exploring the role of Entrustable Professional Activities in assessing final year medical students

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CONTENTS

ABSTRACT

The concept of Entrustable Professional Activities (EPAs) has been introduced in postgraduate medical education to try to bridge the gap between theoretical aspects of competency-based education and real-life clinical care (ten Cate et al., 2010). EPAs have been described as tasks or responsibilities to be entrusted to the unsupervised execution by a trainee once they have attained sufficient specific competence (ten Cate, 2013). Progress towards this is described on a scale based on level of entrustment.

This thesis aims to explore the use of EPAs for final year medical undergraduates. Using Kane's framework, I present a validity argument for the use of EPAs in this context using mixed methods underpinned by the ontological framework of Critical Realism and an interpretivist epistemology. I conclude that EPAs may be used in the assessment of the undergraduate - but the context in which we use them is fundamental to their validity. And the way in which we interpret, and ultimately use, these results require further exploration.

I then go on to consider the process of entrustment from the perspective of the clinical learner by performing a literature review and identify a lack of published research on this in medical education. I therefore employ a hermeneutic methodology to allow inferences to be drawn from other relevant domains. Ultimately, I propose a model for how the perception of clinical trust may impact the clinical learner and their self-efficacy. To address the paucity of literature to be found in the medical education domain, I subsequently present novel research on the impact of entrustment from the perspective of the clinical learner. An interview study was carried out with four newly qualified junior doctors to investigate their individual experiences of trust and mistrust using interpretative phenomenological analysis. This work demonstrates the reality of entrustment for these people in their context and the superordinate themes reveal important points which may be transferable to other learners including the importance of the use of explicit expressions of entrustment – such as those to be found in the EPA scale.

DECLARATION

I am solely responsible for the composition of this thesis which describes my own work. This work has not been submitted for any other degree or professional qualification and does not include any published work.

Katharine Rankin

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TABLE AND FIGURE LEGEND

INTRODUCTION

Making the transition from medical school graduate to junior doctor and member of the clinical team is a challenging moment in any medical career. It can be an arduous process: challenging on a personal, intellectual, emotional, and sometimes even physical level. Prior to this moment graduates have been safely ensconced in the world of the undergraduate, of the theoretical - taking responsibility for few, if any, actual clinical decisions. Quite suddenly – those responsibilities and those decisions are theirs. Can they ever really know if they are ready? And, as medical educators, how do we know if our graduates are ready to be trusted with these responsibilities?

CONTEXT

In the United Kingdom, medical undergraduates follow a 5 – 6 year undergraduate curriculum. Every August, new medical graduates enter a 2-year 'Foundation' training programme as qualified doctors. Each year of the Foundation training programme typically consists of three four-month clinical posts which comprise general medical and surgical training. Doctors in their first year of postgraduate training are referred to as Foundation Year 1 doctors – or 'FY1s' in common vernacular. FY1s enter the workplace with a provisional licence to practise. After successful completion of the first year of postgraduate training (Foundation Year 1) – during which a postgraduate curriculum is followed – they are subsequently granted full registration with the governing body (General Medical Council) with a licence to practise. Following completion of their second postgraduate year, doctors typically enter 3-8 years of advanced or specialist training before certification as consultants or general practitioners (BMA, 2017)**.**

ARE GRADUATES READY?

In 2014, Lindeman *et al.* performed a cross sectional survey including all surgical training programmes in the United States (Lindeman et al., 2015). They asked graduating students to rate their confidence in the performance of both core tasks and core procedures without direct supervision. The researchers also asked program directors to rate their confidence in the ability of new graduates to carry out these tasks and procedures. The majority of program directors ranked all of these tasks and procedures as

important to be a trustworthy physician (Lindeman et al., 2015). However, a large gap existed between confidence in performance when assessed by graduates and when assessed by their directors. More than 75% of graduates were confident in their performance of core tasks – except for "entering and discussing orders/prescriptions" (54.9%) and "identifying system failures and contributing to a culture of safety and improvement" (67.1%). There was however a striking reduction in confidence when it came to looking at basic procedural skills such as IV cannulation (39.8%) and phlebotomy (43.6%), bag-valve-mask ventilation (67.8%) and cardiopulmonary resuscitation (CPR) (62.9%). Perhaps more worryingly still, program directors persistently rated their confidence in residents' performance significantly lower. Less than 50% of directors thought that new interns were able to perform any of the tasks or procedures without direct supervision – except for taking a history and examining a patient and collaborating as a member of the inter-professional team (Lindeman et al., 2015). These results suggest that new graduates are reasonably confident in their ability to perform necessary tasks, much less so to perform basic practical procedures, and that their program directors have little trust in their ability to perform important tasks independently.

Bernabeo *et al.* carried out a qualitative study in 2011 looking at the effect of the transition of junior medical staff (Bernabeo et al., 2011). They interviewed residents, faculty members, nurses and ancillary staff and found that all participants, excluding faculty members, recognised that in many instances, patient care would *inevitably* suffer during the transition and rotation of new doctors (Bernabeo et al., 2011). Perhaps one of the most telling findings was this explicit admission of residents that they *expect* things to go wrong during transitions: that they accept this and that they have learned how to adapt and deal with that particular stress (Bernabeo et al., 2011). This seems to be true not just when undergraduates transition to postgraduates, but also in the case of rotating to a new clinical environment. This implies that junior doctors struggle to transfer competences from one context to another.

BACKGROUND

COMPETENCY BASED EDUCATION

In 1910 the educational theorist Abraham Flexner published his seminal treatise on medical education in America (Beck, 2004). Prior to this publication, medical training had been highly heterogeneous, producing a varying standard of physician. Flexner advocated a move towards heightened admission standards, stricter curriculum requirements and more academic standardisation across all medical schools in the United States (Beck, 2004). Flexner aimed to increase the rigour of medical education, thereby eliminating the inconsistencies in quality of medical graduate and ensuring that they were capable of practising this new, evolving form of scientific medicine.

The subsequent century has seen a continued revolution in both science and technology which has had a profound impact on medicine and consequently on medical education. Towards the latter half of the 20th century there was an increasing call for further reform of the educational paradigm to assuage concerns regarding whether this design was producing physicians who could meet the evolving health care needs of the population.

Since the 1970s there has been an increasing emphasis worldwide on an outcome-based approach to curriculum design and implementation (Chen et al., 2015) with these outcomes being based on types of skill – rather than whole tasks. This has become known as competency-based medical education and aims to provide medical trainees with clearly defined performance expectations (Weinberger et al., 2010) – the attainment of which must be proven to allow progression and eventual graduation. Examples of these frameworks include Outcomes for Graduates (General Medical Council, 2018), the Accreditation Council of Graduate Medical Education in the USA and the Australian Curriculum Framework for Junior Doctors in Australia. Despite widespread adoption of this curriculum style, some significant controversies remain regarding utility and applicability in terms of real-life clinical care.

It could be argued that while achievement of core competencies may evidence an attainment of a minimum standard, this does not necessarily equate to being able to integrate these competencies

across domains or indeed translate them into real-life patient care: which is splendidly varied, often unexpected and occasionally chaotic. Being capable of these competencies in one context does not necessarily imply capability in all clinical circumstances. Some would argue that being deemed 'competent' at an individual task could lead to inadequate supervision when altered clinical circumstances have, in fact, placed a task out-with the trainee's limits. This could, conceivably, have a negative effect on patient safety.

Further to these concerns, some authors have argued that fulfilling a tick box list of competencies cannot fully capture the actual performance of patient care and that operationalising medical education into a set of rigid learning outcomes may be adversely reductionist.

ENTRUSTABLE PROFESSIONAL ACTIVITIES (EPAS)

In recent years some educators have therefore begun to propose that performance outcomes must be framed in the context of the healthcare environment, with a recognition that true professional development requires the integration of abilities across multiple educational domains (ten Cate, 2005a). The concept of Entrustable Professional Activities (EPAs) has been introduced to try to provide a potential bridge between the theoretical aspects of competency-based education and real-life clinical care (ten Cate et al., 2010).

EPAs have been described as "units of professional practice, defined as tasks or responsibilities to be entrusted to the unsupervised execution of a trainee once they have attained sufficient specific competence"(ten Cate, 2013, p 157). Ten Cate contends that while the traditional competency framework focuses on the qualities of the person performing the task, EPAs focus on the quality of the work being completed (ten Cate, 2013). EPAs are not meant to provide an alternative to competencies, rather a means of translating these competencies into clinical practice; a synthesis of multiple competency domains integrating knowledge, skills and attitudes.

The EPA framework set forth by ten Cate scales up entrustment and supervision levels in the following way:

	Entrustment Level Description	Level
Level 1	Has acquired knowledge and skills, but these are insufficient to perform	Not allowed to practise
Level 2	May perform an activity under full, proactive supervision: the supervisor decides about the intensity of supervision	Allowed to practise only under proactive, full supervision
Level 3	May perform an activity under qualified, reactive supervision: the student asks for supervision	Allowed to practise under reactive supervision (i.e. on-demand)
Level 4	May perform an activity with backstage supervision	Allowed to practise unsupervised
Level 5	May provide supervision to others	Allowed to supervise others

Table 1.1: Entrustment Levels (ten Cate and Scheele, 2007)

As EPAs have become a more visible part of postgraduate training. There is now a move towards considering whether the use of similar EPA tools could have a place in undergraduate medical education.

In 2014 the Association of American Medical Colleges published 13 core EPAs.("Core Entrustable Professional Activities for Entering Residency Faculty and Learners' Guide," 2014) These include generic clinical skills with which medical graduates are expected to be entrusted on day one of postgraduate work (Table 1.2).

Entrustable Professional Activities for Entering Residency:	
1	Gather a history and perform a physical examination
2	Prioritise a differential diagnosis following a clinical encounter
3	Recommend and interpret common diagnostic and screening tests
4	Enter and discuss orders and prescriptions
5	Document a clinical encounter in the patient record
6	Provide an oral presentation of a clinical encounter
7	Form clinical question and retrieve evidence to enhance patient care
8	Give or receive a patient handover to transition care responsibly
9	Collaborate as a member of an inter-professional team
10	Recognise a patient requiring urgent or emergent care and initiate evaluation and management
11	Obtain informed consent for tests and/or procedures
12	Perform general procedures of a physician
13	Identify system failures and contribute to a culture of safety and improvement

Table 1.2 Entrustable Professional Activities for Entering Residency("Core Entrustable Professional Activities for Entering Residency Faculty and Learners' Guide," 2014)

EPAS IN EDINBURGH MEDICAL SCHOOL

The EPA paradigm remains relatively new and the related literature remains principally descriptive; enthusiasm for the concept exists but remains largely unqualified (Ross, 2015). Though somewhat lacking in empirical evidence, the theoretical underpinnings of EPAs suggested that they should be considered for our undergraduate programme for numerous reasons. Developing a suite of EPAs for our senior medical students may give clarity to both supervisor and student regarding what they ought to be able to do with relative autonomy by the time they graduate. Utilising EPAs to assess them during

a clinical block could provide a gauge for how much supervision that individual student requires for that specific type of task. This information could be passed on to the supervisor of their next clinical block to allow them to see what the individual student needs to focus on achieving and plan clinical activities accordingly. We could also consider sharing this entrustability information with their clinical or educational supervisors during their FY1 year.

My initial hypothesis was therefore: if new doctors knew what they were expected to be able to do and how much supervision they required for each type of task, perhaps we could produce safer, more self-aware clinicians.

THEORETICAL PERSPECTIVE

CRITICAL REALISM

The overarching ontological framework adopted for this thesis is that of Critical Realism, a philosophy most closely associated with Roy Bhaskar (Bhaskar, 1978). The term 'Critical Realism' is a gradual hybridisation of Transcendental Realism and Critical Naturalism: the former referring to a general ontology derived from Bhaskar's analysis of scientific practices and the latter referring to his development of the possible implications of these principles to human (or social) science (Collier, 1994). It is a postmodern approach, which positions itself between positivism (or objectivism) and constructivism (or relativism) (Fletcher, 2017).

Positivism is a philosophical theory in which certain knowledge is based on natural phenomena and their properties and relationships in an objective and knowable reality, which operates according to general laws (Lingard and Kennedy, 2010). Thus, evidence derived from sensory experience (empirical evidence), interpreted through reason and logic, forms the exclusive source of all truth (Rothchild, 2006). Criticisms of this mode of thinking include the failure to acknowledge the inherent social nature of knowledge development, the tendency of human beings to make meaning and the influence of underlying unobservable factors (Clark, 2008). Reality does not conform to Hume's constant conjunction i.e. we observe one event to follow another and believe them to be connected (Hume, 2007). Whilst this may be true in a controlled environment, it is not universally so. Most of reality does not operate as a closed, controlled system. Therefore, event B does not always necessarily follow event A. Rejection of the closed system and philosophical atomism (in which independent entities interact in specified ways, with specified outcomes) leads to a rejection of the notion of empirical fact (Budd et al., 2010) .

Constructivism, as a philosophy of science, maintains that knowledge is a human and social construct and that natural science therefore consists of mental constructs that aim to explain sensory

experiences (Lingard and Kennedy, 2010). Kant first introduced the realm of the phenomena - in which we create reality from interpretative data regarding the objects that we sense and judge. And subsequently the realm of the noumenon – the realm in which things exists, beyond our sensing of them (Guyer and Wood, 1998). This allows for the existence of a reality that we can never know, but leaves us with only our interpretations (Bhaskar, 2017). Constructivism has been criticised for its relativistic approach to interpretation; where interpretations are all relative, no interpretation is wrong and therefore we cannot adequately resolve competing claims to knowledge (Clark, 2008).

Critical Realism works to resolve these epistemological issues and seeks to describe reality in all its complexity. Bhaskar reasserts the necessity of ontology and argues against what he calls the "epistemic fallacy" inherent in both positivism and constructivism – the view that statements about being can be reduced to, or analysed in terms of, statements about knowledge (Collier, 1994). For example – the question about whether something exists cannot be reduced to a question about whether we can know it exists. Bhaskar supports the presence of an objective reality that is separate from our existence and from our knowledge of it. However he describes an empirical level of knowledge comprised only of our experiences of events and contends this is always mediated through the filter of human interpretation (Bhaskar, 1978).

Three realms of existence are posited: the real, the actual and the empirical (Bhaskar, 1978). The actual domain refers to events and outcomes that occur in the world. The real refers to the underlying relations, structures and tendencies that have the power to cause change in the realm of the actual. The empirical domain refers to the level of knowledge comprised only of our experiences of events and contends this is mediated through the filter of human interpretation. He therefore posits the existence of an objective reality formed of both events and their underlying causes. Whilst these have objective existence, they are not knowable with certainty (Collier, 1994).

Critical Realism views reality as complex and recognises the role of both structure and agency in influencing human behaviour. Human agency is always constrained by wider structural and cultural

factors. And culture is not an object separate from people – it both pre-exists individuals and is shaped by them (Clark, 2008).

To further comprehend these different realms of reality, I shall describe an example of how they are used in some current research in my other professional field – obstetrics and maternity care. Walsh and Evans (2014) eruditely describe how the realms of reality posited by Critical Realism may be applied to research regarding labour dystocia (slow progress in labour). They argue that most of the research has taken the form of randomised controlled trials that focus on the prevention and treatment of dystocia – or qualitative research on women's experience of dystocia. The former aims for certainty in addressing the condition and the latter relies on the contingency of how individual women interpret their experience of dystocia. Despite this research however, the incidence of dystocia and its negative consequences for women continues to rise (Bragg et al., 2010). They discuss that labour is a complex phenomenon impacted on by multiple factors in the physiological, psychological and social domains. And researchers have therefore begun to consider the environmental, social and psychological parameters that could impact on a woman's labour.

Walsh and Evans (2014) go on to apply Bhaskar's ontological levels to labour. At the 'empirical level', uterine contractions are experienced by the labouring woman and observed by a birth attendant who can measure the dilatation of the cervix. At the 'actual level', the hormone oxytocin causes the uterine myometrium to contract and the cervix to dilate. And the deepest level is the 'real' where generative mechanisms operate to stimulate oxytocin release. Many factors contribute to this. Physiologically, adrenaline mediates oxytocin release but adrenaline itself is highly sensitive to a number of other mechanisms. These include environmental stimuli. For example, water immersion or being in a home-like setting reduce adrenaline levels and increase oxytocin levels (Buckley, 2010). In addition, psychological factors (Dunn et al., 2012) and interpersonal dimensions like verbal encouragement and empathic responses from birth companions can increase oxytocin and reduce adrenaline (Uvnas-

Moberg, 2003). Thus, there are a series of generative and overlapping mechanisms operating at the 'real' level that ultimately impact on uterine contractions at the 'empirical' level.

A crucial distinction in Critical Realism is that of the transitive versus the intransitive. The transitive refers to our changing knowledge of things; the intransitive refers to the relatively unchanging things which we are attempting to know (Bhaskar, 1979). If the world is constituted of the transitive and intransitive objects then we accept that Bhaskar's system of philosophy combines ontological realism with epistemological relativism (Budd et al., 2010).

Bhaskar describes the nature of reality as having overriding importance. Understanding this therefore takes precedence over methodological predispositions which could all potentially distort our perceptions of that reality. Methodological decisions are therefore seen as secondary to the aim of the scientific inquiry (Clark, 2008). That is not to say that Critical Realism allows for arbitrary decisions or methodological eclecticism. Rather, it offers a framework that supports methodological pluralism (Hood, 2015). Critical Realism is particularly appropriate for research questions that relate to understanding the complexity of reality. Rather than controlling for this real-world complexity – it is to be embraced and explained. Different types of qualitative data can therefore be utilised to provide a well-rounded case for this explanation by posing different but complementary questions. Quantitative data can also be used because each perspective can provide evidence of what is occurring in the world. Clark (2008) contends that Critical Realism therefore does allow a place for research exclusively into accounts of lived experience – with the caveat that the data produced in this type of inquiry does not determine reality but relates an account of it that may or may not be accurate. Beliefs, understandings and interpretations of meaning matter – not because they determine what objective reality is – but rather because they are likely to influence behaviour.

Bhaskar summarises his ontological position in terms of the pillars of Critical Realism, the first being 'philosophical underlabouring.' This refers to the aim of seeing through the predefined systems of thoughts and beliefs, which act as obstacles to gaining knowledge of the world (Bhaskar, 2017). The

way in which philosophy talks about the world is to bring to light presuppositions of our thought or practice of which we are not normally aware. Critical Realist philosophy brings out that which is pre-supposed. Bhaskar also refers to the principle of 'hermeticism.' The principle of hermeticism states that one should not passively accept any philosophical claims as they are presented in the abstract. Philosophical theory should also make sense when applied to reality.

A further feature of Critical Realist philosophy is that of immanent critique. This complex concept suggests that when we are criticising or assessing a system of thought, we should do so from the inside, i.e. we look for something *within* the system that we accept that the system cannot sustain. Only this kind of internal critique will cause transformation in the beliefs of people who support a system, because it shows that something is wrong from within it and on its own terms; they are holding incompatible views and need to adjust.

Finally - Bhaskar states that the single most important criterion of philosophy is reflexivity. And that if a researcher does not situate herself within her discourse then we know that something crucial has been omitted.

INTERPRETATION

The underpinning epistemological stance of this work is that of interpretivism. Hermeneutics refers to the theory and method of interpretation. 'Hermeneutics' was initially applied to the exegesis of religious scripture (Zimmerman, 2015). One of the most important characteristics of ancient exegesis was allegorisis (*allegoría*, from *alla agoreuein*, i.e., saying something different) (Mantzavinos, 2016). This referred to a method of nonliteral interpretation of texts that contained claims and statements that seemed morally or theologically false (Tate, 1934). Such exegetical attempts are therefore aiming at finding *hypónoia* i.e. a deeper sense, an underlying meaning (Mantzavinos, 2016). Subsequently, it broadened to questions of general interpretation – including written, verbal and non-verbal communications (Smith et al., 2009a).

SCHLEIERMACHER

At the turn of the 19th century, Schleiermacher offered his conception of hermeneutics (Mariña, 2006) which is dependent on three doctrines in the philosophy of language: that thought is essentially dependent on and bounded by language; that meaning is word-usage; and that there are deep linguistic and conceptual-intellectual differences between people (Forster, 2017). His interpretative process was not strictly systematic or philological - being more akin to an art of understanding (Bowie, 2005). He described reading a text as a discourse between the interpreter and the text itself and the meaning of a text ultimately residing at the moment or place where these inner thoughts of the writer become outer expression in language. In order to interpret a text then, you must consider both the inner thoughts of the author (psychological interpretation) and the language they have chosen to convey these inner thoughts (grammatical interpretation) and there is an ebb and flow between these two (Schleiermacher, 1998). Part of the aim of the interpretative process is to understand the writer, as well as the text, and Schleiermacher believes that if one has engaged in a detailed comprehensive and holistic analysis, one can end up with understanding the writer better than he understands himself (Schleiermacher, 1998). This allows us to see how the process of analysis and interpretation might offer meaningful insights that subsume their explicit claims.

HEIDEGGER

Heidegger aimed to articulate the case for a more contextualised, hermeneutic phenomenology (Horrigan-Kelly et al., 2016). Lived experience and engagement with the world are primary features of Heidegger's "Dasein" but he points out, our access to such things is always, necessarily through interpretation (Heidegger, 1973). In "Being and Time", Heidegger looks at the etymology of the word phenomenology and observes that it is made up of two Greek parts. Phenomenon can be translated as "show" or "appear". In the verb form to say something appears suggest that it is entering a new state, as it is coming forth, presenting itself to us – and in contrast to a previous state where it was not present. Logos can be translated variously as "discourse", "reason" or "judgement". So, the primary aim of phenomenology is to examine the phenomenon itself as it shows itself or appears to us. He describes this as happening spontaneously. However, analytical thinking is required by the

"logos" – which helps us to facilitate and grasp showing of the phenomenon (Heidegger, 1973). This explicitly interpretative element to the discipline therefore contradicts the possibility of a purely descriptive phenomenology.

GADAMER

Gadamer continues the theme of Heideggarian hermeneutics and the relationship between forestructure and object (Austgard, 2012). He believes that the aim of interpretation is to allow the writer, or participant, to speak in their own voice but that obstacles are presented to this – including our preconceptions (Gadamer, 2004). He agrees that these preconceptions are inevitably present. Hence, we need a dialogue between what we bring to a text – or transcript – and what that text brings to us (Smith et al., 2009a).

Gadamer also engages with Schleiermacher's claim that the interpreter can know the author better than they know themselves. Gadamer agrees that the author does not have automatic interpretative authority over the meaning of a text. However, Gadamer makes a distinction between understanding the meaning of a text and understanding the author. He argues that the former is the priority. He is also sceptical of the possibility of recreating the intention of an author due to the temporal gap between writing and reading (Smith et al., 2009a). Thus – interpretation is also a dialogue between the past and present. He speaks in terms of horizons – in that we each have our own presuppositions and predilections which make up our own sphere of understanding. When we meet a person, our spheres overlap and we will then be able to make ourselves understood and, in turn, understand. For Gadamer, the fusion of horizons is effected by making ourselves more transparent (Gadamer, 2004).

The idea of a dynamic interpretative process is often represented as the hermeneutic circle (Zimmerman, 2015). This prominent and recurring theme draws attention to the circularity of interpretation and is concerned with the dynamic between the part and the whole. In order to understand any part – you must look at the whole. And in order to understand the whole, you must look at the parts (Mantzavinos, 2016). For example, the meaning of a sentence is reliant on the interpretation of each individual word. But the interpretation of each word is dependent on the

context of the whole sentence. Friedrich Ast described this as the foundation of all understanding; "to find the spirit of the whole through the individual and through the whole to grasp the individual" (Ast, 1808, p 178).

SUMMARY

Schleiermacher was one of the first to consider hermeneutics as a more general art of interpretation. Heidegger and Gadamer give descriptions of the dynamic relationship between our preconceptions and the new phenomenon under scrutiny.

INTERPRETATIVE PHENOMENOLOGY

Later in this thesis, I have chosen to use interpretative phenomenological analysis (IPA) as my methodology. The philosophical underpinnings of this recently developed approach to qualitative inquiry (Smith et al., 2009a) will therefore be discussed here: highlighting the alignment with my interpretivist epistemology and the complementarity with Critical Realism.

IPA originated in psychology in the 1990s and argued for an approach to psychology that was able to capture the experiential and qualitative. Since then it has been increasingly used in other disciplines such as social and health sciences (Shaw, 2014).

IPA is committed to the examination of how people make sense of their life experiences and takes as central tenets the concepts of interpretation (or hermeneutics) which we have previously discussed and that of phenomenology (Smith et al., 2009a). These both have long philosophical histories and IPA is an attempt to operationalise a way of working with these important theoretical ideas.

PHENOMENOLOGY

Phenomenology is a philosophical approach to the study of experience (Glendinning, 2007) and has roots in the work of many Western philosophers. Over the years, there have been many different approaches and emphases amongst phenomenologists (Glendinning, 2007). However, they all share an interest in the experience of being human - in terms of the experiences that constitute our lived world.

HUSSERL

The founding principle of phenomenological inquiry is that the experience should be examined in the way that it occurs and on its own terms (Patočka, 1996). Edmund Husserl was the first to argue for this as a basis of a system of philosophy (Smith et al., 2009a). He argued that phenomenological enquiry involves the careful examination of the individual human experience of the phenomena under scrutiny. And that doing so with sufficient depth and rigour might allow the essential qualities of that experience to be identified (Walton et al., 2017). This would allow transcendence of particular circumstances and might then illuminate a given experience for others (Mohanty, 2003).

Husserl suggests that we should "go back to the things themselves" - alluding to the pursuit of understanding the experiential content of consciousness (Smith et al., 2009a). Husserl invokes the term "intentionality" to describe the relationship between the process occurring in our consciousness and the object of our attention (Husserl, 1982). Consciousness is always consciousness of something – that something having been stimulated by perception of a 'real' object in the world (Kockelmans, 1994). As we are busily engaged in the world around us, we can often take our experience of it for granted. And a human predilection for order means that we can often look to fit our experiences into our pre-existing systems of understanding. Husserl therefore suggests stepping outside our everyday experience – or our "natural attitude" – in order to be able to examine our everyday experience. Instead, he suggests adopting a "phenomenological attitude" and turning our attention from objects themselves to our experience of them (Husserl, 1982). To do this, we must disengage from the object and instead attend to the taken-for-granted experience of it. If we can bracket (i.e. separate out) this taken-for-granted world in order to concentrate on our perception of that world – we can reduce our understanding of the experience back to its core, abstract, essential structures. And thus we can transcend the personal and contextual – hence the term transcendental phenomenology (Mohanty, 2008).

Bracketing is achieved through a series of reductions; each reduction offering a different lens through which to consider and reason about the phenomena at hand. The sequence of reductions is intended

to lead the inquirer away from the distraction and misdirection of their own assumptions and preconceptions – back towards the essence (or 'eidos') of a given phenomenon (Mohanty, 2003). The 'eidetic' reduction therefore involved the techniques required to get at the essence – the set of invariant properties lying underneath the subjective perception of individual manifestations of the object. However, whether this transcendental phenomenology is possible is a difficult point and most subsequent phenomenologists have rejected this idea to some extent (Glendinning, 2007).

HEIDEGGER

Heidegger's approach to phenomenology is often taken to mark the move away from transcendentalism to a more interpretative, existential emphases in phenomenology (Horrigan-Kelly et al., 2016). He questioned the possibility of any knowledge outside of interpretation and grounded his stance in the lived world of things, people, relationships (Horrigan-Kelly et al., 2016). In his seminal work, "Being and Time," Heidegger's subject Dasein (literally 'there-being') requires an element of reflexive awareness of the self. However, it also requires the existence of others because relatedness to the world is a fundamental part of our constitution (Heidegger, 1973). Dasein is therefore always considered in relation to something else – always temporal and always perspectival. Thus, it cannot be transcended. Consequently, the interpretation of people's meaning making activities is central to phenomenological inquiry (Smith et al., 2009a).

Heidegger talks about preconceptions – or forestructures. He asserts that the interpreter always brings these to an encounter and indeed cannot help but look at a new experience in the light of these (Heidegger, 1973). Preconceptions are always there before a new encounter with an experience – but they are not always completely understood. Understanding preconceptions may in fact be better subsequent to engaging with this new encounter. We must therefore reconsider the process of bracketing as one which is constant, cyclical and can only ever be partially achieved (Smith et al., 2009a).

MERLEAU-PONTY

Merleau-Ponty shares this commitment to understanding our being-in-the-world (Carman, 2008). Whereas Heidegger addresses this by looking at worldliness, Merleau-Ponty developed it in a different direction by focusing on the embodied nature of our relationship to the world and how that leads to the primacy of our own individual situated perspective of the world (Romdenh-Romluc, 2011). Merleau-Ponty focuses much of his work on the embodied nature of our relationship to the world (Merleau-Ponty, 2012).

His concerns with subjectivity and embodiment come together when we think about how we perceive another. Our perception of 'other' always develops from our own embodied perspective. Thus, while we can observe and experience empathy for another, ultimately we can never share entirely the other's experience – because their experience belongs to their own embodied position in the world (Smith et al., 2009a).

SARTRE

Jean-Paul Sartre extends the project of existential phenomenology. He stresses the developmental, processual aspect of being a human - indicating that the self is not a pre-existing entity to be discovered but that we are continually becoming ourselves (Sartre, 2003). This concern with what we will be, rather than what are, connects with another important concept – nothingness. For Sartre, things that are absent are as important as those that are present in defining who we are and how we see the world (Clark, 2016).

Sartre extends the emphasis on the worldliness of our experience by developing the point in the context of personal and social relationships – so that we are better able to conceive of our experience as contingent upon the presence – or indeed absence – of our relationships to other people (Smith et al., 2009a).

SUMMARY

Husserl first establishes the importance and relevance of a focus on experience and its perception. In developing Husserl's works further Heidegger, Merleau-Ponty and Sartre each contribute to a view of

the person as embedded and immersed in the world of objects and relationship. They move us from descriptive and transcendental commitments towards a more interpretative worldly position – something which is personal to each of us, but which is a property of our relationships to the world and others. Heidegger's conception of phenomenology as an explicitly interpretative endeavour is a fundamental principle for IPA. IPA is concerned with examining how a phenomenon appears and the analyst is tasked with facilitating and making sense of this appearance. Heidegger and Gadamer give descriptions of the dynamic relationship between our preconceptions and the new phenomenon under scrutiny.

The influence of hermeneutics in IPA points to the benefit of moving between the parts and whole of the data we gather. This helps us maintain a sense of a person's situatedness, or being-in-the-world, while analysing in detail the account they provide of this (Smith et al., 2009a). Engaging in this hermeneutic circle also helps us determine elements of their account that may be shared with others and elements that are unique to them.

IMPORTANT CROSSOVERS WITH CRITICAL REALISM

Having considered the philosophical underpinnings of both Critical Realism and Interpretative Phenomenology, we can see their complementarity. Both reject simple empiricism and the Humean concept of constant conjunction in a closed system and attempt to deal with the open complexity of reality (Budd, 2012).

They both place emphasis on an ontological realism - positing the existence of an objective reality. Whilst this has objective existence, it is not knowable with any certainty. Our understanding of it must, therefore, be mediated through our ability to interpret. Access to this truth will therefore always be partial, conditional and tentative. All interpretations are not however equal; one may come closer to an approximation of objective truth than another. Reality is more than and different from our simple sensory experiences and both Critical Realism and IPA negate the reduction of it to such (Budd et al., 2010). Any quest for knowledge requires more than this. Intentionality, perception and reflection are

vital components of the life-world, which refers not only to lived experience but to the ontological reality in which one experiences life and the complexity of perception (Budd, 2012).

The concept of intentionality is an important area of shared philosophical agreement. As described, phenomenology posits the intentionality of human action. Bhaskar agrees with this and describes all social action as dependent on intentionality. Intentionality is infused into our being and is marked by consciousness of something – it is directed to what exists and enables an individual to perceive (Bhaskar, 2002).

Interpretative phenomenology also acknowledges the researcher, and their fore-structures, as a product of their own history and societal context. Critical Realism recognises these social structures, and describes them as pre-existing individual agency at any given time. However, the difference between individuals and society is not dichotomous. Society is not an object separate from people, but both pre-exists individuals and is shaped by those individuals (Archer, 2016). Appreciation of the relationship between the parts and the whole - between an experience and reality itself – is fundamental to both Critical Realism and IPA.

Finally, both Critical Realism and IPA rely on the ability to be reflexive and consider how existing preconceptions and inescapable biases might influence the research process (Finlay, 2002). As a doctor, I have personal experience of the clinical environment. This will undoubtedly influence how this research is framed. The questions asked will be affected by previous experiences and context – as will my response to the participants' interpretation of their experiences. IPA accepts that I have a dynamic and active role in the research and that the fore-structures I bring to the development of the research and interpretation of results cannot be bracketed (Smith et al., 2009b). It will therefore be acknowledged and the impact discussed reflexively.

REFLEXIVITY

If we accept these philosophical underpinnings - that both the researcher and the research subject are social, meaning-making beings embedded in context and bounded time and place (Bentz and

Shapiro, 1998) it becomes imperative to take account of the researcher as a central figure (Finlay, 2002): one who forms the research question and influences the collection, selection and interpretation of data. Being reflexive allows us to manage our presuppositions consciously – and address how they might affect the research process (Shaw, 2010).

Reflexivity - the notion of examining how the researcher and intersubjective elements impact on and transform research (Finlay, 2003) - is a multi-faceted process and it is challenging to find one coherent conception of how to "be reflexive"(Lynch, 2000). It has been variously defined by different authors using multiple, often overlapping, typologies (Archer, 2003; Finlay, 2002; Wilkinson, 1998). Some authors have gone so far as to use the plural "reflexivities" to accurately reflect its nature; difficult to capture and not easily agreed upon (Gough, 2003). Gough describes it as "at the very least" implying that "researchers make visible their individuality" (Gough, 2003, p 23). However, he goes on to explain that it can be extended beyond the personal domain. For example, Wilkinson's notion of "functional" reflexivity relates to the role of the researcher, the interaction between the researcher and participant and the effect of power and status may have on this (Wilkinson, 1998). Or, indeed Wilkinson's "disciplinary" reflexivity delineates existing concepts and traditions that have been important in shaping the research and calls for discussion of the potential contribution of the research to a particular literature (Wilkinson, 1998).

Interestingly, prior to commencing this period of study, I held to the preconception that reflectivity and reflexivity were synonymous. This forestructure has since been radically altered: these concepts actually being aligned with very different epistemological stances. Reflection (often referred to as benign introspection) maintains a positivist distinction between an object and representation – aiming to present an 'accurate' representation of participants' accounts. Reflexivity, however, etymologically involves "looking again" – or reflecting your thoughts back to yourself (Shaw, 2010). This evokes an interpretivist paradigm, which construes people and the world as interrelated. This paradigm focuses on the intersubjective realm in which the interactions between us and the world occur, the context in

which we come into contact with objects (reality) and the way in which our descriptions (representations) are bound by place and time (Shaw, 2010). The relationship between objects in the world and those who live in it is therefore no longer one of separateness – but one of connected intimacy.

When viewed in this way, the subjectivity inherent in being reflexive can be transformed from a limitation into valuable opportunities (Finlay, 2003). It can help us to transparently examine the impact of the position, perspective and presence of the researcher - opening up unconscious motivations and implicit biases in the researcher's approach. Rich insights can be realised by considering the researcher an active agent in the research process, examining their personal responses and interpersonal dynamics (Austgard, 2012; Chang and Horrocks, 2008). Potential power imbalances between researcher and participant can also be acknowledged and addressed (Polit-O'Hara and Beck, 2013). Transparency regarding the author's preconceptions, assumptions and intentions allows the reader to evaluate the research process, methods and outcome (Clancy, 2013). This allows appraisal of the fit between the data and the author's understanding of them; also allowing readers to conceptualise possible alternative meanings and understandings (Elliott et al., 1999). It also enables public scrutiny of the integrity of the research through offering a methodological log of research decisions (Finlay, 2002).

There are, of course, limits to reflexivity. If it is conceived only as a way to offer a "truer" account of the reality of a phenomenon – this risks regression to positivist ideals of validity (Finlay, 2002). Finlay holds that postmodern researchers should seek a more radical reflexivity: one which embraces the negotiated nature of the research process and emphasises the emergent, partial and tentative qualities of results (Finlay, 2003).

Gergen (1973) referred to the potential threat of reflexivity which he described as feedback and static within the research process. There is certainly a risk of excessive indulgence in self-analysis at the expense of developing understanding of participants; personal revelation not being the desired

endpoint and only useful if links are made to analyse its relevance in terms of the broader study. Complex creative deconstruction of the author's position can sometimes ultimately lead to a loss of meaning.

Gough (2008) summarises these tensions succinctly in saying that researchers have the responsibility to present intelligible interpretations of participants' accounts. However, in order to avoid the results of analysis being overdetermined, researcher involvement in this process should be examined critically. Whilst this reflexivity is essential, it is not the ultimate object. A balance is required between non-reflexive description and tortuous meta-reflexive expositions that ultimately have the effect of hiding the phenomenon in question (Gough, 2003). There must also be balance between recognising our qualitative analyses as partial, fallible and constructed within a particular context and settling on a version of this analysis which we feel makes a valid and useful point about the world (Pels, 2000).

USING ENTRUSTABLE PROFESSIONAL ACTIVITIES TO ASSESS FINAL YEAR MEDICAL UNDERGRADUATES: DEVELOPMENT, IMPLEMENTATION AND VALIDATION

INTRODUCTION

The EPA concept invites us to identify and select the important, representative or critical tasks that should be mastered for final year medical undergraduates. This starts from a contemplation on clinical practice and focuses assessors on the desired outcomes of training. The concept also implies that each task is linked to those domains of competence that are most crucial to this task. This encourages assessment of competencies as they manifest themselves in clinical practice. A set of EPAs identified when building a workplace assessment should, therefore, provide valid and well-balanced coverage of that profession (Myers et al., 2015).

Collectively, a set of EPAs for final year medical undergraduates could be a constructive way to succinctly represent the essential units of professional work that define and distinguish the work of a newly qualified Foundation Year 1 (FY1) doctor.

CONTEXT

Established in 1726, Edinburgh Medical School is one of the oldest medical schools in the United Kingdom. The current curriculum spans six years including a year of full-time research-based study in Year 3 leading to an integrated B Med Sci degree. During the first 2 years, students study biomedical and clinical sciences such as anatomy, physiology and pharmacology, along with social and ethical aspects of clinical practice. In Years 4 to 6, clinical teaching takes place in hospitals and primary care primarily across South East Scotland. Students are taught through a combination of lectures, tutorials, laboratory and project work, computer-assisted learning and clinical placements. Assessment methods include online multiple choice question applied knowledge tests, Observed Structured Clinical Examinations (OSCEs), written assessments, research projects and in course assessment of professionalism and engagement. Following final year assessments, students undertake a six-week

clinical block where the student is attached as an apprentice to an individual FY1. This is termed the student assistantship.

AIM

My overall aim was to assess the need for, develop and implement a set of EPAs for final year medical undergraduates which succinctly and comprehensively encompass the job of a newly qualified FY1 and then consider and develop a validity argument for their use in this context. There has been little published literature regarding EPA validity and this is particularly limited in the undergraduate context.

OBJECTIVES

These objectives, whilst not wholly separate considerations, will be considered in four overlapping phases.

- Carry out a needs-analysis for EPAs in undergraduate medical education
- Develop a set of EPAs for final year medical undergraduates
- Implement these into the final year student assistantship
- Build a validity argument for EPA-based assessment in this context

DEVELOPMENT AND IMPLEMENTATION

Methods: Overview

I employed a mixed-methods approach in the development and implementation of our EPA set, synthesising data from both quantitative and qualitative sources. This was based on the process described by Myers *et al.*, 2015. To summarise, a core working group identified and subsequently developed a draft set of EPAs. These were discussed and refined by a wider group of stakeholders from undergraduate and postgraduate medical education in Scotland at a national meeting. Preliminary opinion on the content of this set of EPAs was sought from clinicians via national surveys. In the light of these responses, the EPAs were further developed, and the supervision scale was refined.

The working group closely considered the ethical aspects of the development and implementation of this research and it was felt not to constitute a risk to participants or stakeholders. The research proposal was submitted to and considered by the University of Edinburgh medical education research ethics committee. Approval was waived as it was considered an uncomplicated improvement of teaching.

Development Process

Needs Analysis:

A needs analysis is a systematic process to collect and analyse information regarding what a target group needs to learn and several methods have been described (Ratnapalan and Hilliard, 2002)**.** Questionnaires are a widely used method of generating self-reported data on perceived learning needs. An online survey was therefore conducted of all Foundation doctors (FYs) working in core medical and surgical wards in South East Scotland in between December 2015 and April 2016 (n=306). In order to gather information regarding those learning needs that may not be perceived by the learners (unperceived needs as described by (Lawton, 1999)), their supervisors (n = 155) were also surveyed regarding their opinions of current clinical supervision. Both groups were asked if they would value information about supervision requirements on an individualised basis, both generally and in terms of specific tasks.

Response rate was 44% (n = 135) for Foundation doctors and 56% (n = 87) for supervisors. 50% of Foundation Year 1 (FY1) doctors and 36% of Foundation Year 2 (FY2) doctors agreed or strongly agreed that it was difficult to know what tasks they could undertake unsupervised at the start of a post (5-point Likert scale: 1 = strongly disagree; 5 = strongly agree). An even larger number of Foundation doctors also agreed or strongly agreed that it was difficult to know how much supervision to expect for a specific task (68% of FY1s and 63% for FY2s). And whilst 85% of Foundation trainees felt confident to ask for supervision, 50% felt that they sometimes had too little. 67% and 77% of supervisors feel confident when delegating tasks to FY1s and to FY2s respectively. However, there was a significant

range of responses when we asked supervisors to estimate how long it takes to accurately gauge the abilities of an FY1 or FY2: this varied hugely from several hours to several days/weeks**.**

High proportions of FY1s and FY2s would value individual information about the level of supervision they require at the start of a new job both generally (85% of FY1s; 80% of FY2s) and on a task-specific basis. Approximately 60% of supervisors would find individualised information regarding the level of supervision generally required by their FY useful. Just over 50% of supervisors would also value this information on a task-specific basis.

In summary, it seemed that Foundation doctors often did not know how much supervision they ought to have at the start of a new placement and they would value this information both generally and for specific tasks. Although many supervisors felt confident in being able to appraise a trainee's ability, over half of respondents also indicated that having individualised information regarding the amount of supervision required by their FY would be helpful. Further development of EPAs for this stage of undergraduate training therefore appeared to be justified.

EPA Identification and Development:

The process began by convening a core working group comprising three clinical educators and two psychometricians at the University of Edinburgh Medical School. The clinical educators included myself, a Clinical Fellow in Medical Education (I am also a Specialist Registrar in Obstetrics and Gynaecology), the Director for Year 6 who is also a consultant physician and was previously a Foundation Programme Director, and the Director for the Centre of Medical Education who has previously worked as a palliative care physician.

A face-to-face meeting of the working group was held with the aim of identifying an initial draft set of EPAS which would be used during the Year 6 assistantship. The process outlined by Mulder et al was then used to guide the subsequent development and refinement of these EPAs. This is summarised in Figure 2.1.

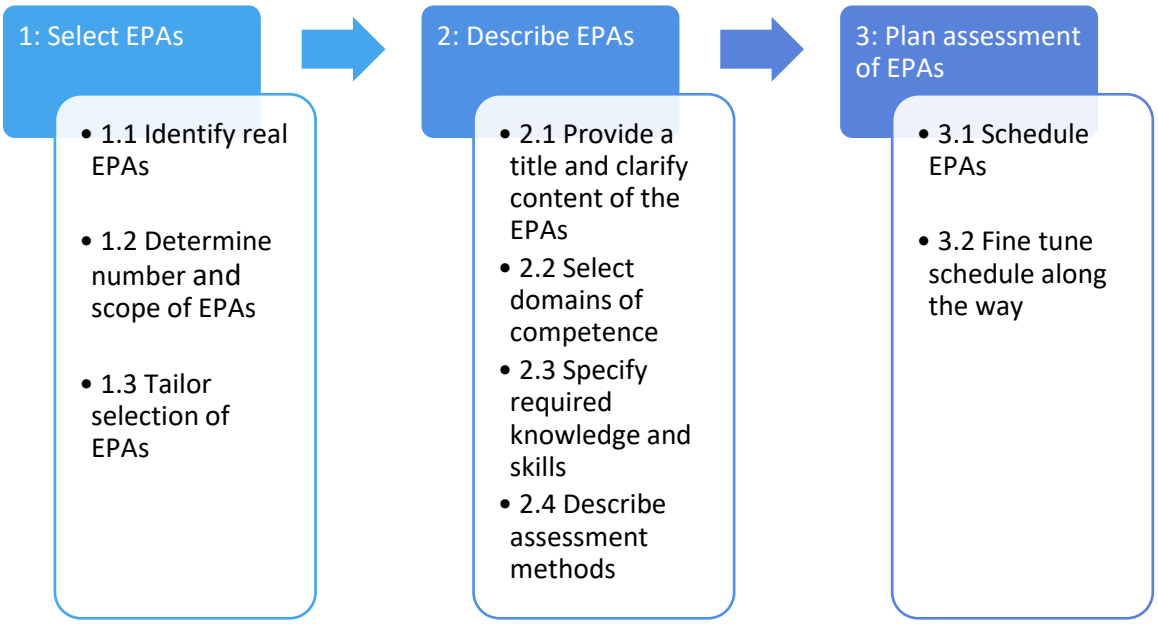


Figure 2.1: EPA Development Process. Adapted from (Mulder et al., 2010)

Through analysis of the Foundation curriculum and Foundation doctor job specification, working group members were able to identify five EPAs reflecting the core tasks required of a newly qualified FY1. These were presented and discussed at length at a conference of stakeholders from the Foundation programme, medical schools across Scotland (mainly comprising final year leads) and EPA subject matter experts. Over the subsequent six months the clinical members of the working group met every 4 - 6 weeks to refine and revise the EPAs until a consensus was reached on the initial draft set.

This included:

- Clerk a stable patient
- Manage routine ward work
- Give/receive a patient handover
- Complete an immediate discharge summary
- Assess an unstable patient

Core practical procedures integral to the job of an FY1 were also identified. Ultimately however these were not included in our EPA set. This was because the assessment of practical procedures – such as venepuncture and cannulation – is covered elsewhere by alternative assessments such as DOPS (Direct Observation of Procedural Skills).

Content Validity and Feasibility Development Study: Having reached the above consensus regarding the EPAs which should be included in this set, we felt it was important to gain the opinion of the stakeholders who were likely to be using them. To that end we conducted a further online survey of Foundation clinical supervisors in South-East Scotland (n = 187) regarding the content of our set of EPAs. We asked them to:

- rate how important these tasks were to the job of an FY1

  (5-point Likert scale: 1 = not at all important; 5 = very important)
- rate how easy these would be to assess

  (5-point Likert scale: 1 = very difficult; 5 = very easy)
- rate how well this collective set of tasks represented the totality of an FY1's job

  (10 - point Likert scale: 1 = not at all representative; 10 = completely representative)

We also asked them to rank how useful the following sources of information would be in making judgements regarding performance of these EPAs (4 point Likert scale; 1 = most useful; 4 = least useful)

- work-place based assessments
- multi-source feedback
- informal observations
- review of patients seen and presented by the FY1

And rank who they felt should be most involved in making these judgements (4 point Likert scale; 1 = most involved; 4 = least involved)

- self
- senior colleagues
- doctors in training
- non-medical team members

Our response rate was 61% (n=114). Over 80% of supervisors agreed that each task was "very important" to being a graduating student or new FY1 (Table 2.2). And on a 10-point scale, there was a median response of 8 (range 3 – 10) (Figure 2.3) when respondents were asked how well the whole set of tasks encapsulates the totality of the FY1 job (excluding core practical procedures).

	Not at all important	Not important	Equivocal	Important	Very important
Clerk a stable patient				1.8	98.2
Manage routine ward work			0.9	16.7	82.5
Patient handover			0.9	4.4	94.7
Complete immediate discharge summary			1.8	17.5	80.7
Assess an unstable patient			0.9	14	85.1

Table 2.2 Foundation Supervisors' assessment of importance of proposed EPA tasks to job of an FY1

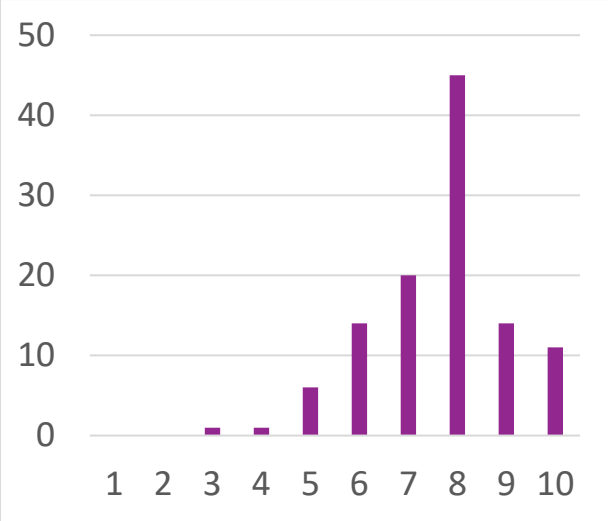


Figure 2.3 How well does the set of EPAs encapsulate the job of an FY1?: dispersal of responses on 10-point Likert scale (1 = not at all representative; 10 = completely representative)

Over 65% felt it would be "easy or very easy" to assess a graduating student or new FY1s performance for each task. This was true for each task except for "assessing an unstable patient" – on this subject supervisors were more divided (Table 2.4).

	Very difficult	Difficult	Equivocal	Easy	Very easy
Clerk a stable patient		0.9	11.4	59.6	28.1
Manage routine ward work		7.1	26.3	52.6	14
Patient handover	1.8	5.3	21.2	58.8	13.2
Complete immediate discharge summary		0.9	22.8	59.6	16.7
Assess an unstable patient	6.2	20.4	32.7	32.7	8

Table 2.4 Foundation Supervisors' assessment of difficulty in assessing proposed EPA tasks

Discussing patients and informal observations of the FY1 were the most popular sources of information, much more so than workplace-based assessments or multi-source feedback. In the free text feedback, one respondent said *"my general feeling is that workplace-based assessments do not*

work. I feel that spending a day shadowing a new doctor and giving continuous guidance will be a more valid and robust assessment method (though quite labour intensive)."

The majority of respondents felt that the whole clinical team should be involved – only 2 respondents felt that non-medical team members should *not* be involved in making these assessments. Overall, the feeling was that opinions from everyone in the clinical team are important: *"the views of nursing and AHP always illuminating. Doctors in training usually 'behave' best in the presence of supervisors/senior medical staff."* And that, in practice, these opinions are often relied upon to make accurate assessments. *"the nominated supervisor rarely works with FY doctors so relies on input from others."* Thus, this survey illuminated a dissatisfaction with current workplace-based assessments and a reluctance to use these to make entrustment decisions. It also suggested that information for making these decisions could come from the wider clinical team context. Using a type of assessment which does not rely on a single clinical encounter with a single assessor reviewing the learner may be of more use in making an accurate assessment of the learner.

Our results suggest that the content of our set of EPAs for final-year medical students was hypothetically valid and potentially feasible, although assessment may be potentially more problematic for certain tasks.

Working group members then developed each of the five EPAs into a one-page document comprising a title, description, and divided this into subtasks which detailed the required knowledge, skills and attitudes to successfully carry out this task [Appendix 1A].

Supervision Scale Development and Refinement:

Having reached a consensus regarding the EPAs which were to be included in our set for final year undergraduates, we then set about testing our supervision scale. This was initially developed based on the EPA supervision scale described in the literature by ten Cate (ten Cate, 2005b). They suggest that supervision requirements be described as in table 1.1 (page 11).

In this rubric, Level 4 defines the threshold level of competence. Once this level is reached, the activity may be safely entrusted to the student. Growth of competency after reaching this threshold is likely a result of further deliberate practice. We opted to refer to these levels in a descriptive way – rather than numerically. This was done because members of the working group have long experience with assessing medical students and have observed them to be very result-driven. If we were to use a numerical scale the concern would be that they will just aim for the best number – rather than consider what that assessment reflects about their performance. Each entrustment level was therefore given a more descriptive moniker (Table 2.5).

	Entrustment Level Description (ten Cate and Scheele, 2007)	**Descriptive Level**
Level 1	has acquired knowledge and skills, but these are insufficient to perform	Observe
Level 2	may perform an activity under full, proactive supervision: the supervisor decides about the intensity of supervision	Direct
Level 3	may perform an activity under qualified, reactive supervision: the student asks for supervision	Indirect
Level 4	may perform an activity with backstage, mainly informal supervision	Semi-independent
Level 5	may provide supervision to others	Independent

Table 2.5 Initial Supervision Scale Descriptors

To garner data on how our final year students were likely to perform on this scale and to investigate the properties and performance of the scale itself, we further interrogated the results of our original online survey. Participants had been asked to indicate what level of supervision they would expect a

new FY1 and a new FY2 to require for our five specific clinical tasks in both acute and stable settings. Survey responses were compared between groups using t-tests.

Although both FY doctors and supervisors expected a slightly higher level of supervision in the acute versus stable setting for both new FY1 ($p<0.001$) and FY2 ($p<0.001$) doctors, there was broad agreement between FYs and supervisors that a semi-independent supervision level was appropriate for all the listed clinical tasks for both FY1s and FY2s. However, between-group analysis indicated that FYs generally expected to perform tasks with less supervision than that indicated by their supervisors ($p<0.001$). This is in accordance with results of previous studies (Lindeman et al., 2015; Monrouxe et al., 2014).

However, although there were some statistically significant differences between expected supervision level between FY and supervisor groups, these did not translate into practical differences in the supervision scale which was used. The 5-point supervision scale was therefore considered to be insufficiently granular to detect the small but meaningful differences in levels of entrustment recommended by experts when considering new medical graduates. It was therefore apparent that further expansion of our supervision scale was necessary to ensure fitness for purpose for application to undergraduate EPA development. This was particularly apparent because we would logically expect to see FY2s working with lower level of supervision than FY1s for the same task and we did not see this result in our data.

Descriptor Language Choice:

Analysis of free text comments suggested general support for a task based supervisory approach. However, some supervisors had significant concerns with the wording of the supervision scale, particularly use of the term ‘independent’ in relation to Foundation doctors. Several felt that, given the legalities of the medical licensing process this would never be the case for undergraduates who are not yet provisionally licensed with the General Medical Council. And that to suggest to students that they could meet an independent level of working could be considered irresponsible.

"FY1s are clearly not designated as independent practitioners and so the option for "independent" here is not helpful."

As a result, we reconsidered our choice of language for the level descriptors to move away from the language of "independence." After further consultation within the working group, the term "autonomous" was substituted for "independent" as this was felt to better reflect our meaning and was therefore less likely to be contentious. The distinction may seem slight however in this context the term "independent" seemed to connote "freedom from any authority" to some of our supervisor respondents. We have therefore used "autonomy" to denote having the ability to be self-sufficient, to self-govern – including the ability to seek out guidance and request review appropriately. These supervisor comments also suggested a need to clearly define the appropriate context in which Foundation Doctors would approach these tasks. For example, a newly qualified doctor would not be expected to coordinate the admission of multiple, complex, acutely unwell patients without significant support. They may however be expected to be responsible for the admission of a small number of patients who have straightforward medical complaints.

Increased Scale Granularity and Clarity:

Our scale was also divided further into a seven-point scale. Each level on the scale was further operationalised by describing who initiates the task, the proximity of the supervisor during the task and the extent to which the supervisor checks the students work. We designated the highest level of entrustment on an undergraduate scale as semi-autonomous (late). This decision aimed to ameliorate the concern of some supervisors who felt that by giving students the possibility of being graded as "autonomous" – they may interpret this as giving them leave to act as a fully qualified member of the team and without recourse to supervisors.

The finalised version of the revised supervision scale can be seen in Appendix 1B.

Implementation Process

A large-scale pilot of two of our EPAs in 228 final-year students at Edinburgh Medical School was carried out during the Year 6 student assistantship in 2017. These were rolled out as formative assessments. However, completion of these were mandatory to satisfactorily complete the assistantship. Students were asked to pilot the use of 2 of our EPA tasks:

- Manage routine ward work
- Write an immediate discharge summary

These were chosen as they varied in focus and number of subtasks. Managing routine ward work was significantly more practical in application whereas producing a discharge summary requires synthesis of information.

I asked students to comply as closely as possible with the following guidelines.

- To obtain four independent assessments of each EPA task over the six-week period
- To spread these out over the six weeks
- To request feedback from a variety of level of assessor.

The finalised assessment booklet can be seen in Appendix 2. As the principal researcher, I spoke to every final year student at the beginning of their assistantship regarding these new assessments and how we wished them to be used. This was done in small groups of approximately 15 students each over the first week of their assistantship. I had no teaching or assessment responsibilities for these students. These sessions included a detailed explanation regarding the motivation behind these assessments, the differences between these and the types of workplace-based assessments with which they were already familiar. The possible benefits that were anticipated from using these in preference to previous workplace-based assessments. Whilst very time-consuming it was felt that it was important that these explanations came from a single source to avoid different levels of explanation and dubiety regarding how these were intended to be used. It was particularly important

to explain that our EPAs were not supposed to be completed with reference to a single encounter; we were aiming for supervisors to synthesise their opinion on how much they would trust this student with future performance of a task, having seen them complete it several times in the clinical environment. The longitudinal, slightly hypothetical nature of this question is a significant departure from other workplace-based assessments, and it was felt to be important to explain that face-to-face to allow for discussion and clarification. Similarly, the supervision scale was significantly more complex than those used in previous assessments and required some explanation and then time for contemplation and discussion with the students.

It was considered impractical to attempt to have similar face-to-face sessions with every possible assessor who was going to be using these forms as this group spanned most of the medical and surgical clinicians in the five main hospitals in South East Scotland. An information pack was therefore compiled for assessors and was distributed to the assistantship lead clinicians in each of these units [Appendix 3].

Review and Evaluation of Pilot

At the end of the six-week assistantship, completed booklets were handed in to the Year Coordinator to log completion for the purposes of allowing progression. These were then anonymised to only show the student number. The data from each student booklet was then collated into a database to form the basis for my quantitative analysis which will be incorporated into the validity argument. For ease of analysis the descriptive entrustment levels have been transposed in a numerical scale from 1 (observe only) to 7 (semi-autonomous late).

Confining analysis to purely quantitative data regarding the outcomes of assessing final year students with EPAs would place significant limitations on the understanding of their validity as an assessment. Further qualitative data was therefore required to enrich understanding of the students' attitudes and opinions regarding how these assessments performed in the clinical setting and how they interpreted

their impact on learning. To investigate this, I carried out a focus group study. This also proved necessary to provide further context to some of the patterns noted in the quantitative data.

Focus Group Study

AIM:

My aim in this piece of research was to obtain insight into the students' attitudes and opinions regarding the pilot EPA assessment tool in practice.

METHODS

Five focus groups were undertaken in the five main units where student assistantships had taken place. These were geographically spread over South-East Scotland and the size of unit varied significantly – from a small District General Hospital to a large tertiary centre. These included the Royal Infirmary of Edinburgh (RIE) and the Western General Hospital (WGH) both in Edinburgh, Borders General Hospital in Melrose (BGH), St John's Hospital in Livingston (SJH), and the Victoria Hospital in Kirkcaldy (VHK). The number of participants ranged from 3 to 12 and this variation reflected the size of the unit and the different number of students who had been sent to each (total participants = 34; average number per group = 6.8).

Focus groups are a qualitative method of group interview, which elicit verbal and observational data from a chosen group (Redmond and Curtis, 2009). Focus groups are considered useful when little is known about a subject as they allow the researcher to gather data quickly, from several participants simultaneously (Barbour, 2005). Doody et al. (2013 p 170) state that, focus groups "tap into different forms of communication people use in daily interaction, including anecdotes, teasing, jokes and arguing"; this is not possible in individual interviews. Indeed, focus groups were appropriate from the perspective of interpretivism, as the interactional complexity inherent in group discussion allowed participants to explore, clarify, and discuss their views amongst each other.

Focus groups are suited to understanding participants direct evaluations and positionings regarding the subject matter (Smith, 2009). Focus groups were therefore considered appropriate to this part of

the overall validation study because our research aim concerned attitudes and opinions and because of the requirement to hear the opinion of a large number of participants.

Recruitment

All final year students undertaking the student assistantship were invited to attend the focus groups via email and by highlighting the session on their timetable. This was also highlighted during face-to-face introduction to the assistantship but it was made clear that this was not a mandatory session. Snowball sampling was also undertaken, which involved asking existing participants to make referrals to other individuals that they thought may be appropriate.

Ethics, Confidentiality and Consent

The research proposal was submitted to and considered by the University of Edinburgh medical education research ethics committee. Approval was waived as it was considered an uncomplicated improvement of teaching. All participants received an information sheet prior to data collection [Appendix 4A]. This provided information concerning the researcher and the project, including the purpose of the research. The information sheet informed volunteers that their participation was voluntary and that they were free to withdraw their consent at any time without giving a reason and that this would in no way prejudice their teaching or assessment. Written consent was then obtained [Appendix 4B]. All responses would be anonymised and remain confidential. All results would be displayed in a de-identified manner.

Data Collection

I travelled to each individual unit and focus groups were scheduled for 1 hour. This allowed participants to attend the focus group with minimal impact on their clinical time. After undertaking self-directed learning on the focus group process and subsequently attending a 2-day course on qualitative methodology and data-gathering, I constructed a focus group guide for each group, to apply some direction and format to the process [Appendix 4C]. I applied minimal structure to the focus

groups, using general prompts only, to avoid overly influencing the participants, allowing them to fully express their views. The main areas of inquiry, which underpinned these prompts, were feasibility, face validity and educational impact.

As well as using minimal general prompts, I also aimed to use reflective listening in the focus groups. The purpose of reflective listening is to allow the facilitator to probe for greater meaning and increase their understanding of the participants' responses (Doody et al., 2013). Fern (Fern, 2001) presents four types of reflective response; clarifying, paraphrasing, reflecting feelings and summarising. I utilised these reflective responses to help ensure that my understanding of the participants' dialogue was accurate. Clarifying involved asking for further elucidation on a point if I did not understand the participants' meaning. Paraphrasing involved repeating back to the participant what they had said to ensure that I had understood their meaning. I asked participants if I had accurately interpreted the feelings they were expressing. And finally, I tried to summarise key points and feelings expressed in the discussion, to confirm what had been said and felt by participants.

Field notes were completed immediately after data collection to record any observational data which could not be captured by audio recording. These included unstructured observations of the participants such as their body language, the general mood of participants, and in terms of the focus group, the interaction within the group. These notes allowed me post interview and during data analysis to recollect accurately this observational data.

For example, there is a potential concern that the most articulate members of the groups dominate discussions in focus groups, making findings relevant to only the most vocal members of the groups (Cormack, 2000). More reticent group members may feel intimidated by other participants. However, I did not find this to be an issue. I recorded in my field notes that I felt I had achieved a high level of participation, even in the largest group, and that participants appeared to feel relaxed and uninhibited from expressing their views. I also recorded that there appeared to be high levels of agreement amongst students about many of the issues under discussion with a lot of nodding and murmurings of

assent which were not recorded in the transcript. Even when there were differences in opinion these were expressed with ease and without antagonism.

Data Analysis

The recorded focus group data was de-identified and transcribed by a third-party transcription service. I then undertook a thematic analysis. This is a qualitative method of data analysis used to identify themes which capture something significant about the data and involves the researcher searching all the data for recurrent patterns of meaning (Braun and Clarke, 2006). Themes then identify something important which is repeated throughout the data. These overarching themes may also contain sub themes within them which highlight subtle nuances.

In thematic analysis, the researcher moves 'back and forth' between the themes identified and the data, continually refining the interpretation, until understanding of participants' meaning is reached (Braun and Clarke, 2006). This dialectic movement, from the parts to the whole of the text and back again, is a demonstration of the 'hermeneutic circle'. In data analysis, this involves reading the transcripts, reflecting on them and then interpreting them in a diachronic manner, until an understanding of the text is reached (Ortiz, 2009). 'Diachronic' refers to the way in which something, especially language, has developed and evolved through time.

"…the mind hurries from one thing to the other, turns this way and that, considering this and that, and seeks the perfect expression of its thoughts through inquiry (inquisitio) and thoughtfulness (cogitation)" (Gadamer, 2004 p 424).

Once the transcripts were completed, I repeatedly re-read the entire data, searching and highlighting with a marker pen, frequently recurring patterns. The recurring patterns identified in the transcripts were then tabulated into themes and sub themes with supporting quotes.

The three main areas of inquiry included feasibility, face validity and educational impact. The two overarching themes which emerged from the data were: issues of understanding and issues of practicality.

Understanding

Student Understanding

Overall, student understanding of the EPA assessment form and how we wished them to be used appeared good. They understood and appreciated the concept of assessing them on the performance of a whole clinical task. They also comprehended the longitudinal approach that we wished assessors to take – rather than basing their assessment on a one-off interaction. And the use of a descriptive supervision/entrustment level – rather than a specific grade.

The task-based approach utilised in these assessments led the students to see them as very relevant to their training – particularly as they were at the latter stages of training and imminently about to make the transition to Foundation doctors.

"I think also because it assesses you on things that you actually do genuinely have to do in the next year. It's useful to do them and then get feedback on something that you're like, well actually I'll need to do this in three months' time, so fine." - SJH

Their understanding of the clear clinical relevance also meant that for many of them, they felt that it was less of a tick box exercise than perhaps previous ways they had been assessed. Prior to the introduction of EPAs, the students used a postcard-based system where they could request an assessment after a single encounter and performance of a single clinical skill e.g. venepuncture.

"postcards are just so unspecific. Like if you need one done and like, and just for the sake of it you will be like, I'll just take some bloods and I'll get that signed off. Like there's no, I don't know, there's no drive to do anything useful if it is just doing it for the sake of getting it done basically" - RIE

The clinical relevance of these tasks also seemed to highlight to some students, tasks that they had not previously considered before and had not realised would be their responsibility as a Foundation doctor. This included tasks such as death confirmation - which was a suggested part of the managing routine ward work EPA.

"for instance when I was on nightshift there was lots of confirmations of deaths and things that I'd never done before as a student ever, It was really useful to see in action something that we all need to be able to do next year. I think even having the reference to it you're like, oh, that is actually something I would be expected to do and I'm glad that I've seen it. It sort of signposts a little bit more some of the things you might not necessarily think of" - SJH

The understanding of the clinical relevance of the tasks also motivated some students to become proactive in their learning and to aim to build on their current supervision level – rather than aiming for a specific grade.

"I think it complements them [other types of assessments they've had] quite well, because it's a bit different and it's probably more relevant to you actually developing skills than necessarily are you working to like a 'A' grade or something, it's a bit more concrete sort of." - RIE

"…motivated me to then go, right, let me do another one and build on what I've already got" – BGH

"because if they fill it in for you and they say you were semi-autonomous early then next time there is that task to be done, why not do it yourself?" - BGH

The students' understanding of the longitudinal approach to assessment was also particularly apparent when they compared EPAs to previous types of assessment which they had been asked to use as seen in the following excerpt.

"…much more (relevant) and I think because…I think we've said it and we've said it again, because the postcard was one thing you had to do and then you got it signed off, it wasn't an overall…also if you missed the bloods then you wouldn't ask for a feedback postcard would you? You're only going to get

positive ones because you're only ever going to ask them to fill out a card of something that you've actually managed to do. The way the task based assessments were, it was more of a general opinion so if you've gone on the ward and missed bloods all morning then they'll be like, mmm, or, yes, its more of an actual general opinion about it as well. I think they're much better." - SJH

Here the student seems to appreciate the longitudinal approach and understand that the aim of this was to give an overall impression of their ability – rather than assess them on one specific attempt. This perhaps goes some way to ameliorating strategic assessment requests and seems to build faith that we are trying to give them useful assessment feedback.

"M1: As opposed to just being like a task that you have done, that you have performed, it's the overall impression…

F1: Yes because one task is not reflective

M1: …of you on the ward, which I think is more useful" - RIE

Not only did the students discuss this longitudinal approach in terms of the quality of feedback generated for the individual - several students also discussed this in terms of fairness of the assessment. They felt that it benefited those students who attended regularly and who committed large amounts of time to learning and helping on the ward.

"You can't just turn up and ask for one card signed off and then leave, so much. I thought it benefits or it encourages you to actually be on the ward more, in all honesty…" - SJH

The students also described an understanding of the decision to have descriptive levels in our scale – rather than letters or numbers. However, there were mixed opinions and some debate on the success of this and this mostly related to the complexity of the scale.

"F: A couple of us were commenting earlier just about the scale itself. I realise why you didn't want to have the numbers, but a few people have said it would be simpler it if was like…

F: If you just had a number"

"I personally quite like that there are not numbers."

"I think that the words are more, they are more descriptive, it's more useful." - RIE

When discussing if the students valued the verbal feedback generated by the completion of these forms, they suggested that only small amounts of feedback were really generated and often it was reduced to a generic statement such as "continue to practise."

"So, yes, I would say almost every one I've had anyway there's been a sentence or two which we have genuinely discussed and put that down but, yes, I don't know. Its' not reams and reams but it was something." - SJH

During one focus group – the students suggested that what they really valued was verbal feedback on their overall performance from someone that has seen them working and who can therefore judge their strengths and weaknesses. This appeared to happen out with the confines of workplace-based assessment in general and separately from the completion of these assessment forms.

"Probably my best feedback has come,,,like the most useful proactive feedback has been sitting down with my supervisor that's known me over the course and has seen me quite a lot. Then sometimes it's been kind of an hour-long conversation about future careers and thing as well. So that's been best and surprising." – SJH

To utilise these assessments in a way that generated useful feedback, it was particularly important to most students that these forms were formative – rather than summative. Some admitted that their formative nature meant they were happy just to have them completed – although as previously discussed, the clinical relevance of the tasks and the proximity of the students' graduation may have also gone some way to guard against this being seen as a tick-box exercise for many. However, others felt that it meant they could stretch themselves in order to improve and to obtain the most useful feedback. And if they were to become summative, a lot would be lost from their educational impact.

"…because I think then you would have to strategically be thinking about who to ask rather than just it's good to get feedback maybe from the harshest person on the ward because that might help you improve, but I think you would tactically not go to that person if it counted for something" - BGH

Assessor Understanding

The other major facet to this theme is that of assessor understanding. Students almost unanimously felt that both the scale and underlying concept were often only partially understood by assessors and this had a significant impact on their faith in the assessments themselves.

The entrustment scale itself was felt to be very complicated and the explanation of it was challenging.

"Everyone I've shown it to [the supervision scale] is like, I don't actually understand what that means…" - WGH

The explanatory notes [Appendix 1B] contain several columns describing the different factors which would contribute to the assignation of a specific entrustment level. However, these were felt to be unnecessarily complicated.

"the supervisor proximity and the supervisor checks. Most of them are just like, what's this? Basically they, what's this and what's this? They're just kind of like, I'm not sure this was particular…this particularly made any sense to them" – BGH

Our attempts to deliver clarity and to operationalise our entrustment levels may ultimately have been counterproductive. Many students certainly felt that the wordiness of our explanations resulted in their redundancy. And to less consideration of what they felt was, fundamentally, a basic question: how much supervision would they need to do this task? This had implications in terms of how much the students valued this feedback.

"But sometimes I'm not sure if they fully understood it before they were just like "I'll just put semi-autonomous, semi-autonomous, semi-autonomous." - WGH

"I'll just put down what you want" - WGH

Some students did report working with assessors who were diligent in reading the explanatory notes. And most found the FY1s understood the concept from the beginning or very quickly.

"I've got two from an associate specialist and one CT2 [Core Trainee 2] but you literally had to nab them and explain the whole thing to them and then they filled it in almost with our guidance which defeats the purpose of them doing it but the FY1s were quite clued up on how to do it." - BGH

However, a greater number reported that more senior assessors had declined to read the provided information and requested that the student summarise it for them – perhaps speaking to the level of busyness on a clinical ward and the need for assessments to try to fit into the working day with minimum disruption.

"They just said, explain it to us. They weren't even bothered to read it." BGH

The other major area of assessor misunderstanding was regarding the longitudinal approach that we wished them to take – synthesising all their observations and impressions of the student into an entrustment level. The question we wished them to consider was not – how much supervision did this student need when they were carrying out ward work tasks? It was – from what you have observed this student doing thus far, how little supervision would you feel comfortable to give them for these routine ward work tasks. This slightly hypothetical and prospective nature to the question is very different to how medical students have been assessed in the past and different from the workplace-based assessments that assessors will have been used to in postgraduate training. These mainly rely on retrospective assessment of a single encounter – the exception being multisource feedback which is a longitudinal retrospective assessment.

"…and they were a bit like all right so I'm not actually testing you on what I see you doing? I'm testing you on what I think you might be able to do based on what I've seen you do? I think it was a bit sort of complicated, there must be an easier way to explain it" – WGH

This confusion led to some difficulties for the students in finding an assessor who was happy to complete the form and to a significant number of the assessment form boxes being incomplete or marked as "not applicable." This was the case in all units and was a significant source of frustration for the students.

"I don't know that I can say you've done these because we haven't had the opportunity" RIE

"…some people weren't really wanting to sign things if they hadn't seen me do that" – WGH

"Quite a few of mine are N/A because they say well I haven't seen you…" - BGH

Issues of Practicality

Most students felt that obtaining eight of these assessment over a six-week time period was a reasonable requirement and they found obtaining these manageable. The prevailing opinion was also that this time frame was sufficient to allow their Foundation doctor assessors to get to know them well enough to make accurate assessments of them. Indeed, there was some agreement that their Foundation assessors were able to make these judgements within an even shorter time frame of three weeks.

"Researcher : Do you think six weeks is long enough for them to really get the gist of how you're doing?

F1: Yes

F2: Even three weeks

F3: Three weeks" - RIE

The major practical issue was access to assessors who were more senior than an FY1. This appeared to be problematic for a majority of students. This was however particularly difficult on surgical wards where more senior doctors are often in the operating theatre most of the day and not on the ward with the student.

"Just they are always in theatre so they see me in theatre but they haven't seen me on the ward, and the ward is what I'm getting signed off for." - RIE

However, those students working on medical wards also cited this as a major problem – although were aware that they had perhaps an advantage over their colleagues.

"You see a consultant for about 15 minutes in the morning, the reg might be there for five minutes longer and then we're left alone all day. So getting anyone higher than an FY2 has been impossible" - BGH

"Obviously, I presume, we see consultants a bit more on medical wards, but still you're not, I mean you're not really working under them so much as the FY1" - WGH

Whilst this problem is very practical in nature, it was associated with significant validity ramifications. Certainly, the students had much less faith in the assessments which were completed by a more senior assessor because they were felt to be were based on much less solid information regarding them as an individual. This connection was very clear in the analysis and was discussed at length by the students in all units.

"all my useful feedback has been from FY1s because the consultant doesn't know me" - SJH

"consultant won't look at it, but he will sign it" - RIE

"whereas the FY probably has, like knows that you've been doing it" – BGH

"I think it's a much more useful assessment just having the FY see us as well as the easiest" - VHK

"RESEARCHER: So you don't feel like maybe they see you enough to make a judgement about that type of thing?"

UNANIMOUS: No." – WGH

Students were also aware of their more senior assessors asking for the opinion of the Foundation doctors who knew them better and so felt that they were ultimately receiving the same feedback.

"Other thing as well in surgery, the registrar's opinion may possibly be shaped by what the FY is saying. So actually it just ends up being the FYs feedback written by another person." - WGH

Students did understand our theoretical concerns that if they were exclusively assessed by Foundation doctors who are close peers there was the possibility of friendly marking. However, they did not feel that this concern was realised in actual completion of them and that the feedback they received was "friendly, but still honest" - RIE. And indeed, much more valid and useful to them than generic feedback from more senior assessors who did not really understand their capabilities.

It was particularly important to the students that these forms were formative – rather than summative. Whilst some admitted that this meant they were happy just to have them completed – others felt that it meant they could stretch themselves in order to obtain the most useful feedback. And if they were to become summative, a lot would be lost from their educational impact.

"…because I think then you would have to strategically be thinking about who to ask rather than just it's good to get feedback maybe from the harshest person on the ward because that might help you improve, but I think you would tactically not go to that person if it counted for something"

As previously discussed, the clinical relevance of the tasks and the proximity of their graduation may have also gone some way to guard against this being seen as a tick-box exercise for many.

SUMMARY

Our students appear to think that these assessments were reasonable and manageable. They also understand the concept and can describe ways in which they have had a positive educational impact. However, our inferences about this must be tempered by the particular context in which they are being used; where students have finished their examinations and are immediately pre-graduation with the minds of many likely to be turning to how they are actually going to perform clinically in the next few months. We cannot infer that students earlier in the curriculum would value the feedback generated by EPAs in the same way. And we must be cognisant of the fact that the educational impact appears, in part, to be predicated on these being used as formative assessments.

The longitudinal approach inherent in our EPAs and the apparent complexity (and wordiness) of our scale had a significant impact on the understanding of assessors. And consequently, on the validity of these assessments in the eyes of the students. Additionally, feedback from assessors more senior than a Foundation doctor is practically very difficult to obtain and valued less due to their more limited opportunity to observe the students undertaking the required tasks.

The results from this process were discussed with the other members of the working group to ensure consensus regarding the emerging themes and to scrutinise for over-statements or omissions. In the next section, I will aim to synthesise all the above data, both qualitative and quantitative, into a coherent validation argument for the use of EPAs in the context of final year medical undergraduates. In order to do so, I will employ Kane's validity framework.

VALIDATION

Three main purposes of assessment have been described: to judge learners' performance to progress; to encourage, guide and give feedback to student and teacher on learning; and to quality assure a programme of education or institution. As such, assessment is a crucial component of medical education. Judgements are continually made about medical learners using various types of assessment data including knowledge based examinations, observed simulated practice, and observed workplace based behaviours demonstrating abilities and clinical acumen (Cook et al., 2015). Based on these judgements, decisions about these learners can then be made – for example those regarding progression, graduation, requirement for remediation and suitability for further specific training. For serious outcomes such as these to follow from assessment results, we require a high degree of confidence in the inferences we draw from test scores. To make sound judgements we must understand the strengths and weaknesses of the tools we use to make these assessments and the processes upon which these judgements are based. We require evidence to support the validity of our decisions; validity refers to the appropriateness, meaningfulness and usefulness of the specific inferences made from test scores (American Psychological Association, 1985). The process of validation is one of collecting evidence to support such inferences and evaluating whether the resultant decision and its attendant consequences are safe, fair and defensible (Cook et al., 2015).

THE EVOLVING CONCEPT OF VALIDATION

The concept of validation has evolved significantly over the last century and an understanding of this process helps understand and justify my choice of validation methodology.

Educators initially recognised two types of validity: content and criterion. Content validity refers to the extent to which the items of a measurement procedure are relevant and representative of the concept that is being measured (Haynes et al., 1995). In practice, content related evidence has usually taken the form of consensual judgements by subject matter experts (Angoff, 1988) about the representative coverage of the content in a test and about its relevance to the particular domain of interest (Messick, 1986). However, this type of judgement-based validity is open to criticism – not

least the inherent subjectivity and strong possibility of confirmatory bias. Messick argues that content validity merely represents evidence about the content of the test instrument and, in isolation, cannot provide evidence to support inferences about an individual from their test score (Messick, 1986). He therefore suggests that content-related evidence may play a limited role in validation when not supported by other evidence because, in itself, it does not provide direct evidence in support of inferences that can be made from test scores (Kane, 2001).

Criterion validity refers to how well scores correlate with a reference standard measure of the same phenomenon. However, theorists quickly recognised that identifying a readily available reference standard can be very difficult in some circumstances; particularly for more ethereal attributes such as professionalism (Cook et al., 2015). And even if a criterion measure could be identified, questions about its own validity would inevitably arise – potentially leading to a cycle of infinite regress.

It was therefore necessary to broaden the definition of validity to accommodate these issues. In the 1950s, theorists introduced the notion and terminology of construct validity (American Psychological Association 1954); in which intangible attributes (i.e. constructs) are linked with observable attributes based on a theory of the construct. The hypothetico-deductive model of theories was dominant at the time and was used as a framework for analysis of theoretical constructs (Kane, 2001). This model treats theories as interpreted axiomatic systems (Cronbach and Meehl, 1955). A set of axioms connecting implicitly defined terms (the constructs) are interpreted by connecting some of their terms to observable variables. Once interpreted these axioms can be used to make predictions about observable relationships among variables. The nomological (neither logically necessary nor theoretically explicable) network defining the theory therefore consists of the interpreted axiomatic system plus all of the empirical laws derived from it (Kane, 2001).

Initially construct validity was presented as an alternative to the content and criterion models, to be used when testing or measuring an attribute or quality which cannot be operationally defined and for which there is no adequate criterion. It was therefore initially treated as an adjunct to criterion and

content models (Kane, 2001). Cronbach and Meehl did however say that even if a test were initially validated using criterion or content evidence, the development of a deeper understanding of the constructs or processes accounting for test performance requires a consideration of construct validity (Cronbach and Meehl, 1955). Whilst they were not presenting construct validity as an overriding framework, they were beginning to suggest that construct validity may be of ubiquitous concern. The construct validity model subsequently developed 3 methodological principles which were gradually extended to all serious validation efforts. These included: the need for extended analysis in validation, the need for an explicit statement of the proposed interpretation, and the need to consider alternative interpretations (Kane, 2001).

The extended analysis involved in the construct validity model subsequently highlighted the inadequacies of most validation efforts based on a single validity coefficient. In the content model, the characteristics of the measurement procedure were evaluated in terms of expert opinion; in the criterion model the test scores were simply compared to the criterion scores. The construct model required development of a theory, the development of measurement procedures thought to reflect some of the constructs in the theory, the development of specific hypotheses based on the theory and the testing of these hypotheses against observations.

By focusing on the role of potentially complex theories in defining attributes, the construct-validity framework increased awareness of the need to specify the intended interpretation of a test, before evaluating its validity. The variable of interest needs to be defined or explicated - before it can be estimated. Within the criterion model it is relatively easy to develop validity evidence based on a pre-existing criterion, without necessarily examining the rationale for that criterion. In contrast, the construct related validity evidence requires that the proposed interpretation be specified in some detail; shifting the emphasis from the validation of the test to the development of and validation of the proposed interpretation. It is therefore not the test score that is validated but the proposed

interpretation of that score. This leads to a need to challenge proposed interpretations and to the importance of considering other alternative interpretations (Kane, 2001).

Construct-validity has subsequently come to be seen as a general approach to validity that includes all validity evidence derived from multiple sources. Messick discusses his perspective of validity as a unified concept: all educational and psychological measurements should be construct-referenced because construct interpretation underscores all score-based inferences. Consequently, Messick argues, although construct-related evidence may not encompass the whole notion of validity, there can be no validity without it (Messick, 1986). In other words – there is no way to judge the appropriateness, meaningfulness and usefulness of score inferences in the absence of evidence as to what the scores mean.

Messick's unifying framework has been widely adopted but it must still be operationalised through the traditional enquiries of content, concurrent and predictive validity (Cook et al., 2015). However, Messick does not indicate how priority may vary for different assessments. A more recent evolution of validity theory comes from Kane who addresses this issue of prioritisation (Kane, 2013a). This allows for application to various types of assessment, or indeed whole programmes of assessment. This versatility is important when considering assessments in which qualitative data are increasingly valued and multiple assessment data points are routinely integrated (Cook et al., 2015).

In this work, I have chosen to use Kane's framework to construct a validity argument for the use of Entrustable Professional Activities in the assessment of final year medical undergraduates. The following discussion of this framework will elucidate the reasoning for this methodological choice, particularly in the context of my overarching ontological and epistemological views.

KANE'S APPROACH TO VALIDITY

Decisions and Consequences

Regardless of the nature of the data being collected, or the format of the assessment activity, at some point a judgement will be made about the learner and a decision will result. Kane's approach to validity involves an attempt to appraise the basis on which we make decisions about learners. And the consequences of these decisions *in reality*. This approach suggests an acceptance of the existence of an objective reality. However, it does not suggest that we can directly measure this. Kane's framework is not algorithmic and does not purport to yield certainty about this reality (Cook et al., 2015). Instead it suggests that we can use multiple sources of evidence to develop - often following multiple iterations of investigation and interpretation - a plausible explanation of the validity of the assessment (Kane, 2013a) - or programme of assessment (Schuwirth and van der Vleuten, 2012). There is an explicit recognition that we can never achieve absolute certainty regarding our decisions or their consequences. However, we can achieve a high degree of confidence in certain interpretations and uses of test scores. This interpretive, iterative stance thereby aligns with the epistemological approach observed throughout this thesis and indeed with the overarching ontological perspectives inherent in Critical Realism. Kane explicitly states that, rather than search for truth, his main concern is one of "justified belief" (Kane, 2013). He accepts that the best available evidence could lead to the acceptance of an interpretation that subsequently would be shown to be incomplete or inaccurate. We must then consider scientific interpretations as fallible and subject to revision. Sound methodology should make it more likely that accurate conclusions are reached. However, even the most careful methods cannot provide absolute certainty. Indeed, validity frameworks which advocate the need for absolute certainty are likely to lead to the rejection of all test-score interpretations.

Interpretation Use Argument (IUA)

Validity is not a property of the test itself. Rather – it is a property of the proposed interpretations and uses of the test scores (Kane, 2012). Whilst much of the detail in this process can appear complicated,

the basic approach adopted by Kane is disarmingly straightforward. Kane explains the two stages of his approach. First, state the claims that are being made in a proposed interpretation or use. And second, evaluate these claims (the validity argument) (Kane, 2013a).

The purpose of an IUA is to make the reasoning inherent in proposed interpretations and uses explicit so that they may be better understood and evaluated. The IUA is to specify the proposed interpretations and uses of the scores generated by the testing programme as applied to a population over the range of contexts in which it is to be used. To claim that a proposed interpretation or use is valid is to claim that the IUA is clear, coherent and complete, that its inferences are reasonable and assumptions are plausible (Kane, 2013a).

Argument Based Approach

In building understanding of an assessment's validity, Kane describes an argument-based approach. In their practical guide to his framework, Cook et al. describe this as analogous to the collection and arrangement of legal evidence. Rarely is a single piece of evidence so incontrovertible that it can single-handedly conclude the case. Hence, the argument usually consists of multiple pieces of evidence: individually incomplete but collectively convincing (Cook et al., 2015).

In describing his approach, Kane reiterates that IUAs cannot be proven. However, they can be evaluated in terms of their clarity, coherence and plausibility and the evidence required for this can be prioritised. Kane suggests that many inferences and assumptions are sufficiently plausible a priori to be accepted without large amounts of additional evidence. Indeed, if it were necessary to support every inference in the IUA with empirical studies, it would be an infinite process. The validation effort should focus on the most questionable parts of the IUA and belabouring obvious assumptions is not required (Crooks et al., 1996). Indeed, this could be considered counterproductive. Collecting easy to measure evidence for assumptions that are already obviously plausible - at the expense of addressing other questionable assumptions – can be misleading. And could lead to the sheer quantity of evidence obscuring important omissions.

Some assumptions may, therefore, be accepted on the basis of experience (Kane, 2013a). More questionable assumptions will require new empirical evidence to be considered plausible. For highly questionable assumptions it is useful to consider multiple parallel lines of evidence (Kane, 2013a). Studies of the most questionable assumptions in the IUA are conceivably the most informative because they address the weakest links in the argument. If the proposed IUA survives serious challenges, its plausibility will be increased.

In summary, educators need to consider the decision at hand and a proposed interpretation that would support that decision. Then, with this desired decision in mind they must identify the key inferences associated with this interpretation and its use. Following this, they must develop a plan to test these assumptions and inferences and finally collect empiric evidence from multiple sources which can be considered using the following framework.

Kane's Framework

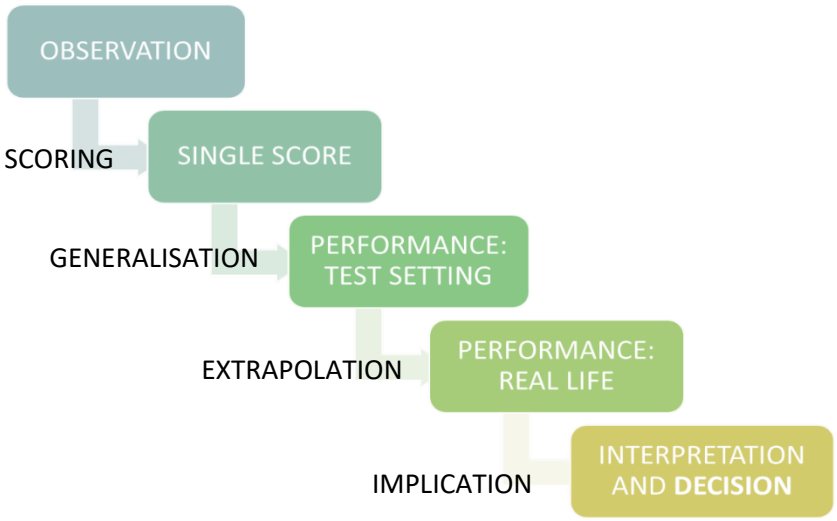


Figure 3.1 Kane's Validation Framework. Adapted from (Cook et al., 2015)

Scoring

An assessment begins with an observation of performance. The intent is to use this observation to generate a fair, accurate and reproducible score - or an accurate and insightful narrative comment in

terms of qualitative assessments. The scoring inference takes us from the test performance as the raw data, to the test score. The backing for the scoring criteria would typically be based on the judgement of a panel of experts who develop and review the scoring criteria. Audits can provide evidence that the scoring rules were implemented consistently and correctly and in cases where raters are involved in scoring, intra-rater and inter-rater reliability studies provide information on rater consistency (Kane, 2013b).

Generalisation

Generalisation deals with test-world performance and seeks to answer the question of how well the selected test items in our sample represent all of the theoretically possible items in the relevant assessment universe (Kane, 2013b). When interpreting test scores we typically generalise over many conditions of observation; rather than saying that a student did well in a particular test on a particular day and in a particular context, we generalise over test forms, occasions and contexts (Cook et al., 2015). The conditions of observation allowed under the definition of the testing procedure define a theoretically limitless universe of possibilities. The observed test performances can be taken as a sample from this universe.

Evidence to answer this question relies on appropriate sampling. The required number of observations depends on the scope of the domain (i.e. more comprehensive tests will require more observations) and the reproducibility of individual observations. According to classical test theory, an observed score reflects the true score imperfectly because of measurement error. Scores are more reproducible and therefore closer to the truth, as measurement error is reduced (Novick, 1966). This error can arise at each step or facet of the measurement activity. In the qualitative paradigm, the concept of saturation (Cook et al., 2015) may be useful, especially for non-numeric data i.e. answering the question - does the new observation add important information beyond the information already collected?

The reproducibility of numeric scores can be empirically determined using reliability metrics. For qualitative assessments the synthesis of individual pieces of qualitative data to form an insightful and

accurate interpretation is analogous to quantitative generalisation (Cook et al., 2015). Whereas we treat inter-rater variability as a source of error for most numeric scores, in qualitative assessments we view observer variability as representing different and potentially valuable perspectives. The method for selecting and synthesising data from different sources and deciding when to stop will inform the generalisation inference for qualitative data.

Extrapolation

Generalisation takes us from a sample of observations to the test world universe. Whilst test performance is important, what we really wish to approximate is performance in the real world. This requires an extrapolation inference. Evidence to support this extrapolation comes primarily from two sources. These include methods taken to ensure that the test domain reflects key aspects of real performance and empiric analyses evaluating the relationship between test – and real-world performance. In terms of quantitative assessment, this may involve correlating test scores with scores from conceptually related real world assessments – although it is important to note that there does not always need to be a strongly positive correlation (i.e. if constructs are conceptually independent). Researchers should specify all hypothesised relationships prior to empiric evaluation to avoid the uncritical acceptance of any correlation (Cronbach, 1988).

In terms of qualitative assessment, evidence suggesting that stakeholders agree with interpretations and anticipate that they will apply to new contexts may be used to support the extrapolation inference (Cook et al., 2015).

Implications

Therefore, we have moved from the score to an interpretation about that score in the test world, and to what we think that will mean in the real world. The final inference moves from that interpretation to a specific use, decision or action about the assessed. This requires an inference about the implications of the assessment results because it would be inappropriate to assume that evidence

supporting a particular interpretation of test scores automatically justifies a proposed use of that score (Kane, 2006). Therefore, the final phase of validation involves evaluating the consequences or impact on the learner, other stakeholders or society. Despite the obvious importance of this step, evidence regarding assessment implications is rarely published.

Perhaps the most straightforward way to do this would be to offer the assessment to some learners and not to others and compare relevant outcomes and consequences. Clearly, this comparative type of research would be difficult to conduct. Therefore, more achievable non-comparative studies could be carried out to explore intended and unintended consequences. In qualitative assessments, evaluating the agreement of experts with final interpretations and the impact of decision on learners and raters could be used to support the implications inference.

Building the Argument

One of the key tenets of Kane's framework is that of prioritisation (Kane, 2006). This refers to the fact that although all inferences in validity argument merit some attention, they are not always of equal importance. For example, generalisation is of less importance when the focus is on formative feedback. Extrapolation is less important in work-place based assessment as this relies on observing real world performance.

Having developed their plan to test their assumptions and inferences, educators then use this plan to collect evidence and organise it into a validity argument (Figure 3.2). Having considered their weakest assumptions, the assessment instrument, or the use for which it is being proposed may need to be revised. This may require several iterations using different sources of evidence – in order to develop our best and closest understanding of the validity of the assessment as a whole. This process is not intended to give us access to the absolute truth regarding the validity of this assessment but will lead us to develop a justified belief about how it is best interpreted and used. This iterative, cyclical process aligns well with our critical realist ontology.

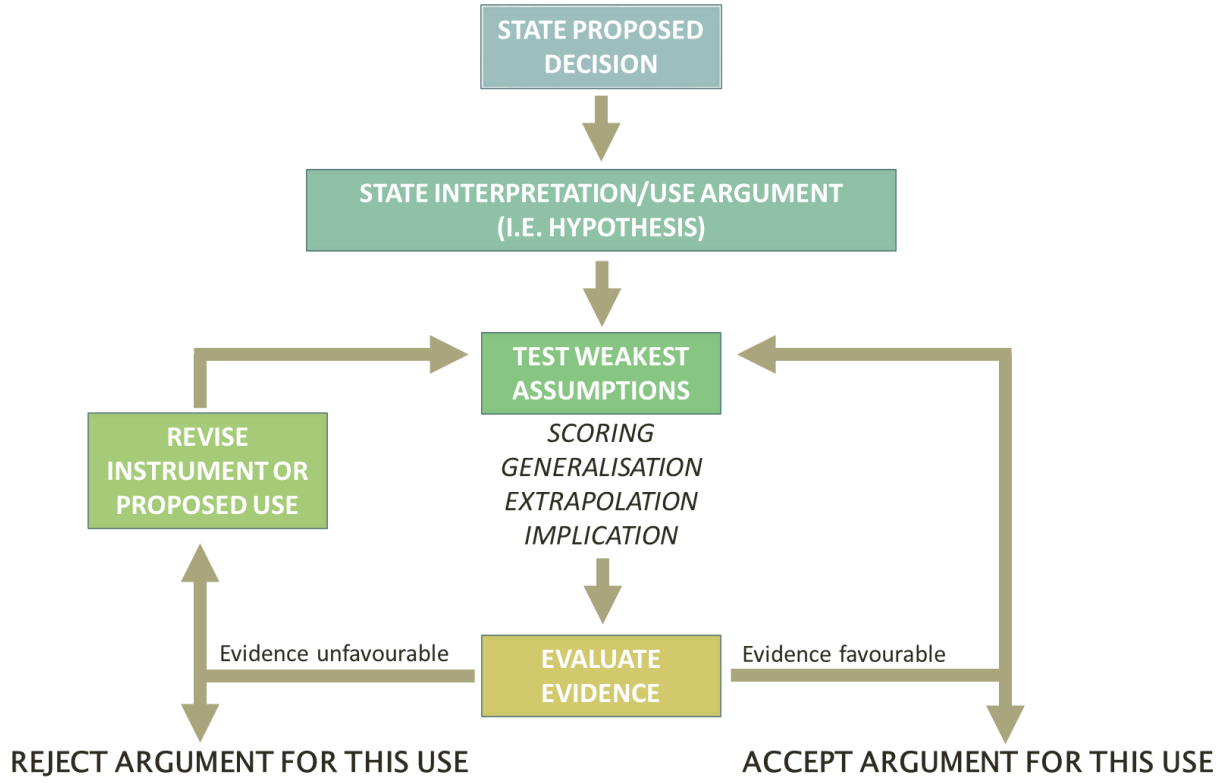


Figure 3.2 Kane's Validation Process. Adapted from (Cook et al., 2015)

Validation is therefore a process rather than an endpoint - ideally beginning with a clear statement of the proposed interpretation and use. It then continues with a carefully planned interpretation/use argument that defines the key claims and assumptions and only then proceeds with the collection and organisation of logical and empirical evidence into a substantiated validity argument. As educators, we should therefore focus on the weakest, most questionable assumptions.

Unintended Consequences

Intended consequences have been a central consideration in the evaluation of testing programmes. The role of unintended consequences has been less consistent.

Messick gives negative consequences a limited role – suggesting that adverse social consequences invalidate test use only if these consequences are empirically traceable to sources of test invalidity – i.e. if they were due to flaws inherent within the test (Kane, 2001). He describes a model which includes an evaluation of the extent to which the programme achieves its intended outcome but

would also review potential unintended consequences – both positive and negative. If negative consequences were found an effort would be made to identify the reasoning for this. But negative consequences would only count against validity if they were found to result from some flaw. Thus, consequences act as indicators of potential sources of construct irrelevant variance (Messick, 1986).

Kane's interpretation-use model draws a distinction between score interpretation and score use. And requires that these are both evaluated – but only to the extent that they are included in the proposed interpretations and uses of the test scores. If the IUA does not include any uses – then no evaluation of uses (and therefore no evaluation of consequences) would be required (Kane, 2006).

Unintended consequences are, self-evidently, difficult to identify and evaluate. Social consequences can be particularly difficult to analyse because they may not occur immediately. The two major social concerns identified by Kane and which are legitimate public concerns include: differential impact against particular groups (which may or may not be associated with identifiable sources of bias) and undesirable systemic effects (Kane, 2001).

Potential Pitfalls

Potential pitfalls in the construction of a validity argument include believing that if a test has been validated for one purpose, it is valid for another; all assessments must be validated for each new proposed context. It is also important to avoid proposing an argument that is more ambitious than required for a given purpose.

To the extent that we focus validation on interpretations, to the exclusion of uses, we run the risk of taking evidence for a limited claim to justify a more ambitious one. Under the argument-based approach to validation it is however legitimate to focus on an interpretation to the exclusion of its uses – but it is not legitimate to evaluate only the interpretation and then to claim that one has validated a testing programme as a whole including the proposed interpretation *and* uses.

MY INTERPRETATION-USE ARGUMENT (IUA)

I can use EPAs as a workplace-based assessment of the amount of supervision required by final year medical students for whole clinical tasks (rather than individual competencies); their 'entrustment level' will correlate well with other assessments of clinical competence and the feedback generated will be predictive of the amount of supervision the learner requires as they go forward to FY1.

TESTING OUR WEAKEST ASSUMPTIONS

Having defined the planned interpretation/use argument, I can now consider the key claims and assumptions inherent within it. I have collected evidence regarding these assumptions and here will attempt to build this into an elegant and substantiated validity argument. As previously described, Kane's model requires us to first focus on the weakest, most questionable assumptions. After prolonged contemplation of our IUA, the assumptions which appear to be weakest include the following and I will consider these in turn:

1) I can provide objective evidence of EPA predictive validity (extrapolation)

2) Learners and assessors will understand, assimilate and internalise this new concept and complex scale based on entrustment (scoring) and learners will benefit from knowing their levels of entrustment to inform their practice at the point of their graduation (implication)

3) Subtasks should all roughly require the same level of supervision since we are assessing performance of the whole clinical task (scoring)

4) The longitudinal approach we are asking students and assessors to use means that we are sampling lots of situations in the test universe (generalisation) and therefore scores represent accurately how these students would perform in that workplace (extrapolation).

5) These assessments will correlate with other validated assessments of clinical competence (generalisation).

1) I CAN PROVIDE OBJECTIVE EVIDENCE OF EPA PREDICTIVE VALIDITY

It was perhaps naive to think that I would be able to generate objective data on predictive validity of our EPA assessments. Correlating medical assessment with future performance is difficult; not only because of inadequacies in the assessment processes themselves but also because relevant, robust measures of outcome that can be directly attributed to the effects of training have not been well defined (Cox et al., 2007). Here we begin to enter the philosophical realm of what makes, and how you measure, a good doctor; fascinating topics but beyond the scope of this thesis.

Our graduating students were going on to Foundation programmes across the UK and several were planning to enter residency training in Canada. This research did not therefore have the scope to look at their future performance at a level nuanced enough to show varying levels of entrustment required for clinical tasks. I did consider whether it would be possible to look at alternative predictive outcome measures. For example, all medical students studying in the UK who wish to enter the UKFPO obtain two indicators of performance: an Educational Performance Measure (EPM) and the score they achieve for a Situational Judgement Test (SJT). The EPM is a decile ranking (within each school) of an individual student's academic performance across all years of medical school except final year, plus additional points for extra degrees, publications etc. to give a score out of 50 points. The Situational Judgement Test (SJT) is a type of aptitude test that assesses judgement required for solving problems in work-related situations. This type of written test presents candidates with hypothetical and challenging situations that they might encounter at work, and may involve working with others as part of a team, interacting with others, and dealing with workplace problems. In response to each situation, candidates are presented with several possible actions (in multiple choice format) that could be taken when dealing with the problem described. Students sit the SJT during their final year of medical school. It is also scored out of 50 points. The EPM and SJT are summed to give the UKFPO score out of 100. This score has been shown to predict completion of Foundation training (Smith and Tiffin, 2018). Perhaps then we should have considered correlating our results with SJT results – with this being a

marker for Foundation completion. However, I felt that non-completion of the Foundation programme was a very rare outcome, was quite a crude measurement and was likely to be multifactorial in nature; illness and stressful life events being but a few potential non-academic reasons.

I did however wonder if students felt they would refer to the information regarding the level of supervision they required for clinical tasks when they became an FY1. We discussed this during the focus groups. Interestingly, the overwhelming consensus seemed to be that they would not refer back to this information in their booklet

"If you're asking if I would go back and look at my booklet to see what sort of supervision I need for a task, I would say definitely no…" - RIE

However, some students did express the opinion that the assessment had inculcated an awareness that they were allowed and even expected to require supervision at some points, even after qualification. This seems to be a very important realisation but was only mentioned by a single focus group participant.

"Yes, it could be good for next year to accept you know the things that you need supervision for so yes," - WGH

Without a defined outcome variable, it has proven very difficult to determine the predictive validity of these assessments. I therefore cannot make any claims regarding this in our validity argument and revision of the original IUA is warranted.

2) LEARNERS AND ASSESSORS WILL UNDERSTAND THIS NEW CONCEPT AND COMPLEX SCALE BASED ON ENTRUSTMENT AND THIS UNDERSTANDING WILL HAVE POSITIVE EDUCATIONAL IMPACTS

Missing Data: Unfortunately, it was quickly apparent that significant amounts of data were missing. This appeared to be for a variety of reasons. In this cohort, 288 students completed 8 EPAs each. Each individual EPA required an overall assessment of the supervision level for the task - therefore each student should have 8 overall scores for supervision level. This equates to 983 (= 228 x 8) expected data points. Unfortunately, 352 (35.8%) data points were missing. Whilst this could be frustrating it usefully highlighted some issues with scoring our EPAs and the feasibility and face validity of the expanded supervision scale which we have asked assessors to use.

During the inputting process it became clear that many people had marked a student as requiring "indirect" supervision – and had not differentiated between the early and late stages of these level descriptors. This was perhaps because they had not had time to review the entire supervision scale; perhaps because they did not feel that there was a significant difference between these 2 stages. My attempt to make our scale more granular, may then have been ineffectual. The increased complexity of the expanded scale seems to have been very difficult to deal with in busy clinical supervision scenarios.

From our focus group data, one of the major themes revolved around the complicated nature of the scale and the longwinded descriptors. Students confessed that whilst they felt they had understood the scale, the supervisors they were working with had very little time to become comfortable with it and consequently they often assigned a supervision level after a cursory glance at the explanatory notes. Several students raised the issue that some assessors merely checked the supervision level assigned by previous assessor and reiterated that.

Several domains were marked as being "not applicable." These tended to be the units of ward work which would ultimately require the signature of a licensed medical practitioner (e.g. completion of death certificates). During the focus group feedback students commented that staff were concerned

students were being expected to actually sign these documents and did not understand the longitudinal approach to these assessments, nor the prospective nature of the question which were ultimately asking them to consider: having supervised this student and seen how they approach ward jobs, if they hypothetically had to perform a routine task on the ward, how much supervision would you feel you needed to give them?

From focus group data, we can see that students understand the concepts underpinning our assessment and our novel scale. And they have described multiple ways in which this could have a positive educational impact in terms of self-motivation to improve, increasing the challenge of the tasks that they performed, a positive impact on their belief in their ability to take on a task and a general increase in fairness. However, this must all be tempered by their lack of faith in their assessors' understanding of these concepts and knowing them well enough as an individual learner to make these judgements in the way which we intended.

3) SUBTASKS SHOULD ALL ROUGHLY REQUIRE THE SAME LEVEL OF SUPERVISION SINCE WE ARE ASSESSING PERFORMANCE OF THE WHOLE CLINICAL TASK

An exploratory factor analysis (EFA) was carried out to investigate the latent structure of our EPA tasks. In multivariate statistics, factor analysis is a statistical method used to uncover the underlying structure of a relatively large set of variables. EFA is a technique within factor analysis whose overarching goal is to identify the underlying relationships between measured variables. It is commonly used by researchers when developing a scale and serves to identify a set of latent constructs underlying an array of measured variables.

Each component within the model has an Eigenvalue. Only those with a high Eigenvalue (conventionally >1) are likely to represent a real underlying factor and this can be graphically presented on a scree plot.

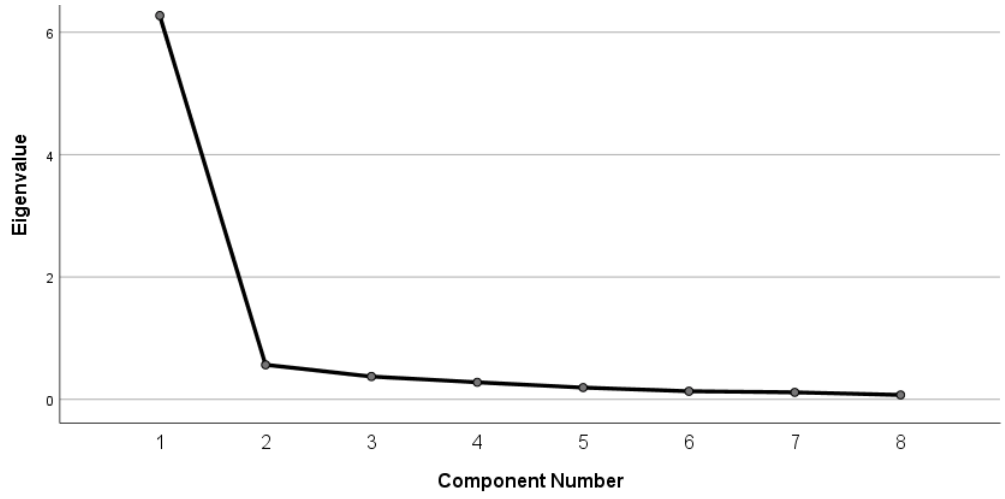
Communality (r^2) refers to how much each of these factors account for the variance within the variables. An r^2 value of less than 0.4 conventionally means that factor does not contribute significantly to measurement of the underlying factor. The component matrix shows the Pearson correlations between items ("factor loading").

My results suggest that, both the ward work and IDL EPAs were unidimensional models. In both models only 1 component had an Eigenvalue of greater than 1; all communalities were greater than 0.4 and all variables correlated highly (loaded onto one factor).

Figures 3.3a EXPLORATORY FACTOR ANALYSIS: WARD WORK

Total Variance Explained						
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	6.273	78.407	78.407	6.273	78.407	78.407
2	.564	7.055	85.462			
3	.373	4.662	90.124			
4	.279	3.483	93.607			
5	.192	2.400	96.007			
6	.132	1.655	97.662			
7	.115	1.434	99.096			
8	.072	.904	100.000			

Scree Plot

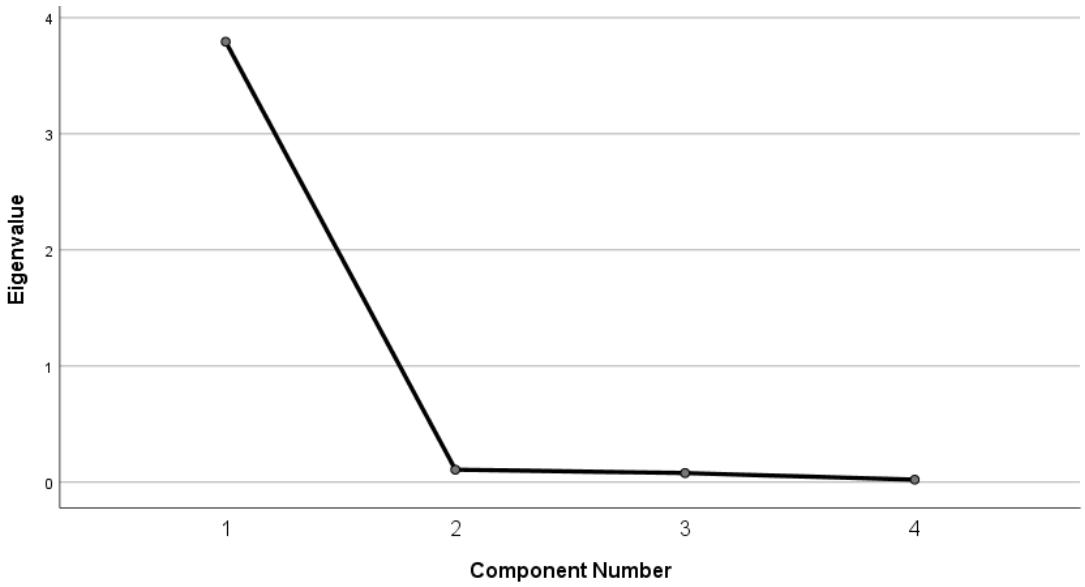


Communalities			Component Matrix
	Initial	Extraction	Component 1
Mx plan	1.000	.796	.892
RV progress	1.000	.820	.906
Communicate pts	1.000	.784	.885
Communicate HCPs	1.000	.853	.924
Update records	1.000	.769	.877
Prioritise	1.000	.749	.865
Generic paperwork	1.000	.583	.763
Overall	1.000	.919	.959

Figures 3.3b EXPLORATORY FACTOR ANALYSIS: IMMEDIATE DISCHARGE LETTER

Total Variance Explained						
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.793	94.816	94.816	3.793	94.816	94.816
2	.108	2.690	97.505			
3	.078	1.960	99.465			
4	.021	.535	100.000			

Scree Plot



Communalities			Component Matrix
	Initial	Extraction	Component 1
Hx summary	1.000	.939	.969
Drug list	1.000	.948	.974
Communicate HCP	1.000	.923	.961
Overall	1.000	.982	.991

From these results we can conclude that all our subtasks are likely to be measuring the same underlying factor and correlate highly with each other. This makes logical sense as these EPAs were designed to be a measurement of their ability of a whole clinical task – rather than the individual competencies inherent in that task. It also allows us to use mean score in future calculations.

The unidimensional nature of our EPAs could give cause to consider reducing the assessment down to a single, simple question: how much supervision would you give this student when performing ward work or writing an IDL? However, the high levels of communalities in our models suggest that each of these individual components are contributing quite a lot to the variance within that model – i.e. they are all measuring the same thing - but all contributing to that measurement.

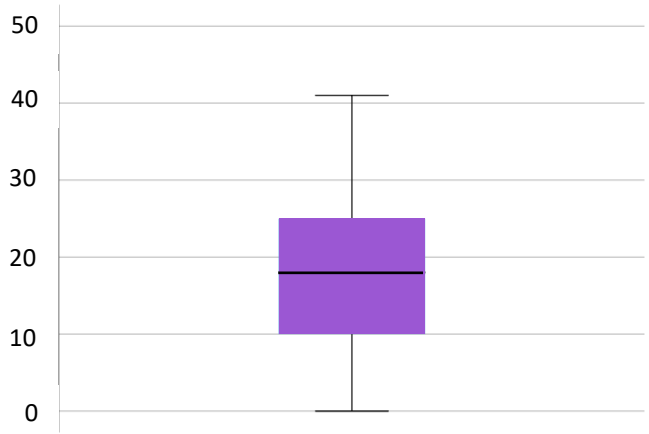
Additionally, our qualitative feedback suggests that there is value in splitting it into subtasks e.g. signposting different tasks that are required as an FY1, experience in which they should be aiming to achieve by the time they graduate.

4) THE LONGITUDINAL APPROACH MEANS THAT WE ARE SAMPLING MULTIPLE SITUATIONS IN THE TEST UNIVERSE AND THEREFORE SCORES REPRESENT ACCURATELY HOW THESE STUDENTS WOULD PERFORM IN THAT WORKPLACE

From our focus groups we are already aware that there are issues with assessors' understanding of the longitudinal nature of our EPAs. They were very often being interpreted more as an assessment of a one-off encounter. When we look at the dispersal of the assessments over time, we also see that they have not been very well spread over the six weeks. For the ward work EPA, 50% of assessments were completed within a two-week period: median day 18; interquartile range day 10 – day 25. Completion of the four IDL EPAs was slightly more spread over the entire six-week block but remained concentrated in the middle: median day 22; interquartile range day 11 – day 30.

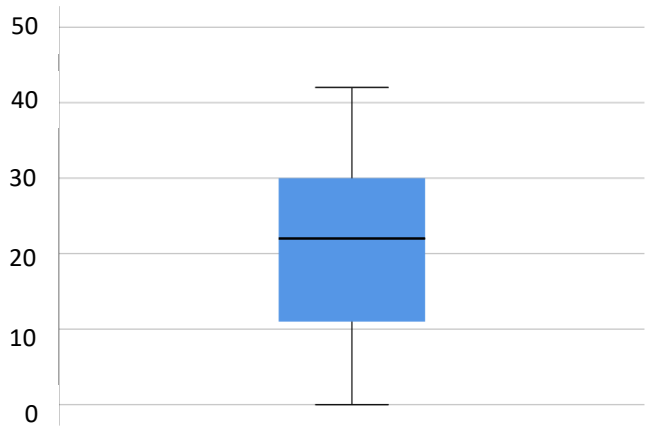
Figures 3.4a EPA Dispersal over Time: WARD WORK

Days from start of block		
N	Valid	838
	Missing	74
Mean		18.67
Median		18.00
Mode		22
Range		41
Percentiles	25	10.00
	50	18.00
	75	25.00



Figures 3.4b EPA Dispersal over Time: IMMEDIATE DISCHARGE LETTER

Days from start of block		
N	Valid	830
	Missing	82
Mean		20.97
Median		22.00
Mode		22
Range		42
Percentiles	25	11.00
	50	22.00
	75	30.00

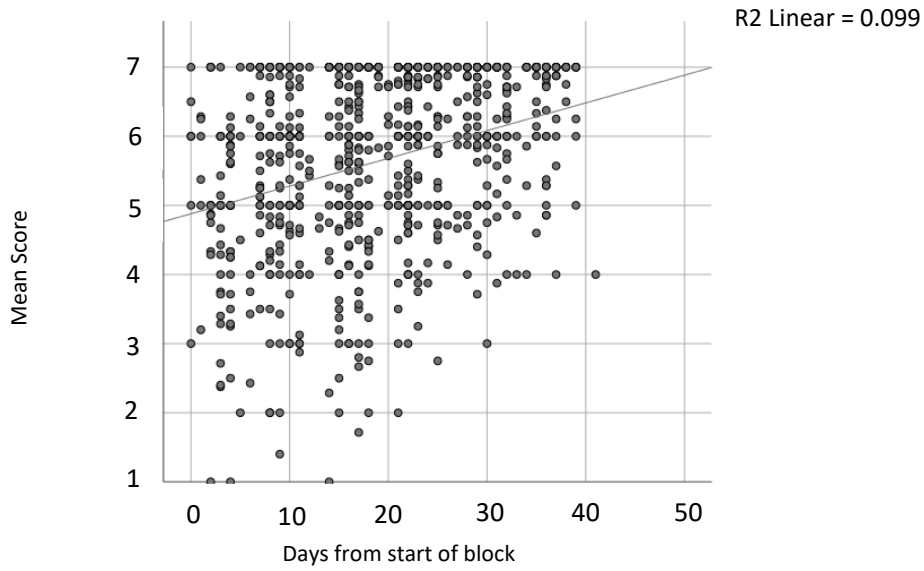


This lack of dispersal might be problematic if the passing of time affects the assessors' opinion of required supervision level. And it would seem plausible that students should improve at integrated clinical tasks during their assistantship – indeed that is one of the desired outcomes at the very heart of the assistantship.

A Pearson's correlation calculation was carried out to investigate whether time from the start of the assistantship had an impact on mean EPA score. Indeed, time passed does have a correlation with mean score for both ward work ($r = 0.314$; $p < 0.005$) and IDL ($r = 0.373$; $p < 0.005$) EPAs. Linear regression modelling subsequently revealed the small size of the impact of time upon mean score for each EPA: ward work $R^2 = 0.099$; $p < 0.05$ and IDL $R^2 = 0.139$; $p < 0.05$.

Figures 3.4a(i) Relationship between time from start of assistantship and supervision level: WARD WORK

Pearson Correlation

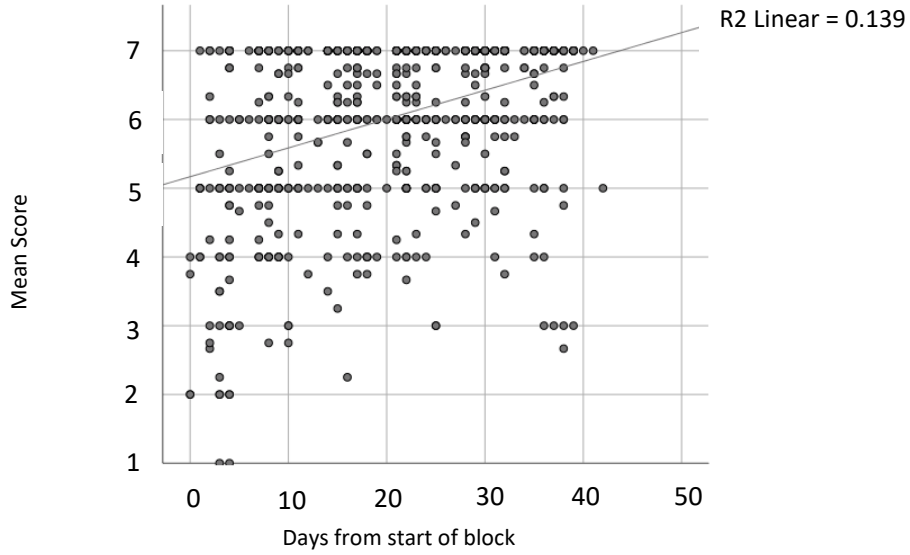


Pearson Correlation			
Days from start	Pearson Correlation (r)	1	0.314
	Sig. (2-tailed)		0.000
	N	838	744
Mean Score	Pearson Correlation (r)	0.314	1
	Sig. (2-tailed)	0.000	
	N	744	797

Linear Regression Model: Dependent Variable = Mean Score; Predictor = Days from Start					
ANOVA					
	Sum of Squares	df	Mean Square	F	Significance
Regression	121.056	1	121.056	81.206	0.000
Residual	1106.124	742	1.491		
Total	1227.180	743			
Coefficients					
	Unstandardised Coefficients		Standardised Coefficients	t	Significance
	B	Std Error	Beta		
Constant	4.896	.096		51.158	0.000
Days from start	.041	.005	.314	9.011	0.000

Figures 3.4b(i) Relationship between time from start of assistantship and supervision level: IMMEDIATE DISCHARGE LETTER

Pearson Correlation



Pearson Correlation			
Days from start	Pearson Correlation (r)	1	0.373
	Sig. (2-tailed)		.000
	N	0.373	1
Mean Score	Pearson Correlation (r)	0.000	
	Sig. (2-tailed)	1	0.373
	N		0.000

Linear Regression Model: Dependent Variable = Mean Score; Predictor = Days from Start					
ANOVA					
	Sum of Squares	df	Mean Square	F	Significance
Regression	145.228	1	145.228	119.906	0.000
Residual	899.909	743	1.211		
Total	1045.137	744			
Coefficients					
	Unstandardised Coefficients		Standardised Coefficients	t	Significance
	B	Std Error	Beta		
Constant	5.168	.089		57.907	0.000
Days from start	0.042	0.004	.373	10.950	0.000

Given that there is a small improvement seen in scores over time, perhaps then our focus *should* be on sampling towards the end of the block – to give us more information about the student's ability in the test universe - at the point of imminent graduation. This would also perhaps reinforce the longitudinal, assimilated nature of these assessments – rather than suggest that they should be individual assessments based on a one-off encounter and show incremental progression.

One of the other major feasibility concerns which recurred in every focus group was that of access to assessors more senior than a Foundation doctor. This assertion is indeed borne out in the quantitative data. The majority of these assessments were carried out by Foundation doctors – indeed approximately half of all the completed data points were completed by FY1s. In this cohort, there were 1824 assessment forms completed (288 students x 8 EPAs each) – although as previously stated, these were to a varying degree of completion. Of these 73% were completed by a Foundation doctor of any level (FY1 and FY2) and over half (58.9%) were completed by FY1s.

This effect is particularly pronounced for completion of IDL.s. Assessor level has been coded into the following ordinal scale:

1: FY1 2: FY2 3: Middle Grade* 4: Consultant

**Middle grade (encompasses CT/ST grades, ANP, Clinical Fellows, LAT/LAS, Associate Specialist and specialty doctors)*

Figure 3.5a Spread of Assessor Seniority: WARD WORK					
		Frequency	Percent	Valid Percent	Cumulative Percent
	1	462	50.7	53.6	53.6
	2	159	17.4	18.4	72.0
	3	196	21.5	22.7	94.8
	4	45	4.9	5.2	100.0
	Total	862	94.5	100.0	
Missing		50	5.5		
Total		912	100.0		

Figure 3.5b Spread of Assessor Seniority: IMMEDIATE DISCHARGE LETTER					
		Frequency	Percent	Valid Percent	Cumulative Percent
	1	548	60.0	64.0	64.1
	2	146	16.0	17.1	81.2
	3	146	16.0	17.1	98.2
	4	15	1.6	1.8	100.0
	Total	856	93.8	100.0	
Missing		57	6.2		
Total		913	100.0		

To investigate whether this lack of diversity in assessor seniority is problematic, I have correlated the effect of assessor seniority with mean score. Here Spearman's correlation has been used, due to the non-parametric, ordinal nature of the data.

Here I found a small but significant effect of assessor seniority on scores for ward work. Spearman's rho = -0.156 p = 0.000 (95% C.I. -0.23 - -0.79) i.e. as the assessor becomes more senior the entrustment score decreases. This apparent difference in opinions/set points for trusting a student warrants further exploration. However, without access to a large spread of assessors this will be difficult to understand.

Interestingly, there is no significant impact of assessor seniority on mean score for IDLs. Spearman's rho = -.0012p = 0.728 (95% C.I. -0.89 – 0.053). Perhaps this is because the vast majority of these are

being done by FY1s. Or perhaps completing an IDL is a particularly straight forward task. As it is a simpler thing to assess, consultants may not interpret it any differently from FY1s.

Figure 3.5a(i) Relationship between assessor seniority and supervision level: WARD WORK

					Assessor	Mean score
Spearman's rho	Assessor Level	Correlation Coefficient			1.000	-0.156
		Sig. (2-tailed)			.	0.000
		N			762	762
		Bootstrap	Bias		.000	.000
			Std. Error		.000	.037
			95% Confidence Interval	Lower	1.000	-.230
				Upper	1.000	-.079

Figure 3.5b(i) Relationship between assessor seniority and supervision level: IMMEDIATE DISCHARGE LETTER

					Assessor	Mean Score
Spearman's rho	Assessor Level	Correlation Coefficient			1.000	-.012
		Sig. (2-tailed)			.	.728
		N			792	792
		Bootstrap	Bias		.000	.000
			Std. Error		.000	.036
			95% Confidence Interval	Lower	1.000	-.089
				Upper	1.000	.053

We must then consider whether this striking point affects how we extrapolate our assessments into real world performance. Is it realistic to accept the opinion of the most junior member of the clinical team? Potential issues with this include their relative clinical naivety and their minimal experience in supervising and assessing more junior members of the team. Being near-peers may also have an impact on their willingness to mark their students below an anticipated threshold. Conversely, FY1s could be considered the expert assessors in this field. They know better than anybody what it takes to perform well in the clinical environment as the most junior member of the team. Certainly, the students in the focus groups valued the opinion of their FY1 more than that of more distant seniors.

These more senior clinicians were often felt to have less knowledge of the student. Their limited time together made it difficult to garner sufficient information to make a fair and accurate assessment of the students' abilities and therefore their feedback was generally valued less.

"I found having people at different levels kind of limited their feedback because they've not seen what I've done…"

We must also be cognisant that whilst this problem appeared to be present in almost all clinical units, it was significantly more pronounced in some and this could result in differential attainment, merely due to the random allocation of placements. Due to working patterns, surgical doctors were very often felt to be much less accessible than their medical counterparts.

"I think I've found it easier on a medical ward because there are FY2s and registrars on the ward…"

Students in surgical units therefore struggled more to achieve any kind of meaningful feedback from their surgical assessors. This led to large proportion of their assessments being performed by Foundation doctors and many students admitted to having almost all of them completed by the same FY1.

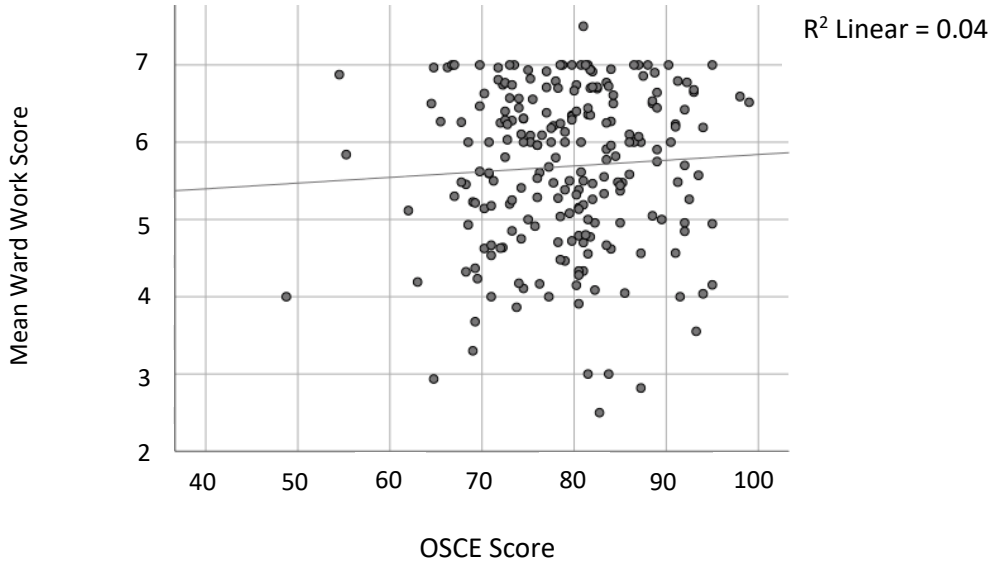
"You see a consultant (on a surgical ward) for about 15 minutes in the morning, the registrar might be there for five minutes longer…..so getting anyone more senior than an FY2 (to complete it) has been virtually impossible…."

5) THESE ASSESSMENTS WILL CORRELATE WITH OTHER VALIDATED ASSESSMENTS OF CLINICAL COMPETENCE

Lastly, we initially felt that our EPA scores ought to correlate well with other validated assessments of clinical competence – for example the final year OSCE examination – and that this would provide a source of concurrent validity. First described in 1975 (Harden et al., 1975), Objective Structured Clinical Examinations (OSCEs) have become one of the most widely used methods of assessing aspects of clinical competency in healthcare education (Gormley, 2011). This method of assessment was originally developed to address the unreliability and lack of generalisability of traditional forms of clinical assessment and involves all candidates being presented with the same clinical tasks, to be completed in the same timeframe and being scored using structured marking schemes.

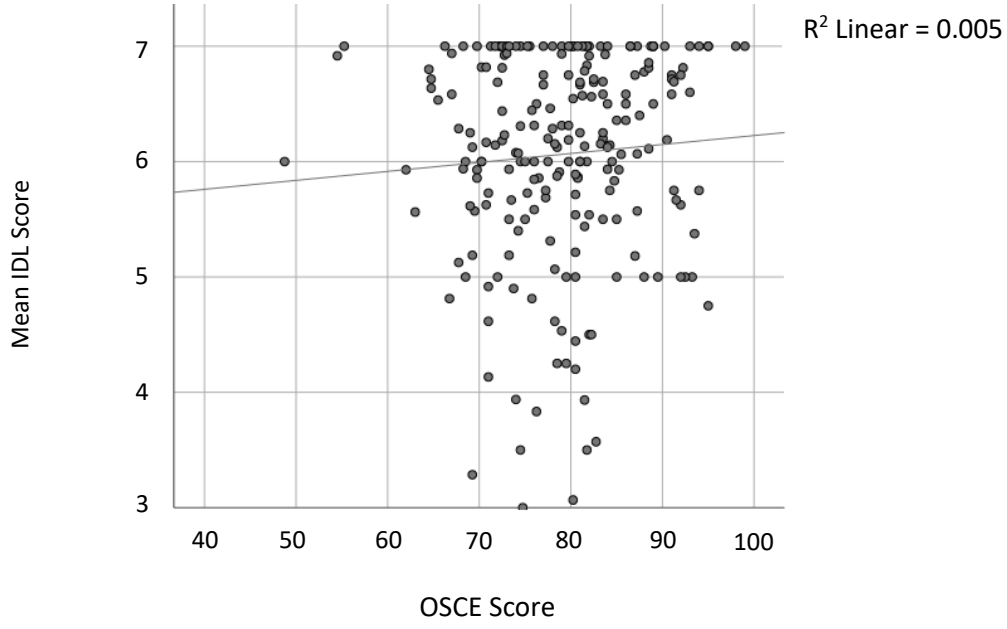
A Pearson's correlation coefficient was carried out to determine if Year 6 OSCE score correlated with mean score for both EPA. Interestingly, there was no significant correlation for either: ward work $r = 0.059$ ($p = 0.377$; 95% confidence interval -0.082 – 0.206); IDL $r = 0.071$ ($p = 0.296$; 95% confidence interval -0.045 – 0.18).

Figures 3.6a Relationship between OSCE Score and Supervision Level: WARD WORK



Correlations				OSCE	Mean WW score
OSCE score	Pearson Correlation			1	0.059
	Sig. (2-tailed)				0.377
	N			224	0.224
	Bootstrap	Bias		0	0.003
		Std. Error		0	0.073
		95% Confidence Interval	Lower	1	-0.082
			Upper	1	0.206

Figures 3.6b Relationship between OSCE Score and Supervision Level: IMMEDIATE DISCHARGE LETTER



Correlations					
				OSCE	Mean IDL score
OSCE score	Pearson Correlation			1	.071
	Sig. (2-tailed)				.296
	N			221	221
	Bootstrap	Bias		0	-.001
		Std. Error		0	.059
		95% Confidence Interval	Lower	1	-.045
			Upper	1	.180

Whilst there was no obvious relationship between OSCE and EPA score, I considered the possibility that EPAs may be able to indicate outliers – those students who struggle and who perform in the bottom 10% of their class. I therefore performed student's t-tests comparing mean EPA score between the bottom 10% (group A) and the rest of the class (group B). Again, there was no significant difference in mean EPA score for either ward work (mean difference -0.344; p >0.05) or IDL (mean difference -0.344; p >0.05).

Figures 3.6a(i) Comparison of Mean EPA supervision levels between students with bottom 10% of OSCE scores and top 90%: WARD WORK

Mean Scores in Group A (bottom 10%) and Group B (rest of class)					
	Group	N	Mean	Std. Deviation	Std. Error Mean
Mean Score	A	24	5.383	1.23	.251
	B	199	5.727	0.0992	.070

Independent Samples Test									
	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	t	df	Sig. 2-tailed	Mean Diff.	Std. Error Diff.	95% Confidence Interval of Difference	
								Lower	Upper
Mean Score	2.064	0.152	-1.561	221	0.120	-0.344	0.220	-0.778	0.090

Figures 3.6b(i) Comparison of Mean EPA supervision levels between students with bottom 10% of OSCE scores and top 90%: IMMEDIATE DISCHARGE LETTER

Mean Scores in Group A (bottom 10%) and Group B (rest of class)					
	Group	N	Mean	Std. Deviation	Std. Error Mean
Mean Score	A	24	6.052	0.898	0.183
	B	197	6.065	0.906	0.064

Independent Samples Test									
	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	t	df	Sig. 2-tailed	Mean Diff.	Std. Error Diff.	95% Confidence Interval of Difference	
								Lower	Upper
Mean Score	0.071	0.79	-0.07	219	0.944	-0.014	0.196	-0.399	0.372

This lack of relationship to OSCE score suggests that ward work and IDL EPAs are in fact measuring different things; this may reflect that other EPAs from our suite (such as clerking in a patient or patient handover) are more representative of those tasks that are often assessed in an OSCE. It may also speak to the fact that there is a qualitative difference between assessing that a student has achieved the safe minimum to pass in the structured reality of the OSCE and actually trusting someone to carry out a task.

INTENDED CONSEQUENCES

Not-withstanding all the above and the very important practical issues of feasibility – the qualitative feedback we received from the student focus groups on the consequences of our novel assessment tool was generally positive. Students in all five focus groups discussed the positive educational impact that they had had and could foresee with future use of these assessments – although many students had reservations about its implementation. Students understood the purpose and relevance of assessing them in this way and found the concept to be more acceptable than some of the ways in which they had previously been assessed. They understood the aim of synthesising their clinical knowledge and individual competencies, into the real, whole, clinical tasks that they will have to perform following graduation. They also felt that the assessment signposted tasks that would be relevant to them and which they had not necessarily considered previously. Some also felt it motivated them to try to improve on their performance at the task – rather than just achieve a set number or a sign-off as 'competent'. Some students also stated that having completed previous tasks with a certain level of supervision, this prompted assessors to graduate the level of entrustment given to the student.

Students generally appreciated that the assessments were formative and focused on overall performance – rather than a one-off encounter. Several commented that this reduced the desire to use them strategically. This focus was also felt to benefit those students who worked hard and attended their placement regularly and was therefore felt to improve fairness.

UNINTENDED CONSEQUENCES

The possibility of differential attainment based on protected characteristics such as gender and ethnicity is difficult to quantify in this case due to the relatively small sample size and small numbers in individual groups. In addition, while students were asked to state their gender and ethnicity on their assessment booklets however this was not compulsory, and many students opted out of providing this information [n = 106; 37%]. This makes correlation between attainment and these factors difficult to identify. However, as most students scored similarly across all assessments it would seem unlikely that

this is a significant issue. Again, however, the only claim we can justifiably make on this basis is one of a lack of granularity or a lack of understanding of the scale – rather than these assessments producing a completely level playing field amongst students.

Use of the assessor's time is the major potential systemic impact of these new assessments. Time taken for completing the assessment and giving feedback was requested on the forms however this field was very poorly completely. Qualitative feedback regarding this was rather vague and suggested that the initial explanation of the form took a few minutes but that assessors became quicker if they completed repeated assessments. This initially sounds positive – that EPAs can be quickly assimilated into the clinical working day. However, focus group participants suggested that assessors often only had time for a cursory review of the explanatory notes. Therefore, whilst it is positive that we were not having a major unintended impact in terms of the very valuable commodity of clinicians' time – this was actually because few assessors were able to take the time to acquaint themselves with the nuances of this new assessment: the longitudinal, aggregative and slightly hypothetical nature, along with an entirely novel assessment scale based on entrustment rather than competency. These very features of EPAs - which aim to differentiate them from previous types of workplace based assessments (e.g. mini-CEX) and increase face validity and buy-in from users - have complicated the process to the extent that in the clinical reality, assessors seem to have necessarily reduced it back to that which we hoped to avoid – a box ticking exercise.

REQUIRED REVISIONS

This is the first iteration of my validity argument and it has highlighted some points of great importance. It has become clear that we must now consider revisions to both our EPAs and how we intend to use the information they generate regarding the learner.

SIMPLIFICATIONS

Students appear to have a good understanding of the EPA concept and scale. And see the potential benefits of using them as an assessment tool in the workplace. However, their usefulness and educational impact are tempered and limited by assessors' understanding of the scale and how it is consequently being used. One of my major findings was a need to simplify the entrustment scale to make it easily and quickly understandable to busy clinicians. There certainly appears to be benefit in keeping the subtasks; there appears to be benefit in keeping the entrustment levels descriptive, rather than annotated with numbers or letters. However, in future iterations of the EPA assessment, it may also be of benefit to focus assessors' attention on just a few levels of supervision – those most appropriate to the level of the student – to reduce both their cognitive load and reading time.

More fundamentally - I may also need to revise how the scale is presented. Presenting the scale in a finely operationalised form – with each level being described in terms of three different contributing factors – appears to have led to it being interpreted as overly complex and overwhelming. The terminology is also perhaps disconcertingly academic. Ultimately, it belies the reasonably simple core question – how much supervision do you feel this learner needs for this clinical task?

In future, it may then be helpful to clearly align our supervision levels with more clinically relevant descriptions: an example of which can be seen in Table 3.7.

Whilst this student was carrying out this task I would…	
Observe	actually, I would only let them watch
Direct	want to be in the room with them
	want to be in the room with them most of the time
Indirect	want to be on the ward
	be happy to go for lunch
Semi-autonomous	be happy to go to clinic
	be happy to be at home

Table 3.7 Suggested Revision and Simplification of our Entrustment Scale

EXPLANATIONS

Whilst simplifications of the scale may be helpful, another area which I need to consider is the explanation of the concept – particularly focusing on the improvement of assessor understanding. Students certainly seemed to have a good grasp of the concept however this was likely a result of timetabled small group sessions with myself as the principal researcher. During this time, they had a detailed explanation given to them and the opportunity to discuss and question the concept. It proved impossible to replicate this model for assessors, as students were being supervised by a huge number of potential assessors in geographically and clinically diverse areas. This meant that we had to place significant reliance on supervisors reading the written explanations of the concept which accompanied the assessment booklet and students being able to explain and answer questions adequately.

The notion of a "ladder of engagement" first developed in the area of public policy in the 1960s (Gray, 2013). The rungs of the ladder move from non-participation and tokenistic participation through to partnership and full stakeholder control. From the level of incomplete and missing data, along with the comments of multiple students in focus groups, we can see that many of our assessors have become stuck at the level of tokenistic engagement. Changing assessment behaviours is really challenging and effective stakeholder engagement is critical (Gray, 2013). Given our findings, it seems

clear that when attempting to engage supervisors and change their assessment behaviours, written communication is not equivalent to verbal explanation.

The issue of adequate access to all potential assessors does however remain. This must inevitably lead to considering our students as our most important potential agents of change. Received wisdom has it that it is notoriously difficult to involve students in organisational change because of their other commitments and their relatively short-term engagement with the institution (Gray, 2013). Recent experience from some UK projects, however, suggests otherwise. There is now a considerable body of evidence to show that effective engagement with learners in terms of a genuine partnership can bring enormous benefits to projects.

At Bath Spa and the University of Winchester, the universities used student fellows to work with lecturers and students to develop technology for specific assessment problems, and to evaluate its use. The student fellows were co-constructors of the research and development. They acted as insiders and change agents, developing an understanding of assessment principles, familiarity with technology and research skills. Appreciation of student insights led to a reversal of the novice-expert dynamic which was key to the success of the initiative (Jisc, 2016).

Whilst this is not strictly analogous to our setting, it does suggest that students can be motivated to be involved in, and relied on to contribute significantly to, the development of their own assessments. Our students could perhaps be given a more formal responsibility to explain these new assessments to their supervisors – to derive as much benefit from them as possible and to develop assessment focused on the progress of students' learning, rather than simply measuring them against each other.

A better global understanding of the overall longitudinal concept of our EPAs may help achieve the goal of undertaking the assessments towards the end of the assistantship – to give us more information about the student's ability in the test universe - at the point of imminent graduation.

Better understanding of the concept may not however achieve a better spread of assessors – and perhaps it should not. The overwhelming feeling from the students was that they valued the opinion of their Foundation doctor supervisors far more than they did their more senior supervisors and found their feedback to be far more authentic and representative of them as a learner.

If we only plan to use EPAs as a formative tool, then perhaps it is acceptable to have a limited range of opinions, to not insist that more senior colleagues complete them. This point leads to the crucial consideration of how we wish to use the interpretations we make based on these assessments.

USES

As previously discussed, students seem to find that there is real strength in these assessments being formative. And indeed, we did not find evidence to support their use in making predictive claims. This is partly because we have not defined a clear, useful outcome variable. What makes a "good" doctor is a particularly ethereal question. And attempting to simply measure this is in fact antithesis to the overarching theoretical perspective of this body of work. "Good" or "trustworthy" doctors are likely to exist in objective reality. But how we measure that requires multiple facets of enquiry and is ultimately all a matter of interpretation.

When we do try to correlate it with the type of summative assessment of clinical competence which is widely used and conventionally accepted – there is no evidence of correlation. This raises the suspicion that what these assessments are measuring are in fact different things. And trying to validate them against each other - by virtue of it being simple mathematics – is logically inconsistent. We must then consider the difference between ticking a box in the simulated OSCE environment and entrusting a learner with a task in clinical reality? There appears to be a qualitative difference in these actions. Most of our students appear to have been deemed trustworthy, even if they do not tick all the boxes in the OSCE. This insight has led to many more questions regarding the entrustment process in clinical learning: How does trust develop? How does a learner demonstrate trustworthiness? And how does being trusted, or not, impact on the learner?

CLINICAL ENTRUSTMENT AND LEARNER SELF-EFFICACY: A HERMENEUTIC CONCEPTUAL LITERATURE REVIEW

INTRODUCTION

Clinical training requires supervising doctors to progressively share and eventually relinquish some clinical responsibility to trainees. An element of trust is therefore essential to the training and development of an autonomous practitioner. Moreover, the act of entrustment is of particular interest in view of its central role in ensuring both trainee progress and patient safety.

Whilst this model of graded incremental independence has long been part of the transformation process for clinical trainees,(ten Cate, 2005a) it has recently become more explicit and systematised through the emergence of Entrustable Professional Activities (EPAs)(ten Cate, 2013). The increased use of EPAs in the education of healthcare professionals, with their reliance on supervision requirements, makes understanding the concept of entrustment ever more crucial.

Building on the work of previous studies, Hauer *et al.*(2014) recently refined the classification of factors influencing entrustment decisions into five broad categories: those relating to the supervisor, the trainee, the supervisor-trainee relationship, the context and the task being entrusted. While trainee factors were considered in Hauer's review, this was largely from the viewpoint of the supervisor, with perceptions about trainee competence, attitudes, self-confidence and willingness to ask for help appearing to be major considerations in the supervisors' evaluation of trainee trustworthiness (Hauer et al., 2014). So far, little consideration has been given to the potential impact of being entrusted on trainees themselves, with very few publications attempting to address this perspective.

Ten Cate *et al.* (2016) conclude that entrustment implies a willingness on the part of the supervisor to accept a degree of risk, or vulnerability, while anticipating that the trainee will complete the task as expected. However, in being trusted, the trainee must also acknowledge and accept this risk, while

having belief in their own abilities to complete the task successfully. This last characteristic is defined as self-efficacy (Bandura, 1977), which plays a pivotal role in several educational theories that have enhanced our understanding of learning in the clinical workplace (Billett, 2016; Lave and Wenger, 1991). As such, the concept of self-efficacy may provide a useful lens through which to consider the educational impact of being entrusted with clinical tasks.

In this chapter I seek to qualitatively review the literature to construct a theoretical perspective on the effects that entrustment might have on the self-efficacy of the clinical learner, with a view to informing future empirical research in the field. I started with the following research questions - which were expanded and developed as the review process progressed:

1. What is self-efficacy and what do we know about its effects on learning?
2. What factors determine self-efficacy and how might they be modified?
3. How might clinical entrustment affect learner self-efficacy?

METHODS

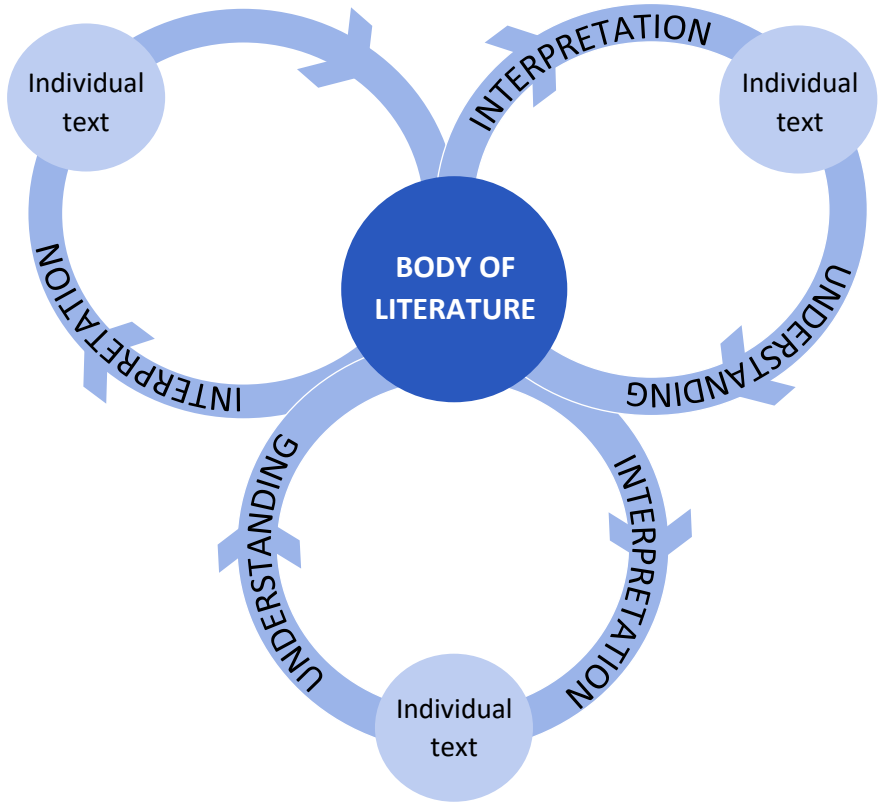
I used a hermeneutic approach (Boell and Cecez-Kecmanovic, 2010) to explore, meaningfully synthesise and critique literature from a variety of fields including, but not limited to, medicine, nursing, teaching, psychology and organisational management, to illuminate possible relationships between entrustment and self-efficacy in the context of medical training.

The hermeneutic review process is comprised of two interrelated cycles: (a) literature searching/acquisition and (b) analysis/interpretation (Boell and Cecez-Kecmanovic, 2010). Searching is systematic, but adaptable and iterative, and typically starts with the identification of a few highly-cited review articles relating to the topic(s) of interest. These are used to locate related literature and the search is both expanded and refined from there.

Understanding of an individual paper is interpreted in the context of others from the literature in parallel with the search; and understanding of the whole is in turn influenced by each new source

(Figure 4.1). This methodology allows for constant, informed, re-interpretation of the literature leading to a final comprehensive understanding and thus fits well with the theoretical perspective of critical realism and our interpretivist epistemology.

Figure 4.1 Schematic representation of the hermeneutic review process



The initial literature studied comprised Bandura's seminal text on self-efficacy (Bandura, 1989) and the review article by Hauer *et al.* on clinical entrustment (Hauer et al., 2014). Relevant documents were identified in reference lists and searches expanded using electronic citation and author tracking functions using the University library search engine which provides access to the majority of University subscription content; law resources (HeinOnline, LexisLibrary and Westlaw) being notable exceptions. These, however, were considered of limited value to this search. The utilisation of this umbrella search engine allowed for concurrent searching of a wide range of relevant databases including JSTOR, Web

of Science, SCOPUS and ScienceDirect. It also allowed for simultaneous searching of databases that were more specific to our multiple parallel domains of interest. These included medicine (e.g. BioMed Central, EMBASE, MEDLINE, PubMed, BMJ); nursing (e.g. CINAHL); psychology (e.g. PsycINFO); education (e.g. ERIC via EBSCOhost); business and organisational science (e.g. Emerald Intelligence); social science (e.g. International Bibliography of Social Science Online, Applied Social Science Index and Abstracts); and ProQuest Dissertations and Theses Global which provides access to the full text of published dissertations from 1997 onwards. This wide-ranging search strategy aligns with an expansive, hermeneutic approach to the literature. (A full list of the databases covered by the University search engine is available at https://www.ed.ac.uk/information-services/library-museum-gallery/finding-resources/library-databases/databases-a-z).

Key ideas and research findings were retrieved from individual articles and this information was reflectively studied and organised into emergent themes. Further compelling questions were raised during the review process requiring additional exploration of the literature and our original research questions were reconsidered. For example, I initially questioned the impact of entrustment on self-efficacy – considering this as a unidirectional relationship. However, I subsequently discovered a far more nuanced and complex interrelationship between these two concepts that required more thorough exploration. The search was ended at the point of saturation (i.e. where additional sources were making only a minimal contribution to understanding of the concepts of interest).

RESULTS

Development of the search process and topics covered are illustrated in a schematic mind-map [Appendix 4], as use of a conventional inclusion/exclusion flowchart to document results from the search was precluded by the hermeneutic approach. It would also be methodologically inconsistent to separate findings from their interpretation; much discussion therefore occurs as we navigate our way through the results. I grouped findings under the following broad themes.

SELF-EFFICACY AND LEARNING

Bandura posits that knowledge and skills are not always good predictors of behaviour because self-efficacy beliefs have significant effects on both motivation and persistence (Artino, 2012). Self-efficacy is considered a central mechanism of personal agency and a critically important contributor to motivation and learning (Bassi et al., 2007). Research demonstrating a positive relationship between self-efficacy and performance exists in domains as disparate as mathematics(Hackett, 1985; Pajares and Kranzler, 1995; Pajares and Miller, 1994) and sporting performance (Feltz et al., 2008). Meta-analyses of empirical studies consistently corroborate this relationship; both academically (Multon et al., 1991) and in the workplace (Stajkovic and Luthans, 1998).

A strong sense of self-efficacy is theorised to enhance accomplishment in many ways: it enables the setting of challenging goals and maintenance of a strong commitment to them; quick recovery after setbacks and sustained effort in the face of failure (Bandura, 1977). Failure is thought to be attributed either to insufficient effort or insufficient knowledge/skills which are ultimately acquirable – rather than an inherent deficiency. Difficult tasks are seen as challenges to be mastered rather than threats to be avoided (Bandura, 1977).

Conversely, people who doubt their own efficacy have low aspirations and weak commitment to the goals they choose to pursue. They dwell on personal deficiencies and adverse outcomes rather than concentrate on how to achieve success. In the face of adversity they are quick to give up and are slow to recover their sense of efficacy in the face of failure (Bandura, 1977).

Belief about one's capability does not necessarily match one's actual ability in a specific domain. There is evidence that most individuals overestimate their academic capabilities (Artino, 2012) and that the more certain people are of their abilities, the worse they perform (Kardong-Edgren, 2013). However, Bandura argued that while gross miscalculation of self-efficacy can be problematic, modest overestimation is likely to be beneficial (Bandura, 1989). Overly negative judgement of self-efficacy leads to self-limitation whereas an optimistic self-appraisal can increase effort and persistence. This

allows learners to overcome motivational inertia and move forward towards higher expectations of themselves (Bandura, 1989).

It is important to distinguish self-efficacy from similar concepts such as self-confidence and self-esteem, which may be domain-specific but tend to reflect more global perceptions of the self. Over 60 years ago, Maslow argued for the need to distinguish self-efficacy from self-confidence as, although these concepts are related, an individual can possess one without the other (Maslow, 1943). Despite this, the two terms continue to be confused in the literature and are sometimes used interchangeably. While both are beliefs about capability, self-confidence does not necessarily specify the subject or direction of this. Self-efficacy and self-esteem are often considered to be highly related constructs - although it has been argued that they are conceptually and functionally distinct (Chen et al., 2004). Self-efficacy predominantly reflects motivational belief whereas self-esteem is more of an affective appraisal relating to liking/disliking of the self (Brockner, 1988).

WHAT FACTORS DETERMINE SELF-EFFICACY?

Bandura(1994) describes four major determinants of an individual's self-efficacy for a given task:

1. Performance accomplishments
2. Social persuasion
3. Vicarious experience
4. Emotional arousal

Performance accomplishment (often described as mastery experience in social cognitive theory) refers to previous personal experience of succeeding at a task. This has been shown to be a dominant factor in determining self-efficacy. For example, in the treatment of phobias, real encounters with threats are consistently shown to produce results superior to those when the encounter is imagined (Emmelkamp and Wessels, 1975; Watson et al., 1973). And prolonged encounters were more effective than those which are brief and likely to end before successful performance is achieved (Rabavilas et al., 1976). This is particularly true when the encounter is self-directed (Bandura, 1975).

Early success or failure in task performance have powerful effects on self-efficacy beliefs and after repeated success, the negative impact of an occasional failure is much less (Bandura and Locke, 2003). Indeed if someone has a well-developed and stable sense of self-efficacy, they are more likely to remain resilient following failure, learn from their shortcomings and ultimately improve subsequent performance (Hardy III, 2014). Much therefore would seem to depend on the timing and total pattern of experiences in which failures occur.

People who are persuaded by others that they are capable of mastering a task are likely to mobilise greater and more sustained effort (Bandura, 1989). However, this social persuasion has a weaker and less reliable effect on self-efficacy than previous personal accomplishments as it does not have an authentic experiential basis (Wenger, 1999). Results of several lines of research attest that efficacy beliefs induced only through verbal persuasion are likely to be short-lived and vulnerable to failure (Lick and Bootzin, 1975; Paul, 1966).

Witnessing people identified as similar to oneself succeed through sustained effort increases the observer's belief in their own ability to master comparable activities (Parent and Fontin, 2000). The impact of vicarious experience is enhanced by perceived similarity to those being observed – thereby increasing personal relevance (Kazdin, 1974).

Judgements about personal efficacy are also partly reliant on somatic and emotional state (Kent and Gibbons, 1987). Stress reactions and tension are interpreted as signs of vulnerability to poor performance. Therefore the fourth way to modify a learner's self-efficacy beliefs is to alter their negative interpretations of physical and emotional state (Bandura, 1994).

ESTABLISHING TRUST, MUTUAL ENTRUSTMENT AND EFFECTS OF BEING TRUSTED

Establishing trust

Gilson (2003) describes two different approaches to establishing voluntary trust. Strategic trust is rooted in the analysis of risk and expectations of how others will behave. It has a cognitive basis and

is essentially akin to a process of risk calculation as described in economic and social exchange theory (Emerson, 1976). Altruistic trust is grounded in our expectations of how people should behave and has affective, rather than calculative roots. The extent of the calculation required versus the amount of faith required varies with our expectations of others and the nature and stage of the relationship under scrutiny (Gilson, 2003). In this respect the model describing trust development in clinical trainees by their supervisors proposed by ten Cate *et al.*(2016) could equally be applied to trainees developing trust in their supervisors: there is initial *presumptive* trust on first meeting a new supervisor and which is based solely on reputation and status. First impressions of the supervisor then allow the trainee to move to a stage of *initial* trust and ultimately to a point where trust is *grounded* in prolonged experience of working with the supervisor.

Mutual entrustment

This lends an interestingly reciprocal dynamic to the entrustment relationship, with both trainee and supervisor having to demonstrate themselves to be knowledgeable and trustworthy to each other. The importance of trainee teachers establishing trust in their supervisors is supported by an empirical study of first year teachers in North America, which reported a strong positive association (Pearson's correlation coefficient 0.46; $p<0.02$) between level of measured trust in the mentor and self-efficacy (Celano, 2009).

In support of this, Torbeck *et al.*(2015) provide a qualitative exploration of the behaviours and techniques identified amongst senior surgeons that inspire the operative autonomy of surgical residents. Trust and familiarity between surgeon and resident, which develop over time, are identified as dominant themes in the development of the knowledge, skills and attitudes necessary for independent practice. However, this was not an outcome-based study and therefore could not demonstrate whether such supervisor behaviour results in a measurable increase in trainee independent practice.

The concept of mutual trust has also been studied in the organisational literature. Brower *et al.*(2009) reported that the highest level of organisational citizenship behaviour occurred when high levels of mutual trust existed between hotel managers and employees.

The concept of intersubjectivity would seem to be relevant to our understanding of mutual entrustment. This is defined by Rogoff as ''shared understanding based on a common focus of attention and some shared presuppositions that form the ground for communication'' (Rogoff, 1990 p71). Olmos-Vega *et al.* (2017) extend this definition in the clinical context to a shared understanding between trainee and supervisor regarding the common goals of providing safe patient care and adequate opportunities for learning. This has been identified as a key factor in workplace learning, particularly in relation to making the most of learning opportunities (Olmos-Vega et al., 2017).

Effects of being trusted

The effects of perceived trust on performance have been investigated in the educational and organisational literature. Lau *et al.* (2014) found that being trusted by a supervisor – in terms of feeling relied upon – had a positive effect on classroom performance in a cross-sectional study of school teachers in Southern China. However, they related this effect to changes in self-esteem rather than self-efficacy (Lau et al., 2014). Brower *et al.*(2009) studied the effects on employees in the hotel industry of both trusting in and being trusted by managers. They demonstrated a positive effect of *being trusted* on both employee behaviour and intentions - irrespective of whether the employee *had trust* in the manager. Similar findings, regarding the positive effects of perceived trust, are replicated in the travel industry (Lester and Brower, 2003) and business management (Deng and Wang, 2009).

Salamon and Robinson (2008) developed this concept further by exploring collective rather than individual perceptions of trust. They found that the cumulative trust felt by all employees was significantly related to workplace performance in a retail organisation. This study is noteworthy in that it was carried out with a longitudinal design and a split-sample technique for any variables collected at the same time-point from the same respondents. This provides some confidence regarding both

the degree of interrelationship between variables and direction of causality. Such organisational factors would seem to have resonance with concepts like workplace affordances (Billett, 2001) and legitimate peripheral participation (Billett, 2016) in the clinical context, although in medical education relevant publications are limited to a survey by Busari *et al.*(2005a), which reported that trainees in Paediatrics valued supervisors who trusted them.

It is, however, well-recognised that the amount of trust trainees are granted by their supervisors, and consequently the level of responsibility devolved to them, varies (Kennedy et al., 2007). Without devolution of responsibility, it has been argued that trainees could remain marginalised throughout their training and ultimately be left unprepared for independent practice (ten Cate, 2005a). However this must also be tempered by an awareness that over-entrustment can exacerbate and perpetuate inaccurate assessment of trainee ability and ultimately jeopardise patient safety (Olmos-Vega et al., 2017).

How could entrustment affect self-efficacy?

The effects of being entrusted with a clinical task on self-efficacy operate to some degree at all stages of task mastery: from full supervision to independent practice. However, the major determinants of self-efficacy are likely to have varying importance at different stages in the development of competence (Mitchell et al., 1994). When attempting a task for the first time at a given level of supervision, social persuasion and emotional arousal are likely to be dominant. These will then be superseded by performance accomplishment after initial successes with task completion.

In their theoretical paper, Conger and Kanugo (1988) drew links between self-efficacy in the therapeutic and organisational contexts to discuss techniques that could potentially be used to enhance the four major determinants of self-efficacy in employees. Expressing confidence in subordinates, fostering opportunities to participate in decision-making and providing autonomy were all discussed as practices which are empowering (Conger and Kanungo, 1988) and could all be considered to fall within the definition of being trusted.

Social persuasion and supervisor credibility

Social persuasion has a stronger effect on self-efficacy when given by a credible source - with the concept of credibility being broken down into competence and trustworthiness (Celano, 2009). Persuader credibility has long been described in communications research as a factor which augments persuasiveness (Giffin, 1967).

In 1968 Rosenthal and Jacobson showed that if teachers were led to expect enhanced performance from children, then the children's performance was duly enhanced – suggesting that biased expectations could affect reality (Rosenthal and Jacobson, 1968). This observer-expectancy effect, often referred to as the "Pygmalion effect," has been studied in other contexts (Eden, 1992), although there is poor understanding of *how* these expectations are communicated (Karakowsky et al., 2012). Perhaps entrustment confers a strong implicit message that bolsters self-efficacy and hence performance. It seems likely that being trusted to carry out a task by a clinical supervisor is much more potent than simply being told that you are capable of it.

Reducing emotional arousal

Evidence exists for the influential impact of an individual's perception of their ability to exercise control on anxiety and stress reactions (Rabavilas et al., 1976). Lower autonomic arousal, and ultimately improved performance, occurs in those who are led to believe that they can control aversive events when compared to others who think that they lack control (Geer et al., 1970; Glass et al., 1973). And mutual trust has been associated with less emotional arousal (fear and anxiety) in employees (Ng and Lucianetti, 2016). Perhaps perceiving that one is trusted with a task contributes to bolstering a learner's belief that they are in control of their emotional response to a stressful situation – such as performing a clinical task for the first time.

Beyond this inference however, little research was found which explicitly considers the effects of feeling trusted on emotional arousal. A possible reverse relationship - between the effect of

emotional response on developing trust - is however highlighted in Chen and Ayoko's work regarding conflict (Chen and Ayoko, 2012). They discuss how workplace conflict can elicit emotional reactions and how these reactions are subsequently critical in guiding employees' perception of being trusted (Chen and Ayoko, 2012); thus suggesting a link between emotional arousal and trust – albeit in the opposite direction to that which we are currently considering.

Independence in performance accomplishment

The most effective way to encourage strong self-efficacy beliefs has been repeatedly shown to be facilitation of personal mastery experiences (Lau and Lam, 2008). One of the factors included in the appraisal of a previous success appears to be the amount of external aid required, with success acquired independently being a strong encouragement of personal efficacy (Bandura, 1975; Colquitt et al., 2007).

Job autonomy has been shown to be an important antecedent of proactive behaviour in the organisational literature (Den Hartog and Belschak, 2012). Autonomy allows employees to approach tasks in alternative ways, to experience more ownership and have a more direct impact on outcomes. As such it promotes willingness to assume responsibility for tasks and to persist in the face of obstacles (Den Hartog and Belschak, 2012).

Independent mastery experiences also help to generalise efficacy beliefs to related, but unfamiliar tasks (Lau et al., 2007). Bandura found that when treating phobias those who had the benefit of independent mastery experiences showed less fear of threats which had not specifically been treated and were bolder overall towards unfamiliar threats (Bandura, 1975).

Interestingly, in the medical context, Kennedy *et al.*(2005) found several studies which concluded that increasing supervision enhances the educational experience for trainees. It is unclear whether this was because initial supervision levels were perceived to be inadequate. In contrast, Landrigan *et al.*(2002) reported a non-statistically significant *decrease* in residents' self-rating of their independent decision-

making ability after the introduction of increased direct supervision. Furthermore, a study in paediatric trainees reported that they valued supervisors who trusted them and allowed them to function independently at an appropriate level (Busari et al., 2005b). Olmos-Vega *et al.*(2017) found that the autonomy given to most trainees by their supervisors was either excessive or too limited, with both being perceived negatively. Alignment of performance expectations would therefore seem to be crucial to the entrustment process. In order to promote self-efficacy supervisors must structure the learning environment in such a way that the learner can test their abilities whilst avoiding placing them in situations prematurely where they are likely to fail (Bandura, 2009).

Vicarious experience

Vicarious observation of the performance of others can also impact an individual's self-efficacy (Bandura, 1977). Seeing someone similar to oneself succeed can increase self-efficacy. There is little specific empirical research to be found on the effect of seeing a colleague similar to oneself being entrusted with a particular task. It is perhaps conceivable that seeing a colleague, with a similar skill set to oneself, being entrusted may strengthen belief in one's own ability to perform. Alternatively, in competitive work environments, differential access to opportunities to participate in new or important tasks can prove a source of contestation between employees (Billett, 2001). Seeing a colleague entrusted with a task, in advance of oneself, may trigger negative self-reflections and thus lower self-efficacy. It may also conceivably inspire workplace jealousy, which has been negatively correlated with job-related self-esteem (Vecchio, 2000). As previously mentioned, self-efficacy and self-esteem are distinct but highly related concepts. Judge's theory of core self-evaluations suggests that they both strongly affect how people act and react in various settings (Judge et al., 1997).

DISCUSSION

My review is based mainly on theory and opinion, with only a small number of published empirical studies on the topics of interest. These mainly focus on perceptions rather than specific outcome measures and are often correlational in design. This has necessitated a more interpretative approach

to the literature, rather than a simple summarisation. A mind map of my approach to this literature search can be seen in Appendix 5.

The hermeneutic approach utilised has enabled me to conceptualise the potential effects of entrustment on the self-efficacy of clinical learners. This iterative process allowed me to draw purposefully on the wider literature in the face of limited relevant publications in medical education.

There are however limitations to the inferences I have made. For example - although we can hypothesise about the effect of being allowed to perform a task independently by considering it as providing self-directed mastery experience, we must remain cognisant of the context in which this responsibility is given (Ciancolo et al., 2011). Having to carry out a task purely due to lack of other trained staff on a busy shift and being asked to carry out a task because you are trusted are different considerations. As previously noted, trusting marks a willingness to assume risk in a relationship based on expectations of a positive outcome. However, trustees may not perceive this willingness or misinterpret the underlying intention of the trusting action.

It is interesting to draw parallels between the major determinants of self-efficacy and the factors involved in the development of clinical trust as described by Hauer *et al.*(2014) [Table 4.1]. This raises the possibility that the evolution of *trust in* a trainee is mirrored by the independent evolution of *self-efficacy within* the trainee - and that both of these processes are dependent on similar conditions.

DETERMINANTS OF CLINICAL ENTRUSTMENT (Hauer et al 2014)	DETERMINANTS OF SELF-EFFICACY (Bandura, 1994)
Supervisor **Supervisor-trainee relationship**	Social persuasion
Trainee **Task**	Performance accomplishments
Context	Vicarious experience Emotional arousal

Table 4.1 Parallel determinants of clinical entrustment and self-efficacy

CONCLUSION

My findings suggest that the interrelationship between being trusted and work performance and attitudes could feasibly be mediated via self-efficacy (Figure 4.2 – page 114).

Lessons for clinical training

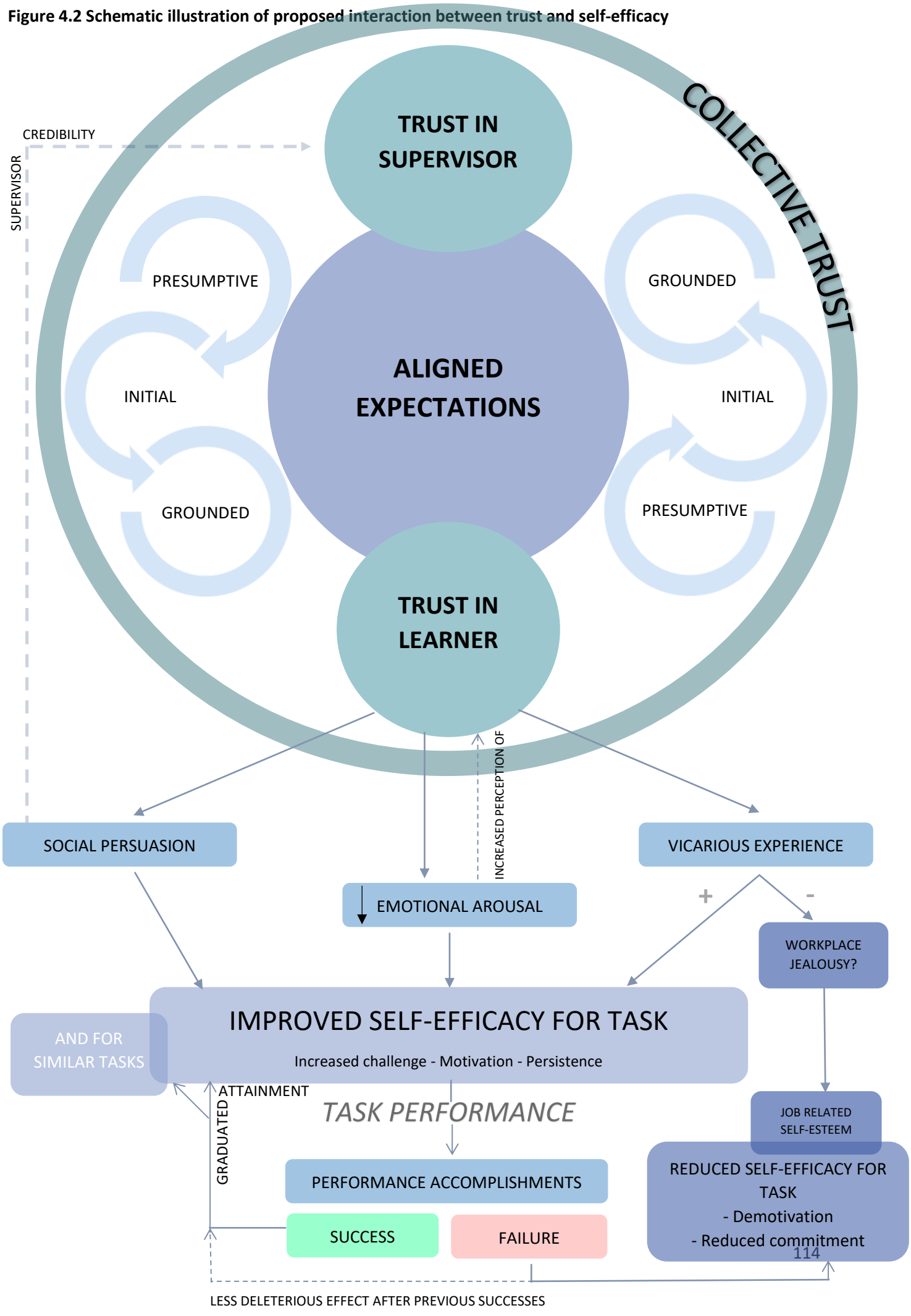
- Supervisors should express confidence in the trainee by fostering opportunities for the trainee which provide sufficient incremental levels of autonomy
- Too little autonomy may be comfortable for the trainee but could ultimately reduce their self-efficacy.
- Too much autonomy may also be problematic due to the potentially negative effects of initial failure
- Opportunities should therefore be judged to be just within the sphere of the trainee's competence
- As the trainee progresses and their self-efficacy beliefs strengthen, the supervisor may place them in situations of increased challenge
- Throughout, trainees must judge the supervisor to be credible and trust that they will provide both appropriate levels of autonomy and respond to requests for support.

Future empirical research is required in the domain of medical education to understand further the relationship between entrustment and self-efficacy and to operationalise the influence on its four major determinants. The effect of entrustment on emotional arousal and the effects of seeing someone else trusted with a task (vicarious experience) on learner self-efficacy remain particularly unclear - in terms of both strength and direction of effect. How the effects of trust on self-efficacy may be influenced by contextual, personal and interpersonal factors also remains to be explored – including the pressure to act independently. These factors may be of particular importance when considering the issues of trusting and training in the clinical workplace - the interplay between

professional training, pressures on service provision and primacy of patient safety being uniquely complex.

A body of literature exists which considers how entrustment decisions are made by supervising clinicians. However, within this literature, the process of entrustment is almost exclusively viewed from the perspective of the supervisor. Even when trainee factors are considered, this largely from the viewpoint of the supervisor with perceptions about trainee competence, attitudes, self-confidence and willingness to ask for help appearing to be major considerations in the supervisors' evaluation of trainee trustworthiness. The extant literature appears to frame the question as; how does a trainee show themselves trustworthy? Indeed, very little consideration is given to the perspective of the trainee. When framed in this way the question becomes; how does the trainee perceive the process of entrustment and what effect does this have on them?

Figure 4.2 Schematic illustration of proposed interaction between trust and self-efficacy



AN INTERPRETATIVE PHENOMENOLOGICAL ANALYSIS OF THE EXPERIENCE OF CLINICAL TRUST IN JUNIOR DOCTORS

INTRODUCTION

The previously presented literature review has drawn on different and varied literature domains to make inferences regarding how the process of clinical entrustment may be perceived by the trainee. However, utilising literature from other fields of study has necessitated some conjecture. It seems likely that there may be some concerns that are unique to entrustment in the field of medical training. Therefore, to develop the literature on clinical entrustment further, I have undertaken an exploration of the entrustment process, from the perspective of the person being trusted, in terms of supervision specifically in the medical domain.

For this research, I have focused on the experience of entrustment in the early stages of clinical practice – immediately after the transition to Foundation training. This was a conscious decision; clinicians at varying stages of their career are likely to have very heterogeneous views on the entrustment process. More senior clinicians will have interesting perspectives on the process of both being trusted and trusting. However, the aim of this research is specifically to develop our understanding of the experience of *being* trusted. The participants recruited for this research are the most junior members of the medical hierarchy; ergo much more likely to receive than give clinical trust. Their perspective on being trusted is therefore likely to be unique; relatively unadulterated by their experience of giving trust.

METHODOLOGY

This research explores the participants' experience of trust in the clinical environment and I chose to use interpretative phenomenological analysis (IPA) as previously discussed as an appropriate methodology.

Recruitment

To align with the IPA paradigm, a purposive sampling strategy was utilised rather than a probabilistic method. Participants were recruited on the basis that they could grant a particular perspective on the phenomena under study. They were recruited from the cohort of Foundation Year 1 doctors working in South East Scotland who were in post at the time of the study. The study was advertised by email and in person by myself at lunchtime teaching sessions for Foundation doctors. The commitment to a detailed interpretative account compels the use of small sample sizes and ultimately four participants were recruited.

Data Collection

Data was collected using semi-structured interviews which were audio-recorded. Each participant was interviewed during their first 4-month Foundation post to allow them to reflect on the process of transition and their understanding of 'being trusted'. This method of data collection was chosen to be consonant with the intimate focus of IPA on one person's experience. I could allow the participant the opportunity to speak freely and reflectively. This facilitated rapport and allowed flexibility in the dialogue when unexpected areas were highlighted and could be subsequently explored. This approach is more time-consuming to carry out than highly structured interviews or questionnaires, permits less control over the situation and is likely to be more challenging to analyse (Smith et al., 2009b). However, a particular strength of this method is that it generates the richness of data demanded by IPA. Interviews were chosen in preference to focus groups. This is not only because the interview process could potentially uncover some difficult and private topics for the interviewees but also because it may be substantially more difficult to adhere to the idiographic principle.

Participants were very busy with on-call shift patterns and therefore telephone interviews were considered as an alternative method of data collection if required. However, developing participant comfort and rapport may have been more challenging in this circumstance and could have significantly

affected data richness. Particular effort was therefore made to fit in with the participants' schedules and all interviews were conducted face-to-face.

Data Transcription

The researcher transcribed the interviews verbatim. Whilst this was a time-consuming task, it allowed thorough and rapid immersion in each personal account and an initial level of analysis occurred during this process – with preliminary thoughts on the participants' intended meanings being recorded. A verbatim approach was employed – in which all utterances including pauses, false starts etc. were recorded faithfully – to allow for a semantic level of analysis. Prosodic features were not specifically recorded in the transcript; prosody refers to elements of speech that are not individual phonetic segments but properties of syllables and larger units of speech such as intonation, tone, stress and rhythm (Jun, 2005). These features may reflect emphasis and focus; the emotional state of the speaker; the form of an utterance (for example – a statement, question or command); the presence of irony or sarcasm – or other elements of language not easily encoded by grammar or vocabulary choice. As a novice transcriber, I was not able to include these in the creation of the transcript. However, by carrying out the transcription process personally, I was able to listen and re-listen to the participants' speech and make notes on any striking or particularly pertinent prosodic features.

Data Analysis

IPA does not demand a specific structure of data analysis however this was undertaken using the model suggested by Smith, Larkin and Flowers (Smith et al., 2009b) and summarised in Appendix 6. This enables the exploratory coding of each individual transcript - in which an attempt is made to understand the content and complexity of meanings, rather than measure the frequency with which a topic is mentioned. This aligns with the philosophical standpoint of this research. Thorough exploration of each individual transcript was carried out and took the form of initial descriptive coding, linguistic coding, and finally conceptual coding.

Descriptive coding refers to initial notation and description of the basic content. This involves taking what participants' have said at face value and highlighting the objects that appear to structure the participant's thoughts and experiences.

Linguistic coding is concerned with participants' use of language. Here the analyst reflects on the ways in which content and meanings are presented. This involves, for example, consideration of word choice, pauses, laughter, repetition, fluency. Use of metaphor is a particularly powerful component of this level of analysis; metaphor often providing a linguistic device which links simple description to more complex conceptual codes (Smith et al., 2009b).

Conceptual coding refers to a third level of annotation and is more interpretative in scope. This often takes an interrogative form – in which questions are asked of the data that open up a range of provisional meanings. Each interesting feature of the participants' account may prompt further questions. This stage of analysis often represents a move away from the explicit claims of the participant – towards their overarching understanding of the phenomena under scrutiny. This takes time, trial and error and continual refinement of ideas, often involving an element of personal reflection. Constant annotation and reinterpretation in light of new understandings allows a Gadamerian dialogue between the analysts pre-understandings and newly emerging understandings of the participants' world. This circuitous and hermeneutic approach was felt to be more easily achievable by manual coding. All levels of analysis were therefore done by hand, rather than utilising a qualitative analysis software package.

Ethical Considerations

Participation in this study was voluntary and informed written consent obtained [Appendices 7A-7B]. Participants were informed that they were free to withdraw from the study at any point without discrimination. I had no concurrent clinical commitment and as such would not meet these participants in the clinical domain during the analysis period. It was therefore not possible for

participation in, or withdrawal from, this study to affect participants' clinical assessments or progression.

Recordings were deleted after transcription and stored electronically on a secure University server. Any potentially identifiable, non-crucial details regarding participants (e.g. country of birth) have been altered to avoid accidental de-anonymisation; all written work based on this data has utilised pseudonyms. Confidentiality was maintained throughout. Maintaining confidentiality and anonymity of participants in presented results was vital to allow participants to speak openly without fear of repercussion. However, participants were informed that if any clinical information was divulged which led to patient safety concerns the researcher would be obliged to communicate this to a responsible member of staff within the NHS (i.e. the participant's Educational Supervisor). This condition was made clear to participants prior to obtaining their consent. This situation did not, however, arise.

This research topic had the potential to be emotionally challenging for participants. In the event that a participant revealed that they required further support a contingency plan was made; a professional separate from the study was available if participants wished to seek confidential support. Approval for the recruitment of doctors in training was discussed with and waived by the NHS Lothian Research Ethics Committee. This research was reviewed by the Academic and Clinical Central Office for Research and Development (ACCORD) which is a partnership between the University of Edinburgh and NHS Scotland and approved.

Quality Considerations

This idiographic approach undoubtedly constrains the generalisability of findings. However, the aim of this research is to demonstrate the reality for *these* people in *their* context and therefore transferability, rather than generalisability, is the research goal.

IPA has often been maligned as a non-rigorous research methodology (Brocki and Wearden, 2006). The completeness of data collection and analysis depends on the adequacy of the sample – in terms

of ability to supply all the information needed for comprehensive analysis and completeness of interpretation. This should address all of the variation and complexity observed and will require prolonged contemplative exploration of the topic (Yardley, 2000). To evidence this rigour an additional auditor reviewed the analysis – not for the purpose of imposing their own interpretation but to check for discrepancies or overstatements.

Transparency was maintained by detailing the aspects of the data collection process and rules used to code data. Excerpts of the textual data have been provided and the analysis is grounded in examples. This allows appraisal of the fit between the data and the authors understanding of them; also allowing readers to conceptualise possible alternative meanings and understandings (Elliott et al., 1999).

As previously discussed, the findings of this type of research are also likely to be influenced by the experience, assumptions and intentions of the researcher; in fact they are expected to be. Whilst this is a fundamental aspect of IPA, it remains important to be openly reflexive on the researcher's position – how this may change during the research process and how it may affect the product of the research (Hopkins et al., 2017). To that end descriptions of theoretical orientation, personal values and assumptions were recorded in advance and detailed field notes kept during the data collection and analysis phase.

PERSONAL REFLEXIVITY

As a clinician, I have personal experience of being a newly qualified doctor. And a conception of how feeling trusted (or not) has affected me as a clinical learner. The lasting effects of these experiences undoubtedly encouraged my choice of research topic and influenced how this research was framed. The questions asked – and perhaps how they were posed – were unavoidably affected by my previous experiences and preconceptions. As was my response to the participants' interpretation of their experiences. IPA accepts that the researcher has a dynamic and active role in the research and that the fore-structures they bring to the development of the research and interpretation of results cannot be bracketed(Smith et al., 2009b). They must therefore be acknowledged. I personally found transition

to being a new doctor very challenging. A more detailed account of my own foregrounding in this area will now be provided and discussed reflexively.

Cormack (2000, p.322) asserts that researchers are shaped by their "experiences of the particular time and moment of the world in which they live". This account of my beliefs and values and my occupational and personal history provides the 'historical horizon' through which I began to interpret my participants' narrative of their experience. In providing this reflexive account, I aim to acknowledge that my own foregrounding and shifting assumptions have influenced the entirety of this work - from initiation to completion. Moreover, I aim to reveal to the reader *how* these influences might have come to be manifest.

As the daughter of two doctors, I have always been aware of the level of commitment required in a medical career. I have watched them working hard for others for my entire life. I was always very proud of them and their selflessness, their work ethic. I was proud that they had such responsible jobs, such knowledge and such skill. As I grew up, I was increasingly aware of the trust that they were conferred, by virtue of their occupation. I expected being a doctor to be a difficult job. I was aware that some sacrifices would have to be made. And I expected a lot of responsibility. There seemed to be a pride in being able to cope with this, in being trusted to be responsible. I wanted to earn that type of trust too. I think I almost looked forward to proving myself worthy of it. But I don't think that I ever really considered how it would feel once I was given it.

I attended the local comprehensive high school: it became clear here that it was not cool to work hard. However, by then I was beginning to settle on my choice of career and knew – from parental example – the level of hard work required. And I wasn't going to be put off. I worked really hard, sometimes too hard and sometimes flirted with burn out. I think I could have relaxed a bit and still done well. But doing well was never enough – I always had to be the best I could possibly be. I wrote and rewrote screeds of text. I had sticky notes of important facts all over my mirror. I had a reasonably good memory and exploited that: I was a master of rote learning. It was exhausting but it seemed to work for me – the resultant success reinforcing an innate streak of perfectionism.

This perfectionism has followed me throughout my subsequent studies and career – coping with it will be the work of a lifetime. I applied for and was accepted into medical school. I worked hard during the first term but did feel a bit adrift. I tried to apply my previous learning strategies but struggled. When we had a midterm exam in the first autumn term I did less well than expected and didn't react well. This was everything I had ever worked for and what if, after all that, I couldn't do it? What if people finally realised that I wasn't actually that smart, that I didn't really deserve to be there? I still intermittently struggle with this feeling of being an impostor.

Impostor syndrome was first described in 1978 by Clance and Imes in their work with high achieving women (Clance and Imes, 1978) although it has subsequently been described across gender, culture and occupations (Sakulku and Alexander, 2011). It is defined as a feeling of intellectual phoniness in individuals who are highly successful but unable to internalise this success (Clance and Imes, 1978). It is linked to perfectionism (Dudău, 2014) via the "imposter cycle" (Clance, 1985). Ostensible "impostors" believe that every task must be done perfectly and this leads to two typical responses: extreme over-preparation or procrastination due to a fear of being unable to perform to a sufficiently high standard - followed by a last minute frenzy of effort. When they do succeed, they begin to believe that their success is not due to their talent or ability but due to these contortions. Thus, the imposter cycle becomes one of success and positive (or perhaps negative) feedback and results in almost superstitious beliefs regarding what needs to be done to achieve success (Weir, 2013). This description is uncannily accurate of my approach to life and work.

I commenced work at the age of 23 as a Foundation doctor in August 2010 in NHS Greater Glasgow and Clyde. My first job was on a gastrointestinal medicine ward. I think the previously-discussed tendency to perfectionism was one of the factors that made the transition from student to new doctor difficult for me. The clinical workplace is often a chaotic environment: patients, their priorities and their physiologies do not always conform to expectations or to textbooks. There is little black and white – only a large expanse of grey. There often isn't a perfect choice to make, a perfect management

strategy: clinical decisions often just have to be the best possible decision in complex situations. This can be a difficult arena to work in when one has a tendency towards perfectionism – particularly when the stakes are high.

On my first weekend shift – 3 days after commencing my first job and before I had taken my jacket off – I was asked to see a patient who was significantly hypoxic[1]. I was very nervous about being asked to review someone who could, potentially, be extremely unwell. Indeed – it was an elderly lady who, you could tell at first glance, was very sick. One of the tests indicated in this situation is an arterial blood gas (ABG) which requires a needle to be inserted into an artery – usually the radial artery at the wrist. This can be a painful procedure for the patient and I was anxious about performing it, having only performed a few successfully as a student. After a few unsuccessful attempts, I was increasingly flustered and the patient was becoming increasingly unwell. However, I did not feel that I should ask for help. I was the doctor now and I ought to be able to deal with this. And I felt all the weight of that entrustment. In hindsight now, I feel it would have been completely appropriate to have asked the on-call senior doctor to help me assess this patient – however at the time I thought that I ought to be able to carry out the entire assessment - perfectly.

Whilst I struggled with this responsibility – I do remember instances where I perceived a level of trust from an individual senior colleague and this had a positive impact on my belief in my ability to manage a situation. Towards the end of my first year of work I was on night shift with a senior colleague who was imminently about to finish training and become a consultant. I was asked to see an elderly patient near the start of my shift who had become septic and was deteriorating rapidly. I made my initial assessment and management plan and – given how sick she was – phoned my senior to ensure that I was doing the correct things and for his review of the situation. He surprised me by saying that he was not going to come and see her for two reasons. The first being that he believed I was doing all the correct things and he trusted that I had not missed anything. I remember this conversation clearly and

[1] Hypoxia: insufficient oxygenation of the tissues

I remember the effect those words had on me. I felt a settling sensation: I was being trusted – therefore I was trustworthy. And, therefore, I could continue to deal with this difficult situation. In that moment, I felt my shoulders drop and my anxiety about performing perfectly begin to recede. The second reason for his non-attendance was equally interesting - he was soon to be a consultant and out-of-hours would be on call for home. He therefore felt it important to practice trusting what junior colleagues told him over the phone. The sepsis affecting our patient that night ultimately proved to be overwhelming and rapidly became a terminal process. To my surprise however, when she died, I didn't feel like I had missed anything, or like I should have done something differently. And I believe that this sense of calm regarding the situation and my handling of it came, in part, from the understanding that I had been explicitly trusted. Whether or not he thought I had managed the situation "perfectly", it was trusted that I would manage it safely.

I am currently 34 years old and am now undertaking specialty training in Obstetrics and Gynaecology in the South East of Scotland. I am six-and-a-half years through seven years of training in this high-pressure specialty that incorporates elements of both medicine and surgery. Training in this specialty requires the ability to manage a labour ward and to make rapid, time-pressured and high-stakes decisions. Out of normal working hours, I am often the most senior doctor in the building with training in this specialty. I am passionate about my job. However, I do find this level of responsibility stressful at times. As you move through training the amount of responsibility given to you increases quite rapidly – sometimes it can feel exponential. I have never been allowed to rest at any one stage of training for more than a short period. As soon as I was comfortable with that level of responsibility, it was time to increase it again. Part of the reason why I wished to take time out to do an extended period of research was that I was exhausted by, and interested in my response to, this relentless push to increase my responsibility.

RESULTS

INTRODUCTION TO INDIVIDUAL PARTICIPANT ANALYSES

In these analyses, I have used pseudonyms rather than letter/number identifiers for each interviewee to aid readers in following individual accounts of lived experience and in navigating the analysis (16). There were three female and one male participants. All were White British or European and graduates of UK medical schools, progressing through their degrees without resits or interruptions. Demographic details and noteworthy individual characteristics are summarised in Table 4.1.

All participants were based in surgical wards for their first FY1 post. Two participants had previous experience of qualitative interviews – Max as a researcher and Kelly as a research subject.

Participant Characteristics			
Pseudonym	**Sex**	**Age (years)**	**Noteworthy contextual features**
Rosie	F	23	Undergraduate degree from non-Scottish UK medical school
Kelly	F	23	Intercalated BSc in Medical Education
Max	M	23	Intercalated BSc in Biomedical Science; Academic Foundation Programme
Anna	F	31	Graduate entrant to medical school with a PhD

Table 5.1. Demographic data for study participants and any noteworthy contextual features.

To do analytic justice to each individual participant and to provide detailed contemplation of their accounts, whilst abiding by the required word limits for this thesis, I have found it necessary to present the results of each individual analysis in Appendices 8A – 8D. This has allowed me space to really present them as individuals and to adequately consider my own shifting assumptions and preconceptions throughout the research process.

Whilst reflexivity is “woven through the ontological and epistemological framework” (Doyle, 2012 p.252) of this research, it is also important to recognise that it is “alive in the moment-to-moment interactions between researchers and research participants” ” (Doyle, 2012 p.252). Spence (2016) describes this as a process of contemplative thinking and questioning that requires continual reflexive engagement throughout the research process. Therefore, the analysis of each of my research interviews is prefaced with a personal account of my preconceptions of the imminent interview and the participant – along with consideration of the possible effects on the interview process. Consideration was subsequently given at the end of each interview of how my understanding of the participant and their experiences – and therefore my conception of the phenomenon of trust as a whole – may have been altered by the interview. In this way, I navigated the hermeneutic circle. I also attempted to consider critically and to delineate how my previous experiences may have influenced my interpretation and presentation of the data.

I therefore present the superordinate themes here which rose inductively through the data as I considered and reconsidered the accounts of each individual participant. Rather than make claims about the objective nature of the reality of entrustment, my aim has been to approximate an understanding of an individual’s subjective experience. This was done in the hope that it may illuminate some of the essence of the entrustment process from the perspective of the trustee - which may help us improve preparation for future medical graduates.

Superordinate Themes

Conceptualising clinical trust

"It's just like, it's there and I deal with it" (Max)

Participants found it difficult to define trust in the clinical domain. All described situations where they had been left to work unsupervised. However, this was rarely equated with an implied message of trust, more a feeling of being *"dropped in the deep end"(Rosie).*

In his thoughts about being trusted, Max explicitly delineates the difference between being trusted and simply being left alone to get on with things - because you have now graduated from medical school and it is your job. *"well…see I'm not sure I'm explicitly trusted, is the problem. You know, I'm on the ward and I deal with any issues that crop up. And in a way I'm trusted to do that. But it's not like anyone is saying, "aw…you can do that…" and patting you on the back. It's just like, it's there and I deal with it". (Max)*

In this excerpt Max initially appears to admit that being left alone to carry out clinical tasks could be interpreted as an expression of trust. However, the use of the phrase "And in a way..." gives the impression that he is not convinced of this; that he is questioning his interpretation. The sarcasm inherent in his subsequent sentence continues to throw into doubt how much he really believes this to be an expression of trust. Indeed, the mocking tone he employs suggests that he feels needing that explicit expression of trust or a "pat on that back" would be childish. There are similar moments which run through Max's entire narrative: he is the doctor now, an adult, and he deals with things.

Kelly seemed the most able to perceive implicit messages of trust. She used the metaphor of family when describing the trusting relationship she had with her clinical team, positioning herself in a child-like role, reliant on the initial support of her seniors.

This differed somewhat from Rosie's friendship analogy which depicted trust – certainly initial trust – as fragile and conditional:

"…for example when you first go to university and you're a fresher you're kind of constantly on edge during your first term because you've made friends but if you say something or do something that your friendship group is like "eh that's a bit weird" you might not be friends with them anymore. Whereas if you've been friends with someone for 10 years and then do something that they don't like, you're not going to stop being friends just because of that one thing…"

This processual account of increasing trust mirrors that described by ten Cate *et al.* from the supervisor's perspective, where there is initial *presumptive* trust on first meeting a new trainee and which is based solely on reputation and/or qualifications. First impressions and appraisal of the trainee then allows the supervisor to move to a stage of *initial* trust and ultimately to a point where trust is *grounded* in prolonged experience with and observation of the trainee (ten Cate et al. 2016). Inherent in this model is the passage and importance of time. Regardless of the different metaphors employed when describing the trust that exists within a clinical team - and the different levels of conditionality on which this is based - participants agree that time was required for it to develop.

An important mutuality to clinical entrustment relationships was also apparent in Anna's description of her relationship with nursing colleagues.

"Interviewer: Do you think it helps with your relationship with your nurses….that you obviously respect and trust their opinion?

Anna: I think so….I hope so. Again, it becomes a fine line then between this and them just telling you what to do. Which again needs to be balanced em…but then when they tell you what to do….I don't mind questioning it…in a nice manner. Not in an accusatory manner, in a curiosity manner. More like "oh…interesting…I wasn't aware of this. Why would you do this?" That sort of way. Rather than "well…why would I do that?" if you see…if you see, see the difference. Yeah…I think, I think it helps because they're absolutely…they can…the nurses are your allies. There's no reason for them not to be."

Anna's use of the word *"allies"* at the end of this excerpt is illuminating. It has militaristic connotations - thus raising the potential for enmity. Anna was suggesting that she avoids obvious displays of mistrust because there is a possibility of nurses becoming an enemies – rather than an allies – and highlighting the potential for antagonism. However, she was open to their help and criticism and felt that her trust in their experience and opinion aided the development of their trust in her.

This importance of this reciprocity in terms of trust is underscored by its very absence in Max's relationship with his colleagues. The nursing colleagues with whom he works are also often treated with derision. He describes not trusting them to ask for his review of a patient at an appropriate moment - becoming condescending in his manner. *"*laughs* But equally the nurses don't call you when…they're really unwell and you just find out when…"* The lack of mutual trust in his relationship with his senior surgical colleagues was highlighted in an anecdote regarding a patient with a persistent headache. The surgeons did not trust his opinion regarding the nature of this headache. In turn, he appeared to lack trust in his seniors understanding of medical conditions. This situation ultimately becomes frustrating for Max and leads him to often treat his senior surgical colleagues with sarcasm.

Interestingly, the concept of responsibility was referenced separately from entrustment. *"I genuinely feel it…it is not a huge deal responsibility" (Anna).* Whereas Anna does not see that her job involves a huge amount of responsibility, Max repeatedly references this as a theme and describes the importance of actively taking responsibility. So both Max and Anna reference the concept of responsibility, separately from that of entrustment, however the ownership of this responsibility seems to be interpreted differently. Anna does not feel that she is being given responsibility, whereas Max is actively taking it. Max appears to have moved past the need for an explicit message of trust. He now conceptualises himself as actively taking responsibility for clinical tasks - rather than passively receiving trust. *"Em…so I think….I'm not sure trusted is the right word. It's just…I guess it's more responsible than having something entrusted to me. *pauses* And often, actually that again is my own initiative, rather than anyone telling me."*

This is not the only instance of the terms "trust" and "responsibility" appearing to become conflated or, perhaps, variously interpreted. Referring to my own reflexive exposition at the start of this chapter, I often conflate these two concepts. Rosie however seems to distinguish between these concepts. She does not appear to have perceived that she is being explicitly trusted in her new role. However, she does describe the sudden upswing in her level of *responsibility* and the resultant impact on her confidence (as she describes it) and her perseverance with a potentially difficult task. *"Whereas as a doctor, you can be like…"I am the doctor. It is my job" And then even if you don't get the blood the first time or something then it's like "oh…sorry I need to give it another go." Umm….so I do have more confidence now…um…"* Carrying out a task that falls under the remit of her professional responsibility has changed her attitude towards herself. It is interesting that she states that the responsibility has improved her confidence – not by affecting her self-appraisal of her actual ability and chance of task success – but by legitimising her presence on the clinical team.

Rosie expands on this theme of responsibility and identity. She talks about the responsibility that comes with becoming a qualified doctor, the expectation that you will identify yourself in an out of hospital medical emergency, and the responsibility to embody particular professional attributes including honesty and respectability. Indeed, she explains that this is not only the case in a professional sense: she feels that these expectations follow her into her personal life and inform her behaviour. Indeed, her entire conception of herself and her identity seem to be affected by the responsibility of being a doctor.

In summary, it would seem that the participants do not really feel as though they are being trusted on an individual level. They do however feel a level of responsibility which can have an impact on their professional identity. They certainly seem to feel that any initial trust is based more on trusting the systems that have trained and graduated them – rather than based on any assessment of their individual abilities. This highlights the processual development of trust which is reliant on the passage of time and shared experience. The importance of mutuality of trust is an additional dimension in this

process. Demonstration of a reciprocal trust seems to be beneficial to the clinical relationship for these participants and can, indeed, lead to a self-perpetuating cycle where the clinical team become a stronger, more coherent democracy. Importantly, without this reciprocity, contempt and condescension may develop – as is clearly seen in Max's account.

Moments of trust and mistrust and the effects on self-efficacy

"And it (pause) that really made me feel undermined and like I wasn't trusted. And then, you know, it kind of affects your judgements."(Rosie)

Participants varied in how they appraised their ability to perform a clinical task and consequently in their response to episodes of both perceived trust and mistrust.

Both Rosie and Kelly appear to derive their belief in their ability to carry out a clinical task from almost entirely external, persuasive, factors. When asked to determine the factors that help her develop trust in herself, Rosie consistently provides examples of the opinions of others. *"….because the people around you affect your…your opinion of your abilities so much and if another person believes that you can do it then that kind of builds on your own personal trust in yourself that you can do it…."* She uses the nurses' appraisal of the situation – citing their greater clinical experience as the reason why she can trust their judgement, linguistically stressing her otherness from these experienced clinicians here by repeating the third person plural personal pronoun "they." *"Yeah…umm…I think a big part of it for me is how the nursing staff react to the patient. They're really experienced so if they look like, they're a bit like you need to….something needs to be done – I'd trust their judgement. A lot. They've been around a long time, a lot of them are very experienced, they've seen a lot."*

Rosie describes significant effects when she perceives episodes of trust. When a consultant displays trust in her opinion regarding a patient who is unwell and in need of urgent attention – she describes a positive effect on her self-efficacy. Her response to perceiving trust from a more senior colleague appears to be interpretable as - if this person trusts me, then I must be trustworthy. Contrastingly, when Rosie describes an episode of perceived mistrust from a nurse – she describes an overtly

negative effect on her ability to trust herself and security in her clinical judgements over a short period of time. *"Like I did double check with my F2 a couple more times than I would have previously I think over the next couple of shifts. Umm…."* Whilst she describes these effects as only lasting over the subsequent few shifts - her extensive description of the scenario left the impression that this encounter, and the perceived injustice of it, was still playing on her mind. She gave a very detailed description of the clinical scenario to the researcher – which almost appeared to be a tacit request for approval of her actions, sustaining the suspicion that perceiving this mistrust has created lingering reverberations in her self-belief.

Kelly was also reliant on the influence of both nursing staff and patients:

*"Em…I think as long as the patient is happy *laughs* for me to do stuff…em…I think it's more of necessity than anything else if I know it needs done, there isn't going to be a reg(istrar) around to supervise. And like generally I think the nurses have seen most things be done on the ward as well like so if I'm like, I can like, like talk through it with them."*

Her self-efficacy appeared contextualised and influenced by necessity – the marked hesitation and speech dysfluency in the extract underlines how she was not at all sure of herself. There is a sense that Kelly feels as though she is only efficacious in *this* context, with *these* people surrounding her. Like Rosie, reliance on a single source for self-efficacy appears to lead to insecurity in her clinical judgement.

In quite a stark contrast, Max appears to derive his self-efficacy entirely from internal sources. Given the emphasis he has placed on the importance of taking responsibility (rather than being given trust) and the lack of trust he appears to have in his clinical team it is perhaps unsurprising that his source of self-trust appears to rely little on the persuasion of others. When asked specifically how he determines whether he is going to be able to deal with a clinical situation, he considers the question briefly and then replies that he feels that he thinks it is down to having seen and dealt with a similar situation before. In Bandura's self-efficacy framework this would be referred to as "performance

accomplishments" and is described as one of the most effective ways of building belief in one's future ability to carry out a task. In fact - the overwhelming feeling from Max is that he relies on his own performance accomplishments. *"But again, I went, I recognised there was this issue, took a thorough respiratory history, made sure in myself that I was justified in making the referral and then went and phoned knowing that I had all the information to hand. But there's a confidence there in that….I knew what to ask."* He does, however, betray small instances where his trust in himself is less steadfast - or perhaps where he feels the weight of the responsibility. As a student he could rely on help from the junior doctor. However as time pressed forward and he was closer to *being* the doctor responsible for a task he was aware of a sneaking sense of doubt. He describes this in relation to struggling to obtain a specific type of blood sample. *"And also, creeping in at that point, the feeling of "okay just now if I don't get this I have a handy FY1 hanging around outside." Em…whereas now if I don't get it, it's like a big deal. I need to go and get someone else."* The use of this word "creeping" is suggestive of how Max experiences this feeling of self-doubt. It sounds surreptitious – almost malign. This quiet feeling of doubt steals up on him and has the potential to undermine him.

Indeed, when allowed to take hold, self-doubt can have a significant impact on Max and cause him to experience a vicious circle of panic… *"And I was like "oh my god…if this is….I've got two days…and I can't take bloods any more. What's happening?""*

His sense of alarm is palpable here – invoking an entreaty to a deity – and ending on a panicked question. He is disbelieving, unsure of what is happening to him and his clinical abilities. This admission appears as a slight chink in his armour of self-assurance; it leads to some suspicion when interpreting his confident external persona. It also suggests that a source of self-belief which is entirely independent of others can be potentially problematic when he does find a situation difficult. Max does not rely on external or contextual factors for his self-efficacy. Therefore, when he does doubt himself, or fails at a task, it seems to have a significant effect. His sense of self and his sense of his ability cannot be propped up by others belief in his ability. When he succeeds, he succeeds because of his own merit.

But conversely, when he fails, it appears that he interprets this as because of his own inherent failing – and he panics.

While Anna also referenced the importance of performance accomplishments, she was less certain in her use of this approach when learning to trust herself with a new task:

"I oscillate between "I wish I could do more" and "it's not bad to have someone to check over things"….I think the problem is I'm not really sure how I feel. It depends, from moment to moment. It depends, from moment to moment."

She outlines a conflict between taking on more responsibility and the reassurance of close supervision. Her repetition emphasises the changeability of how she feels around her dilemma. She was clear however that she did not want to end up in a situation where she had not progressively tested her herself with new tasks:

"I also don't want to fall into the trap where I just don't think at all and I just run everything past and I'm afraid to make any kind of decisions. Because F1 is going to finish. And then I will be supposed to make some more decisions. So…so I don't know. It varies how I feel about it."

It would seem that Max relies almost entirely on performance accomplishments for his sense of self-efficacy. Indeed he also relies on himself to create the opportunities to test his performance accomplishments. This heavy reliance on the self can however be problematic because he becomes very susceptible to failure. Conversely, Rosie and Kelly are very reliant on the persuasive elements of self-efficacy - those which Max eschews. This is also apparently problematic because it limits their self-efficacy beliefs to very particular situations and does not allow them to translate their successful experiences in one situation to increased self-efficacy in a related situation. Anna's self-efficacy beliefs appear to mainly develop from the internal appraisal of her performance accomplishments; where this is not possible she relies on the more external source of vicarious experience. Perhaps it is this balance which gives Anna the appearance of the most composed participant.

IMPORTANCE OF GRADUATED ATTAINMENT IN DEVELOPMENT OF SELF-EFFICACY

Anna's sense of self-efficacy seems to rest mainly on knowledge that she has had previous experience of (and perhaps success with) a task and that other, similar people have managed this role. Both of these factors are to be found in a clinical apprenticeship. Anna regularly mentions the positive impact of her student assistantship; a six-week apprenticeship style clinical block during which students are asked to act as a Foundation doctor. This exposure appears to have been very important to Anna – particularly in terms of allowing her opportunities to experience success at relevant clinical tasks.

"Everything else I've done before and I think it really comes back down to that. That you get the training in med school. And again I can't stress how good the assistantship…I thought the assistantship was for like those types of task. Like things you'll actually be expected to do in F1. I think that's why you know you can do it….because you've done it before." She finishes on this simple, well-balanced sentence which reflects the clarity with which she thinks about this.

Anna is aware that she has had a very positive educational experience during her assistantship – whilst other people may have had disparate experiences and varying degrees of engagement and success. She is of the opinion that the success of this experience is very dependent on the doctor to whom the student is attached. *"Yes…yes. I do have to say though…I think the assistantship very very much depends on the person you are shadowing. Very very much. Not necessarily…not the ward. I mean it's great to be on a surgical ward and start with a surgical job. But it so much depends on the person and I think I got very very lucky. It's not the hours you put in. It's just really the quality."* The vehemence of this opinion being underlined by her multiple repetitions of the word "very". Again, she repeats that the success of this clinical block does not exclusively rely on the amount of time spent actually working on the ward. It can be flexible and customised to the learners needs. Anna found this lack of pressure to be helpful and became more engaged in her learning experience because she had more control over it and could approach it gradually. She was trusted to use the time to her best advantage and this gradual incremental independence worked well for her.

This stance and the importance attributed to apprenticeship is echoed by Max. He describes the importance of observing people in their role and the value of what can be learned from this hidden curriculum. Unfortunately, he feels that this aspect of undergraduate learning is seriously undervalued. *"And I think that's a bit that we undervalue. Em…and that we don't support properly."* He appears to feel that this aspect of learning is often overlooked by medical school; that any exposure he has had was generated by himself. Max feels that students are given this type of incremental responsibility very infrequently and that it is, consequentially, easy to shirk. When starting work, the resultant sudden upregulation in responsibility makes the leap into clinical practice even more challenging.

However, Max tells us that he specifically manufactured opportunities to increase his level of responsibility. *"There was one ward round where I just insisted on writing in the notes for every patient. Just to get the experience."* Not only did this provide him with experience – this experience gave him trust in his ability to do the job prior to commencing work. *"And actually…..you know, in a way….just prove to myself that I could do that."* He also describes actively seeking out opportunities to perform specific clinical tasks. For example, he was concerned about taking an arterial blood gas (ABG). *"So I did every ABG that came to me and my FY on that ward and some for other FYs. To get good at them. And then I was glad I did because in my first week of work I did, like, six. But it meant that I got all of them. Whereas I wouldn't have if I hadn't sought that out."* Max appears to have felt that these opportunities were entirely self-generated; a matter of actively seeking opportunities – rather than being passively given them. This echoes his thoughts on taking responsibility versus being given trust.

All of the participants therefore see the benefit in graduated attainment and apprenticeship, irrespective of the derivation of their self-efficacy.

EXPRESSING AND CONCEALING: FEAR AND SELF-DOUBT IN THE ROLE OF DOCTOR

"If you're the doctor and you look panicky, everybody panics and it all goes to shit. Like, even if you don't know what's happening you have to look like you know what you're doing. You have to have a plan" (Max)

Each of the participants describe moments of fear or self-doubt. Rosie admits to feelings of impostorism or panic and then immediately undercuts these by laughing at them. She talks about having ongoing intermittent concerns that she is not really capable of successfully carrying out her job. This feeling of being an impostor underlies a large proportion of her interview and is communicated through her use of language *"…sometimes I do feel like I'm getting away with it and one day (pause) I'll get caught that I haven't quite been doing it right."* Whilst this could be construed as quite distressing, Rosie's notable use of laughter at incongruous points seems to be utilised to minimise this. This often left the impression that Rosie was trying to imply concern or worry – but not doing so overtly.

Kelly currently finds the prospect of her next transition "scary" *"Em…so I think it's just the uncertainty and unfamiliarity of it that makes it a bit scary. So I'm going to get such a fright when I go to *tertiary hospital* next block."* and anticipates that she will feel "frightened" when she is moved to a different type of hospital. This use of language and, in particular, the application of this language in past, present and future tenses (she was; is scared; will be scared) conveys the impression that her sense of fearfulness is persistent, pervasive. Kelly also intermittently uses words that convey an even more graphic sense of fear: she talks about anticipating terror, expecting horror, predicting disaster.

*"Em… so yeah..I think because I've not had the **terrifying** moment of "oh my god this patient might actually die" yet."*

*"I think like I've not had the **horrendous** situation where you get to the patient and they just look like death."*

*"My boyfriend that I live with is actually on nights just now for the first time so I'm just waiting to hear all the **horror** stories he'll tell me."*

*"We've not had any massive **disasters yet**."*

Kelly employs further imagery when she discusses how she thinks she will cope with being put into different, less supported situations in the coming weeks.

*"You'll see me in like 3 weeks and I'll just be a mess on the floor somewhere *laughs* *laughs*"*

She describes herself as being "a mess on the floor somewhere…" This image of "a mess" could be interpreted quite literally: a senseless, amorphous mass of matter. And the addition of the word "somewhere" suggests that sense of space and direction are totally lost.

Kelly provides us with several predictions of vivid and somewhat concerning images regarding her ability to cope with difficult situations in the future. She then laughs, takes a breath, and then laughs some more. Perhaps she is laughing to signal that she is not truly serious about this prediction. Perhaps she is using this laughter to mitigate her vulnerability - by expressing it as an absurdity. She is speaking an uncomfortable truth but perhaps an inevitable one and it is better to laugh at this than to cry. Perhaps she wishes the listener to move past this – not really wanting to admit to it. Perhaps she wishes that the listener will realise the depth of her worry, without her having to overtly and seriously admit that she is scared.

Certainly, both Rosie and Kelly appear to be trying to downplay their feelings of panic or fear using laughter. Unfortunately, this has made it stand out all the more; and suggests that, at times, they are putting on a performance to conceal their troubling emotions.

Max quite clearly describes himself as in the "role" of the doctor and alludes to this requiring an element of performance. Superficially, this seems to be for the benefit of the rest of the clinical team and the patient; everybody can remain calm because somebody who looks like a doctor, who dresses and acts like a doctor, is here to sort out the situation. He describes using the act of taking a pulse to

place himself into the role – because it is a recognisable action of the doctor. He laughs at this admission and then immediately follows it up with a request for understanding from the interviewer - *"*laughs* Right?"* This gives the impression that he is seeking approval – or least understanding – of this strategy.

The above discussion of performances and the importance of appearing in control of a situation raises the question of whether Max is currently putting on a performance in the interview. Perhaps then, there is more uncertainty to Max than meets the eye? That would perhaps explain his frequent tone of self-assurance and bravado. He reiterates the point that he feels the need to look like a doctor: that even if he has made a decision rapidly about the best course of action, he feels the need to play out the situation appropriately. *"I'm kinda thinking "he's already on antibiotics for his wound infection, I'm not going to change anything here". But I'd made that decision pretty quickly *snaps fingers*. I just needed to look doctor-y about it (pauses) and obviously you do need to be thorough."* I also wonder if he is at times using this action to convince himself that it is right that he is in this role and capable of managing this situation. This notion is conveyed by the questioning way he has asked for understanding (*"Right?"*) and how he then trails off at the end of this excerpt. *"So (pauses) so (pauses) yeah."*

A layer of artifice appears to permeate the first three interviews. All appear to be expressing fear or self-doubt at times. And all appear to be trying to disguise this in some way. Anna – chronologically the most mature of the interviewees has an interesting dual response to the idea of putting on a performance of capability. This is dependent on her audience. She feels that she does not put on a performance for colleagues; if she does not know something, she admits to it. *"As I say I was maybe worried in the beginning that they'd think I was completely incompetent. But now I just don't care. Because the bits that are important I do them and I take charge. So I try not put too much on appearances because I don't think it gets you anywhere. So yeah…."*

However, she feels differently about patients. For them, she feels that there is benefit in maintaining a calm exterior – even if you are panicking inwardly about the clinical situation - using the analogy of an aeroplane going through turbulence. *"Because…it's the same if the plane going through turbulence…all of us feel a bit queasy. But if you see the flight attendant just walking along the corridor, doing their job – you're just more reassured."* She therefore feels the need to remain calm for the benefit of the patient. However, she seems to feel that this is more to do with providing a therapeutic experience – rather than about maintaining their trust in her.

Whilst the participants deal with these in various and individual ways – there seems to be a common thread running through the series of interviews: at times, they all seem to be keen to downplay their fear. The motivation for doing so seems to vary, as do their particular tactics.

DISCUSSION

My participants' experiences have begun to give some insight into the variable determinants of self-efficacy beliefs in individual clinical learners; in particular, over-reliance on a single determinant appears to expose these new doctors to specific vulnerabilities.

It perhaps seems intuitive that being trusted would have an impact on self-efficacy. However, there is little published evidence to support this relationship in an educational context. A single study in trainee teachers in North America reported a significant positive correlation between level of measured trust in their mentor and self-efficacy (Celano, 2009), although the relevance of this to clinical entrustment warrants further investigation.

Having considered their accounts, the interviewees in this research rarely interpreted being left alone to undertake a task as a statement of trust. And, therefore, did not find this reassuring in terms of their self-efficacy; rather inspiring feelings of concern, impostorism and need for concealment. This is at odds with the findings from a survey of residency trainees in the US, where supervisor trust was readily identified and valued (Busari et al. 2005). This may be explained by our FY1 participants being relatively younger than US residents or being at an early stage in their postgraduate training.

The process of clinical supervision might therefore be usefully enhanced by more explicit articulation of expressions of entrustment to trainees, or by formally incorporating entrustment into assessment processes. Such measures may ground trainees more in their self-efficacy, providing them with a foundation from which they can accept or create opportunities to challenge themselves and develop their inventory of performance accomplishments. Indeed, this may prove to be one of the major benefits of EPAs. Perhaps explicit expressions of entrustment would also go some way to reducing the fear and doubt which was so palpable in these new doctors lived experiences.

Mutual trust between supervisor and trainee seems important to these FY1 doctors, as it is for surgical residents in the US (Torbeck et al, 2015). Interestingly Olmos-Vega *et al.* report similar findings regarding the related concept of intersubjectivity (Olmos-Vega et al, 2017).

LIMITATIONS

The aim of this research was to disclose features of clinical entrustment in the lived experience of participants at a developmental boundary in their medical training. Our participants were working in surgical units and FY1 doctors working in other specialties may have made sense of their lived experiences of entrustment differently.

The demographics of the participants were also relatively narrow. Given the existence of differential access to training opportunities and attainment in medical education, an examination of entrustment from the perspective of trainees with relevant contextual factors (e.g. disability, ethnicity) is important and likely to offer different perspectives.

OVERALL CONCLUSIONS

SUMMARY OF FINDINGS AND SUGGESTIONS FOR FURTHER RESEARCH

Assessing the readiness of a medical undergraduate to transition to clinical practice is one of the ultimate challenges for medical educators. “Good” doctors are likely to exist in objective reality. But how we measure this requires multiple facets of enquiry. “Readiness” is a concept of similar complexity. Assessing a trainee’s need for supervision while performing Entrustable Professional Activities (EPAs) is becoming commonplace in postgraduate medical training and aims to assess entrustability across multiple integrated competency domains. However, there is little published evidence regarding the validity of this type of assessment and, until now, there has been little attempt to consider their use for medical undergraduates.

In this thesis, I have added to the existing knowledge base by presenting an empirical validity argument for assessing final year medical students on the cusp of transition to clinical practice using a supervision scale in association with Entrustable Professional Activities.

The scope of this work has allowed me to present the first iteration of this validity argument for the use of EPAs in assessing final year undergraduates. However, further repetition of this process is now required following the revisions previously suggested; these refer to a simplification of the process and clearer explanation of the supervision scale. These changes would aim to ensure that the longitudinal, hypothetical nature of these assessments was more easily understood by assessors and that the clinical relevance of the scale was clear; ensuring that their correct completion was more easily absorbed into busy clinical life.

Despite initial practical challenges, students found real benefits from these assessments. However, their validity appears to be contingent on who is making these assessments and on how these assessments are being used. In their current form, they have been shown to have educational benefits as formative assessments from near-peers who have first-hand recent knowledge of what is required as a Foundation Doctor and clear insight into the learner’s abilities. Any consideration of their use as

a summative assessment would require an alteration in our interpretation-use argument and another iteration of the validity cycle.

In future cycles of this process, it would be of great importance to explore differential attainment in relation to students' socio-economic and protected characteristics. Use of EPAs as the basis of assessment earlier in the undergraduate curriculum would also be an interesting area of research. Whilst my focus was on final year undergraduates – who are already participating in clinical activities during their assistantship – use of more simplistic EPAs in earlier years may in fact encourage clinical engagement and perhaps inculcate a culture and vernacular of entrustment into common practice. If this were found to be feasible, we could consider utilising them throughout the curriculum to give continuity and alignment to the assessment strategy.

Throughout the course of developing this research it has been clear that the process of entrustment has been almost exclusively viewed from the perspective of the supervisor. Little consideration is given to the perspective of the trainee. I have added to the existing knowledge base by exploring this novel perspective and by proposing possible effects of trust on learner self-efficacy. When asked about their lived experience of entrustment, new FY1 doctors suggest that they do not clearly perceive themselves to be trusted and often appear to struggle to trust themselves: each of my participants talking about fear and doubt in one guise or another. When they do perceive episodes of trust or mistrust, the effects of these on self-efficacy vary between individuals. Further research on the influences of contextual, personal and interpersonal factors on the predominance of each determinant of self-efficacy remains to be explored. Future research on entrustment from the perspective of trainees with differing personal and contextual factors should therefore be a research priority as it is likely to offer important differences in perspective which can then be interpreted and utilised to deepen our understanding of entrustment and its impact on self-efficacy.

STRENGTHS AND LIMITATIONS

The Critical Realist approach I have utilised throughout this work has been its major strength. Understanding reality has been of overriding importance and I have, therefore, been able to employ a pluralistic approach to my methodology. This has allowed me to embrace the real-world complexity of entrustment, to consider it from complementary perspectives, and to synthesise both quantitative and qualitative data into a well-rounded case which is both intriguing and philosophically consistent. Whilst this has been challenging, it has generated a richness of data which would otherwise have been difficult to achieve, without distorting my perspective of reality.

This approach, which combines ontological realism with epistemological relativism, does however give rise to some inevitable limitations. For example, the processual nature of and hermeneutic cycle inherent in my validation model means that my findings will only ever be tentative, transitive and will always require further consideration and revision. In this context, whether EPAs are a valid way to assess medical undergraduates will never be answerable in a binary fashion. Whilst this is methodologically consistent and, I think, philosophically truthful – it could be viewed as frustrating when we wish to know how best to assess our undergraduates at the important waypoint of graduation.

Similarly, the approach utilised in my literature review is hermeneutic, rather than systematic. This is a departure from the type of literature review published commonly in the medical domain and may initially appear to lack rigor. However, this approach is not only consistent with my epistemological stance but was also appropriate (indeed necessary) in terms of the available literature. In the face of limited relevant literature in the medical domain, a more interpretative, iterative approach to the literature, rather than a simple summarisation, was necessary and allowed me to draw purposively on the wider literature. Again, this approach embraces and manages the complexity of reality, rather than tries to codify and summarise it - however, I remain cognisant that the inferences required in this style of literature review places limitations on it.

Likewise, using an interpretative phenomenological approach to gaining an understanding of the experience of entrustment for new doctors limits the generalisability of my findings. However, we must remember that the data produced in this type of inquiry does not aim to determine reality but instead relate an account of it which may highlight important points which are transferable. And when viewed through the lens of Critical Realism, research which focuses on this empirical level of knowledge is valid because beliefs, understandings and interpretations of meaning matter – not because they determine what objective reality is – but rather because they are likely to influence behaviour.

PERSONAL DEVELOPMENT AS A RESEARCHER

Developing, performing, and presenting this research has been a thoroughly absorbing process. I have found it stimulating, frustrating and fascinating in equal measure. I have significantly expanded my repertoire of research skills. I now understand validation of assessment to be a process rather than an equation to be solved. Undertaking a literature review with an interpretivist approach has also greatly improved my understanding of how to interrogate and interpret existing literature. As a novice researcher, I also now possess the fundamental skills required to undertake an interview-based piece of research.

Ultimately, I also take forward a much greater understanding of ontology, epistemology and methodology. As a clinician I have never really had the opportunity to consider the nature of reality, nor how we know about that reality. However, I now know that this is fundamental to the integrity and quality of research. Learning about this has been mind-bending at times and has certainly challenged me intellectually - but I feel that I now have a much greater grasp of this underpinning theory and philosophy. And these skills have made me a much more contemplative researcher – but also a more thoughtful clinician and person.

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APPENDICES

Appendix 1A: Original EPA task set

CLERK A STABLE PATIENT	**CONTEXT (END OF YEAR 6)**	**LEVEL OF SUPERVISION REQUIRED**
Takes history (including medicines reconciliation), performs appropriate physical examination and documents appropriately in patient record	Common presentation, low complexity. Task should be completed in a timely manner	
Creates differential diagnosis and suggests and interprets appropriate initial investigations		
Suggests a basic initial management plan		
OVERALL		

DELIVER ROUTINE MEDICAL CARE	**CONTEXT (END OF YEAR 6)**	**LEVEL OF SUPERVISION REQUIRED**
Implement an agreed management plan including: - Prescribing oxygen, fluid and common drugs (including red flag drugs such as insulin and warfarin) - Ordering basic investigations and recognising abnormal results - Making appropriate referrals to other specialties	Suggested total workload of 4 stable patients	
Review patient progress		
Communicate with patients and relatives regarding progress		
Communicate with other healthcare professionals regarding progress		
Update patient records		
Prioritises and manages workload efficiently		
Generic paperwork including - Death certification - DNR CPR forms - Adult with Incapacity Forms		
OVERALL		

PATIENT HANDOVER	**CONTEXT (END OF YEAR 6)**	**LEVEL OF SUPERVISION REQUIRED**
Present an individual case - Provide accurate oral summary of a patient encounter - Discuss differential diagnosis and management plan	Common presentation, low complexity.	
Give a handover for a group of patients - Highlight unwell patients - - Clearly hand over tasks and estimated timescales for these		
Receive a handover for a group of patients		
OVERALL		

COMPLETE AN IMMEDIATE DISCHARGE SUMMARY	**CONTEXT (END OF YEAR 6)**	**LEVEL OF SUPERVISION REQUIRED**
Provide a succinct and structured summary of admission including outstanding investigation results and plan for follow up	Common presentation, low complexity. Task should be completed in a timely manner	
Provide a detailed drug list including - Changes to regular medication - Short term prescriptions with planned length of medication course		
Liaise and communicate with other healthcare professionals (in both primary and secondary care) regarding discharge planning		
OVERALL		

ASSESS AN UNSTABLE PATIENT	**CONTEXT (END OF YEAR 6)**	**LEVEL OF SUPERVISION REQUIRED**
Recognises illness severity and need for urgent/emergency care	Common presentation, low complexity/single organ failure Task should be completed in a timely manner	
Structured approach to initial assessment (ABCDE)		
Seeks help in a timely fashion		
Intermediate life support		
OVERALL		

Appendix 1B: Original EPA Supervision Scale

Task initiated by	Supervisor proximity	Supervisor check*		Level of Supervision
Supervisor	N/A	N/A		**Observe**
Supervisor	In room – co-activity	Full		**Direct (early)**
Supervisor	In room – hands off	Full		**Direct (late)**
Supervisor	Available in nearby clinical area	Full		**Indirect (early)**
Supervisor (mainly)	Available in nearby clinical area	Partial		**Indirect (late)**
Trainee (mainly)	Not in nearby clinical area	Partial		**Semi-autonomous (early)**
Trainee	Not in nearby clinical area	Occasionally/on request		**Semi-autonomous (late)**
Practitioner	N/A	Audit/revalidation/on request		**Autonomous**

***Supervisor check**: for more junior trainees this is likely to involve a physical check but as they progress to more senior levels of training this may involve a verbal check which may be conducted via telephone

Explanatory Notes:	**Level of Supervision**
Student/trainee just watching	**Observe only**
A co-activity – supervisor shows them how to do it	**Direct (early)**
Supervisor watching them do it whilst in the room	**Direct (late)**
Supervisor advises what to do and returns to check everything	**Indirect (early)**
Supervisor guides trainee to suggest what to do, authorises this and reviews salient points once task complete. *Trainee may initiate some tasks*	**Indirect (late)**
Trainee suggests what to do, supervisor authorises this and reviews salient points once task complete	**Semi-autonomous (early)**
Trainee decides what to do and calls supervisor as required to discuss or for review. Supervisor provides routine oversight (context-specific)	**Semi-autonomous (late)**
Being a consultant	**Autonomous**

Abbreviated student supervision scale:

Task initiated by	Supervisor proximity	Supervisor check*		Level of Supervision
Supervisor	N/A	N/A		**Observe**
Supervisor	In room – co-activity	Full		**Direct (early)**
Supervisor	In room – hands off	Full		**Direct (late)**
Supervisor	Available in nearby clinical area	Full		**Indirect (early)**
Supervisor (mainly)	Available in nearby clinical area	Partial		**Indirect (late)**

Appendix 2 Finalised EPA Booklet with Tasks and Scale

EXPLORING THE ROLE OF ENTRUSTABLE PROFESSIONAL ACTIVITIES IN ASSESSING FINAL YEAR MEDICAL STUDENTS

FOR FINAL YEAR STUDENTS
STUDENT ASSISTANTSHIP 2017

Dr Katharine Rankin MRCOG MBChB BMSc PGDipClinEd

UNIVERSITY OF EDINBURGH

STUDENT INSTRUCTIONS

Over the next six weeks, we would like you to complete this booklet of task-based assessments. This is a new style of assessment and focuses on how you perform clinical tasks that you will be required to do as a new FY1. We are starting with two different tasks: routine ward work and completing an immediate discharge summary (you will spend a lot of your life as an FY1 doing these two jobs!).

The team members you are working with will assess how much supervision you need for the different elements of each task. This should let you know which bits you need to work on a bit before starting FY1! They're not pass/fail assessments and are designed with the hope that it will give you useful individual feedback and ease the transition into Foundation training.

Remember, while these are not summative assessments we are hopeful that using them will help you receive useful, individual feedback on your performance. As such, completion is compulsory.

How to Complete the Booklet:

We would like you to complete **four assessments for each task** (so eight in total).

Once the assessor has given you feedback please use the space at the bottom of each form to reflect on and record a few points about **how you might improve next time.**

We would like you to ask **team members of different levels of seniority** to complete these for you. They don't necessarily have to stand and watch you do each task – if they already think you don't need direct supervision that's great! We would like you to have a maximum of one from an FY1 if possible.

Try to spread them out over the length of the block if possible!

Once this booklet is complete, please keep a copy and hand in the original at the end of the block to **Jennifer Hill (see page 13).**

Any Problems?

Please don't hesitate to contact Dr Katy Rankin (Clinical Fellow in Medical Education) **krankin@ed.ac.uk**

Good Luck!

STAFF INFORMATION

WHAT would we like you to do? This is a new style of assessment and focuses on how students perform important clinical tasks that they will be required to do as a new FY1. We are starting with two different tasks: routine ward work and completing an immediate discharge summary. We would like them to complete four of each.

HOW would we like you to do it? We would like you to assess how much supervision the student needs for these tasks on the scale described on page 4. We would like you to try to make an assessment for each element of the task and for the task overall. This is to see if we can make the tool even simpler in the future! You don't necessarily need to directly observe the student during the task. If you're happy to let them perform the task with indirect supervision you can reflect that in your assessment. Please record, at the bottom of each form, the total time taken to complete the assessment and provide feedback. This allows us to see if this is taking up a lot of your time!

WHO should do it? We have asked the students to ask for the opinion of a variety of different assessors, of different levels of seniority. This is to see how reliable the assessments are. We have asked them to have a maximum of 1 completed by an FY1.

WHEN should it be done? We have asked them to try to spread their assessments out over the six weeks to see if we can demonstrate a change in the level of supervision required over the course of the block.

Most importantly……WHY? It's been proposed that this style of assessment should be used for medical undergraduates however at the moment there's not a lot of evidence regarding their utility, particularly in this context. We're hoping to gather and disseminate that information. The potential benefits that we see include:

- Tasks are practically based and reflect what they'll have to be ready to do as FY1s
- Judgements not based on one-off observations
- Students shouldn't be afraid of being judged competent/not competent so hopefully won't use the tool strategically
- Should generate useful, individual feedback about areas of strength and weakness that can aid the transition to FY1!

Any Problems?

Please don't hesitate to contact Dr Katy Rankin (Clinical Fellow in Medical Education) krankin@ed.ac.uk

Thank you!

SUPERVISION SCALE				
Task initiated by	**Supervisor proximity**	**Supervisor check**	**Explanatory Notes**	**Level of Supervision**
Supervisor	N/A	N/A	*Student/trainee just watching*	**Observe**
Supervisor	In room – co-activity	Full	*A co-activity – supervisor shows them how to do it*	**Direct (early)**
Supervisor	In room – hands off	Full	*Supervisor watching them do it whilst in the room*	**Direct (late)**
Supervisor	Available in nearby clinical area	Full	*Supervisor advises student what to do and returns to check over everything*	**Indirect (early)**
Supervisor (mainly)	Available in nearby clinical area	Partial	*Supervisor guides trainee to suggest what to do and authorises this, then reviews salient points once task complete. Trainee may initiate some tasks*	**Indirect (late)**
Trainee (mainly)	Not in nearby clinical area	Partial	*Trainee suggests what to do, supervisor authorises this and then reviews salient points once task complete*	**Semi-autonomous (early)**
Trainee	Not in nearby clinical area	Occasional/ on request	*Trainee decides what to do and calls supervisor as required to discuss or for review. Supervisor provides routine oversight (context-specific)*	**Semi-autonomous (late)**

Actual booklet: this page was repeated 4 times

TIME TAKEN FOR FEEDBACK (mins):

DATE:	**WARD AND HOSPITAL:**		
STUDENT NUMBER:	**JOB TITLE & GRADE OF ASSESSOR:**		
CONTEXT (END OF YR 6)	**WARD WORK**	**CONTEXT (END OF YR 6)**	**LEVEL OF SUPERVISION REQUIRED**
Suggested total workload of 4 stable patients	Implement an agreed management plan including: - Prescribing oxygen, fluid and common drugs (including red flag drugs such as insulin and warfarin) - Ordering basic investigations and recognising abnormal results - Making appropriate referrals to other specialties	Suggested total workload of 4 stable patients	
	Review patient progress		
	Communicate with patients and relatives regarding progress		
	Communicate with other healthcare professionals regarding progress		
	Update patient records		
	Prioritises and manages workload efficiently		
	Generic paperwork including - Death certification - DNA CPR forms - Adult with Incapacity Forms		
			OVERALL
Following discussion with my assessor, how can I improve?	Following discussion with my assessor, how can I improve?		

DATE: WARD AND HOSPITAL: STUDENT NUMBER: JOB TITLE & GRADE OF ASSESSOR:			
COMPLETE AN IMMEDIATE DISCHARGE SUMMARY	**CONTEXT (END OF YR 6)**	**LEVEL OF SUPERVISION REQUIERD**	
Provide a succinct and structured summary of admission including outstanding investigation results and plan for follow up	Common presentation, low complexity. Task should be completed in a timely manner		
Provide a detailed drug list including Changes to regular medication Short term prescriptions with planned length of medication course			
Liaise and communicate with other healthcare professionals (in both primary and secondary care) regarding discharge planning			
		OVERALL	
Following discussion with my assessor, how can I improve?			

TIME TAKEN FOR FEEDBACK (mins):

**Actual booklet: this page was repeated 4 times*

Thank you for completing the above assessments.

For successful completion of the assistantship block, you are also required to complete the following professionalism assessment with your supervising consultant (see overleaf).

The criteria for different general aspects of professional behaviour are described on the following pages (15 - 16).

Once this booklet is complete, please keep a copy and return the original to:

Jennifer Hill, Year 6 coordinator

Room GU316, Chancellor's Building, Little France EH16 4SB

Tel Number – 0131 242 6529

FAX Number – 0131 242 9415

CRITERIA FOR GENERAL ASPECTS OF PROFESSIONAL BEHAVIOUR 2016 – 2017:	
Examples of behaviour that indicates an ISSUES mark:	
Attendance	Fails to attend clinical learning opportunities based on the specific requirements of the medical school*. Non-attendance at scheduled teaching events. Fails to give apologies or gain permission for absence. Repeatedly late. Falsifies attendance or fabricates reason for not attending.
Professional Behaviour/ Self-care	Unkempt appearance or inappropriate dress. Disengaged.
Commitment/ Motivation	Displays an apparent lack of interest in subject and does not participate in ward work. Fails to seek out learning opportunities.
Reliability/ Personal Organisation	Chaotic time management. Misses deadlines - late/non submission of work. Misses appointments. Doesn't prepare in advance of sessions such as PBL and case presentations. Fails to share information with group or clinical team.
Interpersonal skills/ teamwork	Is impolite to other members of staff and fails to respect their roles. Disruptive in teaching sessions. Struggles to communicate with or is rude to patients or relatives. Difficult to understand due to manner of speaking or language difficulties.
Teaching & Learning Skills	Neglects learning opportunities. Lacks insight into limits of ability and knowledge and/or works beyond them. Fails to accept and follow educational advice and is unwilling to learn from constructive feedback given by others. Makes limited contributions to discussions and avoids giving presentations. Demonstrates lack of awareness or ability to self-reflect. Relies on delivered content and doesn't undertake self-directed learning. Poor academic skills and judgement, using inappropriate sources and not referencing. Plagiarism.
Promotes Patient Safety	Puts their learning needs above the patient's care and safety. Fails to engage with systems put in place to promote continuous quality improvement and patient safety. Fails to acknowledge the potential for errors. Does not engage with routine infection control measures (e.g. hand hygiene).
Ethical Awareness	Fails to respect professional boundaries with patients. Fails to respect the need for consent. Breaches patient confidentiality, which may include posting information on social media sites. Fails to consider patients' dignity. Fails to consider ethical aspects of clinical decision-making. Discriminates against peers, staff or patients based on race, sex or age.
Honesty and integrity	Displays a lack of honesty or integrity. Financial dishonesty. Untruthful

PROFESSIONALISM FORM STUDENT MATRICULATION NUMBER:	SPECIALTY: ATTACHMENT: DATES: CLINICAL TUTOR:

PROFESSIONALISM: The criteria for continuous assessment of Professionalism are based on the GMC's *Outcome for graduates* and *Achieving good medical practice: guidance for medical students*.
It is **NOT** expected that a Tutor will comment on all criteria but only those that have been observed.

CRITERIA FOR GENERAL ASPECTS OF PROFESSIONAL BEHAVIOUR **See table overleaf for examples**	
• Professional behaviour & Self-care • Commitment & Motivation • Reliability & Personal Organisation • Interpersonal Skills & Teamwork	• Teaching & Learning Skills • Promotion of Patient Safety • Ethical awareness • Honesty & Integrity
STRENGTHS	
ADVICE ON HOW TO IMPROVE	
ANY BEHAVIOURS FALLING BELOW EXPECTED STANDARDS (These types of behaviour may require an "issues" mark if significant on one occasion or minor but repeatedly demonstrated despite advice from teaching staff and/or clinical tutors.)	

This assessment will be reviewed and ratified by the Adjudication Committee.
For full details see: https://www.eemec.med.ed.ac.uk/pages/assessing-professionalism.
An "ISSUES" grade in either the PROFESSIONALISM or the ATTENDANCE box, or both, is a significant concern and will be further discussed by the Board of Examiners.

GENERAL ASSESSMENT OF PROFESSIONALISM (please tick)			
ISSUES		NO ISSUES (please specify above)	
ATTENDANCE (based on specific attachment requirements and *Attendance on the MBChB Programme Policy*: please tick)			
ISSUES		NO ISSUES (please specify above)	
I have discussed this assessment with the student: YES / NO		Date:	
TUTOR SIGNATURE:		**STUDENT SIGNATURE:**	

Many thanks for completing this booklet!

Before you hand it in – please read the below information.

We would like to investigate whether or not this type of assessment gives us valid information about how students are performing on clinical placements. To do that we would like to see if the feedback you are getting from this tool correlates with your final OSCE result. We would be doing that by matching up the results in this booklet with your OSCE score. We would do this by matching your student number, not your name. So, we would not be identifying whose OSCE result is whose!

CONSENT: If you consent to the above use of your data, please add your signature at the bottom of the page. If you would prefer to opt-out of this, please leave it blank.

If, at any point, you wish to withdraw your consent you may do so without giving any reason and this will in no way prejudice your teaching or assessment. To do so, please contact Dr Katy Rankin (see contact details on page 2 or 3).

Thank you!

DATE	
SIGNATURE	
STUDENT NUMBER	

DEMOGRAPHIC DATA: If you would prefer not to provide the following demographic data, please leave these fields blank.

Age	
Gender	
Ethnicity	
Have you previously completed a university degree? (Y/N)	
If yes, please indicate what level of degree e.g. BA, BSc, Masters, PhD etc.	

Appendix 3: Assessor Information Sheet

centre for medical education

THE UNIVERSITY of EDINBURGH
Edinburgh Medical School

BRAND NEW FORM OF ASSESSMENT FOR YEAR 6 STUDENTS!

Dear Supervisors,

We are piloting a new task-based assessment form in the assistantship this year and we wanted to let you know a bit about it, as it's likely that you'll be confronted with one in the near future! The aim is to give students individual, relevant feedback about how they perform the real clinical tasks they will need to do as an FY1 – in preparation for August!

These assessments focus on:

- **Clinically relevant TASKS, being performed in reality**
- **Whether we can ENTRUST these tasks to students**
- **The level of SUPERVISION required for each part of the task**

They:

- **Are not necessarily based on a one off encounter**
- **Can reflect your overall feeling about how the student is performing clinically**
- **Are compulsory, but formative**

They look like this:

CLERK A STABLE PATIENT	CONTEXT	LEVEL OF SUPERVISION REQUIRED
Takes history (including medicines reconciliation), performs appropriate physical examination and documents appropriately in patient record	Common presentation, low complexity.	
Creates differential diagnosis and suggests and interprets appropriate initial investigations		
Suggests a basic initial management plan	Task should be completed in a timely manner	
OVERALL		

And we would like you to assess how much supervision the student needs for each part of the task by using this scale, which depends on 3 factors:

- who decides that the student is going to do the task
- how close by do you feel you have to be whilst they perform it
- and how much you need to check over what they've done

Explanatory Notes:	Level of Supervision
Student/trainee just watching	Observe
A co-activity – supervisor shows them how to do it	Direct (early)
Supervisor watching them do it whilst in the room	Direct (late)
Supervisor advises what to do and returns to check everything	Indirect (early)
Supervisor guides trainee to suggest what to do and authorises this, then reviews salient points once task complete. Trainee may initiate some tasks	Indirect (late)
Trainee suggests what to do, supervisor authorises this and then reviews salient points once task complete	Semi-autonomous (early)
Trainee decides what to do and calls supervisor as required to discuss or for review. Supervisor provides routine oversight (context-specific)	Semi-autonomous (late)

As this is a pilot assessment undergoing validation, we have **not set a minimum expected level of achievement** for the students or a "pass mark".

We have asked the students to complete 8 of these assessment forms over their 6 week block.

We have also asked them to ask a variety of assessors to fill them in: team members with whom they have spent reasonable amounts of time. We would suggest that they have a maximum of 1 completed by an FY1 if possible.

These forms are presented in an A5 booklet (along with the professionalism form which is also required for successful completion of the assistantship). This booklet also contains staff information, further explanation of the scale and contact details in case you have any difficulties with or comments about filling them in!

If you do have any questions – please don't hesitate to get in touch with us!

Dr Katy Rankin

Clinical Fellow in Medical Education

krankin@ed.ac.uk

Participant Information Sheet:

Entrustable Professional Activities for Undergraduates:

Student Focus Group

Name of Researcher: Dr Katy Rankin

Background

As you will know we have recently introduced a new type of workplace based assessment into the assistantship block of year 6!

We would be hugely grateful for your feedback regarding the use of this tool. It is hoped that the findings of this research will inform the development and ratification of this new type of assessment.

What to Expect

Attending this feedback focus group is completely voluntary. This feedback focus group will last approximately one hour and your responses will be recorded and subsequently transcribed.

Data Security

All responses will be anonymised and remain confidential. If published, all results and quotes will be published in a de-identified manner.

Consent

By completing the attached consent form you are agreeing to participate in this study. If at any time you wish to withdraw your consent you may do so without giving any reason and this will in no way prejudice your teaching or assessment. To do so please contact Dr Katy Rankin (contact details below).

If you would like any further information, please contact:

Dr Katy Rankin, Clinical Fellow in Medical Education, University of Edinburgh

GU304 Chancellor's Building, 49 Little France Crescent, EH16 4SB

krankin@ed.ac.uk

Consent Form:

Entrustable Professional Activities for Undergraduates

Name of Researcher: Dr Katy Rankin

Please read these statements, tick all those that apply and then sign and date at the bottom.

I confirm that I have read the information sheet dated April 2017 (version 1.2) for the above study.	☐
I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.	☐
I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason, without my teaching or assessment being affected.	☐
I understand that the information collected about me will be used to support other research in the future, and may be shared anonymously with other researchers.	☐

DEMOGRAPHIC DATA: If you would prefer not to provide the following demographic data, please leave these fields blank.

Age	
Gender	
Ethnicity	
Have you previously completed a university degree?	
- **If yes, please indicate what level of degree e.g. BA, BSc, Masters, PhD etc.**	

Date: _____

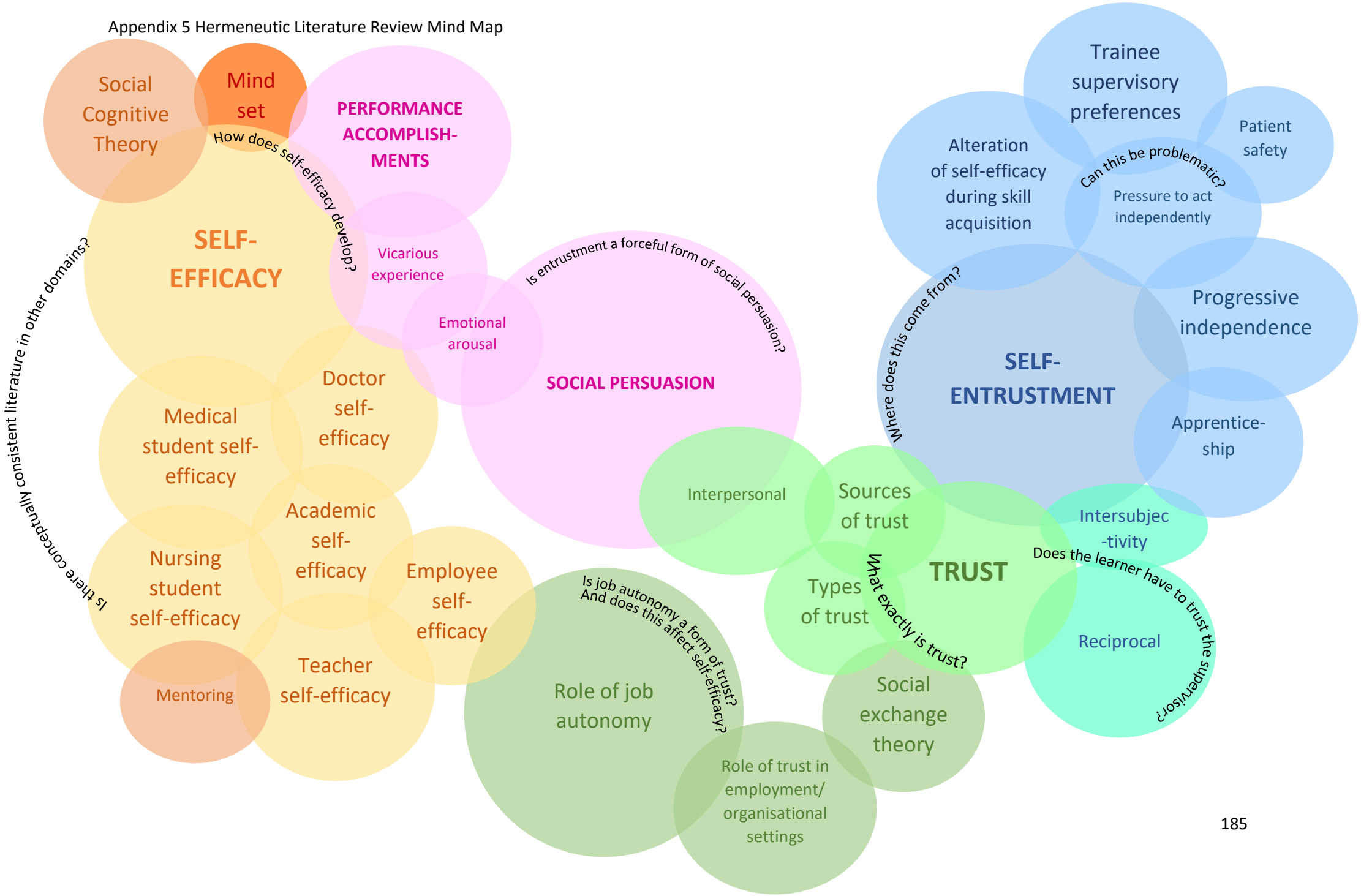
Signature: _____

Name (please PRINT _____

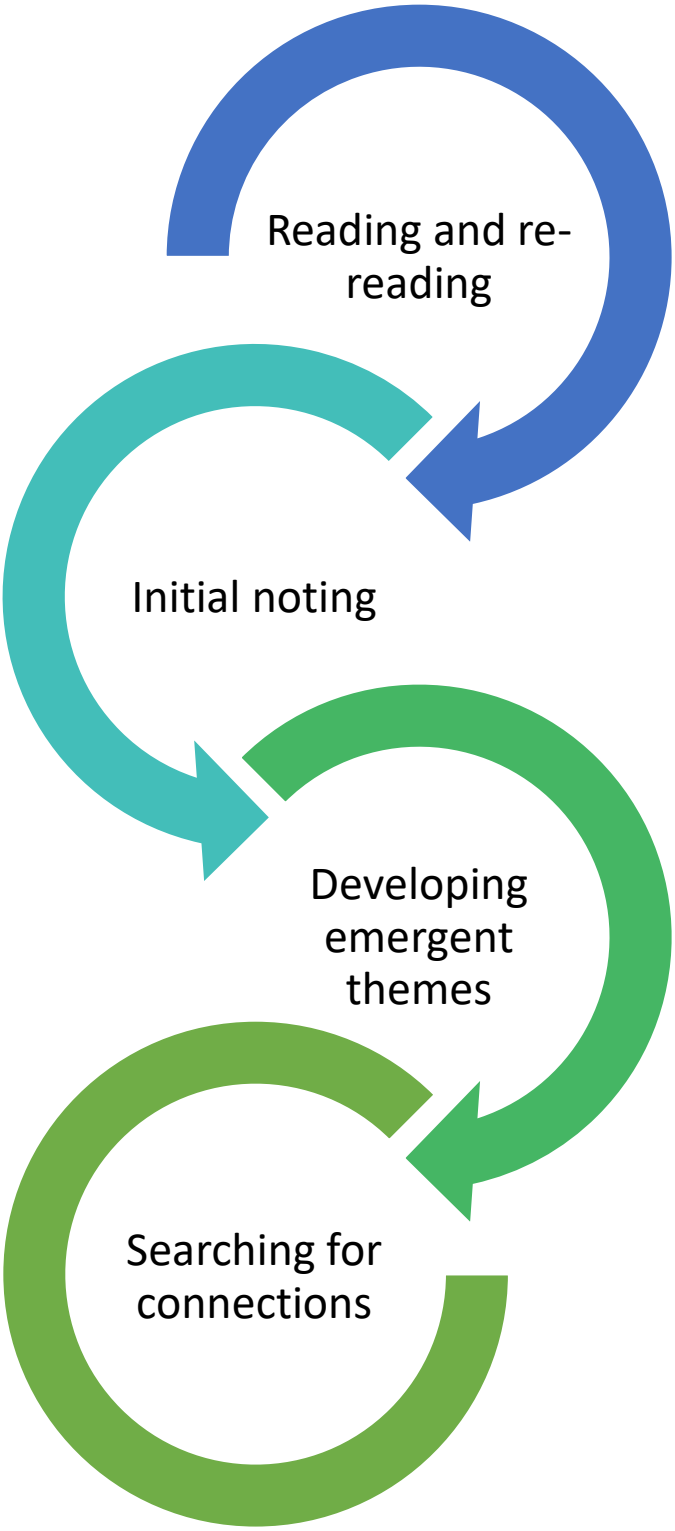
Appendix 4C Focus Group Schedule

SEMI-STRUCTURED INTERVIEW SCHEDULE: STUDENTS		
FEASIBILITY **Main questions**	**Additional questions**	**Clarifying questions**
Can you tell me about the practicalities of using this EPA tool?	▪ How often did you use it? ▪ Who did you ask to complete the forms for you? ▪ How long did it take to complete each form? ▪ What do you think the biggest challenge is in using this style of assessment?	• Can you give me some examples? • Can you expand a little on this? • Can you tell me anything else? • Do you know anybody who has a different view?
ACCEPTABILITY **Main questions**	**Additional questions**	
Can you explain what you understand about the underlying concept of this style of assessment tool??	▪ How do you feel about this? ▪ What do you think about being assessed in terms of the amount of supervision you need?	
EDUCATIONAL IMPACT **Main questions**	**Additional questions**	
Can you tell me about the feedback you got when using this assessment tool?	▪ Did you find the feedback you got useful or not? ▪ How did it make you feel? ▪ How do you think you will use this feedback? ▪ Do you think that this feedback has had an effect on your motivation?	
How do you think this style of assessment tool compares to the way you have previously been assessed on clinical placements?	▪ Can you think of any advantages or disadvantages this assessment has compared to the normal way you are assessed on clinical blocks? ▪ Can you think of any ways this could be improved?	
CONCLUSION		
Are there any other aspects of using this tool that you wanted to discuss that we haven't covered?		

Appendix 5 Hermeneutic Literature Review Mind Map



Appendix 6 IPA Analysis Model



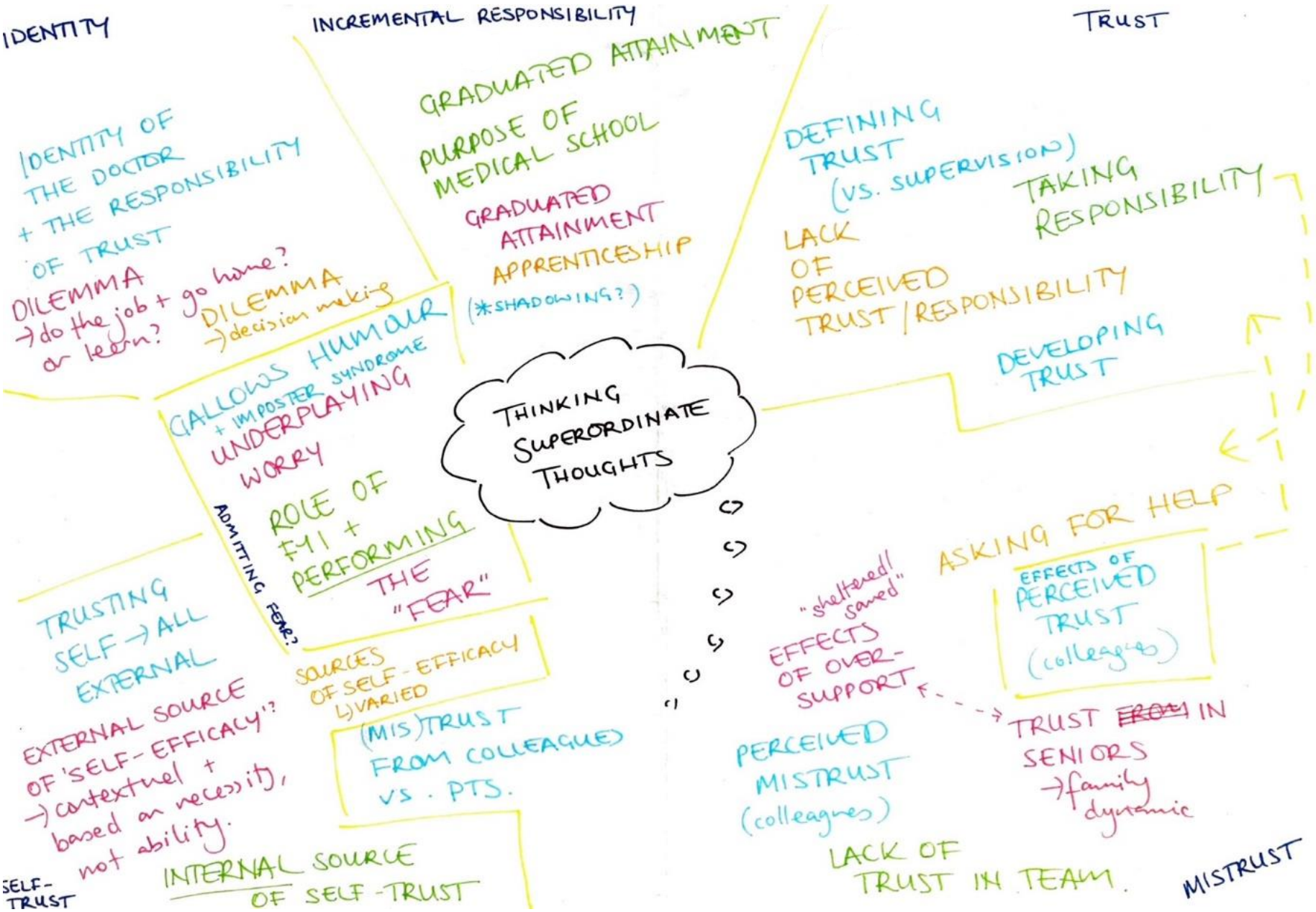
This first step involved immersing myself in the original data and actively engaging with it. This was partly achieved by transcribing the data myself.

This involved noting anything of interest within the transcript and making descriptive, linguistic and conceptual comments. This ensured increasing familiarity with the transcript and I began to identify specific ways in which the participant understood and thought about an issue.

This involved simultaneously attempting to reduce the volume of the detail, whilst maintaining the complexity of the data by mapping interrelationships, connections, and patterns between the exploratory notes.

This step involved the development of a map, looking at how the themes fit together. This was done manually (see overleaf).

I used the techniques of abstraction and subsumption to develop superordinate themes and polarization to examine the data for oppositional interpretations.


IDENTITY
INCREMENTAL RESPONSIBILITY
TRUST
IDENTITY OF THE DOCTOR + THE RESPONSIBILITY OF TRUST
DILEMMA → do the job + go home? or learn?
DILEMMA → decision making
GRADUATED ATTAINMENT
PURPOSE OF MEDICAL SCHOOL
GRADUATED ATTAINMENT APPRENTICESHIP
(*SHADOWING?)
DEFINING TRUST (VS. SUPERVISION)
LACK OF PERCEIVED TRUST/RESPONSIBILITY
TAKING RESPONSIBILITY
DEVELOPING TRUST
GALLOWS HUMOUR + IMPOSTER SYNDROME
UNDERPLAYING
WORRY
ROLE OF FYI + PERFORMING
THE "FEAR"
ADMITTING FEAR?
THINKING SUPERORDINATE THOUGHTS
TRUSTING SELF → ALL EXTERNAL
EXTERNAL SOURCE OF 'SELF-EFFICACY'? → contextual + based on necessity, not ability.
SOURCES OF SELF-EFFICACY 1) VARIED
(MIS)TRUST FROM COLLEAGUES VS. PTS.
INTERNAL SOURCE OF SELF-TRUST
"sheltered/ saved"
EFFECTS OF OVER-SUPPORT
ASKING FOR HELP
EFFECTS OF PERCEIVED TRUST (colleagues)
PERCEIVED MISTRUST (colleagues)
TRUST ~~FROM~~ IN SENIORS → family dynamic
LACK OF TRUST IN TEAM.
SELF-TRUST
MISTRUST

Participant Information Sheet:

Negotiating the Transition from Student to Clinician: The Experience of Clinical Task Entrustment

Name of Researcher: Dr Katy Rankin

Background

This research aims to explore how new junior doctors experience the transition to clinical practice and in particular the experience of being entrusted with clinical tasks. Previous studies have identified broad factors that influence supervisors' decision to trust their junior. However, there is very little literature on the entrustment process from the perspective of the junior doctor.

What to Expect

Attending this interview is voluntary. I anticipate that it is going to last approximately an hour. You are free to end the interview at any time you choose. If, at any point, you feel like we are covering topics that you had not anticipated then we can stop and re-evaluate your consent at that point.

Your responses will be recorded, subsequently transcribed and then analysed.

Data Security

All responses will be anonymised and remain confidential. If published, all results and quotes will be published in a de-identified manner.

Ethical Considerations

The proposed study has been subject to review by the Academic and Clinical Central Office for Research and Development (ACCORD) - which is a partnership between the University of Edinburgh and NHS Scotland.

This research may potentially cause distress to a participant who is struggling with the stress and anxiety of the transition from being a medical student to a junior doctor. If serious concerns become apparent then the researcher will signpost junior doctors or students towards the appropriate member of staff (i.e. their clinical supervisor or personal tutor). Participants should also be aware that if any patient safety concerns come to light during the interview then the researcher will be obliged to bring these to the attention of the appropriate member of staff – this is likely to be the participant's clinical supervisor.

Consent

By completing the attached consent form you are agreeing to participate in this study. If at any time you wish to withdraw your consent you may do so without giving any reason and this will in no way prejudice your future assessment. To do so please contact Dr Katy Rankin (contact details below).

If you would like any further information, please contact:

Dr Katy Rankin, Clinical Fellow in Medical Education, University of Edinburgh

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Appendix 7B FY1 Interview Consent Form

Consent Form:

Negotiating the Transition from Student to Clinician: The Experience of Clinical Task Entrustment

Name of Researcher: Dr Katy Rankin

Please read these statements, tick all those that apply and then sign and date at the bottom.

I confirm that I have read the information sheet dated September 2017 (version 1.3) for the above study.	
I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.	
I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason.	
I understand that data will be anonymised and remain confidential. Any results or quotes will be published in a de-identified manner.	
I understand that the information collected about me may be used to support other research in the future, and may be shared anonymously with other researchers.	

DATE:

SIGNATURE:

NAME (PLEASE PRINT):

Appendix 7C FY1 Interview Schedule

Research Question: How do newly qualified junior doctors experience the transition to performing clinical tasks and making clinical decisions by themselves?

INTRODUCTION:

Hi – thank you for taking the time to come and participate in this interview. I anticipate that it's going to last around an hour although may go on a bit longer. You are, of course, free to end the interview at any time you choose.

I really want to get an understanding of your own lived experience of becoming an FY1 and starting to perform tasks by yourself - so I probably won't do too much of the talking. But that's absolutely fine – because understanding *your* individual experience is so important to this process. It's supposed to be a bit of a one-sided discussion. Please feel free to take your time, collect your thoughts. There's really no rush. There aren't any right or wrong answers.

Occasionally my questions might sound a little bit repetitive but that's just because I'm really trying to get to an understanding of your opinion/experience - not just take my understanding of what you're saying for granted.

Have you had a chance to read the participant information that I sent you? Do you have any questions regarding that? If at any point you feel like we're covering topics that you hadn't anticipated we can stop and re-evaluate your consent at that point.

Are you quite comfortable?

DEMOGRAPHICS (for contextualising participant):

First of all - can you tell me a little bit about yourself?

Age

NHS Trust/Hospital

Current specialty

University

Any previous degrees or careers

Any other pertinent info

AIM:

Explore new FY1s experience of entrustment with clinical tasks in order to explore

- **what effect this may have on their learning**
- **whether this may be a useful scale on which to assess them/final year students**
- **how they learn to believe they can carry out a task unsupervised**

QUESTIONS:

1. Can you tell me about your experience of being supervised during clinical tasks since you started work?

2. Can you talk a little about how it feels to carry out clinical tasks without supervision? Examples?

3. Can you describe a time when you felt trusted with a clinical task?
ADDITIONAL: How did you feel during this experience?

4. Can you tell me how you know you're going to be able to successfully carry out a clinical task without supervision?
ADDITIONAL: How do you think supervisors decide to trust you with tasks?

5. Can you tell me how about your experience of asking for help from a senior?
ADDITIONAL: How did you feel doing this?

Appendices 8A – 8D Individual Interview Analyses with Field Notes

Appendix 8A

ROSIE

"If there wasn't trust then everything would just grind to a halt. Because nothing would work..."

Participant Background:

Rosie is a 23-year-old female Foundation Year 1 doctor. She completed her undergraduate degree in Cardiff. She moved to Edinburgh because she felt that the Scottish Foundation Programme was well organised and because her extended family live in Scotland. She enrolled in medical school straight from high school and progressed straight through the five-year curriculum. She took no time out of her undergraduate degree; either for an intercalated degree or to repeat any periods of study. As such she has taken the most direct and quickest route to completing her undergraduate training. She is currently working on a General Surgery ward at the Royal Infirmary of Edinburgh. This is a busy specialty in a large tertiary care centre. She is interested in a future career in obstetrics and gynaecology.

Identity of the Doctor and the Responsibility of Trust

Attributes:

Rosie describes her conception of the identity of the doctor in terms of the attributes expected of the profession by the wider public including honesty, respectability and responsibility. She describes what she sees as a reflex assumption in society; that doctors are honest, respectable people. Moreover, she describes a sense of pleasure, derived from now being included in this assumption and from being thought to possess these positive attributes by consequence of her new profession. She has recently been given a degree to induct her into the profession – thereby certificating that she possesses these attributes.

"….Umm…it's nice to know that when people hear you're a doctor they automatically think you're an honest person. You're respectable. Because those are nice things to be."

Rosie initially attempts to deny explicit pride in her achievement of this assumed status – but quickly seems to contradict herself *"Like it does make me feel quite… not proud but it's like yeah…"* Her tone in the follow up sentence and the repeated use of "I have" or "I am" in relation to her achievements does seem to convey a sense of satisfaction *"…I have got an MBChB, I have graduated, I am a doctor…."*

Unprompted, Rosie then goes on to reflect on how having, or being assumed to have, these qualities is accompanied by the responsibility to act accordingly. And that the assumption that you possess these attributes comes with it a pressure to embody them.

"But it does also carry a lot of responsibility with it because if something goes wrong or you do something…that….people wouldn't expect from you because you're a doctor…it would make you feel ashamed or I shouldn't have done that or should have known better."

She illustrates this pressure with a hypothetical example of being called upon to identify herself as a doctor and attend an unwell person in a public place.

*"umm…I always have this horrible idea that I'll be on a plane and they'll be like "are there any doctors on board?" And then you're just there like…."oh no…"*laughs* And people just assume that because you're a doctor you'll be able to deal with it and they trust you to stand up and be honest and say yes I am a doctor and I will come and help."*

The choice of setting this example on an aeroplane could be interpreted as reinforcing the feeling of being in an enclosed (and indeed pressurised) space, where she cannot escape the responsibility of the trust which society puts in their doctors.

Responsibility:

Rosie also goes on to discuss the individual effects of being given responsibility for clinical tasks. She describes the difference between being asked to carry out a task as a student – which is often because it is seen as a potential learning experience – and having to carry out a task as a doctor.

She describes how, as a student, there is a constant, nagging self-doubt. This is often derived from perceived doubt (or perhaps mistrust) regarding her clinical ability from the patient... *"As a medical student there was always that self-doubt because patients can sometimes question why you, as a student, are doing it compared to a doctor. They're like "oh…can't a doctor do this…?"* This self-doubt could also be derived from having the option to defer to the doctor supervising you; meaning that when presented with challenge a student will automatically call upon support… *"Whereas it's quite easy as a cop-out as a student to be like "I'll just go and get the doctor to do it."* However, these doubts have been dispelled by being given the responsibility of having to ensure that the task is completed successfully… *"Whereas as a doctor, you can be like…"I am the doctor. It is my job" And then even if you don't get the blood the first time or something then it's like "oh…sorry I need to give it another go." Umm….so I do have more confidence now…um…"* Carrying out the task because it needs done and is her responsibility has changed her attitude towards herself - improving her confidence by legitimising her presence on the clinical team.

Impostor Syndrome:

Despite this newly acquired confidence, Rosie does admit to having ongoing intermittent concerns that she is not really capable of successfully carrying out her job. *"Umm….so I do have more confidence now…um…but sometimes I do kind of feel like I'm just blagging it *laughs*"* The use of the term "blagging it" suggests that she feels she is currently presenting the appearance of someone capable by using duplicity and guile – rather than actually possessing ability. She also undercuts this statement with a laugh. As the interview continues, she uses this linguistic tactic more and more: starting to discuss a potentially troubling topic and quickly diverting away from the potential seriousness of this by interjecting a slightly incongruous laugh. This makes it difficult to interpret how seriously she is concerned. However, when asked to elucidate further on her concerns that she is "blagging it", she does begin to describe feelings that belie her previous insouciant tone.

"It makes me feel sometimes like someone else could be doing a better job. Ahh…but I just kind of…sometimes I do feel like I'm getting away with it and one day….I'll get caught that I haven't quite been doing it right."

The language used here is interesting. She is concerned that she is "getting away with it" and that she will "get caught." Use of these words perhaps insinuates that she is concerned she is committing some sort of crime – perhaps the crime of posing as a competent doctor? Despite having graduated, despite having the certification to confirm that she has reached a sufficient level of competency and is possessed of the desired attributes of a doctor – this language choice suggests that she feels she is an imposter. One who does not in fact possess the correct attributes or sufficient ability and has somehow slipped through the net into the profession.

It is perhaps Rosie's sensation of being an imposter that forms the origin of a pattern of illogical blame-taking which also becomes evident as we continue to explore her experience of being trusted to look after sick patients. She describes a sensation of panic when a patient deteriorates and attributes this to an immediate, automatic assumption that she may had inadvertently been the cause of the deterioration – regardless of how unlikely that may be.

"Interviewer: What does that panic feel like? When you're panicking about a patient?

*Rosie: Eeeh…it's not nice, not nice at all *laughs* And I think there's that horrible feeling of "have I done this? Did I do this to this patient? And no probably not but you automatically take some of the blame because you're the person that's arrived at the scene – yeah so it's not a nice feeling at all…no…*laughs*

Interviewer: No….it's not.

*Both: *laugh*"*

Interestingly, Rosie again employs laughter here to belittle a potentially very distressing subject. And the interviewer laughs along with her.

Defining and Developing Trust

Defining Trust:

Despite her junior status at the time of her interview, Rosie found it particularly difficult to recollect examples of being supervised...*"umm….well….I suppose there's not really that many of them."* She uses the vivid cliché of being *"dropped in the deep end"* to describe the transition to being a junior doctor and reflects that she only really receives supervision when she requests it. Interestingly however, when asked to describe a time when she really felt trusted she also hesitates for a long time… *"*pauses……* emm….don't know…..*pauses* I don't…I don't…."*

There is an interesting disconnection inherent in Rosie's answers to these two questions. She does not appear to equate being permitted to work without supervision as a form of entrustment; she does not see this as an implied message of trust. She is currently working on a general surgery ward and in these clinical environments, senior medical staff are often absent for long periods whilst they are in the operating theatre. This can make them difficult to reach. Perhaps then, she feels that she is being left alone to carry out tasks and duties unsupervised out of mere necessity – rather than as a conscious decision following an appraisal of her abilities.

Developing Trust:

Rosie also goes on to describe that there is there is an element of implied trust in new doctors, which does not rely on appraisal of their individual abilities or attributes but instead on trust in the system that provided them with their medical education. This is derived from an understanding of the University system – rather than an understanding of the person - which graduates people when they have achieved a certain level of knowledge and competence in specific skills. *"Umm…yeah I think most of the time, other than that…they trust that you're basic….what you've taught at medical school is adequate I think…umm…you know..."*

The development of a more grounded, interpersonal trust is dynamic and processual. Rosie describes the difference she perceives in the trust afforded to her – who had come from a different part of the UK to start her job – and the new doctors who started their first job in the place where they had previously been a student. *"….so I already had trust off the nurses when I started…but they'd already built upon that trust. So we both had trust but there's was just a lot stronger I think."* She feels that the trust afforded to new doctors who are known to the unit is more robust, fortified by previous examples of their abilities and attitudes. She clearly illustrates the importance of a depth and strength of trust in the clinical domain as analogous to trust in a friendship group.

*"It's just like….yeah…with…yeah I just can't…*pauses*…for example when you first go to university and you're a fresher you're kind of constantly on edge during your first term because you've made friends but if you say something or do something that your friendship group is like "eh that's a bit weird" you might not be friends with them anymore. Whereas if you've been friends with someone for 10 years and then do something that they don't like, you're not going to stop being friends just because of that one thing…"*

And so - initial trust uses knowledge of external factors to determine how the trustee is likely to behave. This initial trust is fragile. Trust which is grounded in examples of previous behaviour and personal attributes requires time however is significantly more robust and more likely to survive in

the face of a mistake. Mistakes are more likely to be attributed to contextual factors, rather than inherent personal flaws or deficiencies.

Interestingly, Rosie goes on to discuss her own trust in final year students – whom she now has the responsibility of supervising. Similar principles apply in both directions in the vertical process of trust.

The initial trust that Rosie had in these students has been shaken by a few of them showing inexperience with the practical skill of inserting an intravenous cannula (i.e. a drip). This is a fundamental clinical skill and one which new doctors are likely to be required to perform regularly. Rosie describes the inexperience of a few of her students and how this has shaken her trust in them to perform other clinical skills. *"I've had final year medical students where I've asked them to do a cannula and they've said they don't feel comfortable doing them on people, so they've only done them on arms, like fake arms. And sometimes it makes me, that's only one part of what they've been taught at medical school, but it makes me question what else they don't do or don't know…"*

Not only has this admission of inexperience had an effect on her belief in those particular students – but also in all other and future students. *"But just a couple of students showed their inexperience and it did make me question my trust in final year students."* By extension, she seems to be questioning the system that has trained them and has begun to question the fundamental basis for her implied, initial trust – her understanding of what final year students ought to be able to do.

Trust and Mistrust

Trust from Senior Colleagues:

When asked to describe how she thought senior colleagues developed trust in new doctors, Rosie described a very functional process – focusing on knowledge and efficiency without mentioning any personal attributes. She explains… *"You know if you've picked something up in an examination before and then it's been confirmed it's like "oh - she does know things." If they ask you to do something and you get it done. Um...you know if you…yeh….those kind of things. Showing that you have good basic medical knowledge..umm…and that you're able to get things done…"*

The feigned tone of surprise with which Rosie said, *"oh – she does know things"* suggests that she feels senior doctors are surprised when a new doctor was able to perform well. This perhaps speaks to her interpretation of how new doctors are viewed by more senior medical staff. Perhaps this lends weight to her supposition that she is left alone to carry out tasks out of necessity – rather than appraisal of and trust in her clinical abilities. Or perhaps she is projecting her own feelings of being an impostor.

Perceived Trust:

Rosie describes the impact of perceiving that she has been trusted by a senior colleague. She describes a scenario where she had been called from the ward round to review a patient who appeared to be very unwell. When she returned to the ward round and discussed the clinical situation, the consultant asked the registrar (mid-level specialist doctor) to return with her and attend to the patient. This was done unquestioningly and Rosie perceived this unquestioning acceptance of her opinion – that the patient required urgent assessment – as an act of trust in her. When asked to reflect further on this episode, she described a positive effect on her ability to trust herself.

"He trusted my opinion on that… It kind of made me feel like maybe actually I did know what I was doing and obviously if he has trust in me then I should have a bit of trust in myself or trust in my abilities."

Her response to perceiving trust from a more senior colleague appears to be interpretable as - if this person trusts me then I must ipso facto be trustworthy. There is an inherent circularity in this logic – although this does not necessarily make it any less logical. Perhaps this is the key to breaking down the feelings of being an impostor? I.e. this consultant must see something trustworthy in me that cannot see in myself.

Rosie goes on to highlight the importance of other peoples' opinions of you in the development of trust in herself. In fact, when asked to determine the factors that help her develop trust in herself to

carry out clinical tasks – she consistently provides examples of the effect of external opinions. Despite probing this area she, at no point, talks about an internalised source of self-belief.

"….because the people around you affect your…your opinion of your abilities so much and if another person believes that you can do it then that kind of builds on your own personal trust in yourself that you can do it….you just….and then it's far easier to do it…"

In fact, Rosie's trust in herself – both in general and in specific situations – seem to rely on externally located sources. For example when asked how she knows whether or not she is going to be able to cope with a sick patient – she talks about relying on the nurses' appraisal of the situation – citing their significantly greater clinical expertise. She implies that there is a code in the way nurses ask her to come and review patients. If they are very worried about a patient – then she will more quickly resort to calling a senior. If however they ask her to *"just cast an eye"* over the patient then she perceives that the nurse is less worried about the patient – and she is consequently more likely to think that she will be able to deal with the situation.

"Yeah…umm…I think a big part of it for me is how the nursing staff react to the patient. They're really experienced so if they look like, they're a bit like you need to….something needs to be done – I'd trust their judgement. A lot. They've been around a long time, a lot of them are very experienced, they've seen a lot."

The repetition of the word "they" throughout this excerpt seems to be linguistically stress her separateness from this cohort of experts; emphasising her standing as a clinical novice and separating herself from this "they" who have the experience and expertise to determine if she can deal with the situation.

When pressed further to explore any internal factors that contribute to her decision to cope with a situation herself – she initially appears to understand the essence of the question *"Ah…okay….umm….."* but then actually goes on to discuss situational, contextual and clinical factors…

"I suppose when I arrive I'd probably, you know you get taught to use things like the NEWS[2] and if the NEWS is high then that tends to give you an idea that the patient is really unwell. If they look really unwell then I would automatically assume that maybe I can't quite deal with it."

In a further attempt to explore if she engages in any self-appraisal in these situations, Rosie was asked how she would feel about being able to trust herself in the specific situation of a patient with a reduced level of consciousness. At this point, she again does not discuss engaging in any specific self-appraisal but generalises her response to medical students in her entire graduating class.

*"I think, at least where I went to med school it was quite well known that med students are quite nervous about anything neurological, neurological exams are definitely everybody gets really nervous about. So anything where, if there was an issue with them not having a GCS[3] of 15 I would automatically be like…oh damn...*laughs*"*

So, Rosie seems to struggle to give any example of any positive self-appraisal in anticipation of being able to cope with a clinical situation involving an unwell patient. She never seems to find a kernel of self-efficacy at her core that just says – yes I can cope with this situation – she always appears to rely on appraisal of the clinical situation or context. Or indeed the expert appraisal of more experienced staff in terms of the clinical situation – or her abilities.

She does however talk about an episode of internal self-appraisal following a patient encounter in which she perceives herself to have made a mistake. Therefore, the only point at which we see her engage in appraisal of her own ability to cope with a clinical task – separate from other people's appraisal of her ability – is when it is post-hoc and negative. She talks about missing a clinical examination finding when admitting a patient with a large abdominal mass – and talks about the impact of this on her ability to trust her examination skills.

[2] NEWS refers to a National Early Warning Score. This is a standardised tool developed by the Royal College of Physicians which improved the detection and response to clinical deterioration in adult patients using basic, observable clinical parameters.
[3] GCS: The Glasgow Coma Scale provides a practical method for assessment of impairment of conscious level in response to defined stimuli.

"So yeh – that kind of made me feel like I couldn't quite trust my examination skills as much. And it did make me think I should go over abdominal examination again, just the basics, just to get used to it. And I need to practise my percussing. Umm….but again so much of F1 is not necessarily…it did kind of knock me back a little bit, knock back my trust in how I examine people. But how else are you going to get better?"

Perhaps, however, this does not merely reflect a reluctance to engage in internal self-appraisal. Rosie is certainly happy enough to appraise her abilities when something has gone wrong. Perhaps, as a brand new doctor, Rosie is just too junior to have developed the necessary bank of previous experiences and examples of successfully coping with a task, to be able to make an anticipatory prediction of her ability to cope successfully. She therefore must rely on other people's appraisal of her ability, and the clinical situation, to determine if she is going to cope with a task successfully.

Perceived Mistrust:

Perhaps because Rosie puts so much emphasis on the opinions of others in developing trust in herself it is not surprising that when she perceives mistrust it can have a significant effect on her conception of her own abilities. Rosie describes a scenario where a nurse asked her to review a sick patient. Following her review Rosie instituted the management plan that she felt was appropriate and subsequently left the ward to carry out other duties. Subsequently she discovered that the nurse in question had phoned her senior colleague and asked for their advice. *"And the nurse went behind my back and phoned the F2."* The use of the term "went behind my back" gives a slightly teenage or schoolyard inflection to her statement. The feeling conveyed was definitely one of upset; there was a sense of mistreatment or injustice in her description.

She explicitly states that this encounter had an overt negative impact her self-belief and security in her clinical judgements. She identified that these effects lasted for the next few shifts…*"Like I did double check with my F2 a couple more times than I would have previously I think over the next couple*

of shifts. Umm…" However, her extensive description of the scenario left an impression that this encounter, and the perceived injustice of it, was still playing on her mind. Rosie gave a very lengthy and detailed description of the clinical scenario and the management steps that she had instituted. She also explained to me why she felt that they had been appropriate and included an explanation of why she had not performed other possible management steps. This felt similar to clinical conversations that I have had with more junior colleagues. It conveyed a feeling of her trying to convince me that she had made the correct decisions – willing me to agree with her clinical choices and course of action. On reflection, I wonder - was she still trying to convince herself? This prolonged explanation of the clinical story and the context, and the feeling that she was tacitly requesting my approval of her actions as a more senior clinician, strengthened the impression that perceiving this mistrust has had quite a profound and prolonged effect on her self-belief.

"And it …that really made me feel undermined and like I wasn't trusted….And then, you know, it kind of affects your judgements. Like "oh well should I have… was my examination good enough? Were there actually crackles there and I just didn't hear them"…umm…"

(Mis)Trust from Colleagues versus Patients:

The way that Rosie interprets trust – or indeed mistrust – appears to vary depending on the origin of that trust. As discussed above, when a colleague appears to mistrust her – it has quite a profound effect on how she views her own abilities. However, she describes a different reaction when she perceives a lack of trust from a patient.

Rosie describes several situations where patients have informed her – that she is not a real doctor…

"Yeah I've had a couple of patients tell me I'm not a real doctor…"

She attributes this disbelief in her qualifications to her youthful appearance and not fulfilling the patient's expectation of how a doctor ought to appear – and seems almost understanding of this perspective. *"I think it's because I am 23…people do…they believe I'm a doctor obviously…I'm not going to lie…. But as soon as they get stressed and they're in pain I think it's easy for them…that's the one*

thing that they can kind of question, because you are young, like they don't quite have as much trust in you as they would a consultant because obviously you would far more trust a consultant that's got 20 year experience"

She also explains that it is when patients are in pain that they have tended to allude to this mistrust in appearance as their doctor. This suggests that her experience has led her to believe that pain – and perhaps the fear that often accompanies pain – can erode trust. However, unlike her response when a nursing colleague appeared to mistrust her – she describes a different response to a mistrustful patient.

"…pauses it's not very nice but also it kind of made me a bit annoyed. I was like 'I've worked hard for this, I'm trying to help you and you're just throwing it back in my face. Why are you doing this?' And it didn't make me *pauses* ahh…I don't know *pauses* I wouldn't say it was necessarily like *pauses* it wasn't positive, I mean put it that way but it didn't change my opinion of myself and my own trust and my own belief in myself. It just made me think 'oh you're an annoying patient, why would you say that?'"*

In the above excerpt, she pauses often. This perhaps suggests that she is hesitant to say something negative about a patient – even an anonymous patient. However, the impression is clearly one of annoyance. She feels annoyed by their suggestion that she is not actually qualified for her role – when she has worked extremely hard to be worthy of that role and their trust. This annoyance does not however seem to have a negative effect on her belief in herself - in the same way as the incident with her nursing colleague seems to have.

Rosie goes on to clarify her thought process on this point. She explains that a colleague's trust is a more objective appraisal of your clinical abilities – knowledge and efficiency. It is a very functional, strategic assessment upon which they base their decision to trust you. Alternatively, she feels that patients decide whether to trust her based on a more affective appraisal strategy… *"it's just slightly different to another doctor trusting you I think. Because they (the doctor) just know a little bit more*

about things. And a lot of patient trust isn't necessarily built on your medical knowledge, it's built on your rapport and your communication skills, how…how you take the patients feelings into account. It's very different. Whereas a doctor trusting you which is more about your medical knowledge, whether you're good at your job, whether you're efficient. It's a different kind of trust and respect I think."

The difference in the perceived sources of trust from these different agents allows Rosie to appraise them differently – and respond differently when she feels that trust is lacking. She appears to put less stock in a patient's trust because it is, essentially, about whether or not you are nice – and whether you have the *appearance* of a competent doctor – rather than any measurable kind of knowledge or ability. This seems to strike Rosie as a more subjective, perhaps superficial, assessment of her trustworthiness and is therefore appears to be worth inherently less. Lack of this type of trust therefore has less of an effect on her opinion of herself; causes less self-evaluation of her self-efficacy.

Field Notes: ROSIE

Before the Interview:

Rosie was my first interviewee and I was, consequently, a little nervous. This anxiety took me by surprise a little because as a clinician, talking to people about their experiences and their feelings - both visceral and emotional - is what I do on a daily basis. I am used to managing the ebb and flow of a conversation to ensure that both participants achieve what they need. Perhaps I was worried because I was removed from my usual context? I was removed from the clinical environment; an environment where I have a licence (a literal licence) to discuss some extremely intimate things with patients. Intimate questions are expected and, more often than not, accepted in my line of work.

So why was I so nervous? I think I was worried about being able to translate those skills into an extended interview. Moreover, in this scenario, I am a researcher – not a doctor. The participant is doing me the favour. I don't really have anything to offer the participant – other than my thanks and a cup of coffee. I am not diagnosing or treating them; not solving a problem for them. So the dynamic is definitely different.

That being said – Rosie was aware that I am a doctor and that in relative terms I am more clinically experienced than she is. I was also therefore worried that that dynamic will impact on the discussion. Would she try to hide things from me? Did she think I would judge her? Would she try to get me to collude with her opinion? With strong recollections of my own experience of this phenomenon – and my relatively negative feelings about this – would I be able to stop myself doing so?

I was also aware that I would only be interviewing a few participants and so, in order to generate a reasonable amount of interesting, useable information I felt I needed to hit the ground running. If I was only going to have 4 hours-worth of transcript - there was not a lot of room for long expanses of inconsequential or tangential conversation. Conversely, I wanted the participants to feel that their time had been well spent and they had been able to talk about the experiences that were most important to them; IPA is all about bringing their experience to the fore after all.

So…I had worries about balancing our agendas, worries about not being able to steer the conversation appropriately for an extended length of time, worries about not being able to recognise when I am colluding, or being asked to collude, with her opinion on the phenomena under discussion. Generally – I was worried. Perhaps this anxiety has some interplay with the very well developed streak of perfectionism that runs through my person. Basically - I just wanted to do this perfectly. Because I want to do everything perfectly.

During the Interview:

The initial introductory minutes in the interview felt a little stilted but subsequently the discussion started to flow. After this slightly anxious beginning, I relaxed into the role of the interviewer. Rosie's first answer was fascinating: deep with detail and mature in stance. I started to worry less about getting "useful" information out of this interview. Throughout the interview Rosie appeared comfortable and at ease. She was thoughtful regarding her answers and appeared confident in her opinions. I did not perceive any clues that she may be attempting to conceal her true thoughts from me – except perhaps her occasional incongruous use of laughter. This tendency however - to laugh at slightly odd points in the conversation - did not strike me until after the interview was over and I was listening to the recording. (more of this later!)

As the interview progressed, however, I did start to become aware of an element of surprise – or perhaps suspiciousness – regarding her answers. She seemed to be coping with the transition very well; she is well supported and seems mature enough to rationalise the more difficult or upsetting parts of the job. Was I a little bit jealous of her ability to do this? It took me several years – if I'm honest with myself - to obtain this level of maturity and self-reflection. She seemed to have accepted that you can't do everything perfectly in an imperfect clinical environment, she understands that compromises must be made. Quite large proportions of my first few months as a doctor were spent running along the 8th floor of Gartnavel hospital trying desperately to find someone to help me with a sick patient. Or, gulping back sobs in the ward prep room as I gathered the equipment to have *another*

attempt at that seemingly impossible arterial blood gas. It sounds like life is quite different as a new doctor these days – during the interview I felt as though I could find little of my own experience reflected in hers. And this manifested in an increasing suspiciousness of her testimony. Is the transition really easier to cope with now? Are graduates better prepared? It was certainly tempting to consider her experience of the phenomenon from the vantage point of…. "when I was a Foundation doctor." Or - having harboured some resentment over my own experience over the last eight years - was I just catastrophizing how badly I really felt? Did I really just cope less well than her…? For a perfectionist this is a daunting question. Will this have an effect on how I interpret her answers? Throughout the interview, I am gradually aware of an increasing desire to find something of my own experience in her answers. I therefore focus quite carefully on how I am asking the questions – attempting to remove any effect of my preconceptions on how I phrase or emphasise them. However, I am aware that at times, I have been tempted to agree in an obvious fashion with Rosie's perspective when it does appear to align with mine – perhaps showing her a glimpse of my own.

After the Interview:

Once the voice recorder was switched off, I was aware of a sense of great relief. The first interview was done and had, I thought, generated some interesting thoughts regarding her experience of the phenomena of transition and trust. I was grateful to Rosie for this – for her time and her very considered approach to her answers. We talked a little more about her hopes for her career and discovered that she is interested in a career in the same specialty as me. This pleased me – it allowed me to offer her something useful in return for her participation. Again – I am wary of allowing this feeling to affect how I approach my analysis of this interview. *I'm a bit jealous of her – and a little suspicious – but I quite like her.*

During Transcription and Analysis:

During the course of conducting this interview, I had felt that there was little to which I could relate - in terms of my own experience of the phenomenon. Consequently, I was a little sceptical of my

participant. However, in order to immerse myself in her account of her experience, I listened and re-listened to the audio recording whilst transcribing it. I subsequently read and re-read the transcription. As I became more immersed in her account, I realised that there were aspects of it that did really resonate with me – although these may not have been immediately apparent at the time. This particularly includes the issue of imposter syndrome. I find my heart hurting with empathy for her a little when I reread her musings on constantly feeling like she might be about to be caught out. I struggled with this feeling throughout university; I am still intermittently aware of it as I move through specialist training and am given increasing responsibility. Or undertake a challenging programme of postgraduate research. In my analysis of this participant, I made a connection between her descriptions of feeling not-quite-good-enough with the idea that she would automatically assume that a patient deterioration is somehow her fault. I do wonder if I see – or amplify – this connection because that is how I often personally feel and it is therefore explicable to me. My own experience may have led me to identify this connection. However, there is also a possibility that it would lead me to overstate it. Similarly, I certainly understand the participant's experience of being a young female doctor and the difficulty this can present when asking for patients' trust. I struggled with this issue as a junior doctor. I, in fact, still deal with it now intermittently. Patients often comment on how young I look; a new colleague recently mistook me for a medical student. At times, when I am feeling positive, this could be interpreted as a compliment. However, when people repeatedly mention your age in the context of your professional abilities and their faith in them - it can be quite demoralising. It feels as though you must prove yourself several times over. Or more than someone else who has the same level of training and skill but who has a more "grown-up" appearance. I could definitely feel myself agreeing with the participant when she talked about being told she was not a "real doctor" and how this could be extremely frustrating. She did however rationalise it, understanding that they may only be verbalising this lack of trust due to pain or fear. This stance struck me as very mature. However, I was slightly sceptical if this was her true opinion. During my transcription I had felt that some of the linguistic choices the participant made in describing this situation belied a greater strength of irritation

or upset with the patient than she was, on the surface, describing – particularly the use of laughter. There is a risk however, that my own feelings on this topic made me mis-interpret, or indeed over-interpret her statements.

Throughout the transcription and analysis process – the use of laughter was a striking linguistic feature. This participant often appeared to use this when discussing a topic that could be construed as difficult or upsetting. This appeared incongruous to the conversation at times and often left the impression of trying to imply concern or worry – but not doing so overtly.

One other point of interest is that, as the researcher, I often laughed along with the participant at these moments. At the time of the interview I did not feel that this was unusual or even realise that I was doing so per se. However, it was very noticeable when listening back to the recording. Perhaps this is merely the result of a tendency inherent within the medical profession to downplay difficult scenarios. We often use "gallows humour" to distance ourselves from the more emotionally challenging aspects of our job; when dealing with life and death, with pain and people. However, interrogating other potential motivations for doing this has revealed some interesting thoughts. Am I laughing with her in an attempt to make her feel understood? To imply that I understand where she is coming from; tacitly agreeing with her perspective on the situation? I may have been instinctively using this apparent collusion with her in order to encourage her to continue to share her feelings on these potentially difficult topics? Whilst this tactic may encourage openness – I worry that it may also be slightly problematic – in that I am perhaps revealing too much of my own perspective to her – even imposing my opinion?

Appendix 8B

KELLY

*"You'll see me in like 3 weeks and I'll just be a mess on the floor somewhere *laughs* *laughs*"*

Participant Background:

Kelly is a 23-year-old graduate of the University of Dundee Medical School. She has an intercalated Bachelors of Medical Science (BMSc) in Teaching in Medicine. This programme of study lasted one year and she describes it as an enjoyable year. This involved an initial taught component on the principles of teaching and learning. Subsequently she undertook a self-directed research project. She has not personally used qualitative research methods however she has close friends who have and she has previously been a research subject in a qualitative interview study. She is currently working in her first post as a Foundation Year 1 doctor on an Orthopaedic ward in NHS Fife. This is a moderately sized district general hospital and a specialty that has a historical reputation for being unsupportive.

Trust and Family Dynamics

Whilst asked to describe the supervision she receives, Kelly minimises this *"*laughs* I think unsupervised is the best way to go…em…".* However, she is enthusiastic in her description of the support she receives from her senior colleagues and perceives that she has a good relationship with the more senior doctors on her team.

*"Em…so yeh…no…I think I'm quite lucky because I've got quite a good…*laughs* I would say anyway from my one side of the relationship…*laughs* quite a good working relationship with the registrars and the consultants *laughs* in orthopaedics."*

Laughter punctuates this statement – perhaps this belies some surprise that she is able to say this about an orthopaedic team? This specialty certainly has an anecdotal reputation of being difficult to work for and for providing little support for junior doctors.

At times, her relationship with senior colleagues appears almost comparable to that of a family. When asking for their help they can sometimes appear condescending and she can be made to feel "silly" - a term resonant with undertones of childish foolishness. *"You can tell sometimes when they answer the phone they're a bit like "why do you ask such silly questions"* Etymologically, "silly" did not originally refer to the absurd or ridiculous but, in fact, happy, blissful, lucky or blessed. It has subsequently mutated to connote innocence, or deserving compassion, and laterally has developed a sense of naïve childishness. Kelly's use of the term "silly" in this context could be interpreted as her having been made to feel childish or naïve. She later refers to the act of asking for help and how it is easier to do so if they have not had to *"hold her hand"* throughout the rest of the shift. The use of the image of handholding is again laden with connotations, placing Kelly in the role of a child requiring comfort, support and direction from an elder.

She goes on to qualify these statements however by commenting that, despite this somewhat condescending reaction to her request for help, her senior colleagues are actually happy to support her. *"but em…they're all happy to give advice and if I'm really worried about something they're all*

happy to come and see the patients. So I've never been totally on my own in that sense." Kelly describes an almost unconditional element of the trust in her seniors: if she asks them to, they will come and provide her with support. *"But if it's an acute thing then they come no matter what."* The use of the short, strong phrase "no matter what" speaking to the categorical nature of this arrangement.

This description of the dynamics between the junior and senior members of the team almost puts one in mind of a relationship between siblings. Kelly positions herself in the juvenile role. Whereas her senior colleagues act in the capacity of the older sibling. They will make fun you – often relentlessly – but will actually always be there if you need them.

Kelly describes the development of this trusting relationship over the first few weeks of her job. She describes the initial sensation of being heavily supported because of an understanding of the stress of her new and junior status. However, over the first few weeks she has seen a change in her senior's approach. She now feels that they have a more grounded trust in her: reflected in their response to her requests for help. They no longer come to see patients out of courtesy to her – they are beginning to trust her opinion of who is sick and requires senior review.

*"I think for the first few weeks it was almost like a courtesy thing where they showed up because I was worried and they were just wanting to calm me down… Whereas now if I called them to say I'm worried about something they'd be like "okay – we should be worried too." *laughs* So it's almost that change, it's not like a courtesy any more, if I say I'm worried about something, if they can't work it out over the phone they'll be like "oh we should actually be worried.""*

She describes a mutuality to this trusting relationship. Not only are the senior doctors developing trust in her opinion, she too is beginning to develop an understanding of their thought processes and therefore a trust in their instructions.

"….like in the same way now I kind of trust the registrars a bit more. So like generally I'd question everything they did for the first few weeks. Like "why are you doing that though? Why is this there?"

But as time has gone on it's like "okay – they know what they're doing. I'll just accept that that's the right thing to do."

Source of Self-Efficacy

Kelly is asked to consider where her sense of self-efficacy for clinical tasks originates. She immediately describes initial self-doubts and does so in a run-on sentence which involves a lot of self-questioning statements *"I think the first few weeks it was a lot of umming and aahing about "should I do this? Can I change these medications without supervision?""* This sentence almost feels like a stream of thought and the pressure felt by the repeated questions perhaps reflects the existential pressure felt by Kelly when having to decide if she was capable of carrying out a clinical task.

When pressed to consider where her sense of self-belief comes from when asked to carry out a task – Kelly pauses and then admits that an internal sense of self-belief may not actually exist. Her ability to make herself carry on and perform the task appears to be based on clinical context and the necessity of the task itself – rather than a deep-seated trust in her own ability.

*"But…*pauses*…I don't know where it comes from actually. I think probably just the necessity of I know this needs done, I know my patient needs it, I know it's going to be of some benefit to them. I think as long as I can logically, like see that it's going to logically be a benefit to them I can be like well…if I'm not going to do any immediate harm to them then I'm quite happy to like have a go at it *laughs* kind of thing."*

She goes on to underline the external locus of this decision making process by placing the onus on the patient i.e. she decides if she is going to carry out this necessary task if the patient is happy for her to do it – not because she knows within herself that she is capable of it. She also relies heavily on the expertise of the nursing staff.

*"Em…I think as long as the patient is happy *laughs* for me to do stuff…em…I think it's more of necessity than anything else if I know it needs done, there isn't going to be a reg(istrar) around to*

supervise. And like generally I think the nurses have seen most things be done on the ward as well like so if I'm like, I can like, like talk through it with them."

There is marked speech disfluency here. She pauses frequently, makes false starts, and uses the non-lexical utterance "em…" several times. She also uses the hesitation form "like" with remarkable frequency (in fact five times in one short sentence). This makes Kelly sound very hesitant and unsure of her response in this excerpt. It is interesting that she becomes less fluent in her speech here. Perhaps it is because she has never really considered this question before – disfluency is often seen when someone starts speaking before their thoughts are completely formed. Perhaps, however, her hesitant speech truly reflects her lack of surety in her own ability.

The question is then posed in a different way – what are her thought processes when she has been called to attend an acutely unwell patient or is walking towards an emergency? Again, Kelly describes the framework that she is planning to use when she arrives with the patient *"I think it's always just ABCDE*[4]*… it's so engrained in my head"* but does not describe any self-appraisal of her ability to deal with the potential situation. All medical students are trained to use this framework for all deteriorating or critically ill patients in order to ensure a thorough initial assessment and accurate prioritisation of emergent problems. They are drilled in this approach and Kelly describes it as being engrained. She sounds almost as if she has an "acutely unwell" or "emergency" mode which kicks in like a switch and this does not allow her to consider anything else in this situation such as her own ability to deal with the situation: she just deals with it.

Kelly's appraisal of her own self-efficacy appears to be hugely contextual and related to the opinion and presence of others. She describes how having a senior physically present changes the amount and nature of questions that she asks. *"Erm…'cause yeh I think I definitely ask them more questions if they*

[4] Airway Breathing Circulation Disability Exposure

are around…like if they do appear on the ward I suddenly have 20 questions I want to ask them. Whereas if I phone them up it's usually just one or two."

Effects of Over Support/Too Little Trust

Perhaps because her sense of self-efficacy is so very reliant on external factors – i.e. the clinical context, the opinion of other more experienced health-care practitioners, the support that she has from them – there is a definite sense that Kelly has been left feeling as though she may only be capable in THIS context, with these supportive people surrounding her. This concern is betrayed in a short sentence *"I feel very sheltered…I'm worried about on calls and stuff like that now like "it's not ortho*[5]*."*

Kelly is not sure that her clinical abilities will translate into a generalised sense of self-efficacy for similar situations in different contexts – for example when she is on call and covering more than one specialty[6] with, potentially, a different set of senior staff available to her. This is perhaps an unintended potential consequence of providing new doctors with plentiful and easily accessible support.

Kelly describes this issue in terms of being *"sheltered."* She uses this specific term several times and it forces us to consider - from what is she sheltering? Perhaps the obvious connotation is that she feels that having to work *without* readily available support could be likened to a storm – a violent disturbance of atmosphere over which there is little control and which must be endured – or indeed weathered. In her current context, with this particular type of patient and her current team – who she can trust to come if she needs help – she is safe from this potential storm.

Systems appear to be in place in the clinical domain to avoid placing new doctors in this situation – of being asked to deal with a situation out with their competence without senior support. *"Most of the*

[5] Orthopaedics

[6] During normal hours, junior doctors are attached to one specific parent specialty. However when on-call out of hours they can be responsible for a large number of wards spanning different specialties. They are also likely to be part of an on-call team which does not necessarily include any of the senior staff members from their parent specialty.

time when I get called to like a FEWS[7] *of 5 it's like a post op pyrexia*[8] *or they're just a bit tachycardic*[9]*, most of the time. I think the highest FEWS I've had has been like a 9 which was a bit more scary. Obviously as well if they have a FEWS of 9 the reg(istrar) automatically gets called as well. I think it's one point off the consultant getting called."*

Kelly's reaction to this system being in place is that it has "saved" her *"That's saved me a lot of times."* suggesting that this system of automatically calling seniors at a specific trigger level has acted as a form of protection. This notion of protection accords with the earlier use of the word "sheltered" and prompts us to consider again - from does she feel she is being saved? Disaster?

Moreover, when Kelly is asked if she ever feels she is being given too much responsibility for a task - she describes making the decision to opt out of that task. *"It does occasionally…that's also why it's quite handy that there's just the 2 FY1s in a sense. Sometimes I'll just turn round to the vascular FY1 and say….we have a terrible saying of…is this above our pay grade? *laughs* Where we just kind of look at a kardex*[10]*, look at each other and go that's above our pay grade now *laughs*"*

So here, Kelly appears to use the opinion of another FY1 to regulate and calibrate what type of task she ought to be doing - or decision she ought to be making - without support. This legitimises her decision to opt out of doing this.

Not only does Kelly feel very well-supported by the accessibility of her senior colleagues, she also repeatedly references the support from the wider clinical team. *"We've got like a trainee pharmacist as well at the moment. So she's wonderful. We just run everything past her basically whenever we're doing anything. So she's been absolutely amazing…em…so that really helps"*. She is hugely positive in her description of the experience, clinical expertise and procedural ability of her nursing colleagues. She describes the complementary nature of their abilities with her knowledge and the impact on the

[7] FEWS stands for Fife Early Warning Score. This a local version of the National Early Warning Score as described on page xx.
[8] Patient temperature raised post-operatively
[9] Increased heart rate
[10] Drug prescription chart

team dynamic. *"…in that sense that they have the experience to add to the fact that we are supposed to have a little bit more of the medical knowledge…but like a lot of things that they're seeing on the wards will be stuff they've seen before. So they're going to have potentially more of an idea of what's going on than I'm going to. Em…so I think it's that kind of way of all being together and all working through it. And thinking okay what's changed today to make them have a fall today that they didn't have yesterday. And the nurses…the health care support workers and stuff like that will add so much into that picture. Kind of, it's just so useful…I just really like the team working attitude of it."*

Whilst enjoying the nature of this teamwork – Kelly does describe how occasionally, because the nursing staff are so "switched on" they can deal with lots of situations autonomously. *"And usually when I've been called for high FEWS situations it's like…the nurses have already started doing stuff. They've already got oxygen on, they've already started taking bloods, they've already got cannula in kind of thing. Like the nurses on those wards are so on it. It's unbelievable. I remember showing up once and they said "yeah this is what we've done" and thinking "well that's basically everything. I don't even know what I'm meant to do now."* The final sentence of this excerpt was said with a tone of almost bewilderment – it sounds almost like a verbal shrug of the shoulders. It suggests a sensation of redundancy as a team member – as if she has nothing to add to the situation. This level of support is comfortable for Kelly, but perhaps insufficiently challenging. And perhaps compounds the lack of belief in her own ability to function competently in any situation other than the one in which she currently works. Her self-efficacy for these clinical tasks appears to be entirely reliant on contextual and external factors – she does not appear to undergo an internal process to decide if she is capable of a task. And this makes it difficult for her to see how she will function competently in other situations when this is removed.

The Fear

One of the overwhelming impressions during this interview was one of thinly veiled nervousness and concern about what lies in wait for Kelly when she moves on from this comfortable situation. And we see this sense of fear is communicated in a number of ways.

Kelly explicitly describes this fear of the unknown to us *"But yeah – I think it's more the uncertainty that gives me the fear. I've never done like an on-call shift before. So I think that…everything kind of gets better once you've done it. Like my first weekend shift I was terrified because I've never done a weekend shift before and then I think for my first night shift I'll be the same. For the first on call I'll be the same."* She describes multiple new situations in which she is anticipating feeling "terrified." She frequently employs the language of fear to describe her interpretation of what the future may hold for her. She describes spending her summer trying to avoid the idea of starting work and ignore the fear that this entailed for her *"Like I remember…like I spent all summer travelling like and just trying to distract myself from the fact that I was going to start as a doctor soon. I was basically just trying to run away from all my fears"*. This almost feels like she is trying to outrun an inevitable fate.

She currently finds the prospect of her next transition "scary" *"Em…so I think it's just the uncertainty and unfamiliarity of it that makes it a bit scary"* and anticipates that she will feel "frightened" when she is moved to a different hospital *"So I'm going to get such a fright when I go to Edinburgh next block."* This use of language and, in particular, the application of this language in past, present and future tenses (she had fear; is scared; will be frightened) conveys the impression that her sense of fearfulness is persistent, pervasive.

Kelly also intermittently uses words that convey an even more graphic sense of fear: she talks about anticipating terror, expecting horror, predicting disaster.

*"Em… so yeah..I think because I've not had the **terrifying** moment of "oh my god this patient might actually die" yet."*

*"I think like I've not had the **horrendous** situation where you get to the patient and they just look like death."*

*"My boyfriend that I live with is actually on nights just now for the first time so I'm just waiting to hear all the **horror** stories he'll tell me."*

*"We've not had any massive **disasters yet**."*

Perhaps the use of these words is mere hyperbole. However, their repeated use makes it more difficult to decipher if we are to take her literally.

The image of "death" has also begun to appear in relation to these fearful moments – casting a dark shadow over her thought processes. It is inevitable that she will be present when a patient dies and will be powerless to stop this. Kelly employs further imagery when she discusses how she thinks she will cope with being put into different, less supported situations in the coming weeks.

*"You'll see me in like 3 weeks and I'll just be a mess on the floor somewhere *laughs* *laughs*"*

She describes herself as being "a mess on the floor somewhere…" This image of "a mess" could be interpreted quite literally: a senseless, amorphous mass of matter. And the addition of the word "somewhere" suggests that sense of space and direction are totally lost. Kelly provides us with this prediction, this vivid and concerning image. She then laughs, takes a breath, and then laughs some more. This seems strikingly odd. Perhaps she is laughing to signal that she is not truly serious about this prediction. Perhaps she is using this laughter to mitigate her vulnerability by expressing it as an absurdity. She is speaking an uncomfortable truth but perhaps an inevitable one and it is better to laugh at this than to cry. Perhaps she wishes the listener to move past this – not really wanting to admit to it. However trying to downplay her fear with laughter has made it stand out as all the more obvious.

Importance of Graduated Attainment

Kelly goes on to discuss the importance of graduated entrustment and attainment – perhaps as a remedy to the situation in which she now finds herself – comfortable but insufficiently challenged and unable to determine if she will cope in less comfortable/supported situations. She describes the importance of finding opportunities to perform new skills that are appropriate in terms of challenge. For example – she describes another junior doctor offering her the opportunity to carry out a

procedure in a patient who has had it done multiple times before and is likely to be relaxed about it. She also describes that an experienced nurse would be available to supervise her.

""this person needs a (urinary) catheter. He's got like a long term thing, he's used to having catheters done. They're probably quite a good one to get signed off." So the fact that someone had actually found someone that was probably going to be really good for getting a catheter in in a sense was a massive help. And I had the support of the nurse there as well."

In this excerpt, Kelly contrasts this against an opportunity for the same procedure that she deemed to be inappropriate and out with her own limits of competence.

"there's almost that moment of "well the patient needs this, it's something I should be able to do, like" and like I think like, to be honest I was very lucky in the sense that it was a very comfortable environment to do it…but at the same time there was like another catheter to be done and to be fair like I knew like three people had already tried to put one in. And this wee woman was not keen to have anyone else try. So I was like, just "going to call gynae[11] *because it's potentially a gynae problem" and like they came and everything like that and they sorted it all out and it was fine. But I was like "I don't feel like that's going to be one that's appropriate" because three people had tried who were going to have had more experience at putting catheters in than me. So I was like "it's not going to be a great one for me to do" in a sense. And I was like either way we were at that point where we probably needed to escalate it to somebody else."*

She describes the development of this knowledge - of jobs with which an FY1 can legitimately be entrusted - as a vital part of what students develop in their final years at medical school.

"And I think that's sort of what you get in your final years, like that experience of saying something this is something I can do but also this is something that I couldn't."

[11] Gynaecology

However, Kelly gives a slightly confused message regarding being aware of her limits and her comfort with being asked to do tasks on which she has not had large amounts of training. At some points, she expresses horror at this idea…*"It's even stuff like….like here they obviously have loads of training so I went to the CVC*[12] *insertion a little while ago and it was really interesting and did it on the dummy and things like that. But I still feel like if someone needed it on the ward I wouldn't be like "I'll do it, I'll have a crack" – that would be horrifying"*

She later gives a slightly contradictory impression *"I don't know….I'm one of those people like if I've done it once I feel like quite comfortable and I'll at least have a go again."* These contradictory statements leads to the sensation that Kelly has not perhaps settled her thoughts on this issue as clearly as she is trying to convey. Again, this contributes to the feeling that she is presenting a bit of a façade.

She talks about asking a senior to make a clinical decision. If they are absent from the ward, she will try to come to a conclusion about many decisions herself. If however they are there – she will simply ask them to make the decision. She is aware, however, that this approach reduces the educational value for her.

"Whereas if they're on the ward already I'll think "well…you'd ultimately make the decision even if we couldn't decide" so it's easier to just cut out all that middle nonsense and be like" what do you want us to do?"

Interviewer: Sure

Kelly: But also I think that…just in the sense of my own learning and stuff I do think it's almost better to have that discussion with the team and kind of like, see the options."

…TALKS AROUND IT A BIT MORE…

[12] Central venous catheter

*"so even having someone just a bit more senior who could just be like – yeah we're going to do that – straight away would be wonderful and probably save us so much time *laughs*"*

"Interviewer: But you're learning so much

*Kelly: *laughs* yeah *laughs* I know it's like an internal dilemma…do I want to learn and be a better doctor? Or do I want to just get things done and go home? *laughs*"*

She does see the importance of this learning however describes it as a dilemma: should she just do her job and go home or make the extra effort to utilise learning opportunities? At the end of this part of discussion - she seems to be leaning towards the side of time saving rather than learning. All of this is again, in the parenthesis of laughter. The reason behind this laughter is again, slightly unclear and it is odd that is employed during the discussion of something which could be considered by serious – what kind of doctor do I want to be….?

This brings us back to our original concept of the clinical team having a dynamic similar to that of a family. Perhaps supporting and training a more junior team member could be considered similar to that of raising a child or teenager. We may wish to continue to protect or more junior team members and not expose them to any significant challenge – or chance of failure. However, Kelly recognises that without exposing them to these situations – in a gradual and appropriately timed fashion – they will never learn to be able to work with a level of independence.

Field Notes: KELLY

Before the Interview:

Prior to my second interview, I was significantly less nervous than I had been prior to my first. I had been pleased with the outcome of my first interview and was therefore looking forward to generating further data. My only slight concern was that the participant had recently contacted me and had had a change of plans – we therefore had a shorter timeframe within which to conduct the interview.

Having recently completed transcribing my first interview – I was aware of the slightly incongruous way the first participant had used laughter. I had also noted my own use of laughter. During this second interview, I was perhaps therefore particularly alert to the use of laughter and gallows humour. I was keen to continue to show an understanding of the participant and to build rapport. However, I was aiming to avoid some of the laughter that seemed to signify an obvious agreement with the participant's opinion that I had noted in the first interview.

During the Interview:

At the beginning of the interview, I noted that the participant had some experience of medical education research and, specifically, had participated in previous qualitative research interviews. Right at the beginning, she briefly commented that one of her close friends had been involved in this style of research and she had volunteered to be involved in my project because she understood that it could sometimes be difficult to recruit: I was grateful to her for this. However, during the interview I was struck by the sensation that the participant was trying to please me; it almost felt as though she was trying to give me the "right" answers – or at least the right sort of answer. She was worried about not giving me enough data:

"…Like I'm not…I'm going to be a terrible interview…I'm like "I've not had any stressful experiences yet!"

Indeed, she even appeared worried about the language that she used and the impact this would have on my transcription.

"…where if something did go wrong you'd feel a bit flummoxed a bit.

Interviewer: Sure…

Kelly: …which is not a great word to transcribe later

Interviewer: No that's fine"

During the conversation, Kelly came across as really bubbly and bright; the conversation interleaved with lots of laughter. Having considered the use of laughter by the previous interviewee – I was perhaps more aware of this and more cognisant of the different reasons why she may have been employing it. Indeed, laughter was often juxtaposed against some potentially worrying statements. To me this struck an inharmonious note similar to the one observed in the first interview. I was certainly more watchful for this type of (?unintended/unconscious) concealment as a result of my original interview.

answers."

After the Interview:

Immediately after the interview – if I am honest – I was a little suspicious of how well she claimed things to be going and how supported she felt in her new position. On the surface, "everything is going fine" does not appear to require a lot of in depth analysis. However, the sheer amount of incongruous laughter throughout the interview left me with the suspicion that she was – perhaps unconsciously – concealing more worry than she was prepared or able to show me. However, again I am coming at this from the perspective of someone who has been through the transition and who struggled with it. There is a real risk that I may be overly suspicious of her apparently smooth transition.

I was also left with a strong sensation that she was, at least in part, trying to please me. Perhaps this relates to the slightly odd dynamic of a junior doctor being interviewed by a more senior doctor (albeit in the role of research rather than clinician). Perhaps this was because of her knowledge of my

research process. But it definitely suggested to me that I ought to view her responses with an element of suspicion – maybe she is trying to tell me "right answers."

During Transcription and Analysis:

Throughout the transcription and analysis of this interview, I felt a growing sense of unease for Kelly. She presented herself as someone who had not had any significant difficulty as of yet and did so in an apparently light-hearted way. However, I was increasingly suspicious that she may have been hiding more significant concerns; covering up actual anxiety with her breezy manner and uncomfortable truths with nervous laughter and gallows humour. I recognise this tactic in myself. I have tried to tell someone how badly I am feeling but, not wanting to lose face, have punctuated my statements with a laugh and glossed over them with a bubbly manner. There is a curious dilemma to this. I want people to know that I am struggling – but I don't want people to know that I am struggling. So I cloak it in a joke. I hide it in plain sight. I have used this tactic – with varying degrees of success – several times over the years since I qualified. And so I am perhaps particularly attune to this behaviour. Or perhaps I am more likely to over interpret this type of light hearted approach to this difficult transition period. I almost cannot believe that someone could not be truly terrified in her position. The discussion itself - regarding the effects of being over-supported on her self-efficacy - did also leave me harbouring a little bit of worry for her. More so however, her attempts to make light of it.

Whilst cognisant of the potentially negative effects of being so well supported - I did also notice a small strain of jealousy surfacing within me as she discussed being so well supported. I feel jealous that my own experience was not like that. I was desperate for support as an FY1. I have vivid memories of feeling totally alone in difficult clinical situations. Perhaps that is why I cannot shake the idea that there is some sort of façade being presented. In the context of my own prior experience – I cannot quite believe what she is telling me. Interestingly, when I mention this to colleagues who have been through the same process – they are equally surprised and sceptical of her description of her experience.

The point at which I *do* begin to recognise some of her experience is when she talks about the fear of the unknown. I really understand that sense of self-doubt. It is still occasionally present. When I start a new rotation in a different hospital. When I operate with a new consultant watching me. Even on the drive into a nightshift – I am still aware of an element fear of what might happen over the next 12 hours. Will I be able to deal with it? Will I make the right decisions (or at least safe decisions) at the right times. It has lessened over the intervening years but this feeling has never completely deserted me. In the past, I thought it would eventually go – when I'm older, when I'm more competent, when I've seen it all. However, I am beginning to think it will accompany me for a lifetime. Maybe that is why I see this fear so clearly in Kelly.

Appendix 8C

MAX

"yeah…but at some point you've just got to do s@t, don't you."*

Participant Background

Max is 23 years old and a graduate of Edinburgh Medical School. As an undergraduate, he undertook an intercalated Bachelors of Medical Science in Biochemistry. He also founded and chaired a charitable organisation *focused on widening participation to medical school*. He is currently working in General Surgery at the Royal Infirmary of Edinburgh. He is on the Academic Foundation Programme as he plans to incorporate research into his clinical career. He plans to become a physician in Care of the Elderly. He has previously undertaken qualitative research studies and has conducted in depth interviews.

Taking Responsibility

Max repeatedly references the fact that he rarely asks for help from his surgical seniors. Certainly, for medical complications he is much more likely to ask for help from a different medical specialty. When it has become necessary to request help from another specialty, Max does not appear to have had any significant difficulties. He describes this to be the case even when phoning specialties who are not always forthcoming. *"em…and you know cardio…people have had bad experiences phoning cardio but…every time I've phoned them they've come pretty quickly to help. Which is quite good."*

Max goes on to consider why this help has been so forthcoming. He does not appear to attribute it to the magnanimity of the senior doctor – or discuss it in terms of their trust in him. Instead, he suggests that, at least in part, their obliging attitude is due to his own ability: his ability to make convincing referrals or his ability to make appropriate decisions about when and to whom patients should be referred *"I don't know if it's my referrals or the nature of the things I'm referring. Or what but….yeh…they've been quite helpful so far."* His manner here is slightly self-effacing, but there is an underlying sense of self-assurance. This suggests that, regardless of whether or not he is trusted by others in the clinical team - he has a strong feeling of trust in himself and his own abilities to obtain support when required.

This strong sense of self and self-assurance runs throughout Max's account of supervision and trust as a new doctor. Max is clear in his assertion that there is little overt supervision on his surgical ward. He feels that if supervision is required – it is his responsibility to recognise this and request it. *"For general ward work em…there isn't really much supervision. It's up to you and if you feel you require supervision you have to seek that out. But again that responsibility is on you."* This suggests that Max identifies self-awareness and the ability to identify your own limits as a new junior doctor is extremely important. When asked to consider an episode when he felt trusted Max struggle initially and pauses for a significant length of time. *"*long pause* Erm…*long pause*"* He then goes on to explain his thought process on this. It seems that his difficulty was actually in how I am defining this interaction. He does not see it as *being trusted.* He does not see this as a transaction between himself and his

senior colleagues. Trust is not being passively given to him. Instead, he sees it as *taking responsibility.* He is much more active in his description of this phenomenon; he is using his own initiative *"well…see I'm not sure I'm explicitly trusted, is the problem. You know, I'm on the ward and I deal with any issues that crop up. And in a way I'm trusted to do that. But it's not like anyone is saying, "aw…you can do that…" and patting you on the back. It's just like, it's there and I deal with it. Em…so I think….I'm not sure trusted is the right word. It's just…I guess it's more responsible than having something entrusted to me. *pauses* And often, actually that again is my own initiative, rather than anyone telling me."*

Lack of Mutual Trust

Max does not perceive any explicit trust from his surgical seniors. Interestingly, he repeatedly alludes to a lack of trust that he has in them. This is most particularly in reference to their ability to handle medical complications – rather than surgical complications. This major theme underpins his whole interview and is refers back to this regularly using sarcastic rhetoric. He introduces this topic early in the interview by explaining that he is rarely supervised except when he is asked to assist in the operating theatre and is asked to hold the camera during a laparoscopic procedure. He describes this important job as *"So, I essentially stand and hold a stick for an hour and a half or whatever."* This reduces this important task to something very menial. The addendum of "or whatever" reduces this task even further – it suggests that it does not really matter what he is doing – it could be any other menial job. It smacks of acerbity and makes clear that he does not value this as time well spent or useful in terms of his learning. He does not appear to trust surgeons to manage medical complications or conditions. He uses the example of a patient with an enlarged spleen and low platelet count (which makes him prone to excessive bleeding) and describes this patient being on a surgical ward using the – somewhat violent – metaphor of a ticking time bomb. The underlying suggestion may be that some dolt of a surgeon will amble over and unwittingly make this patient bleed to death.

His slightly contemptuous tone continues and he describes how, in fact, working with surgeons has a negative impact on his own learning. Again – he emphasises that they know little in terms of medicine *"But *pauses* but you know….I think…I don't know if it's particularly on a surgical ward because they*

just *don't know any medicine. But you…very often come up against medical issues that you're not really comfortable dealing with."* He describes how this means that often his time is spent referring to other specialties – rather than learning how to manage the patient. He is however, aware that this opinion may simply reflect his conscious – and remarkably blatant – bias towards medicine and against surgery *"*Em *pauses*….whereas on a medical ward I feel like you might actually be more involved in actually managing that. And I guess that's my bias as I'm more interested in medicine than surgery. And that's what I'd rather be doing."*

The lack of mutual trust in this relationship is highlighted in an anecdote relayed by Max regarding a patient with a persistent headache. The headache sounded very similar to the patient's previous migraines however, his senior surgical colleagues asked Max to refer the patient to medical colleagues for advice and review to exclude more sinister causes. Max describes trying to gently convince them that this was unnecessary but was met with a further request for a referral. He sounds frustrated that his opinion is not yet trusted by the surgeons – although given his very junior status – he can rationalise why this may be. Max describes making the phone call to the medical doctor *"So I phoned and said "look, this lady is having a migraine." I didn't say it like that obviously but I gave a headache history which was absolutely typical migraine and I could hear myself. And I know what it sounds like. And they're just going to say this is a migraine"* and describes almost feeling embarrassed that he was having to ask this question. And when, ultimately, the medical doctor agreed with his assessment of the situation he laughs *"So they came down and were like "oh yeh – it's a migraine." *laughs*" and lambasts the surgeons for delineating a simple management plan. "Like – you know – as if I couldn't have come up with that management plan."* Again, this remark sounds sullen and almost teenage in tone; perhaps the effect of his lack of trust in them and the frustration of their lack of trust in his assessment.

Max equally appears to have little trust in other members of his team – most particularly the nursing staff. The first interaction he describes is being asked to give an intravenous medication himself

because the nursing staff were not trained to do so. *"Em…and you know it's okay, it's not that difficult. I left the patient's drug chart in the drug room when I went through to give the atropine so I then couldn't check their wristband against the thing and then a nurse was telling me off and….I was like….. "this is why we don't do this! This is a nurse's job."* He seems to be implying that this is a simple task – but one that he did imperfectly because he has not been trained to do it. The use of the terminology "nurse's job" has however a somewhat derogatory accent; perhaps implying that it is menial and he has not been trained to do it because it is beneath his notice as a doctor? In relation to not being able to give this medication he, somewhat sarcastically, describes the nursing staff as *"wonderfully unhelpful."* This attitude portends further mistrust of the nursing staff. He describes an erraticism in their approach to unwell patients; being called repeatedly when patents only have minor aberrations in their basic observations and not at all when patients are really very unwell. *"*laughs* But equally the nurses don't call you when they have a NEWS of six and they don't have pancreatitis and they're really unwell and you just find out when…"* thus suggesting that he does not trust their clinical decision-making.

Sources of Self Trust

Given the emphasis Max has placed on the importance of taking responsibility (rather than being given trust) and the lack of trust he appears to have in his clinical team it is perhaps unsurprising that his source of self-trust appears to be very internalised and relies little on external factors. When asked specifically how he determines whether he is going to be able to deal with a clinical situation, he considers the question briefly and then replies that he feels that he thinks it is down to having seen and dealt with a similar situation before. In doing so he repeatedly uses the first-person singular nominative case personal pronoun 'I' – repeatedly referring to himself. *"Em….so I think either way it often boils down to experience. So if I go and see someone who I assess as septic and they have an obvious source like a wound infection, I know what to do."* There is no consideration of considering external factors in his answer. His sense of self-belief is entirely internal.

Max feels that he derives the confidence required to take this responsibility from his previous experience of managing a charity. *"Em…and then I….I guess probably just because I have some experience of kind of management…I kind of put that across quite confidently and say "I think this is what needs to happen. Do you agree?" Rather than…. *high-pitched* "please help…I don't know what to do.""* Here he seems to contrast his sense of self-confidence against more reticent efforts that may be made by his colleagues who have not had this type of management role. His use of altered voice pitch seems to portray these colleagues as anxious characters. By contrasting his own more confident sounding approach with theirs he sounds as though he is placing himself apart from this type of anxiety. This suggests the sense of self-efficacy he has derived from these experiences as a manager is transferable to the different circumstance in which he now finds himself. No longer a charity board member – but the bottom rung of the medical hierarchy; this change in circumstance does not seem to have upset his sense of trust in himself.

In fact - the overwhelming feeling from Max is one of self-assuredness. *"But again, I went, I recognised there was this issue, took a thorough respiratory history, made sure in myself that I was justified in making the referral and then went and phoned knowing that I had all the information to hand. But there's a confidence there in that….I knew what to ask."* However, he does betray small instances where his trust in himself is less steadfast - or perhaps where he feels the weight of the responsibility. He describes the new sensation in the circumstance of taking blood cultures[13] when he was in the final days of being a medical student. As a student, he relied on the safety net of the doctor to whom he was assigned. However, as time pressed forward and he was closer to being the doctor responsible for this task he was aware of a sneaking sense of doubt. *"And also, creeping in at that point, the feeling of "okay just now if I don't get this I have a handy FY1 hanging around outside." Em…whereas now if I don't get it, it's like a big deal. I need to go and get someone else."* The use of this word "creeping" is

[13] Blood cultures refer to a blood test for the presence of microorganisms in the blood. It requires a specific sterile, no-touch technique.

suggestive of how Max experiences this feeling of self-doubt. It sounds surreptitious – almost malign. This quiet feeling of doubt steals up on him and has the potential to undermine him.

When allowed to take hold, self-doubt can have a significant impact on Max and cause him to experience a vicious circle of panic. He describes this in relation to taking blood *"… it was literally day 1 as a doctor, day 1 of shadowing as a doctor. And eh…I just couldn't get them. I don't like…she had fine veins. I'd taken a syringe just like I'd done before. I just, could not get blood out of it. I don't know why…right. And, so I think I had to take like three bloods and I got like one of them that day. Which is like the worst I've done in a long time. And I was like "oh my god…if this is….I've got two days…and I can't take bloods any more. What's happening?""* The sense of panic is palpable here – even invoking an entreaty to a deity and ending on a panicked question – he is disbelieving, unsure of what is happening to him and his clinical abilities. When this point of panic is reached, Max describes how it is much easier to trust the judgement of other people, over your own. *"Em…because often… and something I've observed among my colleagues and myself…we're better at managing other people's emergencies than we are at managing our own."* Interestingly, Max then goes on to qualify this statement with an example. However – he does not choose to relate an example where he was relying on the help or opinion of someone else. He chooses an example where his colleague is struggling and he is able to provide support. *"She was quite panicky and I was just like "you just need to take a moment…okay?" and she was like "I'm just really worried that she's not DNACPR and she's going to arrest when I'm here and we're going to be doing CPR and she's going to die…" and I was like *tapping* "it's okay…right now we just have to put a cannula in….that's all we're doing at the moment."* Here he sounds paternal and reassuring; much like a more experienced doctor would in this situation. And, despite describing an episode of panic prior to commencing work full time - Max goes on to explain that actually, as he settles into his new role, it is happening less often. This is despite his relative newness in the role. *"And it's less and less often that I'm….like…."oh my god I don't know what to do with that.""* In fact – has not experienced this feeling of panic since commencing work *"Em…and actually I've not really been like that as a doctor….yet."* However that final pause and addition of the

last word – "yet" are suggestive of an awareness that he will at some point come up against a clinical scenario that makes him panic. This perhaps suggests that, despite projecting an extremely confident persona, this is tempered slightly by this sneaking (or creeping) suspicion.

Making the Leap

Max describes what he perceives to be the essential difference between being a final year student and being a new doctor. He illustrates this with the example of having to administer physically an intravenous drug in an emergency. Rather than merely suggest its administration in an abstract sense – as would be done in an emergency simulation scenario – the doctor must prescribe AND administer it. *"But her heart rate was very low so I kind of thought okay….she's bradycardic, her systolic is only about 90, it's been low overnight, we need to think about atropine. Right. I've never given atropine before. Nurses can't give atropine, it turns out. Which is something I didn't realise. So I had to actually draw up the atropine and actually give it to her."*

Max recognises the very existential difference that this represents and uses it as a metaphor to highlight the difference between being a student and being a doctor. *"Yeh – I mean I think it's…it's quite a good way of highlighting the difference between being a medical student and being a doctor. In a way. In that physically giving it is a lot more real. Whereas if you're prescribing something, and if you're a medical student, it's a lot more abstract. It's a lot more thinking about what you would do. A lot more thinking about kind of what sorts of things need to be done even. Whereas as an FY1 the change, the main change that happens is that you have to do it. And there isn't anyone else that's going to do it. It has to be you."* He describes the reality of having to prescribe a medication – rather than merely suggesting it – this is "a lot more real". The commitment to that decision is made all the more visceral when he is asked to administer the medication: when you actually have to inject the medication into a patient's vein. This sense of reality perhaps provides a lens that magnifies the potential consequences of the decision to administer the medication. He ends the discussion of this difference with a very short sentence - "It has to be you." The shortness and baldness of this statement gives the impression of finality. There is no getting around it – there is no alternative. He experiences

the decision to prescribe and administer this drug as entirely his – whether or not he is familiar with doing this. *"Em…and you end up with responsibility for things that you're not familiar with."* Max widens the implications of this and presents it as comparable to the responsibility of now being a doctor, rather than a student. And the weight – an inevitability – of this responsibility can be felt through his short, frank description of it.

Max describes how taking this responsibility removes the luxury of being allowed to panic and immediately defer to somebody else. *"And I know…I've had that feeling when I go into a room and I'm just like "oh my god what's going on…." Em….and I think I had that….I had that more as medical student than I have as a doctor. And part of that was because I was less experienced. And partly because now I can't really panic…I can't really afford to panic in that situation."* He explains his ability to keep a cool head in emergency situations as in part due to increasing levels of experience but also, interestingly, because the responsibility which he has in this situation does not allow him the option of panicking. He is therefore almost required to ignore – or transcend – his own emotional response for the greater good of the patient. Being asked to sublimate your own emotional response to a situation may appear difficult however Max appears to be resolved to this. He sums this up when he describes a senior doctor asking him if he wants supervision whilst taking an arterial blood gas.[14] *"And she was like you know I don't mind coming with you to do that ABG. And I was like… "yeah…but at some point you've just got to do shit, don't you." And I think that kind of sums up becoming an FY1.*laughs*"* Max laughter here perhaps suggests a feeling of absurdity regarding this process. At some point, you have to make the leap and start taking responsibility.

When Max is unable to take this responsibility, when a task is obviously out with his competence - he describes a sense of frustration. He is initially unsure about how to describe this sensation: he pauses, makes false starts and sighs. These linguistic features underline his sense of frustration to me. When

[14] An arterial blood gas involves taking a blood sample from an artery – often from the wrist. This can be a difficult sample to obtain and can be painful for the patient.

this is reflected back to him, he does agree that there is a sense of frustration present. *"So….*pauses*….yeh….I don't know. It just feels a bit erm…*pauses*…..*sighs*… I don't know what the word for that is…. that's not very helpful in an interview….*

*Interviewer: You sound a bit frustrated? *long pause* Maybe?*

*Max: Yeah…*pauses*….yeah I guess it is frustrating coming up against your own lack of expertise."*

He also admits that he has found this to be quite a common experience as a new doctor. *"Yeah….which….and as an FY1 that happens a lot. Even with fairly….you know minor surgical things. You know even in my first week, people would have wound infections. And I'd go and I'd be like "yeah…it looks infected. What do you want me to do about it?""* The final sentence here sounds almost teenage in its tone – almost like he is shrugging his shoulders, wishing to shrug off the responsibility. At this moment Max – for all his confident overtures – appears to be betraying a note of exasperation.

The Identity and Role of the FY1 Doctor

Max feels that the identity of the doctor is a complex configuration *"Yeah…yeah. I think…I don't know it's kind of complex isn't it. Like doctors….you don't stop being a doctor when you leave the hospital. And….I don't know I guess we spend such a lot of time in the hospital that it becomes such a huge part of your identity. Em…in a way it doesn't for most other jobs."* This suggests that Max conceives of the doctor's profession as a fundamental part of their identity. It is not just what you do – it is an essential part of who you are.

The abovementioned sense of frustration is, perhaps, shown again when discussing different conceptions of the role of the FY1 doctor on the clinical team. By turns, he describes his role as like that of a traffic controller *"…it's not realistic to have one of every specialty hanging around the ward…erm…and that's why we have referrals. And that's why we have FY1s…really. Em…*pauses*….yeah."* The addition of the word "really" makes it sound as though he is telling me a truth that is often missed: that new doctors are really only there to work out the likely diagnosis sufficiently to know who to refer patients to – rather to make any kind of decision or impact in terms

of their management. He furthers this metaphor in describing himself as a firefighter. *"And actually….you know….my job isn't to treat the leukaemia. Or to treat the complete heart block. My job is to keep them alive until people can come and sort that. Em…or not sort that in the case of the leukaemia. So…but I guess that's just not a very nice feeling….that you're not actually able to…you know really able to manage the situation on hand. It kind of feels like firefighting. Or you're there to firefight."* By drawing this comparison, Max conjures up images of running from task to task, just doing enough to avoid a disaster, dampening down the flames, but never being able to affect the situation significantly – or completely extinguish the fire. Again, this highlights a sense of frustration at his role on the team – or perhaps at his own current limitations (Beach Boys! Wouldn't it be nice).

When Max is asked to deal with a case and make decisions of his own – he describes stepping into the role as being a leader. *"Ultimately, the doctor is still leading and the doctor is responsible for that patient's outcome over anyone else, really."* He continues… *"Because, as much as it's changed recently, a doctor is….doctors are leaders. That's kind of what we're supposed to be. Em…and yeh ultimately that's the consultant that leads the team. But it trickles down. And the consultant and reg are usually operating in theatre so you're the envoy of the consultant if you like."* Here there is a pomposity to his language – the use of term "envoy" for instance conveying an almost ambassadorial level of seniority. And he describes why he may have developed the ability to lead to a greater extent than other 23 year old counterparts. *"Em…well…I feel quite in my comfort zone doing that kind of thing. So I run an organisation, that I can't name because then I'll be identifiable, outwith medicine. So I'm quite used to essentially being a manager. Em…and that's what that is. That's managing a multidisciplinary team."*

However, he tempers this assurance by describing his presence in this role as a performance. *"And then you go in. And what I do when I go in is I always feel the pulse - right. And I don't actually feel the pulse….I just stand there and do something doctor-y. *laughs* Right? And em...*laughs* that sounds really stupid but actually that's quite important. Because as we were saying earlier, the doctor as a leader, you're leading that emergency situation. You need the people around you to trust you.*

Em….and sometimes just looking like you know what you're doing is really helpful" He describes using the act of taking a pulse to place himself into the role of the doctor – because it is a recognisable action of the doctor. He laughs at this admission and then immediately follow it up with a request for understanding from me as the interviewer *"*laughs* Right?"*. This almost gives the impression that he is seeking approval – or least understanding of this strategy. He goes on to explain that this small act of performance is done for the benefit of the rest of the clinical team and the patient in order to ensure the assurance of a clear team structure with obvious leadership. *"Mm…absolutely. Em…yeh…there's an expected role for the doctor and you have to live up to that role…essentially. And if you do…the nurses know where they stand, the patient knows where they stand and the family know where they stand. If you don't, if you're the doctor and you look panicky, everybody panics and it all goes to shit. Like, even if you don't know what's happening you have to look like you know what you're doing, you have to have a plan."*

Max alludes to the idea of wearing the right sort of clothes to signify that he is in the role of the doctor. He also describes the need to act with a certain amount of confidence and includes some physical directions *"That's the kind of role you need to start taking. And part of that is wearing nicer shirts. Part of that is standing straight up…standing straight. Part of that is being, you know, confident and directing."* The notion of a correct costume giving you the aplomb to act the part strengthens the idea that this is a performance. As does the discussion of the correct way to stand – it almost feels like a stage direction.

He reiterates the point that he feels the need to look like a doctor: that even if he has made a decision rapidly about the best course of action, he feels the need to perform and play out the situation appropriately. *"I'm kinda thinking "he's already on antibiotics for his wound infection, I'm not going to change anything here". But I'd made that decision pretty quickly *snaps fingers*. I just needed to look doctor-y about it…and obviously you do need to be thorough."* I also wonder if he is also at times using this action to convince himself that it is right that his is in this role and capable of managing this

situation. This notion being conveyed by the way questioning way he has asked for understanding (*"Right?"*) and how he then trails off at the end of this excerpt. *"So....*pauses* so……..*pauses*yeah."* It leaves the impression that there is something not quite explored there – a thought not quite followed through. Perhaps something he wishes to avoid.

The above discussion of performances and the importance of appearing in control of a situation raises the question of whether Max is currently putting on a performance in the interview. Is he performing for me? That would perhaps explain the frequent tone of self-assurance and, at times, bravado.

Max describes how the ability to look like you know what you are doing is developed. *"Em… you need to look like you know what you're doing. And I think, I don't think there's a way of getting that without being in those situations. I think that's what you need."* He suggests that in order to develop this skill, you need to experience being in this position. Max also describes the importance of observing people in that role and the value of what can be learned from this hidden curriculum. *"But actually what they got was experience in a hospital and they saw doctors working. And I think that's the most valuable part of being a medical student…. Em…and that's, that's the only way they're going to develop the mannerisms and develop into the role of the doctor."* Unfortunately, he feels that this aspect of undergraduate learning is seriously undervalued. *"And I think that's a bit that we undervalue. Em…and that we don't support properly."*

The Purpose of Medical School

Max goes on to further clarify his feelings regarding the purpose of medical school and it's role in formulating your identity as a doctor.

*"I guess I want to talk a bit about medical school as well because I think that's where you kind of formulate that identity. Em...*cough* and I think…so I think that kind of transition probably actually happened in medical school rather than when I started. So…and I think it happened in my gen med placement in sixth year because basically I'd reached a point where I was like….oh probably shouldn't swear….*

Interviewer: Go ahead

Max: ….where I was like f@! exams. This has nothing to do with being a doctor. This is stupid. I'm going to learn how to be a doctor. In medical school. Isn't that crazy? What a thought!"*

Again, we see Max employ sarcasm to encapsulate and communicate his feelings about this. He seems to be conveying that medical school is very assessment driven and this this does not encourage students to learn how to actually do the job of a junior doctor. Examinations – and learning for examinations – were counterproductive to his development. *"Em…and the finals got in the way…and you don't feel like a doctor at all because you're just frantically panicking about these exams. Which….and then you go and they're just horribly fake and…you know the questions you get asked are just about random esoteric bacteria types or…you know…it doesn't feel like being a doctor at all I don't think."* And the current system where students on clinical attachments are only peripherally involved in the day-to-day workings of a ward. *"You're hanging around and occasionally someone will ask you to go and do some bloods. And that's crap. And it's not actually very good experience most of the time…I would say. Em…and then you go to tutorials that don't teach you how to be a doctor. And then we wonder why people struggle when we get to FY."* He talks about being cognisant of this odd disconnection and trying to ignore what the medical school seemed to be emphasising. He describes getting *"totally stuck in"* on clinical placements to practise actually doing the job of an FY1 and to prove to himself that he could trust himself to survive the transition. The opportunities to do this he describes as being self-made and in spite of the way that medical school tried to structure his learning. *"And I guess, so yeh I don't know….I guess….when I was at medical school I worked really hard to ignore my exams and actually learn how to be a doctor. And I…I don't know….I don't know how I would be now without that. But…I suspect not nearly as good as I am. Not nearly as capable… And I think unfortunately that's the situation a lot of people find themselves in…."*

The Power of Graduated Responsibility

Max is then asked to consider the potential effects of training medical students by gradually increasing their responsibility on the clinical team. He certainly feels that this is a sensible way to prepare for the transition to practice. Unfortunately, he does not feel that students are currently given this type of incremental responsibility and that it is, consequentially, easy to shirk. *"I think it's probably…if you were going to sit down and think…"how do I want a doctor to prepare? I want them to have a bit of responsibility and then a bit more responsibility, then a bit more responsibility." Which isn't really what happens in medical school for a lot of people. In that I wouldn't have had those experiences if I hadn't sought them out. And a lot of people don't. So a lot of people…essentially try not to take responsibility until they get….until they graduate. And then suddenly they have lots of responsibility."* The resultant sudden upregulation in responsibility makes the leap into clinical practice even more challenging.

However, Max tells us that he specifically manufactured opportunities to increase his level of responsibility – for example taking on the role of the FY doctor during a ward round. *"There was one ward round where I just insisted on writing in the notes for every patient. Just to get the experience."* Not only did this provide him with experience – this experience gave him trust in his ability to do the job prior to commencing work. *"And actually…..you know, in a way….just prove to myself that I could do that."* He also describes actively seeking out opportunities to perform specific clinical tasks. For example, he was concerned about taking an arterial blood gas (ABG). *"So I did every ABG that came to me and my FY on that ward and some for other FYs. To get good at them. And then I was glad I did because in my first week of work I did, like, six. But it meant that I got all of them. Whereas I wouldn't have if I hadn't sought that out."* Max appears to have felt that these opportunities were entirely self-generated; a matter of actively seeking opportunities – rather than being passively given them. This echoes his thoughts on taking responsibility versus being given trust.

We can see that Max's active approach to taking responsibility for clinical tasks is mirrored in his approach to his own learning and his own readiness for practice. This has resulted in a strong feeling of self-confidence for Max. This appears to be both in general – references to his general levels of

confidence are liberally distributed throughout the transcript – and for specific tasks. He now appears to feel completely comfortable performing an ABG. This leads him to perform them more often and he continues to get positive feedback regarding his ability to carry out this task. In this way, he seems to have set himself up a self-sustaining cycle of positive feedback.

*"So that's made me feel a lot better about doing ABGs. So I have a much lower threshold for doing an ABG now. And actually that's got nothing to do with clinical medicine - that's my fear. And you see that in some of the other FYs who don't have…who haven't done any ABGs. They're more hesitant to do them than I am. I'm much more like "low sats! *mimics sound of dart*""*

He is now sufficiently comfortable with this task to think of it almost like a game; he compares it here to a game of darts. His confidence seems to have stripped away any concerns about failing to perform the task successfully. While this sounds positive, it is important to remember that this is a investigation which is usually employed in patients who are significantly unwell and the stakes of failure to obtain this information can be quite high. It is also often experienced as a painful test for the patient and therefore repeated attempts can be very difficult. Max's relaxed attitude leaves me slightly worried that he may be straying away from confidence into over confidence.

Max's approach to generating opportunities to increase his level of responsibility incrementally as a senior medical student appears therefore to have increased his level of trust in himself. (Whether it has increased it to an appropriate level remains to be seen). Over time, he also found that his senior colleagues were developing increased trust in him and this allowed him to challenge himself with increasingly complex patients. *"In that over time, because I was there for a reasonable period the FY1s began to trust me. And even in fact as the CTs began to trust me they started em…you know…I would see more…clerk in more and more complex patients…"* And when he was successful, this provided a significant boost to his trust in himself. *"Em…but on the whole I was fairly good. And you know I was making diagnoses and the consultant would go and speak to them and they'd agree with me and I was like, ah-ha, I can actually do things, this is great."* And so again we see the positive feedback loop

improving Max's belief in himself. This self-belief shines through at multiple points in the transcript – indeed seems to be the theme underpinning the entire conversation. It is made clear by his use of language in the following excerpt. *"So I think what that gives you, what that's given me is essentially confidence in that I don't go into the situation and take a kind of hesitant history, going through everything I possibly could and then , then sit down and think for 15 minutes and then come up with a plan that you know boils down to a chest x-ray and not really be sure if I should order it or not. You know I go in and I ask the person the right questions and I order the right investigations now."* The first sentence in this paragraph is long, complex and confusingly phrased. It ends on a note of uncertainty. This perhaps reflects the confusion of an unconfident approach. It is unclear to whom Max is attributing this approach; to his peers who have not taken responsibility for their clinical learning and therefore left themselves with less experience and less confidence? Or to an alternative version of Max who did not take the active approach previously described? This rambling sentence is juxtaposed against three very short, strong statements that describe Max as he is now – having benefited from the experience which he generated for himself. This structure of these statements and the contrast with previous sentence conveys the confidence with which he is able to deal with these circumstances and highlights the effect of his active learning strategy. The repeated use of 'I' here gives an inkling to whom he is attributing the more confused approach; by boldly repeating 'I' here he distances himself from it and makes it clearer that he feels this is how some of colleagues behave.

Not only does Max describe the effect of graduated responsibility on his ability to trust in himself and his confidence – he also goes on to discuss the effect it could have on a student's conception of their role on the clinical team. He prefaces this discussion by saying that – currently – as a student he did not feel that he was part of the clinical team. And any attempts to make him feel like he was were viewed merely as lip service. *"*pauses* umm….I don't know…it maybe makes you feel a bit more part of the team, particularly as a medical student. Because you know, most of the time as a medical student you're not really part of the team. No matter how much everyone says that you are."* He goes on to say that even a small amount of responsibility would be valuable: giving a student a purpose and

therefore a justification for being on the team. It would move them from the realm of passive observer into active participant and mitigate the feeling of being an unnecessary addition. *"So…yes…I think even having a modicum of responsibility as a medical student is really valuable because it makes you feel part of the team. It gives you a justification for what you're doing. Because often you feel like you're in the way…or you're slowing things down…"*

The importance of responsibility is the theme that seems to underpin Max's experience. He recognises the importance of this and now uses the giving of responsibility as a method of teaching students. He describes asking his students to admit a patient (with support) and then to follow this up by taking responsibility for their care. He is aware that this can be challenging for students and that discussing their patient with a consultant can be intimidating. However, he found the taking of responsibility so imperative to his own development that he feels it is now important to pass this on – almost regardless of how the student feels about it. . *"When we go on the ward round and the consultant asks who has seen this patient – that's you." So they…they don't all of them like it *laughs*. But I'm doing that because that's what I found most useful when I was a medical student. And that's what made me feel as though I was actually looking after somebody."* He adopts this strategy particularly in order to minimise the sudden upregulation in responsibility felt on starting work when responsibility becomes yours – whether you like it or not. *"And that's the experience that you need because otherwise you suddenly become an FY1 and you're looking after everybody."*

Field Notes: MAX

Before the Interview:

Of all my participants, I had the most prior understanding of Max. I had taught him as a medical student and he had previously shadowed me on several nightshifts. I was aware of his charitable organisation, having helped at one of their events. Generally, I had a positive view of him. He was an earnest and hardworking student. He appeared to have a clear idea of the direction he wished to take his career. I was aware that he had previously done some research, but was not aware that this had been qualitative. Therefore, I was caught slightly off guard when I discovered that he had carried out qualitative research before and had a rough handle on what I ought to be doing. This made me slightly anxious. I was aware of a pressure to perform to my best – although I am sure that this came from myself and not from the participant.

Having taken stock after my second interview I was also slightly worried about the quality and focus of the data I had collected – is it phenomenological enough? I was therefore also slightly anxious about wasting interview time. My previous interviews had also left me slightly suspicious of whether the participants were being completely honest about their experiences. I had contemplated this and considered the possible reasons for this. Perhaps they really did feel well-supported; or they just had not yet been given a lot of responsibility and the experience of feeling overwhelmed by this was awaiting them. Perhaps they did not want to tell me that they were finding things stressful or lose face in front of another doctor. Or perhaps they simply had not considered the high-stakes nature of their job and therefore had not realised how stressful it could be. So I was planning to try rephrasing/re-emphasising some of my questions. The fine balance seeming to be that I wanted them to talk about their experience but I wanted to make sure that the data was relevant to my topic.

I was also not feeling physically well on the day of this interview to be honest. I was slowly recovering from a viral illness and was really tired. I wonder if being tired made me miss some potential cues from the participant?

During the Interview:

Once the interview had started, I felt quite comfortable. I had a vague sense that there was a little bit of bravado in the answers that he was giving me. A few things that he said I found slightly irritating – his comments regarding nurses and surgeons in particular. However, I did not challenge these views. Maybe this was because I was tired and did not pick up on how condescending his tone could be? Maybe because I knew him, because he was doing me a favour and I did not want to cause any antagonism?

After the Interview:

Immediately after the interview I felt like it had gone quite well. I was perhaps slightly happier with the data that had been generated in that it felt more "phenomenological" and that we had gotten closer to the heart of his experience than in previous interviews. Plus – he was an engaging speaker and was liberal with his use anecdotes and examples.

I felt that he had been a bit more honest about his panicked feelings and the need to put on a performance. There is, however, a risk that I think he is being more honest because these experiences are more in tune with how I felt during this transition – and still intermittently feel now. I am aware that I have to be wary of thinking that his account is more "truthful" simply because it is more like mine and therefore more believable to me.

After the interview was over, we debriefed quickly over how we thought it had gone – qualitative researcher to another. I mentioned that I was worried that because my participants know that I am a more senior doctor than they are, it might affect people's answers. I explained that I was particularly worried that they may be less open with me about finding things challenging or difficult – because I am ultimately part of the medical hierarchy. Max however offered a different opinion on this. He felt that it was actually more likely to have worked in the opposite direction. He felt that there was a shared understanding there. He did not have to explain some of our medical shorthand. So he was

more open with me. He also knew a little of my character and knew that I would not be doing this with the agenda to apportion judgement. He encapsulated this effect when he said he "wouldn't have told a career researcher half of that."

During Transcription/Analysis:

Having started the interview process acquainted with Max - I had thought I had a reasonable grasp on his character. During the interview, I was mostly preoccupied with making sure that we covered relevant topics and that he was able to tell me what he thought was relevant. However, during the transcription process – I found it difficult to reconcile myself to a lot of what he was saying. Ultimately, I think I ended up liking him slightly less. Listening to him repeatedly bashing surgeons and being condescending about nurses – coupled with the overwhelming feeling of his own self-assurance - I definitely began to get a sense of overconfidence. Although I believe that he was talking about general surgeons – rather than all surgical specialties - the clinician in me (indeed the surgeon in me) was slightly personally offended. This is perhaps what led me to interpret some of his statements as somewhat naive and at times to discern a petulant teenage tone. Perhaps I am reading more into his statements than he actually intended because of this note of personal offence to his obvious bias.

This feeling of over-confidence also makes me worry for him slightly. The people that I have seen struggle most – or indeed have a significant adverse event that affects their clinical training – have been overconfident ones. Max does talk about knowing his limits and asking for help appropriately but everything else about his tone and his attitude suggests to me that he may be at risk of overstepping himself in some way: perhaps not clinically but possibly in his attitude to others in his team.

I do however have to remember that he really has only just started. He will still be trying to settle into the new environment and the responsibilities that come with it. This is brought home to me when he mentions a clinical anecdote and he can remember exactly on which shift it happened.

"That same day…actually….the day that I had to give atropine I had 2 patients on the emergency team. So it should have been quite an easy day…but that one first patient took up my entire morning. The second patient I kind of got to at about half 12…"

Certainly, everything in my memory from that period of my life is now very blurry. I remember major events and can roughly relate them to when I started work but I definitely cannot remember the specific shift. This difference in our perspectives reminds me that he actually is young and a little naivety is perhaps unsurprising. His over confidence may then be mitigated by a few months of working in the reality of the clinical domain.

Appendix 8D

ANNA

"You're not really supposed to make any decisions. It will sounds a little bit controversial but I don't necessarily think we're being paid to think…"

Participant Background

Anna is 31 years old and originally from mainland Europe. She is a graduate of Edinburgh Medical School. She has a Bachelor degree in Molecular Biology and she subsequently obtained a PhD in Immunology. She is still trying to publish her PhD work. She decided early on in her PhD that she was going to apply to medical school following completion of her doctorate because was dissatisfied with a career in academic science. She describes it as an unfulfilling use of her time, often spending a long time on an experiment without any fruitful results. She also found that it could be very lonely and she was keen to work as part of a team of people. She was also keen to be able to help people in a more immediate fashion than is possible in laboratory-based research. She is currently a Foundation Year 1 doctor working in the Surgical Observation Unit in St John's Hospital.

Lack of Perceived Trust or Responsibility

When asked to reflect on the experience of being supervised in her new role as a Foundation doctor, Anna very quickly and clearly explained that she did not feel that she was supervised. *"Right….I don't think we were supervised as such."* Her surety about this being underlined by her very certain and emphatic start to the sentence - *"Right…"* However, she went on to explain that she was comfortable with this because she did not feel that she was ever being asked to perform tasks that were out with her sphere of competence for which she would require supervision. She also describes feeling able to ask for help if required – either from peers or from senior colleagues. *"But to be honest I don't think we were given anything we weren't comfortable doing. Or if there was anything we weren't comfortable with I did feel I could always ask…either one of my colleagues if they'd done it before – so the same level. Or just escalate it to the person higher up."* She sounds relaxed as she describes this process of asking for help – an impression perhaps heightened by her use of the word *"just"* when referring to escalating to a senior. The use of this as an adverb suggests that she views this as a simple process; no more than a straightforward interaction. Perhaps this level of comfort is present because she may in fact be the same age – or older – than her senior colleagues. And this allows her to view them more as peers than seniors; thus allowing her to transcend the prevailing hierarchy. Interestingly she does not choose to describe these people as her seniors – she describes them as people *"higher up"* in the hierarchy.

Anna does not perceive that she is being supervised. Interestingly however, neither does she perceive that she is being explicitly trusted *"I don't really feel we're…like we're trusted to be honest."* This is an interesting disconnection. She is left alone to manage a ward full of patients without supervision - but does not perceive this as an act of trust.

Anna is not unhappy that her and her peers are not explicitly trusted. She clearly does not wish to appear as though she is complaining about this. Indeed – she repeats this three times in quick succession. *"But this is not a complaint. I personally feel that as an F1 you get quite a lot of hand-holding. I'm not complaining, not complaining. It's a good start, it's a nice start."*

She describes how – even if she wanted to make a treatment decision (however simple) – there would be an element of suspicion of her plan if not verified by a more senior clinician. *"But…no…I really don't think…sometimes even…say someone has a positive urine dip and they may be a bit symptomatic*[15]*. Like "oh I think just three days of trimethoprim*[16] *would be fine" But I do sometimes feel the expectation is to run it past someone..."* She goes on to explain that the potential origin of this suspicion may be in the expected role of an FY1 – as merely the executor of instructions rather than an initiator. *"You're not really supposed to make any decisions. It will sounds a little bit controversial but I don't necessarily think we're being paid to think."*

She suggests that really the role of the Foundation year 1 doctor is mainly administrative in nature and that it does not involve any significant responsibility *"Genuinely…I don't really think you're paid to think as an FY1. You're like a ward...secretary. I'm not sure how to put it better. Like, who just make sure the ward runs smoothly. I genuinely feel it…it is not a huge deal responsibility."* This is an interesting standpoint – surely if the ward does not run smoothly then patients will suffer and this therefore is associated with significant responsibility. Anna, however, does not seem to conceive of this in the same way. She minimises the work of the FY1 by again employing the word *"just."* She does nothing more than *"make sure the ward runs smoothly."* She almost sounds resigned to this situation – trying to convince me of her perhaps controversial but nonetheless "genuine" interpretation of this situation.

She continues by saying that she initially found this worrying *"But I genuinely don't….for a while I…was starting to get worried that I'm actually not really engaging my brain all that much. Because I think you're not really expected to actually make decisions."*

She starts this excerpt by limiting the length of this worry to "a while" – thus implying that this episode of worry was bounded by discrete limits and that she no longer feels this way. However, she leaves

[15] This would be suggestive of a urinary tract infection
[16] This is an appropriate antibiotic treatment for an uncomplicated urinary tract infection

this paragraph open ended. She no longer feels this worry but does not elucidate whether this is because she has realised that that was never the case or whether she has simply ceased to worry about this and the possible effects on her learning.

She finishes this particular train of thought by repeating that she has perceived an element of scepticism if she were to attempt to make a clinical decision independently. *"Or even if you do…everyone looks at you like…. "hmm…maybe you should run that past a senior…" Yeah…""* *(Note: here Anna does invoke the term "senior" to refer to a more experienced colleague. However, in this instance she is quoting another member of the multidisciplinary team - rather than referring to the colleague herself.)*

When she quotes this imagined colleague, Anna uses the exclamation "hmmm…" and a subsequent pause – thus conveying their hesitation to accept her management plan and perhaps communicating a perceived element of mistrust. When asked how she feels about this perceived suspicion – or indeed mistrust – Anna admits to having ruminated over this. *"I've thought about that a lot."* She describes a difficult internal balance between feeling capable of making a management decision and feeling overconfident or overstepping her current role. Even if she really does trust her ability to make this clinical decision, she feels constrained by the context of her junior status. *"Because it's a very fine line between…"why can't I just make a decision?" and I definitely don't want to get to a point where I'm cocky and arrogant and make a decision based on very little clinical experience."* She also alludes to episodes where she has judged a clinical situation differently to a more experienced colleague – alluding to the fact that she did not notice or react to a potentially important piece of clinical information - and this appears to have given her pause to consider her own ability to make decisions. *"And, again, I've not had to deal with that many unwell patients but there were a couple of times where maybe I've been tripped up where I said "I think they're alright" and the consultant was "hmm….but you see this I think they should actually really get this done." And I was thinking "oh – that actually didn't really worry me at all" em…"*

Anna describes herself as walking a fine line between feeling that she is not being paid to think and feeling that she may be at risk of making mistakes because she does not have sufficient experience to perceive some nuanced clinical clues. She describes oscillating between wishing she could do more and feeling comforted that someone is checking over her work and verifying her decisions. "So I don't …mind it. So I oscillate between "I wish I could do more" and "it's not bad to have someone to check over things". I'm not sure I'm really answering the question…I think the problem is I'm not really sure how I feel. It depends, from moment to moment. It depends, from moment to moment."

Her repetition here emphasises the changeable nature of how she feels about this dilemma. She is almost echoing the oscillation she has described – which underlines the uncertainty of her feelings regarding this.

Anna is however clear that she does not want to end up in a situation where she has never taken responsibility for any decisions. She is aware that soon, she will have to move up the medical hierarchy and will be required to make decisions and to give advice to new junior doctors. *"I also don't want to fall into the trap where I just don't think at all and I just run everything past and I'm afraid to make any kind of decisions. Because F1 is going to finish. And then I will be supposed to make some more decisions. So…so I don't know. It varies how I feel about it."*

Asking for help or supervision

Perhaps one of the clearest themes in Anna's interview was her comfort with asking for help when she felt it was required. She has rarely been placed in a situation where she felt that she was out of her depth – however it seems clear that if she were she would be able to point this out and request support. *"I mean to put it the other way, if I felt out of depth…I did not feel reluctant to point it out and contact someone. Yeah…."* There is perhaps an inherent confidence in this – in knowing your own limits. Moreover, in not allowing yourself to be pushed too far out with these limits either by colleague or circumstance. Anna appears to be very mature in her stance regarding asking for help. *"Worst case scenario is them saying "I think I want to see the patient as well.""* She is aware that if the senior

colleague is uncertain of the management plan following her description of the clinical issue – they may wish to come and see the patient too. She does not seem to fear this – or feel that it would be a comment on her clinical abilities. She has effectively boiled down what could be a potentially intimidating or confronting challenge to the worst possible outcome – and can contemplate this rationally.

This approach appears to convey significant rationality in her thought process: she is aware that it is rational for a new doctor to ask for help if they are unsure about a clinical scenario. However, she goes on to clarify further that that does not mean that she is always completely comfortable when going through this process.

"It is right…I am aware I might come across as…"oh I don't have any problems asking…" it's….which is not the case…it's just I don't have any problem asking because it was clearly outlined to us what we are expected to be able to do. Em…and if…it is…if it does not fall in that…if an FY1…if I ask myself "would this be expected of an FY1?" and the answer is no – then in that sense I'm not reluctant to ask someone because I know they won't be dismissive of my request. I'm always reluctant because I don't like disturbing people, I know they're all busy and I'm very apologetic when I ask. That obviously still stands…I obviously don't just go like and say… "help me….I need your help." I'm like "I'm really sorry to bother you, I know you're really busy…but this and that…you know I've not done this before."

Here, Anna has acknowledged that it can be a challenging interaction and requires her to navigate the nuances of social convention. Whilst this can be nerve-wracking she does not see it as a barrier to asking for help. She is able to overcome this worry because she has been given the message that it is okay – even expected – that she should ask multiple times over and from multiple different sources.

"But it wasn't a barrier to asking because I knew…as an FY1 you would be completely entitled to ask. I think that was really stressed from the very beginning…If you're not comfortable…just ask. Just ask. Don't…don't do something that's unsafe. Don't that you're not comfortable about. And I think they really tried to stress…maybe I'm digressing a bit…but they really tried to stress…yes we are busy and we might not really have time but don't use that as a put-off. Do come, do ask. Um…so I think that's where that kind of stop or barrier has been taken away…if you see what I mean. As I say I'm still nervous and I hate disturbing people and I hate troubling them but it hasn't stopped me from going to them…if you see what I mean."

The repetitive nature of Anna's speech in this excerpt conveys the force with which she perceived this message. It appears to have been explained to the new doctors repeatedly that they ought to ask for help. She repeats particular phrases *("just ask. Just ask.").* She also repeats the same sentiment in several different ways – suggesting that she has had it put to her in multiple different ways. She goes on to confirm this - explaining that not only was this the message from her particular clinical team, it was also conveyed at the general induction for all new doctors in the region. Having this consistent alignment between these different groups made it a particularly convincing message. *"general South East Scotland induction. But if two or three consultants and senior registrars say… "no just ask your senior…doesn't matter what specialty…it doesn't matter if they're grumpy. Just go to them. You are an FY1. You are just starting. At the end of the day, if that person you're speaking to doesn't understand that, overall, the team understands. So don't be put off. I just took that on board. But obviously it also was helped by the team I was working with didn't seem to contradict that either."*

Anna then goes on to describe some of the social nuances to which you must become accustomed when asking for support from seniors. She appears to be base her approach on making clear to the other person that she has respect for their time – and this has led her to have very few bad experiences in this regard. She ascribes the practical wisdom with which she approaches this to being a human in the world – rather than specifically a medic. She is perhaps comparatively attune to these types of

situations because she has been a human in the world for longer than some of her peers – simply by being slightly older and having had a previous career.

"So it's just this…I would say…a human thing, rather than a medical thing to actually interrupt someone. "Sorry to bother you, do you have a minute? I just need to really quickly run this past you." But yeah…I've never had…a negative response. I've never had a negative response. But I do think it also…if you show that you're aware that you are taking away their time, that you know you're interrupting them, but you need to quickly ask them something…it just puts people in a much different mood than if you just say "I need to ask you about this." I think that would probably take people a bit off guard and feel like "excuse me…could you maybe at least like respect the fact that I have other things to do." I think as long as you show respect for their time, you don't really get a negative response. At least that was my experience."

Anna was then asked to explain what process she goes through when deciding whether to ask for help in a clinical situation. She initially describes the anxiety that can be provoked – describing situations such as these as sometimes "daunting".

"So it is a bit daunting when you're sent to someone or given an ECG[17] *that looks like a potential MI*[18]*. And you're "oh.my.god" which happened as well. The nurse just came and said I was told to give you this and I had a look and it was ST elevation*[19]*."*

Here she describes a moment of pause and of panic – during which she utters an appeal to a deity – this suggests a significant level of distress or uncertainty. She then goes on to describe how she moves on from this initial moment of panic. Her response suggests that she relies on external features of the clinical scenario and her initial assessment of the patient condition when making this decision. She does not mention any explicit appraisal of her own ability to successfully deal with the situation.

[17] Electrocardiogram
[18] Myocardial infarction – or heart attack
[19] An ECG finding consistent with a heart attack

"For me once I see them….if they don't look like they need immediate…sort of….are in a medical emergency…then I'm able to be like okay…I'm happy to assess them because even if I'm unsure about the decision…I will do the bulk of the job. I will make sure the bloods are done that need to be done…I will listen to their chest if they have problems breathing…I will assess their past medical history, go through TRAK. And even if then the results come back and I think "well could this be an infection but this is somebody that is already 90. Would you want to treat that?" Again I don't think that's something an F1 should make the decision…that's fine. I can call someone and I know, or at least I think they have no right to be upset that I'm phoning them. Especially if I give them all the story and my thoughts…"

Here the primary concern seems to be whether her senior colleague will be upset that she has phoned them prematurely – rather than an explicit process of appraising her capability to manage the situation. Her enquiry has been thorough. She has done all of the correct examinations and investigations, gathering all of the pertinent information. She therefore cannot be reproached. She appears to be measuring herself against the scale of what an FY1 doctor ought to do – in generic terms. She does not seem to be engaging in explicit appraisal of herself and her own capability. When it comes to the type of decision she is describing here – the ceiling of treatment for an elderly patient – that seems to be very reasonable. However, it leaves me wondering if this is how she approaches other clinical scenarios. Not by appraising her own abilities but by appraising what can reasonably be expected of her in this situation – given her relative inexperience? Not "can I deal with this" – but "should an FY1 deal with this"? (although perhaps there is some sense in this approach?)

Sources of self-efficacy

When probed further about her sources of self-efficacy for dealing with clinical situations she again refers to the clinical context; taking a moment to simply assess how the patient looks from the end of the bed. She seems to find visualising the patient comforting. She comes back to describing the situation of an elderly patient with potentially very worrying changes on their electrocardiogram.

"In a 90 something year old medical boarder[20] *but I went to see the patient…I think before you panic you just have to see the patient. She was in no chest pain at that point, she had similar changes before and I was like "okay – I can take my time assessing and then I will phone…I'll definitely phone someone." But it's just looking at the patient and then take it from there. I don't know – does that make sense?"*

Whilst this does make sense – it again avoids any explicit appraisal of the self in these types of situation. And so – the question is reiterated – with the emphasis on the internal process that she goes through when deciding if she can trust herself to manage a situation.

INTERVIEWER: …if you're asked to go and do some sort of clinical task – how do you think you know "okay I'm going to be able to do this"? How do you learn to trust yourself?

ANNA: "Luckily most things…or well over 90% of things are things I have done in medical school and not just once. So I have done it before. It literally comes down to I've done it before."

So having performed a task in the past is a significant feature in Anna's appraisal of whether or not she will be able to manage it in the future. It almost sound s as if it is the only feature of this process which she has identified. Interestingly she does not specify that she has had to have had previous success at the task – she just has to have done it – although perhaps previous success is the implication. She goes on to reiterate this point explaining it in the following simple terms.. *"Yeah…I think. It's just because I've done it before, I don't see why I wouldn't be able to do it again."* This is a very straightforward sentence – thus underlining the inherent logic in her thinking.

When a task is required, of which she has no prior experience - she says that she is able to ask for supervision. *"Things I have not done before on…living…patients, such as catheterisation – it just hasn't really happened – I actually approach the nurses and I…I don't say "would you do it"….I just say "I've only ever done this on a model. Have you done this before? Would you mind being there and just*

[20] A patient who is being looked after by a specific team but is placed on the ward of a different specialty. This situation usually arises due to shortage of bed space.

keeping me right?"" She uses the example here of catheterisation – a skill in which many nurses have also been trained – and therefore she asks for supervision from her nursing colleagues. She does not, however, give an example of what she would do if it were a skill which few nurses have experience – for example arterial blood sampling.

Later in the interview, Anna does perhaps allude to another source of self-efficacy – albeit not for specific tasks. She discusses how she uses the examples of other people who are similar to her being successful in the role of the FY1 to develop belief in her own ability. This vicarious experience gives her the following comforting perspective. *"It should be fine. So many people….I tell myself…so many people have gone through F1 and they were fine. And maybe not all of them should have been fine but they were. There's no reason I shouldn't be among the cohort."* So large numbers of people have been able to make it through the first year of clinical practise. If she is similar to these people – then why should she not be able to succeed and progress? Somewhat worryingly, she alludes to the fact that there are people in the cohort to which she refers who ought not to have progressed. This sets the bar for progression quite low; the implication being that even if she is amongst this subgroup of people it is still likely that she will be able to progress. What is she really saying here? Is she giving us a glimpse of how she feels about her abilities? Is she uncertain? Is she saying that she might be in that group of people who progress without really demonstrating competence? It is really quite difficult to say. To which cohort is she referring? The whole cohort of people who have gone before her in the role of an FY1? Or the cohort of underachievers? I think it is likely that she is referring to the cohort of people who will successfully complete the year. And she is using the precedent of people who were not really competent progressing to evidence her belief that there is no reason why she should not be amongst the successful.

Importance of apprenticeship

Previous experience of a clinical task therefore appears to be of prime importance in generating self-efficacy for that or similar tasks in the future. This is perhaps why Anna repeatedly references the importance of her student assistantship. This refers to a six-week apprenticeship style clinical block

that took place after her final year examinations and prior to graduation. This involved shadowing of a current Foundation year 1 doctor and aims to provide a period of immersion in the hospital setting, exposing students to the realities of clinical practice. As far as possible, they are asked to act as a Foundation doctor and are therefore involved in carrying out many different types of clinical tasks. This exposure appears to have been very important to Anna – particularly in terms of allowing her opportunities to experience success at relevant clinical tasks.

"Everything else I've done before and I think it really comes back down to that. That you get the training in med school. And again I can't stress how good the assistantship…I thought the assistantship was for like those types of task. Like things you'll actually be expected to do in F1. I think that's why you know you can do it….because you've done it before."

Again, she finishes on this simple, well-balanced sentence which again reflects the clarity with which she things about this. She knows she can trust herself to do it because she has already done it. It almost feels ridiculous to be asking her about this because it is just so obvious an answer.

However, the benefits of the assistantship are not limited to the provision of opportunities to undertake relevant tasks. Anna goes on to describe how useful she found the mere exposure to the environment: an environment in which she was soon going to be expected to be a fully-fledged and functional team member. She describes overt conversations with junior doctors about to handle difficult clinical situations. *"But I think it's also in the context of clerking a patient in, going to review someone. We have had that but I must sort of stress that the assistantship I've had before really really prepared me. And not necessarily because of the amount of work I've done but also the conversations with the F1s about how to tackle the situations. Like…some patients who refuse to leave even if they are fit to leave. Or em…em…just patients who are distressed about a certain thing. I genuinely feel that was such a good preparation for what to expect on the ward."* However, she also describes using it as an opportunity to absorb practical wisdom from the environment – learning lessons from the hidden curriculum. This refers to that which can be learned, but which cannot be explicitly taught. *"Especially*

because the assistantship was a surgical one and my first job was surgical so I was aware of how quickly the pace goes, how little the operating surgeons are involved in the ward, where to go for medical help rather than surgical help. So no…I didn't feel…obviously it was a bit stressful on that first day…but I didn't really feel out of depth." Her awareness of what lay ahead and these practical considerations certainly seem to have been beneficial in the transition between student and clinician.

Anna is aware that she has had a very positive educational experience during her assistantship – whilst other people may have had disparate experiences and varying degrees of engagement and success. She is of the opinion that the success of this experience is very dependent on the doctor to whom the student is attached. *"Yes…yes. I do have to say though…I think the assistantship very very much depends on the person you are shadowing. Very very much. Not necessarily…not the ward. I mean it's great to be on a surgical ward and start with a surgical job. But it so much depends on the person and I think I got very very lucky. It's not the hours you put in. It's just really the quality."* The vehemence of this opinion being underlined by her multiple repetitions of the word "very". Again, she repeats that the success of this clinical block does not exclusively rely on the amount of time spent actually working on the ward. It can be flexible and customised to the learners needs. Anna found this lack of pressure to be helpful and became more engaged in her learning experience because she had more control over it and could approach it gradually. Gradual incremental independence appears to have worked well for her.

"I had someone who was very much "do as much as you want, stay for as long as you want, you're not being paid, it should be a learning experience you can just go." And if anything that made me stay longer, do more, get more engaged because it was very much no pressure and hands off. There was no pressure on day one of "right go get on with this". It was very much a day or two of "just come along with me while I do all of this" and then "do you want to do this? Do you want me to be there with you? Are you happy to do it alone?" So like a gradual thing. That's something I need…just give me a week to find my feet…and then I will be very very independent. But if you expect me to be independent

from day one it will take me a month to…you know…get to terms with everything. Just because I will have so many questions. If you just allow me to get….do things at my own pace in the beginning, get going at my own pace, I'll be absolutely fine. And that's what my assistantship was like. So I really do think it comes down to the person and I just got really lucky." Perhaps this represents an element of trust? They are trusting her – as an adult learner – to make the most of the educational experience. And this trust imbues a sense of responsibility for her own learning – thus encouraging her to engage with the possible presented learning opportunities.

This stance on having the responsibility for her own learning demonstrates the maturity that permeates Anna's entire interview. When specifically asked if she felt that being older – and the social and emotional wisdom that comes with that – helped her integrate into the clinical team she replied strongly in the affirmative – repeating her answer three times in quick succession*. "It does, it does. It does."* She goes on to expand on this theme. *"But I feel the older you are, the more social and emotional intelligence you acquire, just through life experience. It's just inevitable. I think if you don't that's very very sad. Just by being alive you acquire it. And that's made such a huge difference because you can …I personally think…generally of postgrads…and that's not just seeing colleagues who came from other degrees…you evaluate situations maybe a bit better, you read them a bit better, you approach people a bit better."*

Anna suggests that greater life experience means that she is better able to read people and situations. She couches this statement with the caveat that being aware of what people want or need does not mean that she always have to give it to them unquestioningly. *"Not stepping on people's toes doesn't mean you have to enslave yourself to all their demands."*

Trust of and from nursing colleagues

She expands on this theme when talking about the relationship she has with her nursing colleagues. Anna describes the importance of the time in the relationship dynamic between new doctors and nursing colleagues. *"And eh…interestingly we've…this is hopefully not going to get too…eh…*

controversial…we've been warned about the nurses on our ward and also on the ward I'm on now…that they can be very difficult. And you know, don't worry about it…they'll be very difficult. And we've been told that that is because they've worked on the ward for twenty years and we're there for two months. So we are at their service, rather than the other way around." Perhaps that this makes it difficult for them to trust their junior doctor colleagues. Their long tenures on the ward means that there is a perception that they have de facto superiority over the junior doctors – who rotate to different wards every few months.

Anna does however feel that showing evidence of trust in her nursing colleagues helps her relationship with these, potentially antagonistic, nursing colleagues. She is remains keen to make sure that this trust is balanced by thinking critically about the requests they are making of her. She explains her shrewd approach to questioning their request – without obviously displaying mistrust in them. In order to do this she must utilise curiosity – rather than direct questioning.

"Interviewer: Do you think helps with your relationship with your nurses….that you obviously respect and trust their opinion?

Anna: I think so….I hope so. Again, it becomes a fine line then between this and them just telling you what to do. Which again needs to be balanced em…but then when they tell you what to do….I don't mind questioning it…in a nice manner. Not in an accusatory manner, in a curiosity manner. More like "oh…interesting…I wasn't aware of this. Why would you do this?" That sort of way. Rather than "well…why would I do that?" if you see…if you see, see the difference. Yeah…I think, I think it helps because they're absolutely…they can…the nurses are your allies. There's no reason for them not to be."

The use of the word *"allies"* at the end of this excerpt is perhaps illuminating. It connotes the idea of a battlefield – thus raising the spectre of potential enmity. Perhaps here Anna is suggesting that if she were to display obvious mistrust in her de facto commanding officer (at whose *"service"* she is working) then there is a possibility of them becoming an enemy – rather than an ally.

Too Much at Once

Perhaps this need to maintain the trust of - and therefore allegiance with - the nursing staff is part of the reason why Anna finds it difficult to prioritise different clinical tasks, when she is being asked to perform multiple tasks at the same time. She struggles to say no to nursing staff and worries about how to do this whilst maintaining a good professional dynamic within the clinical team.

"And in that situation…I'd…rather than being like "no I can't I have to do this" em…trying to say "look, I'm in the middle of doing this." I have said on a couple of occasions "if I could clone myself I'd be happy to do both things at the same time, but unfortunately I can only do one of the things – it will have to wait five minutes." So trying even when you're saying no, again maintaining some sort of…how would I put it…maintaining….a good working relationship. Because emotions can run high when it's very busy."

This feels like a big source of anxiety for Anna. At the end of the interview when asked if there was anything else she would like to add, Anna essentially admits that she had this issue was on her agenda for the interview. It almost feels that she is relieved to be able to talk about this out loud – a catharsis of sorts. *"I think I voiced all the pet peeves…the doing things at the same time and yeah…"* She certainly refers to this situation as extremely stressful – underlining the extent of this stress with the repeated use of the word "*really*."

"and I think that's something I'd like to come to….the only thing I ***really really really*** *find stressful about being an F1 is being expected to do three things at the same, where all the three things need to be done, right at the same time. That's the only thing that* ***really really*** *stresses me. It's not being busy, you're just busy. It's not if someone is unwell – you go and see them and take it from there – that's what you've been trained to do. It's like "oh this person's at the door and we really need this discharge and this needs to go to pharmacy and this person's going for a scan and they absolutely need a*

cannula[21] *right now and getting a bleep for something else. That is the thing that I'm* ***really really*** *struggling to cope with."*

Perhaps she uses this somewhat redundant phraseology because English is not her first language and she is struggling to find the words to convey the extent of the stress that she feels in this situation. However, this turn of phrase is effective. The repeated use of this adverb almost feels like she is trying to convince me of how stressful this situation can be – in fact, in truth, in reality. It is certainly a noticeable feature of her language and certainly does a god job of convincing me that she findis this situation extremely difficult at times. This turn of phrase crops up again when she is comparing this to other potentially stressful situations.

*"****Really really really*** *stressed. That's the only time I get* ***really really*** *stressed. I've been in situations where patients have suddenly deteriorated and ended up being palliative and that has not left a bad…how do I put it…like a bad sort of afterthought or aftertaste because everything was done as it should have been, escalated appropriately."*

She does not therefore seem to worry about being trusted with too much – in terms of responsibility. Perhaps though she does find being trusted with too much in terms of volume and too much in terms of prioritisation. She goes on to use some interesting word choices when asked to remove the intellectual experience of this situation and just tell me how she feels during it.

"But those situations that you speak of – that, that is my absolute nightmare. Because I still feel this urge to do it all at the same time, even though I know it's impossible. Em..yeah…that's the only thing, the only thing I really really really struggle with. Em…and I'm trying to eh…sort of…detox from it. Because in that moment I literally just panic."

Anna describes this situation as an absolute nightmare and suggests that this level of panic and stress can have toxic effects. It is worth remembering here that she is not necessarily referring to patients

[21] Intravenous access

becoming acutely unwell – or entering a terminal phase of their illness. She is referring to having time-pressured paperwork to do, a non-emergent cannula to insert, a phone call to answer. Nobody is actually dying in these scenarios. It is perhaps therefore surprising that she would describe it in such lurid terms. Nightmares are generated by our unconscious fears and are not easily governable by our conscious mind. The suggestion of a nightmare therefore perhaps refers to a feeling of overwhelming powerlessness to control the outcome of the situation. Anna goes on to describe how, in order to cope with this feeling she *must* engage logically with the situation.

"Even if it's not obvious, I panic in the inside. And I'm trying to teach myself like "okay - prioritise. What's the worst that will happen if you don't do this, what's the worst that will happen if you don't do this and what's the worst that will happen if you don't do this. And then take it from there. So I have to superimpose an intellectual em…aspect to control the panic if you see what I mean. Because you asked taking out intellectual…but that's the only way to then deal with the situation. "Okay let's rationally evaluate this" and then decide what to, what to do."

Anna obviously understands that if you work with less haste – you become more efficient. *"Because if you don't panic, and start rushing around, you actually get more of it done. Which is…sounds obvious…but it takes a while to actually sink in."* But, she explains that despite logically understanding the situation and how best to approach it – she feels that she cannot act in the rational way she would wish. *"And I just cannot get to that point…I cannot get to that point. *laughs*"*

She pauses and then repeats herself here – which makes her sound almost wistful. Longing for that elusive sense of calm and ability to prioritise without panic. And then undercuts her worry with a laugh. I ask her if she really believes that the people who appear fine with this stress actually are – or if she thinks they might be putting on a performance. *"No…I really do…I really do. Because this is after the task and we talk about it. And I just don't know how they can do it. I just can't *laughs*"* And so she remains convinced that her colleagues are actually as cool as they appear; but cannot fathom how they do so. Her use of short, constrained bursts of laughter punctuate this excerpt. She talks about

how she does not feel that she will be able to get to a point where she can cope with this type of stressful situation – and then she laughs. More than anything – this attempt to laugh it off convinces me that she is worried about her ability to learn to cope with competing priorities.

The Performance

To an extent, it seems that Anna tries to avoid looking obviously panicked. However, she when I ask Anna if she feels that she has to put on a performance in other situations for the benefit of her colleagues – she answers in the negative. *"As I say I was maybe worried in the beginning that they'd think I was completely incompetent. But now I just don't care. Because the bits that are important I do them and I take charge. So I try not put too much on appearances because I don't think it gets you anywhere. So yeah…."* Interestingly, she feels differently about patients. For them, she feels that there is benefit in maintaining a serene, calm exterior – even if you are panicking inwardly about the clinical situation. *"In front of patients…sure, sure…of course. You're not going to…if you go to see someone and you've just been told they've dropped their blood pressure and you know haematuria or something you're not going to go and say "oh my god sir, are you okay? Is everything okay?""* She illustrates using the analogy of an aeroplane going through turbulence. *"Because…it's the same if the plane going through turbulence…all of us feel a bit queasy. But if you see the flight attendant just walking along the corridor, doing their job – you're just more reassured."* She therefore feels the need to remain calm for the benefit of the patient. When asked if this is to help generate their trust in her, Anna initially answers in the affirmative. However, this question was put to her in a slightly leading way by the interviewer and as she subsequently develops her answer – she sounds less sure that it really is about trust. It sounds like she is more convinced that patients are suggestible and that if you suggest they should feel unwell – then they will. Her veneer of calmness could, therefore, be conceived of as therapeutic in this way.

"Interviewer: Sure…so and you're kind of keeping that calm exterior so that the patient trusts you…?

Anna: Both that they trust….but also…because you're not going to help them if they then go into panic mode. Because then…they will just seem worse than they are. If you give the impression that they should feel badly…if you see what I mean. If you come and tell them… "oh my god you are unwell" then they start feeling unwell…if you see what I mean. So I think it's more that. But I guess trust comes into it as well."

The use of the last sentence *"But I guess…"* suggests that she does not really conceive of the interaction in terms of trust. Despite overtly agreeing with the interviewers' suggestion, the overall impression is actually one of dismissal – she is perhaps just agreeing with the interviewer to avoid seeming rude.

Field Notes: ANNA

Before the Interview:

Anna is the oldest of my participants. In fact, she is the same age as I am. I do wonder if this will have an effect on my interpretation of her interview. Whilst we are slightly separate in terms of experience, I anticipate that we will have a similar vantage point on the world in general.

I had previously met Anna briefly at a focus group I ran for another aspect of my thesis. She tells me early on that she wanted to participate in my interviews because she enjoyed the experience of the focus group. I find this cheering and am hopeful that my last interview will go well and she will find this as enjoyable – if not more so.

I remember her and remember her thoughtful contributions to these focus groups. And this helps relax me a bit. I find that I am actually a bit tired of worrying about these interviews. For my previous three interviews, I have been worried that that I am not going about it correctly and not generating the right sort of data, or data that is relevant to my overarching questions. I have been lurching between feeling reasonably confident about the process and feeling defeated. Perhaps this says something about my self-efficacy for the interview process.

Following on from considering Max's perspective, I find myself thinking much more about how new doctors interpret the definition of "being trusted" and am now particularly primed to notice other interpretations of this – for example taking responsibility. I am also mildly concerned that there may be an element of the participants 'performing' for me. This concern has been raised in all three of my previous interviews – although not necessarily overtly and perhaps in different ways.

During the Interview:

In this interview, I definitely felt more that I was talking to a peer – rather than a junior colleague. Perhaps this makes it easier for me to understand her interpretation of the world when compared to my other, younger participants. Or perhaps it makes me think about it less critically because it aligns

more easily with my own perspective. There was a definite sense of maturity in her answers that seemed to set her apart from my three previous participants.

There was also a topic that she clearly wished to talk about; that of struggling to cope with competing priorities. Whilst this was not necessarily directly related to my topic I felt it was important to let her talk about it – let her get it off her chest. This was partly as a recompense for her agreeing to be interviewed; it seemed that she wanted the catharsis of talking about it. It was also, probably, because I totally understood what she was talking about – I have had very similar feelings at times and maybe I was indulging myself a little bit too…? Achieving catharsis vicariously?

Whilst it was quite satisfying to hear her talking about something that I struggled with too – it does leave me again feeling slightly unsure that I might not be getting at the correct data (i.e. not focused enough on trust or simply not phenomenological enough).

After the Interview:

Immediately, I felt a bit relieved that my last interview was complete. We had had an interesting discussion although I was aware of a slight niggling concern that a reasonable amount of the resultant data may prove to be only tangentially relevant.

During the Transcription/Analysis:

During transcription and analysis, Anna came across as eminently sensible. Her level of maturity felt completely different to that of my last participant. Perhaps the juxtaposition of these two participants and their perspectives – Max's naïve self-confidence compared to Anna's quiet maturity – made me more acutely aware of this difference. I am particularly aware of this difference in their approach to the team dynamic and the role of the nursing staff.

Interestingly, I also find Anna's use of language to be less striking than any of my three previous participants. Indeed, I have significantly fewer codes referring to her linguistic choices in her transcript.

Perhaps I find fewer unusual features because she speaks in a fashion and a tone that is more similar to my own.

One of the more noticeable turns of phrase used by Anna is however the repeated use of the word "really" when describing how stressful she finds being asked to do multiple tasks of similar urgency at once. Anna probably did not need to convince me quite so strongly of this point – I definitely understand where she is coming from. When Anna discusses the gradual building of panic – to the point of being overwhelmed – I have an almost visceral reaction to this. Her experience really (really) resonates with my own. I understand how it feels to be pulled in multiple different directions due to competing priorities; trying to do everything for everybody at the same time; worrying what they will think of me if I can't do everything/be everywhere. I am able to conjure that pit-of-the-stomach feeling of panic. I remember having this feeling as a Foundation doctor - it is almost a physical memory for me. I do wonder if this will lead me to overstate this feeling in Anna's case.