The assessment of surgeon-patient communication: An examination of validity

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ABSTRACT

The ability to communicate competently is essential in medicine since it is integral to the provision of effective healthcare. This dissertation investigates how a surgeon's communication skills are assessed within the context of Part B of the Membership of the Royal College of Surgeons (MRCS) examination. Through an exploration of perceived authenticity, this study examines if the communication skills component of the MRCS Part B is a valid reflection of clinical practice and whether it is a worthwhile assessment of surgeon-patient communication.

An online questionnaire was completed by 63 junior surgical trainees who sat the MRCS Part B between October 2018 and February 2022. In addition, semi-structured interviews were conducted with seven consultant surgeons and three senior surgical registrars, all of whom work in the UK's National Health Service (NHS). The responses were analysed with descriptive statistics, inferential statistics, and inductive thematic analyses.

It was found that certain variables, such as the behaviour of simulated patients and the scenarios that frame the communication skills stations, shape how candidates communicate. Some candidates do not necessarily communicate in the exam as they communicate in clinical practice, which threatens the validity of the interpretations made and the actions taken based on the outcomes.

This study highlights several benefits of the communication skills component of the MRCS Part B, including its attempt to corroborate that a Core Surgical Trainee is competent to progress to Specialty Training. However, the impact on the patient must be brought to the forefront. If the exam confirms a candidate can communicate effectively, its outcomes must be valid to reflect this.

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INTRODUCTION

I. Background

The ability to communicate competently is essential in medicine since it is integral to the provision of effective healthcare (Kurtz *et al.*, 2004; Berkhof *et al.*, 2011; Green *et al.*, 2012; Perera, 2015). It has been highlighted (Maguire and Pitceathly, 2002; Meyer *et al.*, 2009) that sound communication skills can benefit patients and doctors. Indeed, good communication can improve patients' experiences, establish patient-centred relationships between doctors and patients, build trust between healthcare professionals, facilitate holistic care, and reduce complaints. A study conducted across three National Health Service (NHS) Trusts in England found that communication was the primary reason for which patients filed an incident report (O'Hara *et al.*, 2018). Additionally, the largest proportion of written complaints from patients about NHS Hospital and Community Health Services in England between October 2021 and March 2022 were related to communication (NHS, 2022). That poor communication is the principal reason for which patients feel distressed and discontented indicates that communication skills in this context are vital to examine.

A surgeon's propensity to communicate with patients and relatives is essential. Surgeons must often deliver upsetting news, such as cancer diagnoses, to patients and their families, and the manner in which it is communicated can shape how the individuals react (Bonvicini and Burney, 2017). The way this ability is assessed is, therefore, important, particularly if success in the assessment confirms that a surgeon is a competent communicator. The assessment must provide outcomes from which valid interpretations can be made and valid actions can be taken, especially as social consequences that directly affect patients can arise. Consequently, an examination of the validity of

assessments of surgeon-patient communication is pertinent. This is discussed in greater detail in the subsequent section.

As a tool to affirm that doctors have sufficient knowledge and skill to progress to the next stage of their training and career, postgraduate examinations are common across the various medical and surgical specialties, from Anaesthesiology to General Practice, from Paediatrics to Radiology, from Neurosurgery to Plastic Surgery. This dissertation investigates how a surgeon's communication skills are assessed within the context of a mandatory, summative, postgraduate, medical, competency-based examination, namely Part B of the Membership of the Royal College of Surgeons (MRCS) examination.

II. The Membership of the Royal College of Surgeons Part B Examination

The MRCS examination is a high-stakes postgraduate examination which permits the successful candidate membership to one of the four Royal Surgical Colleges in the United Kingdom (UK) and Ireland (The Royal College of Surgeons of Edinburgh; The Royal College of Surgeons of England; The Royal College of Surgeons of Glasgow; and The Royal College of Surgeons of Ireland). It is a prerequisite for any trainee who wishes to progress to higher surgical training in any of the surgical specialties since it determines whether he/she possesses the necessary skills, knowledge and attributes to become a surgeon. The examination consists of two parts: Part A and Part B. This dissertation focuses on Part B, which is an objective structured clinical examination (OSCE) that comprises four communication skills stations.[1]

[1] A detailed outline of the MRCS Part B is offered in Chapter 1.

It is recommended that surgical trainees who are in the second year of Core Surgical Training sit the MRCS Part B (Scrimgeour *et al.*, 2017). In the UK, newly-qualified doctors must complete two years of Foundation Training following graduation from Medical School. Those who wish to pursue a career in surgery then apply to enter the national Core Surgical Training programme, which is two years in duration. They subsequently apply to the national Specialty Training programme in the surgical specialty of their choice, for which one of the prerequisites is to have passed the MRCS. They start this programme as a Specialty Trainee 3, or a junior surgical registrar, and they finish as a Specialty Trainee 8, or a senior surgical registrar. Upon successful completion of the training programme, as well as success in the Fellowship of the Royal College of Surgeons (FRCS) exam, they are awarded the 'Certificate of Completion of Training' and are eligible to apply for consultant positions.[2] These terms are used throughout this dissertation.

This dissertation explores how junior surgical trainees who sat the MRCS Part B perceived the validity of the communication skills stations. It examines the authenticity of aspects such as simulated patients and scenarios, since authenticity can be deemed 'a tacit validity standard' (Messick, 1996). The way in which consultant surgeons and senior surgical registrars judge the authenticity of the communication skills component of the MRCS Part B is simultaneously investigated. This multipronged methodological approach allows a consideration of whether the communication skills stations are a valid reflection of clinical practice and if the exam is a valid assessment of surgeon-patient communication.

[2] This is a simplistic overview of the training pathway for surgeons. It is often more complex. For example, due to the competitiveness of surgical training programmes, it might take a trainee multiple attempts to be accepted into Core Surgical Training or Specialty Training.

Validity is employed as a lens through which to analyse this assessment of surgeon-patient communication. We adopt Cronbach's (1971) and Messick's (1989, 1996) conceptualisations of the notion, which transported it beyond a static property that ensured the test measured what it was supposed to measure (Shepard, 1993). Messick (1996) argued that validity is not a characteristic of the assessment itself but, rather, it is related to the meaning of the assessment score. The extent to which empirical evidence and theoretical rationales corroborate the adequacy and appropriateness of conclusions and actions that are derived from the assessment scores is what is judged and evaluated (Messick, 1989). The interpretations and uses of the outcomes of a test, as opposed to the test itself, now tend to be the focus in analyses of validity (Wolming and Wikström, 2010). This is the emphasis of this dissertation; to borrow Cronbach's (1971) words, it is not the assessment that is validated but the interpretation of the data that is extracted from it. We examine how certain elements of the MRCS Part B shape the interpretations of the outcome and how this, in turn, affects the consequences that arise from these interpretations. The way in which different types of validity, such as construct validity and predictive validity, come into play is explored.

III. Aims and Methods

Two interrelated research questions (RQs) are addressed in this dissertation:

1. Is the communication skills component of the MRCS Part B a valid reflection of clinical practice?
2. Is the MRCS Part B a worthwhile assessment of surgeon-patient communication?

These RQs neatly encompass the fundamental aim of this dissertation, which is to examine the perceived validity of an important assessment of surgeon-patient

communication. The MRCS Part B is ideally positioned to explore the validity of assessments of communication skills as it is the summative assessment that tests that a surgical trainee possesses the competence expected of those who have completed Core Surgical Training and confirms that he/she is proficient to progress to higher training (ICBSE, 2018).

This study adopts a mixed methods approach. The quantitative data were collected through a questionnaire distributed to junior doctors who work in Britain's NHS and who sat the MRCS Part B in the UK between October 2018 and February 2022. The responses were analysed with descriptive statistics and inferential statistics, and an inductive thematic analysis was performed to examine the open-response questions. The qualitative data were gathered through semi-structured interviews conducted with seven consultant surgeons and three senior surgical registrars who work in the NHS. An inductive thematic analysis approach was employed to analyse these interviews.

IV. Relevance

This dissertation contributes to research on the significance of effective communication in medicine (Maguire and Pitceathly, 2002; Kurtz *et al.*, 2004; Meyer *et al.*, 2009; Berkhof *et al.*, 2011; Green *et al.*, 2012; Perera, 2015) and, more specifically, surgery (Greenberg *et al.*, 2007; Nagpal *et al.*, 2012; van den Eertwegh *et al.*, 2014; Bonvicini and Burney, 2017). To the researcher's knowledge, no studies that explore the perceived validity of the MRCS Part B exist and, more broadly, no research that examines the validity of postgraduate medical or surgical assessments of communication skills and the consequences of their outcomes on the patient has been published. Therefore, this study furthers existing research that illustrates the importance of surgeons' communication

skills and simultaneously addresses a gap in the literature. Additionally, it outlines areas of investigation that can advance the arguments beyond this study in the future.

That the way in which a surgeon communicates has wider social consequences which affect patient outcomes makes this research essential. It has a practical relevance for senior surgeons who supervise junior surgical trainees and request them to convey certain information to patients. Indeed, success in the MRCS Part B corroborates that a candidate is a competent communicator. The validity of this assumption is vital as the actions that result from it will directly impact patients with whom a trainee is asked to communicate.

V. Structure

Chapter 1 of this dissertation provides an insight into discussions within the fields of Medical Education and Educational Assessment that are fundamental to the central arguments of this research. **Chapter 2** outlines the methodological approach that underpins this study, foregrounding the way in which the data were collected and the population parameters that were employed. **Chapter 3** presents the descriptive statistics and the results of the analyses, whilst **Chapter 4** discusses the key findings, as well as indicates the study's limitations and points to avenues for future research. **Chapter 5** encapsulates the conclusions of this dissertation.

CHAPTER 1

LITERATURE REVIEW

Section I – Communication Skills in Medicine

1.1 The Importance of Communication Skills in Medicine

The significance of communication in medicine has been highlighted (Kurtz *et al.*, 2004; Berkhof *et al.*, 2011; Green *et al.*, 2012; Perera, 2015), prompted by the expectation that doctors should be effective communicators who are able to interact with patients and their relatives. Sound communication skills can benefit both patients and doctors: they can enhance job satisfaction and reduce stress for doctors (Maguire and Pitceathly, 2002), and they can minimise patients' distress (Meyer *et al.*, 2009). Conversely, inadequate communication skills can promote negative patient experiences and even medical errors (Levinson and Pizzo, 2011). It is, therefore, perhaps unsurprising that communication skills assume a central role in undergraduate and postgraduate medical education in the UK. Indeed, Bennett and Lyons (2011:45) claimed that '[t]he importance of teaching communication skills in any undergraduate medical curriculum cannot be overstated' as effective doctor-patient communication is a vital aspect of high-quality patient care.

The teaching and assessment of communication skills form part of the undergraduate curriculum in Medical Schools in the UK. As medical students become doctors, the way in which they interact with patients and their colleagues is assessed through postgraduate examinations, observations conducted by their seniors, workplace-based assessments, and appraisals. Doctors must evaluate their own ability to effectively communicate by

reflecting upon their performances, and they must demonstrate that they possess this skill in the postgraduate examinations that they need to pass to progress in their chosen specialty. A doctor's aptitude to communicate is, therefore, an essential component in postgraduate medical education.

In their *Teaching and Learning Communication Skills in Medicine* (2004), Kurtz, Silverman and Draper indicated why an appreciation of communication skills is important in the context of medical consultations. They highlighted that 1) doctors conduct approximately 200,000 consultations during their careers, and they must be able to perform this task adequately; 2) whilst a consultation is a routine task for a doctor, that discussion is often an extremely important moment for the patient; 3) doctors must integrate knowledge, communication, problem solving, and physical examination to conduct an effective consultation; and 4) good communication skills enable doctors to bridge the gap between evidence-based medicine and patients' concerns (ibid.). These four reasons are further corroborated by studies that highlight the real-life impact of a doctor's ability to communicate on the patient. Perera (2015) found that the patients of doctors who are good communicators tend to be more satisfied, less anxious, and more adherent to the advice they are given, whilst Krasner *et al.* (2009) observed that programmes that train doctors to communicate can improve patient outcomes.

Such discussions are fuelled by the fact that the General Medical Council (GMC), the body that sets the standards and outcomes for undergraduate and postgraduate medical education in the UK, positions communication as a fundamental principle of medicine and a primary competency required by doctors. The GMC's *Good Medical Practice* is a document that describes what is expected of all doctors in the UK. Since this is a core document that sets out guidance that doctors must follow, it is an apt starting point from which to explore the relevance of communication skills in medicine.

1.1.1 *Good Medical Practice* and Communication Skills

Good Medical Practice is divided into four domains: 1) Knowledge, Skills and Performance; 2) Safety and Quality; 3) Communication, Partnership and Teamwork; and 4) Maintaining Trust. Specifically on communication, the document states that:

- '*[Doctors] must listen to patients, take account of their views, and respond honestly to their questions.*' (2019:13, para. 31)

- '*[Doctors] must give patients the information they want or need to know in a way they can understand. [Doctors] should make sure that arrangements are made, wherever possible, to meet patients' language and communication needs.*' (ibid., para. 32)

- '*[Doctors] must be considerate to those close to the patient and be sensitive and responsive in giving them information and support.*' (ibid., para. 33)

- '*When [doctors] are on duty [they] must be readily accessible to patients and colleagues seeking information, advice or support.*' (ibid., para. 34)

These precepts reinforce that communication between doctors and patients transcends the goal to simply obtain a relevant history or provide factual information. Doctors must adopt a holistic approach to address the patient's needs, concerns and expectations, and the communicative situation should be patient-centred. Indeed, a doctor's ability to offer comfort to a patient through the way in which he/she interacts is an essential aspect of good clinical practice (Wernecke, 2014). Since the GMC's *Good Medical Practice* is an important document with which all doctors must be familiar, its principles underpin the assessment of communication skills at a postgraduate level.

1.2 Frameworks of Communication in Medicine

There are several established models of doctor-patient communication that have provided frameworks for communication skills training programmes (Brown *et al.*, 2017). These include the Bayer Institute for Healthcare Communication E4 Model,[3] the Three-Function Model,[4] the Calgary–Cambridge Observation Guide,[5] the Patient-Centred Clinical Method,[6] the SEGUE Framework for Teaching and Assessing Communication Skills,[7] the Four Habits Model,[8] and the SPIKES Protocol.[9] The ICE concept has also been developed.[10]

These models of communication are valuable to programmes that teach communication skills to doctors since they allow a patient's problem to be understood, diagnosed and treated (Brown *et al.*, 2017). They are founded on ideas that are underpinned by behaviour that exemplifies good communication skills. However, their functionality in more complex discussions between the patient and the doctor is somewhat limited (Cegala and Lenzmeier Broz, 2002; Brown *et al.*, 2017). They often focus on the initial consultation in which the doctor identifies the patient's presenting complaint or informs the patient that he/she has a certain condition; they do not provide frameworks for further discussions after the diagnosis has been made and the patient has been informed. While several communicative frameworks exist to teach and support communication skills, they do not reflect the complexity of real dialogues between doctors and patients. This is a threat to the validity of assessments of communication skills, specifically the

[3] For an outline of this model, see Keller and Carroll (1994).
[4] Cole and Bird (2000) offer a detailed description of this model.
[5] For a detailed discussion, see Kurtz and Silverman (1996) who established this model.
[6] Stewart *et al*. (1995) present a comprehensive explanation of the components of which this model is comprised.
[7] For a detailed discussion of this model, see Makoul (2001b).
[8] For a description of this model, see Frankel and Stein (1999).
[9] Baile *et al.* (2000) offer an overview of the SPIKES Protocol.
[10] See Pendleton *et al.* (2003), Stewart *et al.* (2003), and Deveugele *et al.* (2005).

extrapolation link in Crooks *et al*.'s (1996) validation model, when such models are involved in judgements about a doctor's ability to communicate. Since these models are often ill-suited to real life, their use in the exam questions whether interpretations can be accurately and adequately extrapolated from the outcome of the assessment to the broader context of reality or whether, to borrow Messick's (1989, 1994) term, construct under-representation arises.

The fact that each model encompasses a different approach which embodies a different interpretation of what "good" communication is and how to achieve it further jeopardises the validity of assessments of communication skills in which candidates are permitted to employ any communicative framework. Linn *et al.* (1991) considered 'content quality' as one validity criterion for performance assessments. This concept emphasises the role that the quality of an assessment's content assumes in its validity since, to be valid, an assessment must reflect the current and constant thoughts within the field (Linn *et al.*, 1996). Yet, this becomes convoluted in the context of communication skills as various models which are underpinned by distinct conceptualisations of communication exist. The construct is ill-defined which, once again, introduces the threat of construct under-representation. That the ambiguity of the construct can threaten the validity of assessments of communication skills is discussed in the subsequent section.

1.3 An Ambiguous Definition of 'Communication Skills'

Now that the importance of communication skills in medicine and the ways in which they can be implemented by doctors have been considered, it is appropriate to return to what the term 'communication skills' means. It is essential to note that there is not one standard definition of the term. Indeed, Brown *et al.* (2017) found that a definition of the

phrase ‘communication skills’ is limited. That the construct is ill-defined is a threat to the validity of assessments of communication skills; if the construct is not clearly defined, it is arduous to avert construct under-representation and construct irrelevant variance, both of which Messick (1989, 1994) has deemed threats to validity.

Brown *et al.* (2017) argued that there is inconsistency, and often ambiguity, in the way in which studies rooted in medical education use the term ‘communication skills’. They highlighted that various other terms are employed to refer to communication skills, such as ‘approach and technique’ (Roter and Hall, 1992), ‘component’ (Baile *et al.*, 2000), ‘element’ (Makoul, 2001a), ‘task’ (Makoul, 2001b), and ‘strategy’ (Razavi *et al.*, 2003). Similarly, the fact that several communicative models exist, each of which uses different terminology to discuss communication, also illustrates the ambiguity of the construct. The models of communication mentioned above employ distinct terms to outline similar actions. As an example, the SEGUE Framework comprises the domain ‘give information’, which apprises the doctor to offer clear explanations to the patient (Makoul, 2001b). This is comparable to the ‘knowledge’ step in the SPIKES Protocol, which instructs the doctor to provide information to the patient in a manner that is understandable (Baile *et al.*, 2000).

A useful definition is offered by Chichirez and Purcărea (2018). They defined communication in medicine as ‘a fundamental clinical skill that involves the establishment of the therapeutic relationship, understanding the patient’s perspective, exploring thoughts and emotions, and guiding them towards improving their health’. This interpretation frames the way in which communication skills are perceived in this dissertation.

1.4 Communication Skills in Surgical Education

Since this dissertation focuses on the way in which surgeons communicate with patients, it is pertinent to highlight why the validity of assessments of surgeons' communication skills is a valuable area of research.

Bonvicini and Burney's chapter 'Communication Skills for Surgeons' (2017) emphasises that, while communication skills were previously considered secondary to the ability to operate, a surgeon's ability to communicate with patients and their families is now associated with positive outcomes. Nagpal *et al.* (2012) outlined the importance of effective communication between surgeons and patients due to its impact on patient safety, whilst Greenberg *et al.* (2007) investigated how breakdowns in surgeons' communication can harm patients. Additionally, a systematic review of studies of surgeon-patient communication performed by Levinson *et al.* (2013) concluded that the most serious issues emanate from the inability of surgeons to discuss patients' concerns and show empathy.

Mendick *et al.* (2015) conducted a qualitative study to explore how surgeons conceptualise the way in which they communicate with patients in an attempt to inform the design and delivery of communication skills curricula. They found that those interviewed did not see the ability to communicate as a skill that is fully attained when one reaches a certain level in his/her career. Rather, it is central to one's continued development. That the aptitude to communicate well is considered an aspect that is refined over time is important to the validity of assessments of surgeons' communication. It highlights that such assessments are time-specific, namely the communication skills expected of a junior surgeon will be different to those expected of a more senior surgeon.

A risk of misinterpretation by an examiner who is an experienced consultant surgeon in his/her judgement of a junior surgeon represents a threat to Crooks *et al.*'s (1996) evaluation link in their validity model. It is, therefore, vital that the examiners are aware of what is required.

Several papers that investigate trainee surgeons' perceptions of their communication skills, as well as simulated patients' assessments of trainee surgeons' communication skills, in an American context have also been published (Yudkowsky *et al.*, 2004; Falcone *et al.*, 2014; Nakagawa *et al.*, 2019). These scholars turned to empirical evidence to argue that a doctor's aptitude to communicate well can enhance the patient's experience. To the researcher's knowledge, there is no paper that critically examines the validity of the communication skills component of the postgraduate surgical examination that is the focus of this dissertation.

Revision guides that aid surgical trainees to prepare for the communication skills component of postgraduate surgical examinations have been published, such as Fishman, Elwell and Chowdhury's *Communication Skills for the MRCS OSCE* (2016) and Logan and Dhillon's *Communication Skills OSCEs in Surgery* (2016). Beyond the description of the exam given by the Intercollegiate Committee for Basic Surgical Examinations (ICBSE),[11] which is discussed in the subsequent section of this chapter, these revision guides offer the closest definition of the construct. However, there are no textbooks for the communication skills component of the exam recommended by the ICBSE, although it does endorse textbooks for other components of the exam (ICBSE, 2021a). We question the reliability of these resources and whether they stimulate positive or negative

[11] The ICBSE is the body responsible for the standards and quality assurance of the MRCS examinations. It provides regulations which the four Royal Surgical Colleges must follow to ensure standards are maintained.

washback since this will impact the validity of the outcomes of the exam. As an example, these revision guides encourage candidates to employ communicative frameworks in the exam but, as we will explore, the syllabus does not request candidates to demonstrate an awareness of such frameworks.

Section II – The Membership of the Royal College of Surgeons (MRCS) Part B Examination

1.5 An Overview of the MRCS Examination

The intercollegiate MRCS examination is a high-stakes postgraduate examination which permits the successful candidate membership to one of the four Royal Surgical Colleges in the UK and Ireland. A detailed description of its content is offered by Brennan and Sherman (2014). As a brief overview, the exam consists of two parts: Part A and Part B. Part A is a five-hour written paper that is formed of multiple-choice questions (MCQs). It assesses a candidate's knowledge in 'Applied Basic Science' and 'Principles of Surgery in General'. Part B is an objective structured clinical examination (OSCE). It is a 'circuit' which comprises 17 stations, each of which is 10 minutes in duration (one minute to read the instructions outside the station and nine minutes inside the station) and has one or two examiners. It tests two broad content areas (BCAs): 'Applied Knowledge', which covers surgical anatomy, surgical pathology, microbiology, applied surgical sciences and critical care, and 'Applied Skills', which assesses clinical examination skills, procedural skills and communication skills. Candidates must have passed Part A in order to sit Part B.

The ICBSE (Scrimgeour *et al.*, 2017) recommends that Part A is taken by those in the first year of Core Surgical Training and Part B is sat by those in the final year of Core

Surgical Training.[12] Indeed, the MRCS tests that a trainee possesses the knowledge and clinical competence expected of those who have completed Core Surgical Training and are applying to become registrars (ICBSE, 2018). A surgical trainee who wishes to progress to higher surgical training in any of the surgical specialties must, therefore, pass the MRCS. This is central to the discussions within this dissertation.

Part B simultaneously examines four 'domains', each of which relate to the core aspects outlined in the GMC's *Good Medical Practice*. These are:

- Clinical Knowledge and its Application
- Clinical and Technical Skills
- Communication
- Professionalism

(ICBSE, 2021b)

The way in which a surgeon's communication skills are assessed in the MRCS Part B is the focus of this dissertation. We, therefore, centre on the domain entitled 'communication', which, according to the ICBSE (2021b), encompasses:

> '*the ability to assimilate information, identify what is important and convey it to others clearly using a variety of methods; the capacity to adjust behaviour and language (written/spoken) as appropriate to the needs of differing situations; the ability actively and clearly to engage patient/carer/colleague(s) in open dialogue.*'
>
> (ICBSE, 2021:3)

This is the closest definition of a competent communicator that the ICBSE provides in the context of the MRCS Part B. In its simplest form, validity can be considered as 'the

[12] However, this not a prerequisite, and some trainees sit the exam earlier.

extent to which the instrument measures whatever it is supposed to measure' (Hecker and Violato, 2009:271). Therefore, if the construct that is supposed to be measured is not clearly defined, validity is compromised. The absence of a clear definition of a competent communicator, based on what the exam measures, jeopardises validity.

1.6 The Assessment of Communication Skills in the MRCS Part B

The way in which a candidate's ability to communicate with a patient is assessed in the MRCS Part B is twofold. Firstly, four of the 17 stations that candidates encounter directly test their communication skills. These are broken down into three categories, all of which assess the candidate's ability to communicate with patients, relatives and/or colleagues: 1) take a patient's history to generate differential diagnoses; 2) provide information about a patient's condition to the patient, a relative, or another healthcare professional such as the consultant responsible for the patient; and 3) consent a patient for a surgical procedure. In these stations, candidates must interact with a simulated patient (SP), who is often a professional actor. The mark scheme for the MRCS Part B, with the four communication stations outlined, can be found in Appendix A.

Prior to the examination, the actor is provided with instructions which inform him/her of the information to give to the candidate. The examiner is also given a set of instructions which detail how the candidate should be awarded marks in that station. The candidate is not privy to these documents; he/she sees only the instructions to the candidate which outline the scenario and describe what he/she should communicate, as well as the mark scheme which is available prior to the examination. The candidate is marked on his/her ability to communicate, but he/she is also tested on his/her knowledge (see Appendix A). It is, therefore, essential that the candidate offers accurate information to the SP. To aid

the reader's understanding, Appendix B contains an example of a mock scenario created for the purpose of this dissertation, with instructions to the candidate, actor and examiner.[13]

The second way in which a candidate's ability to communicate with patients is assessed is in the 'Clinical and Procedural Skills' stations (see Appendix A). These are the physical examination stations, in which the candidate is required to examine part of a SP's body, and the procedural skills stations, in which the candidate is requested to perform a procedure such as suture a wound (a plastic model might be used, but an actor will be present, and the candidate will need to interact with him/her). Due to limits of space, the discussions in this dissertation will centre on the communication skills stations of the MRCS Part B.

Here, it is apt to highlight how the use of SPs might affect the validity of the communication skills component of the MRCS Part B. SPs are professional actors who are trained to portray patients with certain conditions (Wind *et al.*, 2004; Cleland *et al.*, 2009). While SPs who participate in the MRCS Part B are given instructions on what to ask or tell candidates, it is perhaps inevitable that they will behave in distinct manners; some might be exceptionally dramatic, and others might be unduly emotionless. Crooks *et al.* (1996) maintained that, if the conditions of the assessment are too variable, there is a threat to generalisability, the fourth link in their validation model. If the behaviour of actors varies, the performance of the candidates will vary. This, in turn, restricts how well we are able to generalise from a candidate's score to understand how he/she truly communicates.

[13] There are no official sample scenarios offered by the Royal Surgical Colleges for the 'information giving' communication skills stations. A sample is available only for the 'history taking' stations (see Appendix C), which follow a different format to the stations in which the candidate must, for example, deliver bad news.

Measures were put in place during the COVID-19 pandemic to ensure that the MRCS Part B could be delivered in a safe manner which adhered to government-imposed restrictions (ICBSE, 2020a). The sittings that occurred between October 2020 and July 2021 were affected. What is pertinent in the context of this dissertation is that examiners assumed the role of actors in the communication skills stations during this period. Some junior surgical trainees who participated in this study sat the MRCS Part B whilst COVID-19 measures were in place, and the impact of the use of examiners on the perceived validity of the communication skills stations is explored in this dissertation. If the examiners behaved differently to actors, the generalisability and, therefore, the validity of the exam could be threatened.

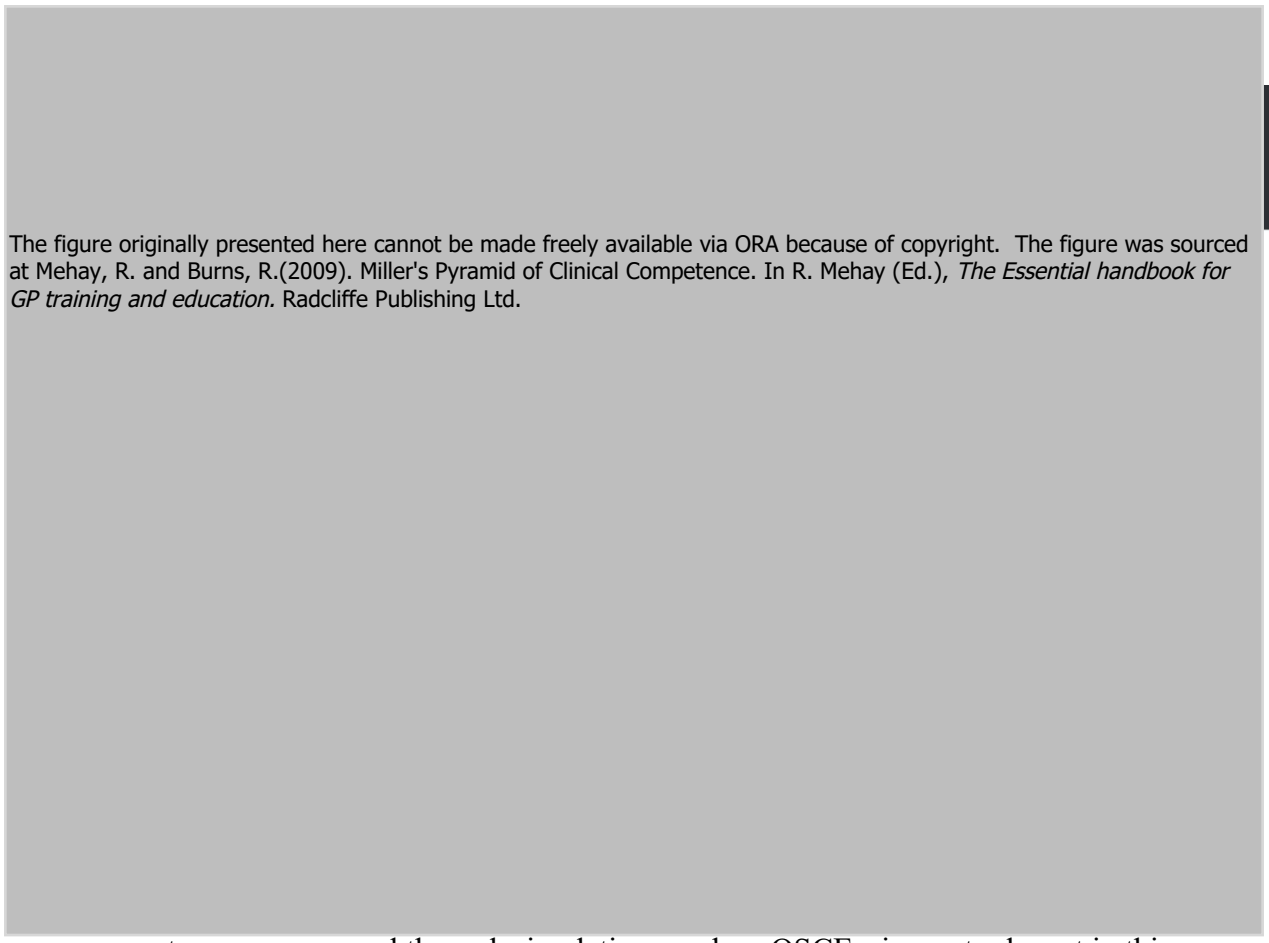
1.7 A Paradigmatic Perspective

Miller (1990) argued that the assessment of medical students was excessively focused on an evaluation of knowledge and that students were not adequately judged on how they would behave in real clinical situations. He, therefore, developed 'Miller's Pyramid', a model used to assess an individual's clinical competency. This encouraged the field of Medical Education to move from a reliance on assessments of theoretical knowledge to an incorporation of assessments of clinical performance (Witheridge *et al.*, 2019), a category under which the MRCS Part B falls.

Miller's Pyramid divides clinical competence into four components: 1) 'knowledge', or 'knows'; 2) 'application of knowledge', or 'knows how'; 3) 'clinical skills competency', or 'shows'; and 4) 'clinical performance', or 'does' (Mehay and Burns, 2009). Figure 1.1 offers a visual representation of the model.

Figure 1.1

Miller's Pyramid of Clinical Competence Adapted from Burns and Mehay (2009)



competence are assessed through simulations such as OSCEs, is most relevant in this dissertation as candidates are assessed in the MRCS Part B according to how they 'apply knowledge, skills, judgement and behaviour in day-to-day practise using Miller's educational pyramid at the level of "Shows How"' (ICBSE, 2017, p. 1). To explore how this speaks to the assessment's validity, the paradigm to which the MRCS Part B belongs should first be examined since what is deemed valid in one paradigm will not necessarily be considered valid in another.

In their chapter entitled 'The Standard Setting Project: Assessment Paradigms' (2018), Baird and Opposs presented three applied areas for assessment (psychological;

educational; and workplace) which map onto the three paradigms that they outlined (psychometric; curriculum-based; and outcomes-based). The MRCS Part B can be positioned in the outcomes-based paradigm. This is supported by the following observations.

- The MRCS Part B intends to confirm whether a candidate is a competent surgeon based on pre-defined criteria. It is, therefore, criterion-referenced.
- The attribute of interest in the MRCS Part B is the way in which a candidate can demonstrate his/her competency in certain skills and knowledge through performance.
- The primary purpose of the MRCS Part B is to verify that a candidate is proficient to practise as a surgeon.
- Candidates are observed on the way in which they perform tasks that resemble what they need to do in the workplace.
- Candidates are assessed by those who are experts in the subject matter.
- The outcome of the examination is 'pass' or 'fail'.
- Candidates must pass the two BCAs in the same sitting. As such, there is a lack of compensation.

Predictive validity, or the extent to which scores on one test predict outcomes on a later measure (Cronbach and Meehl, 1955), is important in the outcomes-based paradigm since the purpose of an outcomes-based assessment is to corroborate that a candidate is competent to practise (Baird and Opposs, 2018). This is particularly crucial to the discussions in this dissertation as those who have passed the MRCS Part B are assumed to be competent in what Crooks *et al.* (1996) termed the 'assessed domain', or the tasks that form an assessment which are a sample from the collection of tasks that could have been used. Indeed, an assessment's validity is strengthened if the outcomes can be

generalised to the domain more broadly. This will be examined more closely later in this dissertation.

If we now return to Miller's Pyramid, we can conclude that the level 'shows' offers a useful method of evaluation in the context of the MRCS Part B since, positioned in the outcomes-based paradigm, the exam measures a candidate's expertise by requesting him/her to demonstrate what he/she knows.

1.8 Standard Setting

The borderline regression method is employed to set the standard of the MRCS Part B (ICBSE, 2017). Examiners observe candidates in each station and assess their performance according to a pre-defined checklist, as well as on a global rating scale. The scores based on the pre-determined checklist that a given cohort is awarded are regressed on the attributed global scores (Hejri *et al.*, 2013), which generates the pass mark for each station. The global score that represents the 'borderline' performance predicts the pass-fail cut-off score for the checklist marks (Kramer *et al.*, 2003). The overall pass mark is calculated by aggregating the pass marks for each of the separate stations.

As befits the borderline regression method, each station in the MRCS Part B is assessed in two ways: 1) the candidate is given a total score out of 20; and 2) the candidate receives an overall judgement (Pass; Borderline; Fail). These two scores are regressed, and the pass marks are calculated. A Standard Error of Measurement (SEM) of 0.84 is added to the pass marks for the two BCAs (ICBSE, 2017). The candidate must pass the two BCAs in the same sitting to be successful in the examination. If a candidate fails in one BCA, he/she must re-sit the entire examination. There is, therefore, a lack of compensation.

The MRCS Part B takes place in several examination centres in Britain and overseas across a period of approximately two weeks in February, May and October each year. If the examination is conducted in different venues on the same day, the same 17 stations will be used in each centre. A pass mark is not generated for the OSCE as a whole but, rather, a pass mark for each BCA of each circuit is generated. This takes into consideration the variances between the stations in different circuits administered in different centres on different days. The pass marks will, therefore, not be identical for each circuit, but they will be very similar (ICBSE, 2021c).

1.9 A Valuable Study

This chapter has demonstrated the value of a study that investigates the validity of an important assessment of surgeons' communication skills. We have seen that the ability to communicate well is fundamental in medicine and, particularly, surgery. Communication is inextricably linked to the social aspect of medicine, or, to borrow Platt's (2002) words, how medicine affects people's everyday lives. The way in which a surgeon communicates arguably influences patient outcomes. It is thus an essential element that is worthy of attention.

The social consequences that stem from surgeon-patient communication mean that an assessment that measures surgeons' communication skills must have outcomes from which valid interpretations can be forged and valid actions can be taken. The high-stakes assessment that confirms a junior surgical trainee has attained the knowledge and skills required to continue his/her training and become a surgical registrar is, therefore, both appropriate and necessary to examine. Those who have passed the MRCS Part B are expected to be competent in each area tested, and an exploration of how valid this

inference is in the context of the communication skills component is important. The way in which candidates "show how" they communicate, how these interpretations are generalised from this outcomes-based assessment to the wider domain, and if this produces valid outcomes are each worthy of investigation.

This Literature Review has drawn attention to the fact that, while frameworks of communication assume a central role in preparation resources for the MRCS Part B, they are not alluded to in the exam syllabus. It is important to explore the extent to which candidates employ such frameworks in the exam and how this compares to the way in which they use them in clinical practice as this will indicate the authenticity and, in turn, the validity of the communication skills stations. If communicative frameworks are common in the exam but uncommon in clinical practice, negative washback can occur, and validity can be threatened.

This chapter has also highlighted that the role of SPs is crucial to consider in a validity study of a communication skills assessment. The behaviour of SPs will inevitably vary, but the extent of this variability will determine if validity will be affected. The fact that examiners acted as SPs in the communication skills component of the MRCS Part B during the COVID-19 pandemic makes this even more important to investigate.

No studies that explore the validity of the communication skills component of the MRCS Part B exist. Yet, as this chapter has illustrated, the ability of surgeons to communicate is paramount to the welfare of patients. This study is, therefore, necessary.

CHAPTER 2

METHODOLOGY

2.1 Research Questions

This dissertation explores two primary research questions (RQs):

1. Is the communication skills component of the MRCS Part B a valid reflection of clinical practice?
2. Is the MRCS Part B a worthwhile assessment of surgeon-patient communication?

The first RQ is underpinned by the sub-questions:

- Does the behaviour of simulated patients reflect that of real patients?
- Do candidates communicate with simulated patients in the exam in a similar manner to how they communicate with real patients in clinical practice?
- Does the communication skills component of the MRCS Part B reflect what junior doctors are expected to do in day-to-day practice?
- Does the use of actors vs. examiners affect the perceived authenticity of the communication skills component of the MRCS Part B?
- Does the Royal Surgical College with which the candidate sat the MRCS Part B affect the perceived authenticity of the communication skills component of the exam?

The second RQ considers:

- Does the MRCS Part B enable candidates to enhance their communication skills and, in turn, their practice? What role do the effects of washback (Hughes, 1989; Alderson and Wall, 1993) assume?

As the subsequent sections of this chapter outline, the methodology that frames this study is appropriately positioned to allow the two RQs to be explored.

2.2 Research Design

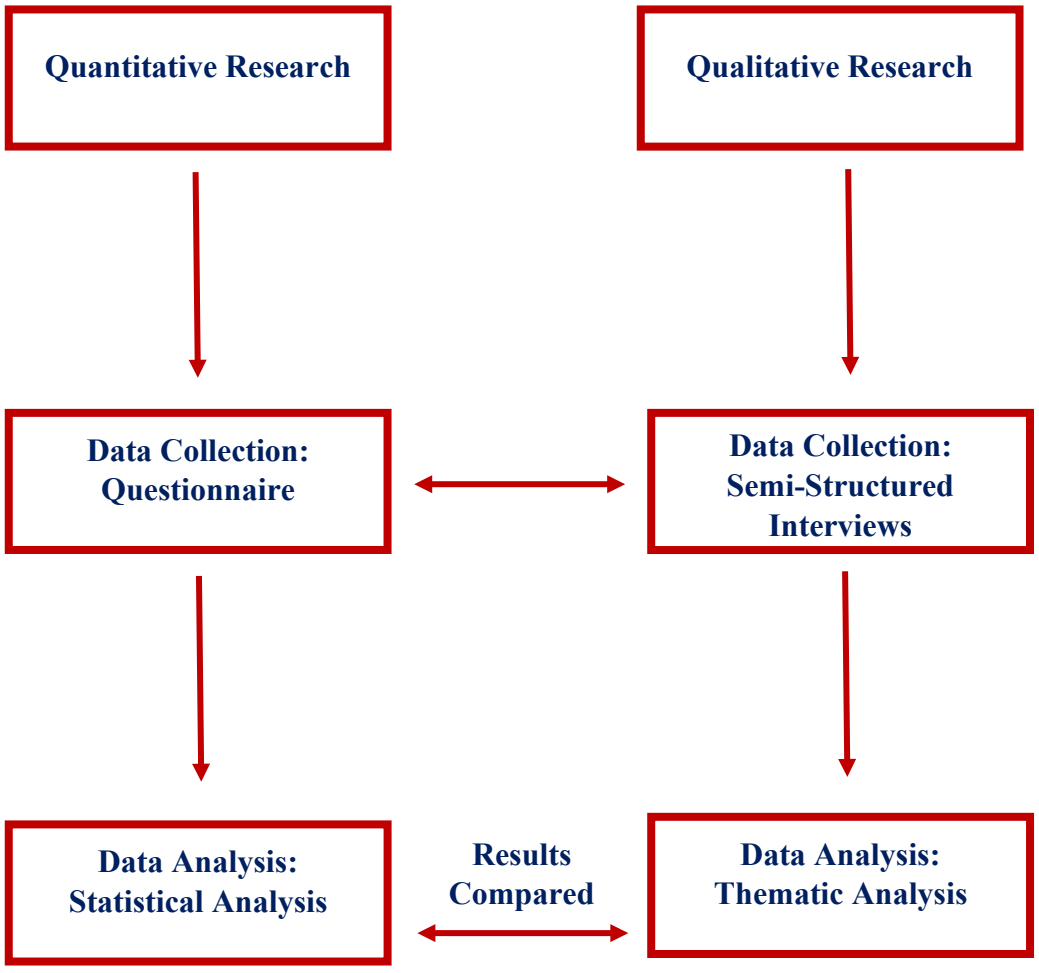
2.2.1 A Mixed Methods Approach

A mixed methods approach was used to investigate the RQs. Quantitative data was collected by distributing a questionnaire to junior doctors, and qualitative data was gathered by conducting semi-structured interviews with consultant surgeons and senior surgical registrars. A semi-structured style was chosen for the interviews as this would ensure the conversations remained relevant and simultaneously enable participants to raise issues that they believed to be important in this context.

The concurrent triangulation strategy was employed, which meant that quantitative and qualitative data were collected concurrently and the data were integrated during the analysis phase to determine if any convergence, particularly convergence that would strengthen the claims of the study, existed. The time taken to collect data is shorter in this strategy compared to sequential methods, and any weaknesses in one of the two data collection designs can be offset by the other (Terrell, 2012). A visual representation of this strategy, which has been adapted from Terrell (2012) for this research, is offered below (Figure 2.1).

Figure 2.1

A Visual Representation of the Concurrent Triangulation Strategy Adapted from Terrell (2012) and Applied to This Research



2.2.2 Quantitative Data: Questionnaire Development

A questionnaire (Appendix D) was delivered electronically. It comprised 25 items, 20 of which were related to the authenticity of the communication skills stations of the MRCS Part B and five of which collected demographic data.

Of the 20 items that referred to the authenticity of the MRCS Part B, two were dichotomous, closed-ended questions: one asked the participant if he/she communicated with actors or examiners in the communication skills stations of the exam, and the other asked if he/she used any frameworks of communication in the exam. Two items were multiple response questions, one of which requested participants to select the frameworks of communication they employed in the MRCS Part B, and the other of which asked participants to select the resources they used to prepare for the communication skills component of the exam. Two questions were open-response, which gave participants the opportunity to expand on closed-ended questions, and 14 items were five-point Likert scale questions, which requested respondents to rate aspects of the communication skills component of the exam from 'Most Certainly' to 'Not At All', from 'Always' to 'Never', and from 'Strongly Agree' to 'Strongly Disagree'. A 'Prefer Not to Say' option was included for all mandatory questions.

The items related to demographics asked participants 1) the Medical School they attended, 2) their current level of training, 3) when they sat the MRCS Part B, 4) the Royal Surgical College with which they sat the MRCS Part B, and 5) the number of times they have taken the MRCS Part B. A 'Prefer Not to Say' option was included for the five questions.

To enhance the questionnaire, the first draft was given to five surgical registrars, all of whom work in the NHS. The questionnaire was revised based on the feedback received during this pilot study: ambiguous questions were rewritten, and the use of 'loaded' language that could persuade participants to answer in a certain manner was removed. The term 'artificial communication' is an example of such language. Feedback suggested it emphasised the fact that the communication assessed in the MRCS Part B is not wholly

representative of reality, and it might, therefore, affect the participant's response to questions about authenticity. It was thus replaced with the term 'simulated setting'.

2.2.3 Quantitative Data: Sampling Method

An opportunity sampling approach was used to identify participants to take part in the questionnaire. The target population approached to complete the questionnaire needed to meet the inclusion criteria for this study. In order to be eligible to partake, participants must:

- have attempted the MRCS Part B on at least one occasion between October 2018 and February 2022.
- be working in the NHS.
- have undertaken surgical training placements after qualifying from Medical School.
- have experience of communicating with patients in a clinical setting within the NHS.

Each participant had attended a MRCS Part B preparation course conducted by Doctors Academy Group of Educational Establishments[14] between September 2018 and January 2022 and had been included in a database of attendees. Written permission to access this database was obtained by the primary researcher. The participants were identified as eligible to take part in this study based on the application that they completed to attend the preparation course.

[14] Doctors Academy Group of Educational Establishments provides education and training to medical students and doctors of all levels from throughout the world. Amongst other activities, it conducts preparation courses for junior doctors sitting the MRCS Part B. These are held in Cardiff, Wales three times a year, and additional session are conducted virtually via Zoom.

2.2.4 Quantitative Data: Questionnaire Distribution

The questionnaire was administered online. Three hundred and seven individuals, all of whom belonged to the target population, were sent an introductory email between 14th March 2022 and 14th June 2022 that outlined the study and invited them to participate. Those who expressed an interest were provided with all the relevant information and the link to the online questionnaire.

There are no official data accessible to the public that confirm how many candidates sat the MRCS Part B between October 2018 and February 2022. The ICBSE (2020b) announced that 540 candidates took the exam in October 2020, but we would expect this number to be higher than previous and subsequent sittings as the April 2020 exam was cancelled due to the COVID-19 pandemic and more candidates were accommodated in October. Although we do not know how many candidates sat the MRCS Part B between October 2018 and February 2022, we can conclude that our sample was small in relation to the number of candidates who took the exam during this period.

2.2.5 Quantitative Data: Participants

Given that this was a volunteer sample, the response rate was reasonable; 63 out of 307 individuals (20.5%) completed the questionnaire. The sample size and response rate of quantitative studies in Medical Education which take place over more than 12 months and either are endorsed by organisations such as the Royal Surgical Colleges (Gaunt *et al.*, 2016) or focus on medical students (Johnston and Haughton, 2007) are inevitably greater. Yet, Merh and Selman (2020) conducted an insightful quantitative study into general surgical trainees' perceptions on the teaching they received which had ten participants

and a response rate of 20%. Caution will, however, be exercised over how far the results of this study can be generalised; certain conclusions may need to be reinvestigated before any significant changes can be considered. Informed consent was obtained from each participant, and it was highlighted that involvement was entirely voluntary. Participants were also told that, since the questionnaire was anonymous, their identity would be unknown to the researcher.

Table 2.1 outlines the level of the 63 participants, and Table 2.2 details the month and year of their most recent sitting of the MRCS Part B.

Table 2.1

Level of Participants

Current Level	Number (n)	Percent (%)
Clinical Fellow	3	4.8%
Clinical Research Fellow	1	1.6%
Core Surgical Trainee 1	10	15.9%
Core Surgical Trainee 2	18	28.6%
Core Surgical Trainee 3	2	3.2%
Foundation Year 2	4	6.3%
Foundation Year 3	4	6.3%
Research Fellow	1	1.6%
Specialty Doctor	3	4.8%
Specialty Trainee 3	9	14.3%
Specialty Trainee 4	1	1.6%
Staff Grade	1	1.6%
Trust Grade Doctor	6	9.5%

Table 2.2

Month and Year of the Participants' Most Recent Sitting of the MRCS Part B

Date of Most Recent Sitting of MRCS Part B	Number (n)	Percent (%)
October 2018	2	3.2%
February 2019	1	1.6%
May 2019	1	1.6%
October 2019	3	4.8%
February 2020	2	3.2%
October 2020	9	14.3%
February 2021	1	1.6%
May 2021	11	17.5%
July 2021	5	7.9%
October 2021	9	14.3%
February 2022	18	28.6%
Prefer Not to Say	1	1.6%

The majority of participants (68.3%; n = 43) took the MRCS Part B between May 2021 and February 2022. Since the questionnaire was distributed between March 2022 and June 2022, most participants completed it less than 12 months after they had sat the exam. This enhanced the reliability of the study since the majority of participants responded based on a fairly recent experience rather than an attempt to recall indistinct memories of an event that happened a long time before.

2.2.6 Qualitative Data: Question Development

Five questions were developed to ask to all those who participated in the semi-structured interviews. These were:

- Do you believe that trainees who have *prepared for* the MRCS Part B are able to communicate with patients better than those who have not?

- Do you believe that trainees who have *passed* the MRCS Part B are able to communicate with patients better than those who have not?
- Do you train your juniors to communicate with patients? If so, how?
- Do you expect your trainees to implement any frameworks of communication such as ICE or SPIKES when they communicate with patients?
- In the MRCS Part B, candidates are often asked to inform a (simulated) patient that he/she has cancer. Do you expect Foundation Year Doctors and Core Surgical Trainees to inform patients that they have cancer?

The orchestration of semi-structured interviews allowed flexibility; the interviewer could collect relevant information from each participant, but she was not restricted by a rigid framework and, if required, could pose further questions to unpack ideas presented by the interviewee. This encouraged the dialogue to be natural and the discourse to be active.

2.2.7 Qualitative Data: Sampling Method

Opportunity sampling was used to identify consultant surgeons and senior surgical registrars to be interviewed. The target population approached needed to meet the inclusion criteria for this study, which meant that those interviewed must:

- be a consultant or senior registrar in the NHS at the time of the study.
- be involved in training junior surgical trainees at the time of the study.
- oversee the way in which junior surgical trainees communicate with patients at the time of the study.

Ten consultant surgeons and senior surgical registrars who fitted the inclusion criteria were invited to participate in the study.

2.2.8 Qualitative Data: Participants

Seven consultant surgeons (one breast surgeon; one head and neck surgeon; one orthopaedic surgeon; two paediatric orthopaedic surgeons; and two plastic surgeons) and three senior surgical registrars (one in colorectal surgery; one in head and neck surgery; and one in upper gastrointestinal surgery) were invited to participate in the study between 15th May 2022 and 30th June 2022. They all agreed to conduct an interview.

Informed consent was obtained from each participant, and it was highlighted that involvement was entirely voluntary. Participants were told that the information they provided would be de-identified to ensure that confidentiality was maintained. They were also apprised that, whilst direct quotes might be used, care would be taken to ensure they would not be identifiable.

2.2.9 Qualitative Data: Orchestration of Interviews

The interviews were conducted via Zoom by the primary researcher, and each lasted between 10 and 15 minutes. The interviews were recorded, the audio was isolated from the video, and a transcript of the audio was created. This was used to conduct a thematic analysis, which is discussed in Section 2.4.2.

2.3 Ethical Approval

Ethical approval was attained from the Central University Research Ethics Committee (CUREC). The British Educational Research Association Ethical Guidelines for Educational Research were followed throughout this study.

2.4 Methods of Analysis

2.4.1 Analysis of Quantitative Data

The data collected through the questionnaires were transferred to an encrypted and password-protected Excel file, which was subsequently prepared for and input into the statistical software IBM SPSS (Version 28) for analysis.

Before it was analysed, the dataset was checked for missing data, of which there were none. The values 'Most Certainly', 'Certainly', 'Neutral', 'Slightly' and 'Not At All' were then recoded as '5', '4', '3', '2' and '1', respectively. The values 'Always', 'Often', 'Sometimes'. 'Rarely' and 'Never' were recoded as '5', '4', '3', '2' and '1', respectively. A scale that considered the respondents' perception of the authenticity of the communication skills component of the exam was created with Question 10 to Question 16, and the values were recoded according to whether the response 'Strongly Agree' would be deemed positive or negative. For example, answering 'Strongly Agree' when asked if the assessment of communication skills in the MRCS Part B was 'authentic' is positive on a scale of authenticity, and it was, therefore, recoded as '5' for Question 10. Yet, responding 'Strongly Agree' when asked if the assessment of communication skills in the MRCS Part B was 'overly artificial' is negative on this scale, and it was recoded as '1' for Question 11.

A combination of descriptive statistics and inferential statistics was used. The univariate descriptive statistics included distribution, whilst the bivariate descriptive statistics were correlation and regression analysis. Inferential methods included a Mann-Whitney *U* test and ANOVA tests.

Since the two open-response questions provided qualitative data, an inductive thematic analysis approach was adopted to analyse the responses. The comments given by respondents were coded to identify recurrent, as well as interesting, themes that would allow the RQs to be explored. This thematic analysis was conducted manually as the amount of data was relatively small.

2.4.2 Analysis of Qualitative Data

An inductive thematic analysis approach was also employed to analyse the interviews. This allowed patterns of meaning that were relevant to the RQs to be found (Braun and Clarke, 2012). The transcripts were coded to identify common themes through an analysis of the words and sentences spoken by the participants, and labels that represented important and recurrent themes were assigned. To borrow Crabtree and Miller's (1999) term, the data were 'chunked'. The themes were then analysed to discern the participants' perceptions. Again, a manual analysis was performed since the amount of data was not excessively large.

The interpretation of qualitative data is vulnerable to the influences of those who handle it (Attride-Stirling, 2001). Since this study was carried out by one researcher who conducted the interviews and analysed the data, bias could have been introduced. The inclusion of a second researcher to undertake an independent analysis of the data would have negated this, but it was not feasible within the constraints of this dissertation.

CHAPTER 3

RESULTS

3.1 Research Question 1: Is the communication skills component of the MRCS Part B a valid reflection of clinical practice?

3.1.1 Sub-Question: Does the behaviour of simulated patients reflect that of real patients?

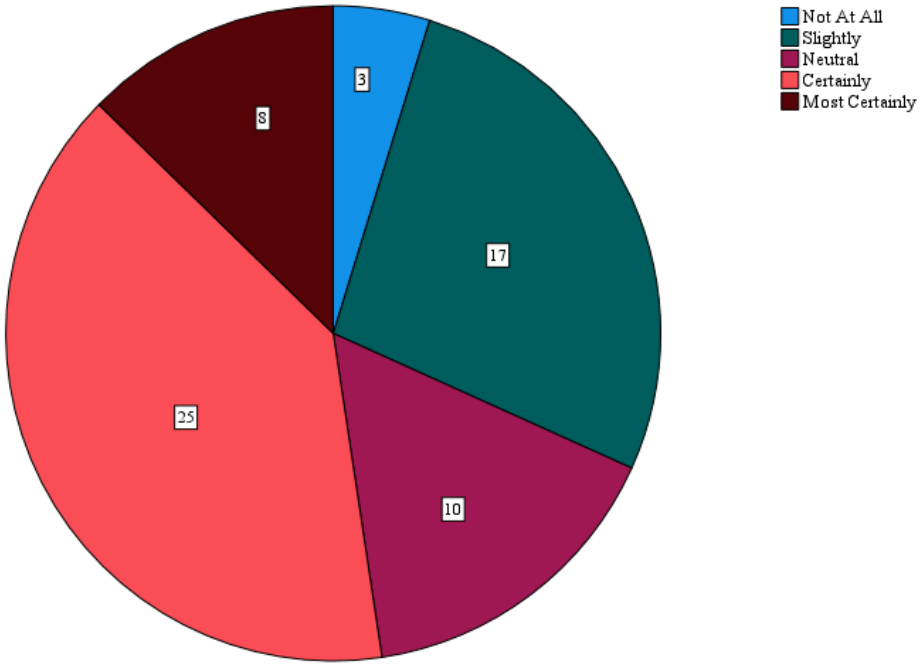
Since some participants who completed the questionnaire would have sat the MRCS Part B whilst COVID-19 restrictions were in place, we first asked if they communicated with actors or examiners as SPs. Of the 63 participants, 52 (82.5%) stated that they communicated with actors, whilst 11 (17.5%) said that they communicated with examiners.

Participants were asked if they felt that the expectations, reactions and mannerisms of the actors or examiners compared to the expectations, reactions and mannerisms of real patients. A little more than half of the participants (n = 33; 52.4%) answered positively: eight (12.7%) answered 'most certainly' and 25 (39.7%) answered 'certainly'. Almost one third (n = 20; 31.8%) answered negatively: 17 (27%) answered 'slightly', and three (4.8%) answered 'not at all'. Ten (15.9%) answered 'neutral'.[15] Figure 3.1 offers a visual representation of these responses.

[15] The 'neutral' option, which often indicates the midpoint on Likert scales, can be interpreted by participants of questionnaires in different manners, from 'no opinion' to 'unsure' to 'neither' (Nadler *et al.*, 2015; Chyung *et al.*, 2017). Within this dissertation, we place 'most certainly' and 'certainly' in one category to indicate agreement, and we put 'neutral', 'slightly' and 'not at all' in another category to signal disagreement.

Figure 3.1

Did the Expectations, Reactions and Mannerisms of the Actors or Examiners Compare to Those of Real Patients?



A Mann-Whitney *U* test was performed to determine if there is a statistically significant difference between the way in which the expectations, reactions and mannerisms of the two groups, i.e., actors and examiners, reflect the expectations, reactions and mannerisms of real patients. This would reveal if the use of an examiner rather than an actor as a SP, a strategy implemented during the COVID-19 pandemic,[16] affected the perceived authenticity of the communication skills component of the MRCS Part B. This nonparametric test was selected as the data violated the assumptions of parametric tests such as the *t*-test; the assumption of equal variance was not met. The results indicate that

[16] A discussion can be found in Chapter 2 of this dissertation.

the difference between the two groups was not statistically significant ($U = 207$; $z = -1.498$; $p = 0.134$). The use of examiners instead of actors did not impact the perceived authenticity of the assessment. However, it is acknowledged that the Mann-Whitney *U* test possesses lower power than the *t*-test. The effect size of this Mann-Whitney *U* test was small ($r = -0.18873$). If the study had recruited more participants, the power might have increased, and a statistically significant difference might have been noted.

Those who considered the behaviour of the actors or examiners to be dissimilar to the behaviour of real patients were asked to provide further details in a free-text box. A comment was received from 21 (33.3%) participants. An inductive thematic analysis was conducted to code the data and identify common and important themes.

The two most common ways in which the behaviour of SPs was deemed different to that of real patients were 1) it was unauthentic, which was highlighted by 13 of the 21 participants (61.9%); and 2) it was exaggerated, which eight (38%) mentioned. One respondent wrote:

> '*The actors were more intense, tearful and difficult to placate than the vast majority of patients that I encountered in real life.*' (P10Q2)

Another saw the unauthenticity of the SPs as a result of their exaggeration. He/She stated:

> '*Extremes of emotions were often exaggerated i.e anger, upset, shock. I feel these emotions are present in real life interactions but slightly more nuanced.*' (P7Q2)

That a third participant asserted '*I havent [sic] seen patient that reacts like that in hospital*' (P14Q2) accentuates the fact that certain candidates did not feel the communication skills stations were an authentic representation of reality.[17]

Other commonly reported reasons for which the behaviour of SPs was seen to differ from that of real patients were related to the style of questions they asked, which was foregrounded by three of the 21 respondents (14.3%), and the dramatic nature of their interactions, which was alluded to by three (14.3%). Those who found the SPs' questions different to those of real patients claimed that their questions were excessive ('*patients don't ask so many questions in real life.*' (P5Q2)), unrealistic ('*Actors asked difficult questions that patients would not ask in real life.*'(P9Q2)), and atypical ('*Some questions were unusual and not what patients ask (from my limited experience).*'(P20Q2)) One participant highlighted that the SPs' dramatism was unreflective of reality ('*The actors were over enthusiastic & dramatic. Patients are not like this in real life.*' (P12Q2)).

All four of these reasons question the validity of the MRCS Part B. If the behaviour of the SPs does not resemble that of real patients, the usefulness, interpretability and generalisability of the inferences about the way in which candidates communicate are limited.

While 17 of the 21 comments carried negative connotations, two were positive, both of which referred to examiners as SPs. One participant wrote:

> '*The examiners new [sic] when you are struggling with learning how to communicate. In reality, patients assume you must have skills to be attending to them at that moment.*' (P2Q2)

[17] All 21 comments are noted in Appendix F.

This comment elucidates that the examiners were more appreciative of the communicative difficulties that doctors face than real patients are, which implies that candidates who communicated with examiners were possibly able to perform better than, or at least different to, how they might in real life. Yet, this questions how accurately one can generalise from the outcome of the exam. A candidate might have scored highly because the SP, a consultant surgeon, adopted a more supportive communicative approach. However, this is not reflective of reality, which makes it arduous to generalise a candidate's ability from his/her result.

The other participant stated:

> '*I found the examiners communicated like patients. I have heard from colleagues who sat the exam pre COVID with actors that the actors often overplay the situation and are more dramatic than patients. I was glad that the examiners acted like patients as I would not know how to deal with very angry or inconsolable actors in an exam setting.*' (P18Q2)

Although there was no statistically significant difference between the use of actors and examiners as SPs, this participant explicitly compared the way in which examiners communicated with what he/she had been told about how actors communicate. He/She maintained that the examiners' behaviour resembled that of real patients, which points to the authenticity of the exam when examiners are SPs. Yet, this participant simultaneously remarked that actors do not tend to communicate as real patients, which threatens the exam's authenticity when actors are SPs. That this particular condition of the assessment appears too variable jeopardises its generalisability and, in turn, its validity; the candidates' performances will arguably vary if the behaviour of the SPs varies, and this restricts the exam's generalisability (Crooks *et al.*, 1996). It is also important to broach the issue of fairness here, which can be conceived as a component of validity (Kane, 2010). Those who communicated with examiners were perhaps able to score higher in

this component of the MRCS Part B than those who communicated with actors, which questions the fairness of the interpretations about a candidate's ability to communicate with real patients. Indeed, candidates who communicated with examiners were arguably not required to demonstrate comparable competence as those who communicated with actors.

3.1.2 Sub-Question: Do candidates communicate with simulated patients in the exam in a similar manner to how they communicate with real patients in clinical practice?

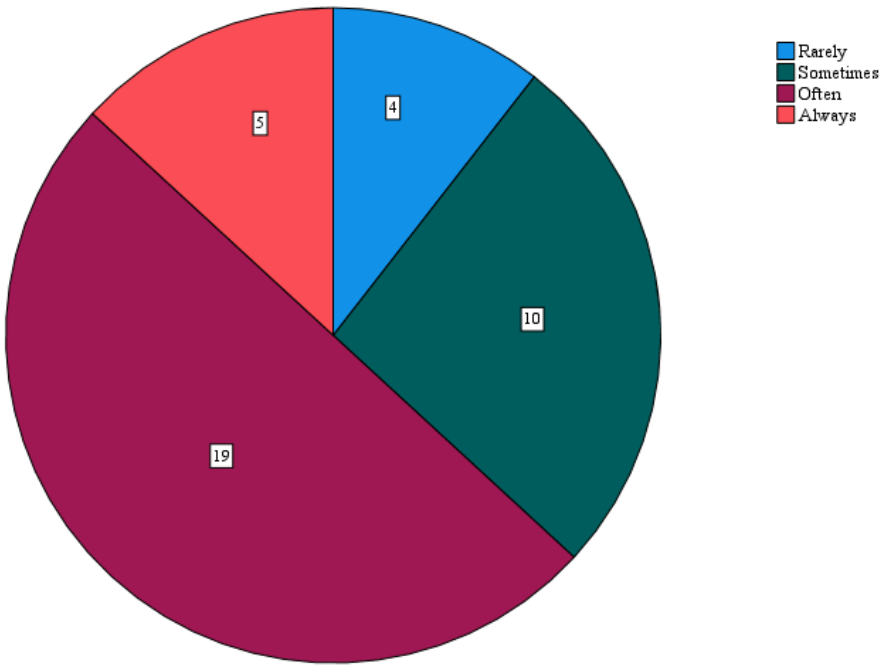
To further determine if junior surgical trainees communicate in the same manner in the MRCS Part B as in real life, participants were asked if they used any frameworks of communication in the exam. If they answered 'yes', they were asked which frameworks they employed and how often they turn to these frameworks in clinical practice. Of the 63 participants, 38 (60.3%) claimed to have used at least one framework of communication in the communication skills stations in the MRCS Part B. Of these 38 participants, one used ICE and the Patient-Centred Clinical Method, one used SPIKES, ICE and the Patient-Centred Clinical Method, two used ICE and the Calgary-Cambridge Observation Guide, two used SPIKES and the Three-Function Model, two used The Calgary-Cambridge Observation Guide alone, three used SPIKES alone, 13 used SPIKES and ICE, and 14 used ICE alone. Twenty-four (38.1%) participants stated that they did not turn to any frameworks of communication in the communication stations of the exam, and one (1.6%) answered 'Prefer Not to Say'.

Figure 3.2 illustrates how often the 38 participants use the frameworks of communication that they employed in the MRCS Part B in real life. No participant said that he/she

'never' uses the same frameworks in clinical practice, and only four respondents asserted that they 'rarely' use the same frameworks in clinical practice. The majority (n = 24; 63.2%) stated that they 'often' or 'always' use the same frameworks in clinical practice. That the candidates tended to communicate in the exam as they communicate in reality supports the authenticity of the communication skills component of the MRCS Part B which, in turn, attests to its validity.

Figure 3.2

How Often Do You Use Frameworks of Communication in Clinical Practice?



The consultant surgeons and senior surgical registrars interviewed were asked '*Do you expect your trainees to implement any frameworks of communication such as ICE or SPIKES when they communicate with patients?*'. Nine of the interviewees stated that they

would not expect their trainees to use any frameworks of communication; only one consultant answered 'to a certain extent'.

The thematic analysis identified that all ten interviewees deemed communicative frameworks to be useful, but it also found that four interviewees assigned the adjective '*rigid*' to them. One consultant said that '*a rigid framework doesn't always work for that trainee and can almost come across to the patient as not very genuine*' (Cons4Q4). The consultant who maintained that he would expect trainees to employ frameworks of communication 'to a certain extent' highlighted that, whilst such frameworks are beneficial for less experienced trainees, they make the conversation '*a bit robotic*'; he affirmed that, as one becomes more experienced, one is able to be led by the patient's concerns (Cons3Q4).

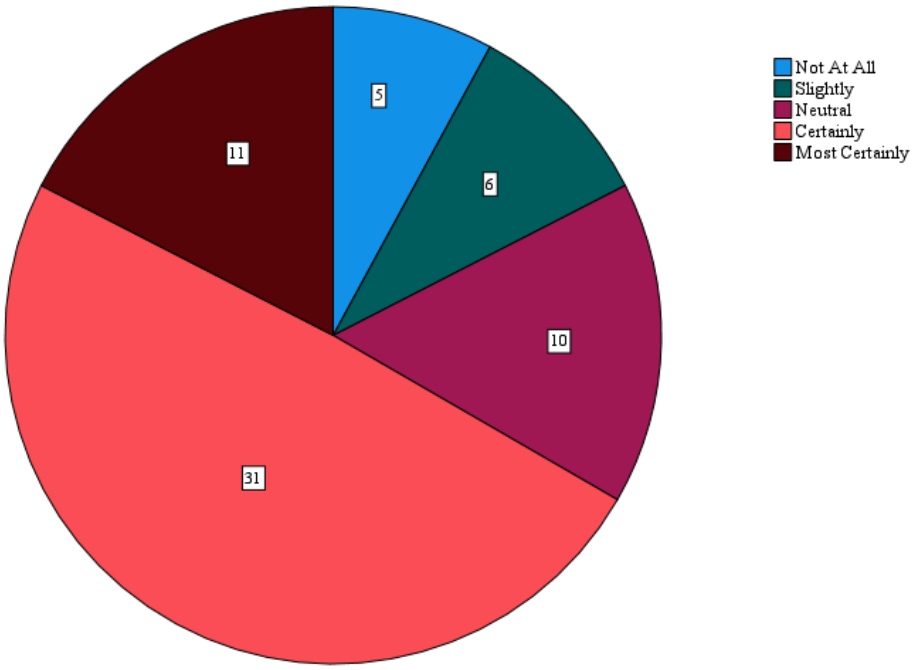
Whilst more than half of the junior surgical trainees surveyed claimed that they used communicative frameworks in the MRCS Part B, no consultant or registrar interviewed actively encourages trainees to employ these in consultations with patients. The exam seems to shape candidates' actions in a way that is unreflective of reality, which is perhaps fuelled by preparation tools that advocate frameworks of communication. Indeed, all participants (n = 63; 100%) affirmed that they used at least one preparation tool for the MRCS Part B, whether it was an attendance course, an online resource, or a textbook. This might undermine the validity of the assessment since these frameworks are not necessarily promoted in practice and, as certain interviewees indicated, are not always helpful.

Those who completed the questionnaire were asked if they believe that they communicated with the actors or the examiners in a similar manner to how they communicate with patients in clinical practice. The majority of participants (n = 42;

66.7%) answered positively: 11 (17.5%) stated that they 'most certainly' communicated in a similar manner, and 31 (49.2%) maintained that they 'certainly' communicated in a similar manner. This supports the authenticity and, in turn, the validity of the MRCS Part B. Eleven participants (17.5%) answered negatively: six (9.5%) said 'slightly', and five (7.9%) selected 'not at all'. Ten participants (15.9%) answered 'neutral'. Figure 3.3 visually illustrates their responses.

Figure 3.3

Did You Communicate with the Actors or Examiners as You Communicate with Patients in Clinical Practice?



Those who maintained that they communicated in a different manner in the MRCS Part B compared to in clinical practice were asked to outline how their communicative approach

differed. Seventeen participants provided a comment. An inductive thematic analysis was, once again, performed to find recurrent and pertinent themes.

The thematic analysis revealed five common reasons for which participants tended to communicate differently in the MRCS Part B: 1) the actors behaved differently to real patients, which was mentioned by eight participants (47.1%); 2) the candidates were requested to communicate information in the MRCS Part B that they are not expected to communicate in real life, to which four participants (23.5%) alluded; 3) the communicative situations in the MRCS Part B were artificial, which four participants (23.5%) stated; 4) the necessity to pass the MRCS Part B, which influenced how two respondents (11.8%) communicated; and 5) the time constraints of the MRCS Part B meant that the communication felt more rushed, which was mentioned by two participants (11.8%). One participant wrote '*It was different because patients are not that angry or upset in hospital. I had to think of another way to deal with them in the exam*' (P9Q6). Another stated '*I tried to communicate in the same way but the actors were more dramatic than patients. I also never have to tell patients that they have cancer so I wouldnt [sic] communicate this in real life*' (P10Q6), whilst a third said '*In real life practice I don't stick to the communication model so ridgly [sic] but adjust depending on what the patient has said, whereas on [sic] the exam I felt like I had to stick to a rigid model so as not to lose marks*' (P5Q6). These comments illustrate that candidates felt the need to amend the way in which they communicate in order to succeed, which threatens the exam's authenticity. The comments provided by all participants are noted in Appendix E.

As highlighted above, five participants stated that they did 'not at all' communicate in a similar manner in the MRCS Part B to how they communicate with patients in clinical practice. Two of these participants provided a comment: 1) '*It is a false situation and*

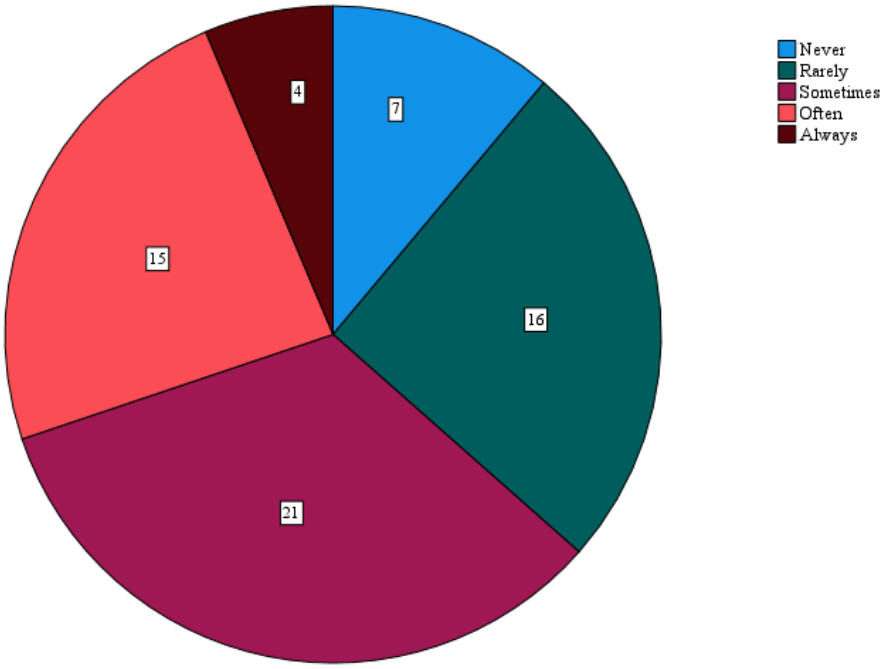
more a measure of examinees [sic] acting ability. Feinging [sic] sympathy for someone pretending to greive [sic] in an exam is entirely different to doing it in real life' (P3Q6) and 2) '*I was anxious and therefore did not follow the steps as I'm used to*' (P8Q6). Alderson and Wall (1993:117) described negative washback as the extent to which an assessment prompts learners to do what 'they would not necessarily otherwise do'. To achieve optimal positive washback, there should be little difference between what is done in practice and what is done in the assessment. In this instance, some candidates did not behave in the exam as they do in practice, which is a threat to authenticity.

3.1.3 Sub-Question: Does the communication skills component of the MRCS Part B reflect what junior doctors are expected to do in day-to-day practice?

Participants were asked how often they are expected to give similar information to patients in clinical practice as they were asked to give in the communication stations of the MRCS Part B. Four (6.3%) answered 'always' and 15 (23.8%) 'often', whilst 21 (33.3%) answered 'sometimes', 16 (25.4%) 'rarely', and seven (11.1%) 'never'. Figure 3.4 offers a visual representation of these responses. As we might have anticipated, those who answered 'always' were at a more experienced level (one Trust Grade Doctor; one Core Trainee 3; one Specialty Trainee 3; one Research Fellow), whilst those who answered 'never' (five Core Trainee 1s; two Core Trainee 2s) were at a more junior level.

Figure 3.4

How Often Are You Expected to Give Similar Information in Clinical Practice?



The interviews conducted with senior surgical registrars and consultant surgeons allowed the question of whether the communication skills component of the MRCS Part B reflects what junior doctors are expected to do in day-to-day practice to be further explored. Those interviewed were asked:

> *In the MRCS Part B, candidates are often asked to inform a (simulated) patient that he/she has cancer. Do you expect Foundation Year Doctors and Core Surgical Trainees to inform patients that they have cancer?*

All 10 interviewees stated that they would not expect a Foundation Year Doctor or a Core Surgical Trainee to deliver this information to a patient. However, one consultant said that, if a Core Surgical Trainee requested to break such news to a patient, she would permit him/her to do so, provided that he/she had all the appropriate information.

Seven of the interviewees offered thoughts that help this RQ to be unpacked further (see Appendix G). An inductive thematic analysis identified four common themes in their comments: 1) the capability to break such news is a useful skill; 2) the patient must be prioritised; 3) junior surgical trainees have limited knowledge; and 4) junior surgical trainees have limited experience. That the ability to deliver upsetting news to a patient is a valuable skill for junior surgical trainees at this level to possess was mentioned by four consultants and one senior registrar. They each stated that, whilst trainees do not convey such information to patients, the fact that they will need to do so in future makes it important. However, two consultants emphasised that the welfare of the patient must be prioritised over opportunities for trainees to practise. Two consultants observed that junior surgical trainees tend to have insufficient knowledge to be able to adequately explain a cancer diagnosis to a patient, one of whom also advised that they do not have the experience to manage such difficult consultations.

In response to a different question (whether those who have prepared for the MRCS Part B are better communicators than those who have not), one consultant said:

> '*The communication scenarios within the MRCS may not be relevant to the doctor at that level. However, I think they are good scenarios as it allows them to practise the skills and reflect on the scenario to give them the preparation to take them into the workplace when they are working at a higher level beyond MRCS.*' (Cons1Q1)

Her words are pertinent here as they allow consideration of why these scenarios might not seem directly relevant but how they are, in fact, invaluable. This comment, as well as those mentioned above in response to the previous question, suggest that the exam has positive washback on learning as candidates prepare and enhance skills required in their practice rather than those needed purely to succeed in the exam. Although they realised

that this is not highly authentic of reality, the consultants and registrars deemed it beneficial.

3.1.4 A Scale of Authenticity

Questions 10 to 16 were combined to create a scale of assessment authenticity, and Cronbach's alpha was used to determine its reliability. Cronbach's alpha was 0.881, which indicates that this scale has a high level of internal consistency.

The Item-Total Statistics table (Table 3.1) shows that Cronbach's alpha would be 0.913 if Question 16 was deleted from the scale. It also demonstrates that the 'Corrected Item-Total Correlation' was low for this item (0.216). This item was therefore removed, and a variable that would represent a measure of authenticity of the communication skills component of the MRCS Part B was formed. Removal of any other item would result in a lower Cronbach's alpha, and all other items were thus kept. This scale was then used to examine the final two sub-questions that underpin RQ1, the results of which are reported in Sections 3.1.5 and 3.1.6.

Table 3.1

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
10. Authentic	20.49	17.351	.831	.840	.840
11. Overly Artificial	21.05	18.917	.780	.712	.849
12. Relevant	19.94	19.544	.774	.719	.851
13. Important	19.56	22.219	.561	.723	.877
14. True to Life	20.59	17.117	.833	.828	.840
15. Valuable	19.75	20.322	.729	.702	.858
16. Taxing	20.92	23.848	.216	.109	.913

3.1.5 Sub-Question: Does the use of actors vs. examiners affect the perceived authenticity of the communication skills component of the MRCS Part B?

Section 3.1.1 examined whether there was a statistically significant difference between the way in which the behaviour of actors and examiners reflects that of real patients. Here, we analyse if there was a statistically significant difference between the way in which actors and examiners shape the authenticity of the communication skills component of the exam. Of the 63 participants who completed the questionnaire, 52 (82.5%) said that they communicated with actors, whilst 11 (17.5%) asserted that they communicated with examiners. Since the two groups were of unequal size, a Levene's test was performed to check for equality of variances, which showed that the two groups did not have equal variances ($F(1,61) = 7.251$, $p = 0.009$). As the data violated the assumption of homogeneity of variances that frames the basic one-way ANOVA, a Welch's ANOVA was conducted.

The Welch's ANOVA revealed that there was not a statistically significant difference between actors and examiners ($F(1,28.384) = 4.094$, $p = 0.053$), and the null hypothesis

is, therefore, not rejected. However, a statistically significant difference would have been noted if $p < 0.050$. Here, $p = 0.053$, and it is plausible that, if the sample were larger, the null hypothesis would have been rejected. While the Welch's ANOVA evidenced that there was not a statistically significant difference between the way in which actors and examiners affected the perceived authenticity of the exam, which supports generalisability and, in turn, validity, we should be cautious of how we interpret and utilise this result.

3.1.6 Sub-Question: Does the Royal Surgical College with which the candidate sat the MRCS Part B affect the perceived authenticity of the communication skills component?

Participants were asked with which Royal College of Surgeons (RCS) they sat the MRCS Part B.[18] Sixteen (25.4%) took the exam with the Edinburgh College, 32 (50.8%) with the English College, and eight (12.7%) with the Glasgow College. No participant (0%) sat the exam with the Irish College, and seven (11.1%) answered 'Prefer Not to Say'.

Since the number of participants who sat the MRCS Part B with the Royal Surgical Colleges of Edinburgh, England and Glasgow was unequal, a Levene's test was performed to determine if homogeneity of variance existed. It showed that the three groups had equal variances ($F(2,53) = 0.907$, $p = 0.410$). A one-way ANOVA was, therefore, conducted to discover if there was a statistically significant difference in the perceived authenticity of the communication skills component of the exam between the three RCS (the assumptions of independence and normality were met). The ANOVA

[18] Participants who had sat the MRCS Part B more than once were asked to refer to their most recent sitting as they completed the questionnaire.

revealed that there was not a statistically significant difference ($F(2,53) = 0.176$, $p = 0.839$). That the perceived authenticity of the three RCS was not markedly different is favourable in the context of validity since it illustrates generalisability.

3.2 Research Question 2: Is the MRCS Part B a worthwhile assessment of surgeon-patient communication?

3.2.1 Sub-Question: Does the MRCS Part B enable candidates to enhance their communication skills and, in turn, their practice? Do the effects of washback assume a role?

Participants were asked two questions which directly examined the extent to which the communication skills component of the MRCS Part B strengthens junior surgical trainees' ability to communicate and, in turn, their professional practice. They were asked 1) if the experience of preparing for the communication stations of the exam has enhanced their skills as a doctor, and 2) if their ability to communicate confidently in clinical practice has increased after having prepared for and sat the MRCS Part B. Figure 3.5 and Figure 3.6 illustrate their responses.

Figure 3.5

Has the Experience of Preparing for Communication in the MRCS Part B Enhanced Your Skills as a Doctor?

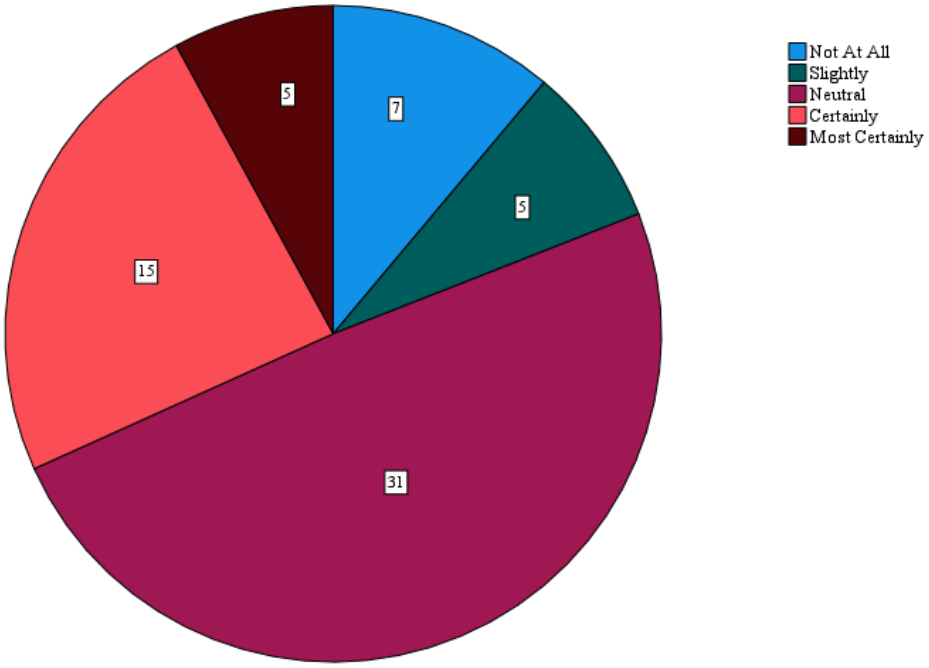
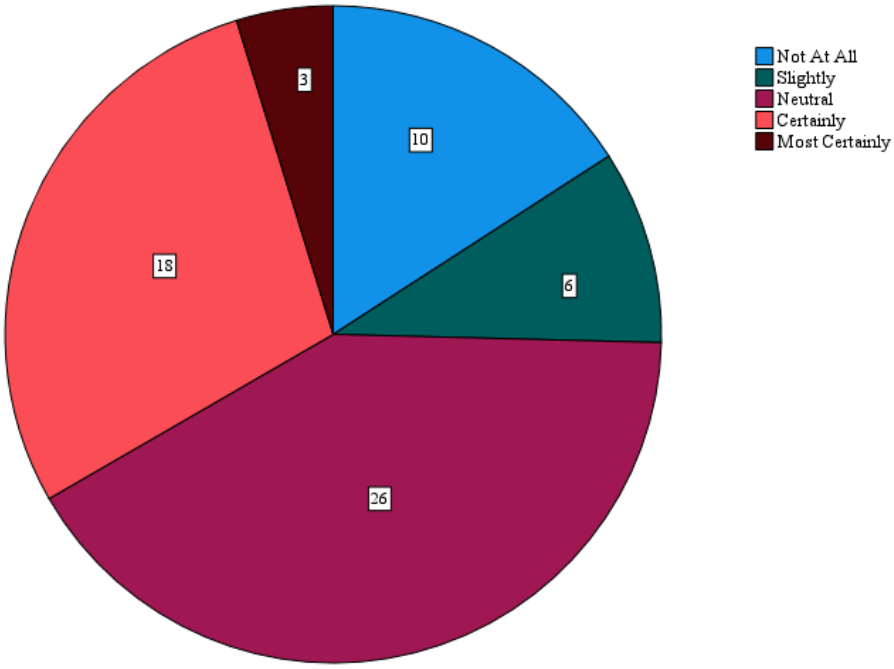


Figure 3.6

Has Your Ability to Communicate Confidently in Clinical Practice Increased After the MRCS Part B?



When asked if they felt their communication skills have enhanced after having prepared for the MRCS Part B, almost half of participants (n = 31; 49.2%) answered 'neutral'. Twenty answered positively: five (7.9%) answered 'most certainly', and 15 (23.8%) answered 'certainly'. Twelve answered negatively: five (7.9%) answered 'slightly', and seven (11.1%) answered 'not at all'. Similarly, 26 participants (41.3%) answered 'neutral' when asked if they believed their ability to communicate confidently in clinical practice has increased after having prepared for and sat the MRCS Part B. Twenty-one participants answered positively: three (4.8%) answered 'most certainly', and 18 (28.6%) answered 'certainly'. Sixteen answered negatively: six (9.5%) answered 'slightly', and 10 (15.9%) answered 'not at all'. It seems that participants were not convinced that their

communication skills had improved after having prepared for and sat the exam, which suggests its inability to advance learning. It is, however, plausible that those who responded negatively had already developed the skills required to succeed in the communication skills stations of the exam, and they, therefore, did not need to enhance their ability. In fact, one consultant stated '*some trainees who haven't prepared for the MRCS yet are very good communicators…perhaps because Medical Schools here teach [communication skills] very thoroughly*' (Cons6Q1), which indicates that certain candidates might possess effective communication skills before they start to prepare for the exam.

To further examine if the MRCS Part B has the potential to enhance junior surgical trainees' communication skills, those interviewed were asked two questions:

1. *Do you believe that trainees who have <u>prepared for</u> the MRCS Part B are able to communicate with patients better than those who have not?*

2. *Do you believe that trainees who have <u>passed</u> the MRCS Part B are able to communicate with patients better than those who have not?*

In response to Question 1, three consultants and two registrars answered 'yes', three consultants said 'not necessarily', and one consultant and one registrar answered 'no'. In response to Question 2, one consultant and two registrars answered 'yes', three consultants said 'not necessarily', and two consultants and one registrar answered 'no'. Table 3.2 outlines these responses.

Table 3.2

Interviewees' Responses to Question 1 and Question 2

Identifier	Question 1 (Q1)	Question 2 (Q2)
Cons1	Yes	Not necessarily
Cons2	Yes	'I haven't consciously tried to discriminate' between the two groups
Cons3	Not necessarily	Not necessarily
Cons4	No	No
Cons5	Not necessarily	Not necessarily
Cons6	Not necessarily	No
Cons7	Yes	Yes
Reg1	No	No
Reg2	Yes	Yes
Reg3	Yes	Yes

Some interviewees offered a detailed answer to these questions (see Appendix H). An analysis of their responses illustrated that the reason why all those who agreed that trainees who have prepared for or passed the MRCS Part B are better communicators was that the exam helps them to develop communication skills that are essential in clinical practice. One consultant asserted that '*the MRCS demands and dictates a level of communication that is required within the clinical workplace*' (Cons1Q1), whilst another stated '*they have learnt tips on how to communicate; these are helpful in practice for juniors*' (Cons7Q1).

Two of the three consultants who felt that trainees who have prepared for or passed the exam are 'not necessarily' better communicators maintained that experience plays a greater role. One said '*even if you've prepared, you need to be able to put that revision into a practical context to really learn*' (Cons3Q1). Another remarked '*having the exam doesn't make you a good communicator*' (Cons5Q2). While there was not a common

theme amongst those who answered 'no', important themes included the influence of a trainee's background and the necessity to assess an individual's ability to communicate over time rather than at one moment. A registrar affirmed that '*the background of the colleagues I work with affects their communication skills rather than preparation for the MRCS OSCE*' (Reg1Q1), and a consultant stated '*communication with patients can really only be assessed over time and in different circumstances, and I think assessing that in an exam setting probably isn't a true reflection of how well or badly a trainee communicates*' (Cons4Q2). In addition, that a trainee might be a proficient communicator even though he/she has not prepared for or passed the exam was highlighted by three interviewees. These opposed responses accentuate, on the one hand, the exam's ability to instil in candidates communication skills they require in their career, but they simultaneously indicate that other factors contribute more to a surgical trainee's communicative aptitude.

3.3 Summary

This chapter has presented the key results of this study and simultaneously hinted at areas in which the validity of the communication skills component of the MRCS Part B should be examined. The subsequent chapter of this dissertation will offer a detailed discussion of these results.

CHAPTER 4

DISCUSSION

4.1 Research Question 1: Is the communication skills component of the MRCS Part B a valid reflection of clinical practice?

4.1.1 Authenticity of Simulated Patients

An informative way to examine the first RQ was to ask those who had sat the exam if they felt the SPs behaved in a similar manner to real patients. Indeed, simulations in medical education are valuable as they encompass elements of reality in a controlled setting (Jason *et al.*, 1971). While a little over half of participants maintained that the behaviour of the SPs reflected that of real patients, just under half of participants were not entirely convinced that the SPs resembled patients, which prompts authenticity to be re-examined here. That the SPs' behaviour was perceived by several participants as unauthentic, exaggerated, and dramatic indicates that simulated communication can be unreflective of reality. Sanson-Fisher and Poole (1980) argued that SPs can effectively simulate scenarios that might distress a real patient, such as terminal illness, but this study has illustrated that the reactions and emotions of SPs do not always closely imitate those of real patients. This questions the construct validity of this component of the MRCS Part B; as the SPs' behaviour did not wholly mirror reality, candidates arguably could not demonstrate the communicative skills that should have been tested.

This also poses a threat to predictive validity. The fact that the SPs were seen to behave differently to real patients prompted candidates to communicate in a manner in which they do not in clinical practice, which meant that the exam could not predict how these candidates will communicate in reality. Those who have passed the MRCS Part B are

assumed to be able to competently communicate with patients, and this interpretation can lead to certain actions; a surgical trainee who has passed the exam might be requested to convey difficult news or complex information to a patient because he/she is understood to be capable. This is discussed in more detail in Section 4.1.3. Here, it is essential to highlight that this discord could have social consequences. It has been argued (Messick, 1989; Shepard, 1997; Stobart, 2001) that the exploration of social consequences within the validity framework is necessary as such consequences are directly related to the purpose of the assessment. If the unrealistic behaviour of SPs encourages a candidate to communicate differently in the exam and he/she passes, the outcome does not confirm how he/she will communicate with real patients. He/She might consequently be tasked with duties that are only appropriate for those who are proficient communicators since he/she has passed the exam, but the impact on the patient if that surgical trainee cannot communicate competently will be significant. Indeed, the unsuccessful use of communication skills results in patient dissatisfaction, which can lead to complaints or even errors in diagnosis and treatment (Ridd, 2013).

Some participants believed that the questions asked by SPs were dissimilar to those posed by real patients which, once again, threatens the perceived authenticity of the exam. Since SPs are given instructions that inform them what information to give to candidates (ICBSE, 2021a), the participants' observations might be underpinned by the framework of the MRCS Part B. After all, SPs must be trained to ensure standardisation (Wallace *et al.*, 2002), as well as accuracy and consistency (Vu and Barrows, 1994). We cannot know if the SPs strictly adhered to the information they had been given when they communicated with these participants and whether these perceptions were a result of the framework. It is, however, crucial to remember that a trainee must pass the MRCS Part B to progress to specialty training; a trainee who is successful in this exam is assumed to be

competent to work at a higher level. Although the communication skills stations might not seem authentic to some candidates due to the seemingly ill-placed questions asked by SPs, they intend to assess how surgical trainees will react in situations they may encounter as senior surgeons to ensure that they are equipped to perform at that level. It could be that certain questions posed by SPs were characteristic of questions that real patients ask senior surgeons. Whilst junior surgical trainees might not have anticipated these questions, the exam aims to test how candidates react when such queries are posed, and content validity is, therefore, achieved.

While the majority of participants who provided a comment about the behaviour of SPs described it as an unrealistic reflection of the behaviour of real patients, two respondents spoke in a positive manner. However, this does not necessarily indicate authenticity. The examiners, as SPs, were deemed to be more appreciative of the communicative difficulties that trainees face than real patients are, which questions how well the score interpretations can be generalised to the construct domain (Messick, 1996). If examiners adapted their approach to aid certain candidates, those candidates' scores will not be reflective of how they communicate in reality as patients will arguably not alter their approach, and this threatens predictive validity. It also questions generalisability as reliability (Feldt and Brennan, 1989), or the consistency of performances across occasions and, in this case, SPs. That some examiners tailored the conversation to assist candidates jeopardises generalisability as we might assume, based on the responses of the other participants, that the actors did not do this. The outcome of the assessment cannot be interpreted in an identical manner for those who communicated with examiners and those who communicated with actors. Yet, those who interpret the outcome, namely senior surgical registrars or consultant surgeons who ask surgical trainees to communicate certain information to patients because they have passed the exam, are not

privy to this nuance. This source of construct-irrelevant variance thus has social consequences; the patient's experience is compromised if the trainee, who is presumed by seniors to be a competent communicator since he/she has passed the exam, is not able to competently communicate. After all, the primary reason for which patients file complaints is poor communication (O'Hara *et al.*, 2018; NHS, 2022).

Additionally, it was highlighted that the examiners, as SPs, resembled real patients more than actors. This might be due to the examiners' experiences; as experienced consultants, they have arguably interacted with patients in numerous contexts and witnessed a wealth of reactions. That the SPs were comparable to patients appears favourable in terms of construct validity. Yet, a measure must be reliable to generalise from it. Here, the measure may not be reliable as the performances of candidates who communicated with examiners are arguably inconsistent with the performances of candidates who communicated with actors. While the syllabus does not outline the nature of the communication stations, the exam tends to encompass scenarios that test a candidate's ability to manage angry, distressed, and difficult patients. We are, therefore, uncertain whether the communication skills stations measured what they were supposed to measure when examiners were SPs.

Our results show, however, that the exam's perceived authenticity was not affected by the use of examiners as SPs; there was no statistically significant difference between the way in which the behaviour of actors and the behaviour of examiners who took the place of actors due to COVID restrictions reflected the behaviour of patients. The scale of authenticity further corroborates that the interactions of those who communicated with examiners as SPs were perceived to be as authentic as the interactions of those who communicated with actors as SPs. While these results are favourable in validity terms, caution should be exercised over how far we extrapolate from them as the effect size was

small and our other findings, as discussed above, suggest that examiners behaved differently to actors. A study with a larger number of participants would allow this to be authenticated.

It is appropriate to mention here that there was no statistically significant difference in the perceived authenticity of the communication skills component of the exam between the Royal Surgical Colleges of Edinburgh, England and Glasgow.[19] This supports the assertions that the Colleges have the same standard and that it is not easier to pass the MRCS Part B with one or another (Brennan and Smith, 2016). Importantly, this attests to the validity of this component of the exam. The performances are generalisable across the three Colleges, and the outcomes can be interpreted equally, regardless of the College with which a candidate sat the exam.

4.1.2 Use of Frameworks of Communication

Frameworks of communication serve as roadmaps to guide clinicians through difficult conversations (Martin *et al.*, 2019). It is, therefore, unsurprising that more than half of the junior surgical trainees surveyed maintained that they employed at least one communicative framework in the MRCS Part B. While the syllabus does not mandate that candidates must demonstrate an awareness of communicative frameworks, it seems that many feel a need to turn to these models in the exam. This might be because every participant who used communicative frameworks in the exam also employs them in clinical practice. That surgical trainees tend to use frameworks to help them communicate in real life *and* in the exam indicates that the communication skills component of the

[19] Since no participant sat the exam with the Irish College, we cannot be certain whether the perceived authenticity of the MRCS Part B taken with this RCS is comparable.

MRCS Part B is reflective of clinical practice for individuals at that level, and construct validity is, therefore, present.

The consultant surgeons and senior surgical registrars interviewed for this study do not expect trainees to employ communicative frameworks in practice. Indeed, the functionality of such models in complex discussions between patients and doctors is restricted (Cegala and Lenzmeier Broz, 2002; Brown *et al.*, 2017). Yet, all 10 interviewees highlighted the usefulness of such tools for junior surgical trainees; it was suggested that the rigidness of frameworks of communication can occasionally make trainees appear scripted and insincere, but trainees may rely on them until they are more confident. While it might initially appear, based on the thoughts of these senior surgeons, that the employment of frameworks of communication in the MRCS Part B makes the exam unreflective of reality, the reliance on such frameworks reflects the actions of those who sit the exam. Here, the notion of validity does not function as a dichotomous concept. Rather, it can be considered on a continuum, with complete validity at one end and no validity at the opposite end. The use of communicative frameworks might not be wholly authentic of clinical practice, which moves it towards limited validity on the continuum. Yet, such frameworks are helpful for junior surgical trainees who take the exam, which moves it towards complete validity on the continuum. Scholars (Messick, 1989; Wolming and Wikström, 2010) have emphasised that validity is a complex concept. Here, we observe how an assessment can be seen to have greater validity when certain factors are considered important and less validity when other aspects are deemed significant.

The term ‘constructive alignment’, or the alignment of the assessment approach to the educational approach (Biggs, 1996), is not appropriate in its traditional sense here as the MRCS Part B is not a curriculum-based exam; a syllabus exists, but there is no formal

instruction. However, it is helpful to consider whether the communication skills component of the exam, the construct intended to be tested, and frameworks of communication align since alignment enhances validity (Biggs and Tang, 2015). Although communicative frameworks are not advocated by senior surgeons in practice, they aid junior surgical trainees until they become confident. Their employment by candidates in the exam therefore replicates their use in clinical practice, which allows the way in which a junior surgical trainee communicates in reality to be tested and valid inferences to be drawn. The alignment of the three aspects thus demonstrates validity.[20]

4.1.3 A Reflection of Clinical Practice

The fact that one-third of participants claimed that they did not communicate in the MRCS Part B in a wholly comparable way to how they would communicate in clinical practice threatens predictive validity. Indeed, the exam is supposed to test how well candidates communicate with real patients and, therefore, predict their future behaviour. However, if a candidate behaves differently in the exam to how he/she would act in clinical practice, the exam cannot function in that manner.

The MRCS Part B intends to verify that a candidate has the competencies to successfully undertake Specialty Training and become a surgical registrar (RCSEng, 2022), and it has been discussed in Section 4.1.1 how certain questions asked by SPs might allow this to be achieved. Yet, the exam's primary purpose is to test that a candidate has attained the skills expected of a trainee at the end of his/her Core Surgical Training (ICBSE, 2018). It cannot extensively examine skills that are acquired and enhanced at a level that

[20] While it transcends the limits of this dissertation, an exploration of how communicative frameworks affect a trainee's ability to manage difficult scenarios would further this discussion.

candidates are yet to reach. After all, as Mendick *et al.* (2015) demonstrated, surgeons' communication skills are developed over time.[21] The fact that some participants communicated differently thus affects the dependability of the communication skills component of the exam as an accurate predictor of future outcomes. This is further corroborated by one consultant interviewed for this study who maintained that success in the exam does not confirm that a trainee is an adept communicator.

That only *some* participants needed to adopt a different communicative approach in the exam due to the behaviour of the SPs questions how SPs affect generalisability. In Section 4.1.1, it was touched upon that interpretations made from the outcome of the exam cannot be generalised if SPs act dissimilarly to each other. Here, the fact that some participants amended the way in which they communicate in order to interact with the SPs whilst others did not need to makes the conditions of the assessment variable. As Crooks *et al.* (1996) asserted, variable assessment conditions can cause student performance to vary substantially which, in turn, restricts the generalisability of the assessment. This lack of generalisability threatens construct validity (Messick, 1996). It is, of course, important to reiterate that these conclusions are founded on data that are based on individuals' perceptions, which are subjective. An objective comparison of the communication skills stations across the various centres in the UK which recruit different SPs would reveal if the consistency of performances, or generalisability as reliability (Feldt and Brennan, 1989), is a concern, but this transcends the limits of this dissertation. It does, however, indicate an avenue for future research.

Certain respondents saw the artificialness of the communication skills stations as a reason for which they communicated differently in the exam. It is worthwhile to consider the

[21] Please see Chapter 1 for a detailed overview.

Membership of the Royal College of General Practitioners (MRCGP) examination here to further understand the authenticity of the MRCS Part B.[22] During the COVID-19 pandemic, the way in which the MRCGP exam tested a General Practitioner's communication skills was amended. Candidates were not assessed in a test centre but, rather, in real life (RCGP, 2021). They were asked to record consultations with patients in real time, or examiners observed their consultations with patients, a method that will continue to be implemented until autumn 2023 (ibid.). While the candidate and the patient know that they are being recorded or observed, the patient is real, and he/she has a real problem about which he/she wishes to speak to his/her General Practitioner. These assessed communicative situations are, therefore, not as simulated as in the MRCS Part B. This approach arguably avoids the artificialness brought about by SPs and attempts to reconcile what is authentic and, in turn, valid with what is feasible. The restructured MRCGP examination hints that alternative methods of formally assessing trainees' communication skills exist. These could complement the current format of the MRCS Part B to reduce artificialness and consequently enhance validity.

While the behaviour of the SPs and the artificialness of the communication stations are two reasons to which some participants attributed their different communicative approach, we do not know why the other participants communicated differently.[23] It is possible that candidates feign exemplary communication to pass the exam, and we realise that the MRCS Part B, as any assessment of communication skills, is only able to test whether candidates know how to communicate effectively and can enact that in a summative setting. It cannot prove that they will choose to communicate well in clinical

[22] The MRCGP is a postgraduate exam taken by those who wish to become independent General Practitioners. It is comparable to the MRCS, but it is for General Practitioners.
[23] This signals an avenue for future research.

practice, which is vital to consider when interpretations are made and actions are taken based on the outcomes of the exam.

4.1.4 Authenticity of Scenarios

The authenticity of the scenarios that frame the communication skills stations of the MRCS Part B plays an influential role in the exam's validity. The fact that the majority of participants are 'sometimes', 'rarely' or 'never' expected to give similar information to patients in clinical practice as they were asked to give to SPs in the exam suggests that the scenarios are not representative of clinical practice, which threatens construct validity. The exam is supposed to test whether a candidate has acquired the skills expected of a trainee at the end of his/her Core Surgical Training but, if the candidate is not requested to convey such information in reality, the scenarios assess an aspect that is beyond what a trainee at that level encounters.

That no consultant surgeon or senior surgical registrar interviewed would expect junior surgical trainees to deliver the news that they are requested to deliver in the exam supports the argument that certain scenarios in the MRCS Part B are unreflective of clinical practice. This, in turn, emphasises the threat to construct validity. Those interviewed did, however, highlight that, whilst the scenarios might not always appear directly relevant to junior surgical trainees, they help them to prepare for future interactions. As Section 4.1.3 discussed, an aim of the MRCS Part B is to confirm that a surgical trainee is competent enough to progress to Specialty Training where he/she will be required to convey such information to patients. Additionally, it is the only formal,

mandatory exam that surgical trainees sit until they reach the end of their training.[24] It is, therefore, not inapt that it assesses their ability to communicate at a slightly higher level. While the scenarios enable candidates to demonstrate that they are competent to enter Specialty Training, they do not mirror the situations that Core Surgical Trainees encounter in reality, which threatens construct validity to a greater extent than it helps to predict future performances.

It is also pertinent that some participants felt compelled to communicate differently in the exam because they were requested to convey information that they do not convey in real life. As we have discussed above, this is arguably related to the fact that candidates are often asked to react to scenarios that they might encounter only when they work at a higher level. Indeed, the participants who maintained that they 'never' communicate such information in clinical practice were in the first or second year of Core Surgical Training and more junior than those who claimed that they 'always' communicate such information in clinical practice. However, this threatens predictive validity. These participants recognised that they communicated differently to how they would in real life, and we cannot be certain that their performances reflected how they would act if they were faced with such scenarios in reality. The exam's ability to predict future behaviour is, therefore, jeopardised. The visualisation of a continuum is, once again, helpful here: some participants were prompted to communicate differently, which reduces predictive validity, but the inclusion of such scenarios ascertained if candidates were equipped to progress to Specialty Training, which enhances construct validity. However, the threat to predictive validity is arguably greater than the benefit to construct validity.

[24] The Fellowship of the Royal College of Surgeons (FRCS) exam is sat by senior surgical registrars who have almost completed the specialty programme. The MRCS and FRCS exams are taken at least five years apart.

4.2 Research Question 2: Is the MRCS Part B a worthwhile assessment of surgeon-patient communication?

4.2.1 An Improvement in Communication Skills

This RQ is examined through a consideration of whether the MRCS Part B has the potential to improve a junior surgical trainee's communication skills and whether positive or negative washback is stimulated.

The majority of junior surgical trainees who completed the questionnaire did not feel that their communication skills had enhanced or that their ability to communicate confidently in practice had increased after having prepared for and sat the exam. While the way in which simulations can improve the communication skills of medical students and doctors has been noted (Kissane *et al.*, 2012; Bagnasco *et al.*, 2014; Subramanian and Sathanandan, 2016), most participants did not deem these simulated scenarios wholly beneficial, which seems to indicate a lack of positive washback. Guided by the GMC, Medical Schools in the UK teach communication skills extensively (Ridd, 2013). It is, therefore, plausible that certain junior surgical trainees already possess the tools required to communicate effectively in the communication skills component of the MRCS Part B, and they thus might not feel that preparing for or sitting the exam benefits their communication skills. Indeed, one of the consultants interviewed for this research asserted that some trainees who have not prepared for the exam are effective communicators because Medical Schools teach communication skills thoroughly. An assessment must support learning (Black and Wiliam, 2012), and it could be argued that the communication skills component of the exam is substandard as some candidates did not learn anything new. Yet, Alderson and Wall (1993:6) maintained that 'a 'poor' test

could conceivably have a 'good' effect'. The exam might not have impelled some participants to develop their knowledge, but we recall that many participants claimed that they communicated in the exam in a similar manner to how they communicate in clinical practice. That their performances were not artificial stimulates positive washback, which outweighs the lack of positive washback that arises when candidates do not gain new knowledge.

As Section 4.1.2 explored, the MRCS Part B is not a curriculum-based exam, and Biggs' (1996) constructive alignment is thus not wholly applicable. There is no formal instruction offered by institutions such as the Royal Surgical Colleges or the ICBSE, and candidates tend to study from any available resource. These include textbooks, online question banks, attendance courses and online courses, the quality of which is usually neither verified nor approved, and the judgement of how reliable these resources are rests with the candidate.[25] Therefore, the fact that some candidates do not improve their knowledge for the communication skills component of the exam does not necessarily render it poor. A certain degree of competency in communication skills is required to pass the exam which, since there is no curriculum, some candidates might acquire before they start to prepare for it.

On the other hand, however, the high-stakes nature of the MRCS Part B might have contributed to the fact that some participants believed their communication skills did not improve, which stimulates negative washback. The responses to the questionnaire revealed that the desire of certain participants to pass the exam shaped how they communicated; it was highlighted that they felt the need to communicate in a way in

[25] A discussion into the reliability of these resources would transcend the limits of this dissertation, but it indicates an avenue for future research. Since the preparation resources available to trainees are neither created nor endorsed by institutions such as the ICBSE or the Royal Surgical Colleges, it would be valuable to examine their reliability and how they affect washback.

which they believed the examiners wanted to observe in order to not lose marks, but this is not how they communicate in real life. It seems that communicative approaches were employed by certain candidates to succeed in the exam. Messick (1996) affirmed that washback is the extent to which a test influences learners to do things that they otherwise would not do. Here, some candidates were influenced to communicate in a way in which they usually do not due to the consequences of testing. This promotes negative washback and affects consequential validity (Messick, 1996), or the implications of the score interpretation and the consequences of the test use.

4.2.2 Effective Communicators

There was no consensus amongst the consultant surgeons and senior surgical registrars interviewed on whether trainees who have prepared for or passed the exam are more effective communicators; some agreed, whilst others disagreed. Those who thought that trainees who have prepared for or passed the exam are better communicators than trainees who have not attributed it to the idea that the exam prompts candidates to develop skills that are reflective of, transferable to and helpful in clinical practice. They, therefore, suggested that it is worth trainees' while to prepare for and sit the exam.

Conversely, some consultants believed that experience is a more effective contributor to a trainee's ability to communicate than preparation for or success in the MRCS Part B. That one consultant asserted that a trainee's capacity to communicate should be measured over time rather than in one summative instance furthers this. Since the MRCS Part B is not a curriculum-based exam, preparation is often unstructured and unclear, and a trainee's communication skills are not necessarily advanced. This could suggest why these consultants maintained that those who prepare for the exam are not necessarily

better communicators. Additionally, the simulated nature of the communication skills stations might underpin these senior surgeons' conviction that success in the exam is not an ideal indicator of a trainee's communicative ability. The worthwhileness of the communication skills component of the MRCS Part B is, therefore, not wholly supported since the validity of the interpretations of the assessment's outcomes as tools to verify that a candidate is a competent communicator is limited. The usefulness accentuated by some consultant surgeons and senior surgical registrars is perhaps overshadowed by the absence of structured preparation and instruction.

4.3 Limitations of This Study and Recommendations for Future Research

4.3.1 Limitations of This Study

The most significant limitation of this study is that the quantitative aspect was based on a relatively small sample of 63 participants, which implies that caution should be exercised over how far the results can be extrapolated. The results of the Mann-Whitney *U* test and the ANOVA tests might have been different if the sample had been larger, which might have led to different conclusions. As the subsequent section illustrates, certain conclusions require further investigation.

Of the 63 participants, none sat the MRCS Part B with the Royal College of Surgeons of Ireland. Although the MRCS Part B is intercollegiate, which means that the standard is equivalent in all four RCS (Brennan and Smith, 2016), this study was unable to analyse the perceived validity of the exam taken in the Irish College. As such, the conclusions can only be applied to the other three RCS (Edinburgh, England and Glasgow).

This study explored the perceptions of junior surgical trainees, consultant surgeons and senior surgical registrars. The quantitative and qualitative data are, therefore, subjective,

which might have affected the validity of this study's methodological approach. However, it is perhaps assumed that an examination of individuals' perceptions will always carry some subjectivity.

Finally, while the majority of participants completed the questionnaire less than 12 months after they sat the exam, the answers were arguably based on recall. Influences might have come into play since the participants took the exam which encouraged them to remember differently or to consider authenticity from a different perspective, such as whether they passed. The reliability of the study could have been enhanced if the data had been collected immediately after the exam, but this was not possible within the limits of this dissertation.

4.3.2 Recommendations for Future Research

Several avenues for future research have been alluded to throughout this dissertation. Firstly, some participants asserted that the behaviour of the SPs resembled that of real patients, whilst others claimed that it was not comparable. Given this variance, an objective comparison of the communication skills stations of the MRCS Part B that use different SPs would allow generalisability to be better understood.

This study has highlighted how the behaviour of the SPs and the artificialness of the communication stations prompted some participants to adopt a different communicative approach in the exam. However, we are uncertain why the other participants communicated differently. A qualitative study in which candidates are encouraged to verbally expand on these thoughts would further the findings of this research.

This study found that candidates tend to rely on communicative frameworks. While this reliance did not seem to affect the validity of the outcomes, the way in which these

models align with the communication skills component of the exam and the construct tested could be analysed in greater detail to determine how they help candidates manage interactions in a simulated, summative environment.

Finally, it has been discussed that there is no formal instruction for the MRCS Part B and that the Royal Surgical Colleges and the ICBSE do not recommend any revision resources for the communication skills component of the exam. It would be valuable to understand the reasons for this. Additionally, an exploration of the reliability of the resources that are available, how they align with the exam and the construct intended to be tested, and how they affect washback would allow validity to be further investigated.

4.4 Summary

This chapter has presented the key findings of this study and explored their significance in the context of validity to determine if the communication skills component of the MRCS Part B is a valid reflection of clinical practice and if the MRCS Part B is a worthwhile assessment of surgeon-patient communication. It has outlined the limitations of the study, as well as provided recommendations for future research. The final chapter of this dissertation brings together the arguments broached in this discussion to draw useful conclusions.

CHAPTER 5

CONCLUSIONS

This dissertation has examined the perceived validity of the communication skills component of the MRCS Part B, a summative, mandatory, postgraduate assessment taken by surgical trainees. It has explored how those who have sat the exam, as well as consultant surgeons and senior surgical registrars, perceived its authenticity in order to investigate if the communication skills component of the MRCS Part B is a valid reflection of clinical practice and if it is a worthwhile assessment of surgeon-patient communication.

This study found that the SPs and the scenarios that frame the communication skills stations do not always resemble clinical practice. Additionally, it revealed that candidates do not necessarily communicate in the exam as they communicate in real life. This limited reflection of clinical practice affects validity: construct validity is threatened as candidates are unable to demonstrate how they communicate in reality, and predictive validity is jeopardised as the assessment cannot confirm how candidates will communicate with real patients.

The impact of this on the patient is particularly important. Those who have passed the MRCS Part B are assumed to be able to communicate, but the exam cannot confirm this if candidates communicate differently to how they communicate in real life. Indeed, if a candidate who adopted a different communicative approach passed the exam, the interpretations and actions that result from the outcomes are not valid. A junior surgical trainee might be asked to convey information to a patient based on the fact that he/she has passed the exam but, if he/she is unable to communicate well, the patient's experience will be compromised. Given that those who are successful in the exam are presumed to be

competent surgeons, the MRCS Part B must provide outcomes from which valid interpretations can be made and valid actions can be taken, particularly as social consequences that directly affect patients can arise. The behaviour of the SPs, the scenarios, and some candidates' propensity to communicate differently threaten the validity of the interpretations and actions that stem from the outcomes of the exam.

It is important to highlight that, although junior surgical trainees might deem certain questions posed by SPs and certain scenarios unreflective of clinical practice, these aspects resemble communicative situations encountered by surgeons at a more senior level. Their inclusion, therefore, arguably enables the exam to determine if a candidate is competent to progress to Specialty Training. While consultant surgeons and senior surgical registrars might regard this as beneficial, the threat to validity must be considered since patient outcomes can be adversely affected.

The employment of examiners as SPs seemed a suitable alternative that ensured the communication skills component of the exam could be conducted during the COVID-19 pandemic. Yet, caution should be exercised over how far these results can be extrapolated as the effect size was relatively small. If the use of examiners as SPs were to be reinstated in the MRCS Part B or turned to in another summative medical exam, a consideration of the issues highlighted in this study would help to ensure authenticity and validity.

The fact that junior surgical trainees use communicative frameworks in the MRCS Part B *and* in clinical practice is favourable in terms of construct validity, and it suggests that the exam is reflective of reality. It was helpful to consider how the communication skills component of the exam, the construct intended to be tested, and frameworks of communication align. The apparent alignment of these aspects enhances validity, although a more comprehensive study is now required to further explore this. This

discussion has also emphasised that validity is not a dichotomous concept. A test can be seen to possess more validity or less validity depending on the aspects considered most important in a particular context.

This study has illustrated that candidates do not tend to feel that preparing for or sitting the MRCS Part B improves their communication skills, which questions the worthwhileness of the exam. Yet, this might be underpinned by the fact that certain candidates are already able to communicate, and this lack of positive washback does not necessarily make the exam poor. Conversely, the fact that some candidates adapt their communicative approach simply to satisfy the mark scheme means that the exam is not useful to them. This stimulates negative washback. The extent to which candidates find the exam worthwhile therefore determines washback.

The communication skills stations of the MRCS Part B are deemed worthwhile by some senior surgeons since they help to prepare surgical trainees to work at a higher level. Yet, this is perhaps overshadowed by an absence of formal instruction and recommended revision resources, which limits the exam's usefulness. It seems that a more comprehensive structure would enhance the worthwhileness of the exam as candidates could arguably gain new knowledge that can be carried beyond the exam and into clinical practice.

Finally, the threat to validity that arises from the fact that some candidates feign "good" communication to succeed encourages a close consideration of how the outcomes from any assessment of communication skills are interpreted and used. While such assessments test that a candidate knows how to communicate well, they are unable to confirm that he/she will do so in practice. This can have a significant impact on the patient. Aspects

that are fundamental to the exam, such as the authenticity of SPs and scenarios, should be as valid as possible to mitigate negative social consequences.

This dissertation has critically analysed the validity of the communication skills component of the MRCS Part B. It is hoped that the findings will also transcend the context of this assessment and contribute to broader discussions within the fields of Medical Education and Educational Assessment.

LIST OF REFERENCES

Alderson, J.C. and Wall, D. (1993). Does Washback Exist? *Applied Linguistics*, 14, 115–129. http://dx.doi.org/10.1093/applin/14.2.115

Attride-Stirling, J. (2001). Thematic networks: An analytic tool for qualitative research. *Qualitative Research*, 1, 385–405. https://doi.org/10.1177/146879410100100307

Bagnasco, A., Pagnucci, N., Tolotti, A., Rosa, F., Torre, G. and Sasso, L. (2014). The role of simulation in developing communication and gestural skills in medical students. *BMC Medical Education*, 14, 106. https://doi.org/10.1186/1472-6920-14-106

Baile, W.F., Buckman, R., Lenzi, R., Glober, G., Beale, E.A. and Kudelka, A.P. (2000). SPIKES - A six-step protocol for delivering bad news: application to the patient with cancer. *The Oncologist*, 5(4), 302–311. https://dx.doi.org/10.1634/theoncologist.5-4-302

Baird, J. and Opposs, D. (2018). The Standard Setting Project: Assessment Paradigms. In: J. Baird, T. Isaacs, D. Opposs, and L. Gray (Eds.), *Examination Standards: How Measures and Meanings Differ Around the World* (pp. 2–25). IOE Press.

Bennett, K. and Lyons, Z. (2011). Communication Skills in Medical Education: An Integrated Approach. *Education Research and Perspectives*, 38(2), 45–56.

Berkhof, M., van Rijssen, H.J., Schellart, A.J.M., Anema, J.R. and van der Beek, A.J. (2011). Effective training strategies for teaching communication skills to physicians: An overview of systematic reviews. *Patient Education and Counseling*, 84(2), 152–62.

Biggs, J. (1996). Enhancing teaching through constructive alignment. *High Education*, 32, 347–364. https://doi.org/10.1007/BF00138871

Biggs, J. and Tang, C. (2015). Constructive Alignment: An Outcomes-Based Approach to Teaching Anatomy. In L. Chan and W. Pawlina (Eds.), *Teaching Anatomy* (pp. 31–38). Springer. https://doi.org/10.1007/978-3-319-08930-0_4

Black, P. and Wiliam, D. (2012). Assessment for learning in the classroom. In J. Gardner (Ed.), *Assessment and Learning* (pp. 11–32). SAGE Publications Ltd. https://dx.doi.org/10.4135/9781446250808.n2

Bonvicini, K.A. and Burney, D.W. (2017). Communication skills for surgeons. In P.F. Stahel (Ed.), *Surgical Patient Safety: A Case-Based Approach* (pp. 3–13). McGraw Hill.

Braun, V. and Clarke, V. (2012). Thematic Analysis. In H. Cooper, P.M. Camic, D.L. Long, A.T. Panter, D. Rindskopf and K.J. Sher (Eds.), *APA Handbook of Research Methods in*

Psychology, Vol. 2: Research Designs: Quantitative, Qualitative, Neuropsychological, and Biological (pp. 57–71). American Psychological Association.

Brennan, P.A. and Sherman, K.P. (2014). Editorial: The MRCS examination - An update on the latest facts and figures. *British Journal of Oral and Maxillofacial Surgery*, 52, 881–883.

Brennan, P.A. and Smith, L. (2016). What you need to know about MRCS from the Intercollegiate Committee. *BMJ*, 353, i2546. https://doi.org/10.1136/bmj.i2546

Brown, R.F., Wuensch, A. and Bylund, C.L. (2017). Models of communication skills training and their practical implications. In D.W. Kissane, B.D. Bultz, P.N. Butow, C.L. Bylund, S. Noble and S. Wilkinson (Eds.), *Oxford Textbook of Communication in Oncology and Palliative Care* (2nd ed., pp. 16–22). https://doi.org/10.1093/med/9780198736134.003.0003

Cegala, D.J. and Lenzmeier Broz, S. (2002). Physician communication skills training: a review of theoretical backgrounds, objectives and skills. *Medical Education*, 36(11), 1004–1016. https://doi.org/10.1046/j.1365-2923.2002.01331.x

Chichirez, C.M. and Purcărea, V.L. (2018). Interpersonal communication in healthcare. *Journal of Medicine and Life*, 11(2), 119–122.

Chyung, S.Y.Y., Roberts, K., Swanson, I. and Hankinson, A. (2017). Evidence-based survey design: The use of a midpoint on the Likert scale. *Performance Improvement*, 56(10), 15–23. https://doi.org/10.1002/pfi.21727

Cleland, J., Abe, K. and Rethans, J. (2009). The use of simulated patients in medical education: AMEE Guide No 42. *Medical Teacher*, 31(6), 477–486. https://doi.org/10.1080/01421590903002821

Cole, S.A. and Bird, J. (2000). *The Medical Interview: The Three-Function Approach*. Mosby.

Crabtree, B.F. and Miller, W.L. (1999). *Doing Qualitative Research* (2nd ed.). Sage.

Cronbach, L.J. (1971). Test Validation. In R. Thorndike (Ed.), *Educational Measurement* (2nd ed., p. 443). American Council on Education.

Cronbach, L.J. and Meehl, P.E. (1955). Construct validity for psychological tests. *Psychological Bulletin,* 52, 281–302.

Crooks, T., Kane, M. and Cohen, A. (1996). Threats to the valid use of assessments. *Assessment in Education: Principles, Policy and Practice*, 3(3), 265–286.

Deveugele, M., Derese, A., De Maesschalck, S., Willems, S., van Driel, M. and De Maeseneer, J. (2005). Teaching communication skills to medical students, a challenge in the curriculum? *Patient Education and Counseling*, 58, 265–270.

Falcone, J.L., Claxton, R.N. and Marshall, G.T. (2014). Communication skills training in surgical residency: a needs assessment and metacognition analysis of a difficult conversation objective structured clinical examination. *Journal of Surgical Education*, 71(3), 309–315. https://doi.org/10.1016/j.jsurg.2013.09.020

Feldt, L.S. and Brennan, R.L. (1989). Reliability. In R.L. Linn (Ed.), *Educational measurement* (3rd ed., pp. 105–146). Macmillan.

Fishman, J.M., Elwell, V.A. and Chowdhury, R. (2016). *Communication Skills for the MRCS OSCE*. (2nd ed.). Taylor Francis.

Frankel, R.M. and Stein, T. (1999). Getting the Most out of the Clinical Encounter: The Four Habits Model. *The Permanente Journal*, 3(3), 79–88.

Gaunt, A., Patel, A., Royle, J., Fallis, S., Almond, M., Mylvaganam, S., Rusius, V., Markham, D.H. and Pawlikowska, T. (2016). What do surgeons and trainees think of WBAs and how do they use them? *Bulletin*, 98(9), 408–414.

General Medical Council. (2019). *Good Medical Practice*. GMC.

Green, M., Parrott, T. and Crook, G. (2012). Improving your communication skills. *BMJ*, 344:e357. https://doi.org/10.1136/bmj.e357

Greenberg, C.C., Regenbogen, S.E., Studdert, D.M., Lipsitz, S.R., Rogers, S.O., Zinner, M.J. and Gawande, A.A. (2007). Patterns of communication breakdowns resulting in injury to surgical patients. *Journal of the American College of Surgeons*, 204(4), 533–40. https://doi.org/10.1016/j.jamcollsurg.2007.01.010

Hecker, K.G. and Violato, C. (2009). Validity, Reliability, and Defensibility of Assessments in Veterinary Education. *Journal of Veterinary Medical Education*, 36(3), 271–275.

Hejri, S.M., Jalili, M., Muijtjens, A. and van der Vleuten, C. (2013). Assessing the reliability of the borderline regression method as a standard setting procedure for objective structured clinical examination. *Journal of Research in Medical Sciences: the official journal of Isfahan University of Medical Sciences*, 18(10), 887–891.

Hughes, A. (1989). *Testing for Language Teachers*. Cambridge University Press.

Intercollegiate Committee for Basic Surgical Examinations. (2017). *A Guide for Assessors in the Intercollegiate MRCS OSCE Examination*. Intercollegiate Committee for Basic Surgical Examinations. https://www.intercollegiatemrcsexams.org.uk/-/media/files/imrcs/college-access-documents/osce-procedures/2019/osce-guide-for-assessors_march2017.pdf

Intercollegiate Committee for Basic Surgical Examinations. (2018). *MRCS Candidate Guidance. Intercollegiate Committee for Basic Surgical Examinations*. Intercollegiate Committee

for Basic Surgical Examinations. https://www.intercollegiatemrcsexams.org.uk/mrcs/candidate-guidance/

Intercollegiate Committee for Basic Surgical Examinations. (2020a, August 3). *Changes to MRCS Part B OSCE October 2020 due to COVID 19*. Intercollegiate Committee for Basic Surgical Examinations. https://www.intercollegiatemrcsexams.org.uk/announcements/changes-to-mrcs-part-b-osce-october-2020-due-to-covid-19/

Intercollegiate Committee for Basic Surgical Examinations. (2020b). *ICBSE statement to candidates re MRCS Parts A and B autumn 2020*. Intercollegiate Committee for Basic Surgical Examinations. https://www.intercollegiatemrcsexams.org.uk/announcements/icbse-statement-to-candidates-re-mrcs-parts-a-and-b-autumn-2020/

Intercollegiate Committee for Basic Surgical Examinations. (2021a). *Guide to the intercollegiate MRCS examination*. Intercollegiate Committee for Basic Surgical Examinations. https://www.intercollegiatemrcsexams.org.uk/-/media/files/imrcs/mrcs/mrcs-candidate-guidance/2021/candidate-guide-to-mrcs-examination-august-2021-final.pdf

Intercollegiate Committee for Basic Surgical Examinations. (2021b). *Candidate Instructions and Guidance Notes. MRCS Part B Objective Structured Clinical Examination (OSCE)*. Intercollegiate Committee for Basic Surgical Examinations. https://www.intercollegiatemrcsexams.org.uk/-/media/files/imrcs/mrcs/mrcs-candidate-guidance/2021/mrcs-osce-exam-day-guidance-notes-aug-2021-clean.pdf

Intercollegiate Committee for Basic Surgical Examinations. (2021c). *Standard Setting in the MRCS Part B (OSCE)*. https://www.intercollegiatemrcsexams.org.uk/-/media/files/imrcs/mrcs/mrcs-candidate-guidance/2021/mrcs-part-b-standard-setting-process.pdf#:~:text=Standard%20Setting%20in%20the%20MRCS%20Part%20B%20%28OSCE%29,UK%20and%20Ireland%20running%20on%20a%20particular%20day.

Jason, H., Kagan, N., Werner, A., Elstein, A.S. and Thomas, J.B. (1971). New approaches to teaching basic interview skills to medical students. *American Journal of Psychiatry*, 127(10), 1404–1407. https://doi.org/10.1176/ajp.127.10.1404

Johnston, C. and Haughton, P. (2007). Medical students' perceptions of their ethics teaching. *Journal of Medical Ethics*, 33(7), 418–422. https://doi.org/10.1136/jme.2006.018010

Kane, M. (2010). Validity and fairness. *Language Testing*, 27(2), 177–182.

Keller, V.F. and Carroll, J.G. (1994). A new model for physician-patient communication. *Patient Education and Counseling*, 23(2), 131–140. https://doi.org/10.1016/0738-3991(94)90051-5

Kissane, D.W., Bylund, C.L., Banerjee, S.C., Bialer, P.A., Levin, T.T., Maloney, E.K. and D'Agostino, T.A. (2012). Communication skills training for oncology professionals. *Journal of Clinical Oncology*, 30(11), 1242–1247. https://doi.org/10.1200/JCO.2011.39.6184

Kramer, A., Muijtjens, A., Jansen, K., Düsman, H., Tan, L., van der Vleuten, C. (2003). Comparison of a rational and an empirical standard setting procedure for an OSCE. Objective structured clinical examinations. *Med Educ*, 37(2), 132–139.

Krasner, M.S., Epstein, R.M., Beckman, H., Suchman, A.L., Chapman, B., Mooney, C.J. and Quill, T.E. (2009). Association of an educational program in mindful communication with burnout, empathy, and attitudes among primary care physicians. *Journal of the American Medical Association*, 302(12), 1284–1293. https://doi.org/10.1001/jama.2009.1384

Kurtz, M.E., Kurtz, J.C., Given, C.W. and Given, B.A. (2004). Depression and physical health among family caregivers of geriatric patients with cancer – a longitudinal view. *Medical Science Monitor*, 10(8), 447–456.

Kurtz, S.M. and Silverman, J.D. (1996). The Calgary–Cambridge Referenced Observation Guides: An aid to defining the curriculum and organizing the teaching in communication training programmes. *Medical Education*, 30(2), 83–89. https://doi.org/10.1111/j.1365-2923.1996.tb00724.x

Kurtz, S.M., Silverman, J.D. and Draper, J. (Eds). (2004). *Teaching and Learning Communication Skills in Medicine*. CRC Press.

Levinson, W. and Pizzo, P.A. (2011). Patient-physician communication: it's about time. *Journal of the American Medical Association*, 305(17), 1802–1803. https://doi.org/10.1001/jama.2011.556

Levinson, W., Hudak, P. and Tricco, A.C. (2013). A systematic review of surgeon-patient communication: strengths and opportunities for improvement. *Patient Education and Counseling*, 93(1), 3–17. https://doi.org/10.1016/j.pec.2013.03.023

Linn, R.L. (1994). Performance assessment: policy promises and technical measurement standards. *Educational Researcher*, 23, 4–14.

Linn, R.L., Baker, E.L. and Dunbar, S.B. (1991). Complex, Performance-Based Assessment: Expectations and Validation Criteria. *Educational Researcher*, 20(8), 15–21. https://doi.org/10.3102/0013189X020008

Logan, A. and Dhillon, P.S. (2016). *Communication Skills OSCEs in Surgery: 40 Surgical Communication OSCEs For The MRCS Part B Examination*. MD+ Publishing.

Maguire, P. and Pitceathly, C. (2002). Key Communication Skills and How to Acquire Them. *BMJ*, 325, 697. http://dx.doi.org/10.1136/bmj.325.7366.697

Makoul, G. (2001a). Essential elements of communication in medical encounters: the Kalamazoo consensus statement. *Academic Medicine*, 76(4), 390–393. https://doi.org/10.1097/00001888-200104000-00021

Makoul, G. (2001b). The SEGUE Framework for teaching and assessing communication skills. *Patient Education and Counseling*, 45, 23–34. https://doi.org/10.1016/S0738-3991(01)00136-7

Martin, E., Rich, S., Jones, J. and Dharmarajan, K. (2019). Communication skill frameworks: applications in radiation oncology. *Annals Of Palliative Medicine*, 8(3), 293–304. https://doi.org/10.21037/apm.2019.03.03

Mehay, R. and Burns, R. (2009). Miller's Pyramid of Clinical Competence. In R. Mehay (Ed.), *The Essential handbook for GP training and education*. Radcliffe Publishing Limited.

Mendick, N., Young, B., Holcombe, C. and Salmon, P. (2015). How do surgeons think they learn about communication? A qualitative study. *Medical Education*, 49, 408–416. https://doi.org/10.1111/medu.12648

Merh, R. and Selman, R. (2020). What Are the Perceptions of General Surgical Trainees of Vascular Surgical Teaching Received During Their Higher Specialty Training Years in the UK? *Journal of Surgical Education*, 77(6), 1357–1369. https://doi.org/10.1016/j.jsurg.2020.04.013

Messick, S. (1989). Validity. In R.L. Linn (Ed.), *Educational measurement* (pp. 13–103). Macmillan and American Council on Education.

Messick, S. (1994) The interplay of evidence and consequences in the validation of performance assessments. *Educational Researcher*, 23(2), 13–23.

Messick, S. (1996). Validity and washback in language testing. *Language Testing*, 13(3), 241–256. https://doi.org/10.1177/026553229601300302

Meyer, E.C., Sellers, D.E., Browning, D.M., McGuffie, K., Solomon, M.Z. and Truog, R.D. (2009). Difficult conversations: Improving communication skills and relational abilities in health care. *Pediatric Critical Care Medicine*, 10(3), 352–359.

Miller, G.E. (1990). The assessment of clinical skills/competence/performance. *Academic Medicine*, 65, 63–67. https://doi.org/10.1097/00001888-199009000-00045

Nadler, J.J., Weston, R. and Voyles, E.C. (2015). Stuck in the middle: The use and interpretation of mid-points in items on questionnaires. *The Journal of General Psychology*, 142(2), 71–89. https://doi.org/10.1080/00221309.2014.994590

Nagpal, K., Arora, S., Vats, A., Wong, H.W., Sevdalis, N., Vincent, C. and Moorthy, K. (2012). Failures in communication and information transfer across the surgical care pathway: interview study. *BMJ Quality and Safety*, 21(10), 843–849. https://doi.org/10.1136/bmjqs-2012-000886

Nakagawa, S., Fischkoff, K., Berlin, A., Arnell, T.D. and Blinderman, C.D. (2019). Communication Skills Training for General Surgery Residents. *Journal of Surgical Education*, 76(5), 1223–1230. https://doi.org/10.1016/j.jsurg.2019.04.001

National Health Service. (2022). *Data on Written Complaints in the NHS, 2021-22 Quarter 3 and Quarter 4*. NHS Digital. https://digital.nhs.uk/data-and-information/publications/statistical/data-on-written-complaints-in-the-nhs/2021-22-quarter-3-and-quarter-4#

O'Hara, J.K., Reynolds, C., Moore, S., Armitage, G., Sheard, L., Marsh, C., Watt, I., Wright, J., and Lawton, R. (2018). What can patients tell us about the quality and safety of hospital care? Findings from a UK multicentre survey study. *BMJ Quality & Safety*, 27, 673–682.

Pendleton, D., Schofield, T., Tate, P. and Havelock, P. (2003). *The New Consultation: Developing Doctor-Patient Communication*. Oxford University Press. http://dx.doi.org/10.1093/med/9780192632883.001.0001

Perera, H.J.M. (2015). Effective Communication Skills for Medical Practice. *Journal of the Postgraduate Institute of Medicine*, 2, E20:1–7. https://doi.org/10.4038/jpgim.8082

Platt, D. (2002). The social impact of medicine. Chapter 1. *Delaware Medical Journal*, 74(11), 445–447.

Razavi, D., Merckaert, I., Marchal, S., Libert, Y., Conradt, S., Boniver, J., Etienne, A.M., Fontaine, O., Janne, P., Klastersky, J., Reynaert, C., Scalliet, P., Slachmuylder, J.L. and Delvaux, N. (2003). How to optimize physicians' communication skills in cancer care: results of a randomized study assessing the usefulness of posttraining consolidation workshops. *Journal of Clinical Oncology*, 21(16), 3141–3149. https://doi.org/10.1200/JCO.2003.08.031

Ridd, M. (Ed.) (2013). *Teachers' and Students' Handbook for Consultation Skills Teaching 2013-14*. University of Bristol Medical School.

Roter, D.L. and Hall, J.A. (1992). *Doctors Talking with Patients, Patients Talking with Doctors: Improving Communication in Medical Visits*. Greenwood.

Royal College of General Practitioners. (2021). *MRCGP: Recorded Consultation Assessment (RCA)*. Royal College of General Practitioners. https://www.rcgp.org.uk/training-exams/mrcgp-exam/mrcgp-recorded-consultation-assessment

Royal College of Surgeons of England. (2022). *Intercollegiate MRCS. Exam overview*. Royal College of Surgeons of England. https://www.rcseng.ac.uk/education-and-exams/exams/search/intercollegiate-mrcs/

Sanson-Fisher, R.W. and Poole, A.D. (1980). Simulated patients and the assessment of medical students' interpersonal skills. *Med Education*, 14(4), 249–253. https://doi.org/10.1111/j.1365-2923.1980.tb02269.x

Scrimgeour, D., Cleland, J., Lee, A. and Brennan, P. (2017). When is the best time to sit the MRCS examination? *BMJ*, 356:j461. https://doi.org /10.1136/bmj.j461

Shepard, L.A. (1997). The centrality of test use and consequences for test validity. *Educational Measurement: Issues and Practice*, 16(2), 13–24.

Stewart, M.A. (1995). Effective physician-patient communication and health outcomes: a review. *Canadian Medical Association Journal*, 152(9), 1423–1433.

Stewart, M.A., Brown, J.B., Weston, W.W., McWhinney, I.R., McWilliams, C.L. and Freeman, T.R. (2003). *Patient-Centered Medicine: Transforming the Clinical Method* (2nd ed.). Radcliffe Medical Press Ltd.

Stobart, G. (2001). The Validity of National Curriculum Assessment. *British Journal of Educational Studies*, 49(1), 26–39. https://doi.org/10.1111/1467-8527.t01-1-00161

Subramanian, P. and Sathanandan, K. (2016). Improving Communication Skills Using Simulation Training. *British Journal of Medical Practitioners*, 9(2).

Terrell, S.R. (2012). Mixed-Methods Research Methodologies. *The Qualitative Report*, 17(1), 254–280. https://doi.org/10.46743/2160-3715/2012.1819

van den Eertwegh, V., van Dalen, J., van Dulmen, S., van der Vleuten, C. and Scherpbier, A. (2014). Residents' perceived barriers to communication skills learning: comparing two medical working contexts in postgraduate training. *Patient Education and Counseling*, 95(1), 91–97.

Vu, N.V. and Barrows, H.S. (1994). Use of standardized patients in clinical assessments: Recent developments and measurement findings. *Education Researcher*, 33, 23–30.

Wallace, J., Rao, R. and Haslam, R. (2002). Simulated patients and objective structured clinical examinations: Review of their use in medical education. *Advances in Psychiatric Treatment*, 8(5), 342–348. https://doi.org/10.1192/apt.8.5.342

Warnecke, E. (2014). The art of communication. *Australian Family Doctor*, 43(3), 158.

Wind, L.A., Van Dalen, J., Muijtjens, A.M.M and Rethans, J.J. (2004). Assessing simulated patients in an educational setting: the MaSP (Maastricht Assessment of Simulated Patients). *Medical Education*, 38, 39–44. https://doi.org/10.1111/j.1365-2923.2004.01686.x

Witheridge, A., Ferns, G. and Scott-Smith, W. (2019). Revisiting Miller's pyramid in medical education: the gap between traditional assessment and diagnostic reasoning. *International Journal of Medical Education*, 10, 191–192. https://doi.org/10.5116/ijme.5d9b.0c37

Wolming, S. and Wikström, C. (2010). The concept of validity in theory and practice. *Assessment in Education: Principles, Policy & Practice*, 17(2), 117–132. https://doi.org/10.1080/09695941003693856

Yudkowsky, R., Downing, S., Klamen, D., Valaski, M., Eulenberg, B. and Popa, M. (2004). Assessing the head-to-toe physical examination skills of medical students. *Medical Teacher*, 26, 415–419. https://doi.org/10.1080/01421590410001696452.

Appendix A

Mark scheme for the MRCS Part B taken from the ICBSE's *Guide to the Examination* (2021)

MRCS OSCE proposed assess-ment grid and matrix from October 2020	KNOWLEDGE BROAD CONTENT AREA								SKILLS BROAD CONTENT AREA										PILOT
	Anatomy and surgical pathology					Applied surgical science and critical care			Communication skills						Clinical and procedural skills				
									Giving and receiving information				History taking		Physical examination			Procedural skills	
	Anatomy 1	Anatomy 2	Anatomy 3	Surgical pathology 1	Surgical pathology and/or microbiology 2	Interpretation of data– visual and lab	Interpretation of clinical data	Critical care management	PREPARATION STATION	Talking with relatives and carers	PREPARATION STATION	Communicating with colleagues	History taking 1	History taking 2	Physical examination 1	Physical examination 2	Physical examination 3	Procedural skills – patient	Procedural skills - technical	Any station as required
Examiners required →	one	one	one	one	one	one	one	one	–	surgeon + lay	–	one	surgeon + lay	surgeon + lay	one	one	one	one + assistant	one + assistant	
Domains tested ↓																				
Clinical knowledge and its application	20	20	20	20	20	12	12	12		4		4	4	4	4	4	4	4	8	
Clinical and technical skill						4	4	4					8	8	8	8	8	8	12	
Communication										12		8	4	4	4	4	4	4		
Professionalism including:- Decision making Problem solving Situational awareness and judgement Organisation and planning Patient safety						4	4	4		4		8	4	4	4	4	4	4		
Total mark	20	20	20	20	20	20	20	20		20		20	20	20	20	20	20	20	20	

Appendix B

A Mock Scenario (created for this dissertation)

Figure B1

The scenario given to a candidate in a communication skills station of the MRCS OSCE

INSTRUCTIONS TO CANDIDATE

You are a junior doctor. Mrs Roberts, a 32-year-old schoolteacher, was recently referred by her GP after she noticed a lump in her right breast. She has now undergone a triple assessment of her breast, and she is noted to have a 4.6cm-sized hard and spiculated lump in her right breast. The lump extends to the underlying pectoral muscle and is proven to be malignant. The receptor status of the tumour is awaited.

The ultrasound examination reveals four-to-six enlarged lymph nodes in her right axilla, but her supraclavicular fossa is clear. There is no other evidence of systemic spread of the disease.

She is now booked for a staging CT scan, and she will be discussed in the MDT shortly to ascertain the best course of action. Please inform the patient of the diagnosis and answer her concerns.

Figure B2

The instructions given to the actress for the same scenario

INSTRUCTIONS TO ACTOR

You are Rachel Roberts, a 32-year-old primary school teacher. You are an extremely anxious person. You noticed a lump in your right breast about six weeks ago for which you saw your GP, and he has referred you to the hospital for specialist opinion.

You are very nervous about the results of the biopsy and the ultrasound that you have recently had. You have come to the clinic alone. You are happy to have the results given to you without anyone else present.

You are visibly shaken and shocked when the doctor informs you that the lump is malignant and that the cancer has possibly spread to your right axilla. You are distraught and take time to compose yourself.

You may ask the doctor the following questions:

1. Why have I got the cancer? Is it something I have done?
2. Can the cancer be treated without surgery?
3. Can it be treated with chemotherapy?
4. Will I definitely need to have an operation (mastectomy)? I don't want to have an operation.
5. If I have the operation, 'will I have a flat chest for the rest of my life'? You can lead the candidate to discuss reconstructive options following a mastectomy.
6. Can you reconstruct my breast at the same time as the mastectomy so that I do not need to wait for a second operation?
7. Will I need chemotherapy after the operation?
8. How will the lymph nodes in my armpit be treated? Will it be surgery or radiotherapy?
9. What happens if you remove the lymph nodes in my armpit?
10. What about the role of medication to treat the cancer (hormone therapy)? Will I need to take tablets for the rest of my life?

Figure B3

The instructions given to the examiner for the same scenario

INSTRUCTIONS TO EXAMINER

Clinical Knowledge and its Application

Please evaluate if the candidate:

1. appreciates the need for possible neo-adjuvant chemotherapy due to the large size of the tumour and positive axillary nodes, although the hormone status is awaited.
2. appreciates the need for a mastectomy (either immediately or after neo-adjuvant chemotherapy) due to the size of the tumour and the involvement of the underlying muscle.
3. is aware that breast reconstruction cannot be offered until full oncological clearance is achieved.
4. appreciates that immediate breast reconstruction is not an option for this patient.
5. understands that block dissection of axillary nodes and radiotherapy to the axilla are possible options to treat the enlarged lymph nodes in the axilla.
6. appreciates that adjuvant chemotherapy may be required if the disease is advanced.
7. appreciates the need for hormone therapy, depending on the receptor status.
8. has a general understanding of the staging of breast cancers.
9. has a general understanding of the possible reconstructive options for the breast following mastectomy.
10. is aware of the risks and complications associated with axillary node clearance.

Communication

Please evaluate if the candidate:

1. starts the conversation appropriately.
2. introduces himself/herself appropriately.
3. confirms the purpose of the conversation.
4. avoids medical jargon (if technical language cannot be avoided, he/she should explain the meaning of any technical terms).
5. speaks in a fluent and natural manner.
6. adapts his/her language to the patient.
7. breaks down the information into manageable pieces.
8. checks the patient's understanding throughout the conversation.
9. establishes a patient-centred doctor-patient relationship.
10. uses open and closed questions appropriately.
11. uses appropriate body language and maintains eye contact with the patient.
12. maintains focus (does not unnecessarily digress onto another topic).
13. is empathetic.

14. responds to the patient's concerns.
15. answers the patient's questions appropriately.
16. actively listens to the patient.
17. ends the consultation appropriately.

Professionalism

Please evaluate if the candidate:

1. plans ahead, identifies requirements, and prioritises accordingly.
2. demonstrates strategic and tactical planning ability.
3. is able to recognise and manage complex and competing needs.
4. manages time and resources effectively.
5. does not criticise any habits of the patient (e.g., smoking and/or drinking alcohol).
6. is sympathetic to the patient.

Appendix C

An Example of a History Taking Station

Taken from ICBSE's *Guide to the intercollegiate MRCS examination* (2021a)

MRCS OSCE
Scenario summary sheet

Code	**CSH T 03**	
Title	**Obstructive jaundice**	
Syllabus area		
Content area	**Clinical, communication and procedural skills**	
Station type	**History taking** **Double manned – surgeon and lay examiner**	
Domains assessed	**Clinical knowledge and its application** **Clinical skill** **Communication** **Professionalism**	**4 marks** **2 x 4 marks** **4 marks** **4 marks**

Source	
Last updated	
Used	

Props and equipment
Actor
Male, 50-70 Actor to receive full scenario in advance of diet.
College
Desk/table.
Pencil and paper for candidate's notes.
Chairs for candidate and two examiners.
Couch for actor

Candidate instructions

This patient has been referred as an emergency to the surgical assessment unit. The GP has said that the patient has jaundice.

You are to take an appropriate history in 6 minutes (you may make notes). If you complete your history within the 6 minutes you should indicate to the examiners that you are ready.
In the remaining 3 minutes the examiners will ask you to present a summary of the history. They may also ask you to discuss any particular physical signs you would look for on examination, the likely differential diagnosis, appropriate investigations and a management plan.

Information for the actor

Patient details
Name: Mr. Jack Rose **Age** 65
Sex: Male **Job:** Retired policeman **Hospital number:** A236572

Patient's address:	**GP address:**
13 Princes street Anytown Anyshire AY67 7GH	Dr PR Smith High Street Surgery High Street Anytown, AB12 3XY

Character: Patient **Age range for actor from** 50 **to** 70
Costume: Dressing gown
Personal props: Yellow make-up to simulate jaundice would be helpful.
Time and place This scenario takes place in the surgical assessment unit on a weekday morning

The scenario

You have seen your own GP who has arranged for you to come to the SAU with a view to emergency admission to the hospital. No special clothing or props are required but appropriate yellow make-up on your face to simulate jaundice would add some authenticity. The candidate will take a history from you and will not be required to do any physical examination. Apart from your presenting complaint do not volunteer other information until asked specifically by the candidate.

YOU DO NOT FEEL AT ALL WELL.

You are a 65-year-old retired policeman.

Presenting complaint

Not felt well for past month and for the last 3 days you have noted that your skin and eyes have become yellow and your skin itchy.

Associated history

Your appetite is poor and you have noticed your clothes are becoming loose (you haven't weighed yourself). You feel rather tired and run-down. You have been trying to eat but feel quickly full up and have had episodes of nausea. Having had a regular once per day bowel action you now have to open your bowels after most meals, passing loose stools. For 3 days they have been a white clay colour, very smelly and not the usual brown. You have not noted any blood in the stools but get occasional bright blood on the toilet paper when you wipe yourself which you think is due to piles. You have not had any significant pain in your abdomen, but have noted a dull ache in the middle of your lower back which you think is due to an old injury sustained when you were in the police.

Other systems

Respiratory: Smoker's cough.

Cardiac: No problems.

Urinary: Get up once per night, reasonable stream, noted urine very dark brown colour for 3 days. No pain/burning or stinging not aware of any blood.

Musculoskeletal: No problems.

Nervous system: No problems.

Past surgical history

Tonsillectomy as a child.

Appendicectomy age 15.

Haemorrhoids (piles) injected age 50.

Laparoscopic cholecystectomy (keyhole surgery to remove your gallbladder and gallstones) age 55.

Medical history

Hypertension from age 54.

Type 2 diabetes from age 58.

CSH T 03 Obstructive jaundice Actor instructions

Three months ago episode of tender inflammation in varicose vein in left leg. GP diagnosed phlebitis and prescribed antibiotics.

Drug history (you may wish to note these on a piece of paper)

Metformin (500 mg, three times a day) and glicazide (100 mg once a day) for diabetes

Bendroflumethiazide (2.5 mg daily) for hypertension

Simvastatin (40 mg at night) – your GP put you on this 2 years ago 'to stop you having a heart attack'

You don't have any allergies.

Social history

You were a policeman for 35 years and retired at the age of 55 having been a sergeant for 15 years. You then worked for 5 years with a security company organising guards for factory premises. For the last 3 years you have been caring for your 68-year-old wife who is becoming increasingly disabled by motor-neurone disease. You know this can't be cured and her doctors have indicated that she will probably not survive more than a few years. You have one married daughter who lives in Australia.

You smoke 20 cigarettes a day and have done so since you were a teenager. You have always enjoyed drinking beer and whisky (not wine). When you were in the police you often indulged in heavy drinking sessions (when not on duty) and since retirement you have had 2–3 pints of beer and 2 whiskies most days. You eat a normal diet.

Family history

Your father was killed while serving in the army during the Korean war in 1952 and your mother died of a heart attack at the age of 73. You have a younger brother and sister who are well as far as you are aware. They live in Scotland and you have only occasional contact with them.

Anxieties

You are very worried by the symptoms that you have and are concerned about what will happen to your wife if you have to come into hospital for treatment. (You have a good next door neighbour who is helping.)

If asked about any other personal or social details rely on your own experience and make your answers consistent throughout the circuit.

Background

This patient's jaundice is due to a blockage of the bile duct which means that bile is dammed up and spills over into the bloodstream, making him yellow. The most likely cause of the jaundice is a tumour, but gallstones are also a possibility even though he has had his gallbladder removed.

EXAMINER 1 (SURGEON) MARK SHEET	**Candidate number:**
	Examiner number:
	Date:
	Signature:
Scenario code and title	**CSH T 03 Obstructive jaundice**
Domains assessed	**Clinical skill** **2 x 4 marks** **Clinical knowledge and its application** **4 marks**

Domain	**Mark**
Clinical skill 1 Elicits necessary detail/information from patient/colleague. Accurately identifies key clinical symptoms. Accurately interprets key clinical symptoms. Has a systematic, complete and organised approach. General assessment of patient is satisfactory. Can take a detailed history from a poorly patient who is frightened about his diagnosis and the impact this will have on his family.	0–4
Clinical skill 2 Presents a well organised history. Accurately describes key clinical symptoms. Understands key clinical signs. Overall assessment of patient is satisfactory. Able to use history to suggest a sensible management plan. Aware of the seriousness of this history. Appreciates need to organise care for patient's wife.	0–4
Clinical knowledge Demonstrates knowledge in the essential areas tested. Demonstrates knowledge in the majority of areas examined. Knowledge of the likely differential diagnosis based on the patient's symptoms (listed in the patient's notes and examiner's guidance).	0–4

Examiner 1 overall assessment (circle one):

Fail **Borderline** **Pass**

Agreed joint overall assessment (circle one):

Fail **Borderline** **Pass**

This is required whether the examiners' individual overall assessments differ or not.

Examiner instructions

In this scenario, the candidate has 6 minutes to take an appropriate, focused and relevant clinical history from a simulated patient. They will then have 3 minutes to produce a sensible summary of relevant positive and negative points from the history and a differential diagnosis. They should be able to suggest appropriate investigations and management.

Both examiners should listen to and observe the candidate (who may make notes) taking the history without interruption. If the candidate does not appear to be performing the required task properly, invite them to re-read the candidate instructions.

After 6 minutes (or sooner if the candidate is ready), Examiner 1 uses the remaining time to ask the candidate the following.

1. To summarise the history.
2. To give the differential diagnosis and explain how they would justify their answer.
3. To explain how the diagnosis would be confirmed (see below).
4. To specify what management they would recommend (see below).

Examiner 1 marks the domains *clinical skill* and *clinical knowledge*.

Examiner 2 marks the domains *communication* and *professionalism*.

The examiners should not swap roles between candidates during the circuit.

Both examiners will assess the overall performance of the candidate.

Examiner 1 looks at whether the candidate has gathered accurate information relevant to the specific scenario along with important systemic effects of the condition under consideration through the use of proper closed questions and systematic enquiry.

Examiner 2 assesses the candidate's general approach to the taking of the history as instructed on the mark sheet. They examine the candidate–patient interaction and check for shared understanding between candidate and patient. During the discussion with Examiner 1 after the history-taking, they should consider whether the information is being fed back with synthesis and prioritisation.

If the candidate finishes early they must remain in the bay and wait for the indication to move on.

Scenario-specific guidance

1. What are the essential points in the history?

1-month history of feeling unwell:

- anorexia
- weight loss (implied)
- nausea and vague backache
- increasing diarrhoea, loose smelly stools.

3 days of worsening jaundice, skin itching, dark urine and pale stools.

Past history of cholecystectomy for gallstones, type 2 diabetes, hypertension and recent episode of thrombophlebitis.

Lifelong smoker (risk factor for pancreatic cancer) and heavy alcohol intake (can cause chronic liver disease).

Disabled wife at home.

Concerns about diagnosis and care of wife.

2. Based on the history you have obtained what is the differential diagnosis of the most likely causes of this patient's symptoms? (You may need to prompt)

Obstructive jaundice due to:

- carcinoma of head of pancreas, ampulla or bile duct
- bile duct stricture
- bile duct stone (NB previous cholecystectomy)
- chronic pancreatitis
- liver cancer secondary or primary

- other rare pancreatic tumours.

3. Physical examination reveals a jaundiced patient with scratch marks on his arms, scars from previous surgery and evidence of recent weight loss. There are no other abnormal findings. What special investigations would you request from the SAU?

Full blood count, clotting studies, urea and electrolytes, liver function tests, amylase, possibly tumour markers (CA19-9), hepatitis screen.

Urine dip (may also request separate test for urobilinogen – not present in obstructive jaundice).

Urgent abdominal ultrasound and CT (if available).

4. What would you expect the liver function tests to show?

Raised bilirubin (conjugated), alkaline phosphatase and gamma GT, relatively normal other liver enzymes suggesting bile duct obstruction.).

Critical points

Realises patient is jaundiced.

Might be cancer but other differentials.

Initial investigations.

More complex later investigations.

Admit for investigations and possible ERCP.

Generic domain descriptors
Clinical knowledge
Possesses the clinical knowledge specified in the syllabus.
Able to understand, synthesise and apply knowledge in a clinical context.
Clinical skill
Capable of applying sound clinical knowledge, skill and awareness to a full investigation of problems to reach a provisional diagnosis.
Communication
Able to assimilate information, identify what is important and convey it to others clearly using a variety of methods.
Capable of adjusting behaviour and language as appropriate to needs of differing situations.
Actively and clearly engages patient/carer/colleague(s) in open dialogue.
Professionalism
Able to accommodate new or changing information and use it to manage a clinical problem.
Anticipates and plans in advance.
Prioritises conflicting demands and builds contingencies.
Demonstrates effective management of time and resources.

EXAMINER 2 (LAY) MARK SHEET	Candidate number:
	Examiner number:
	Date:
	Signature:
Scenario code and title	**CSH T 03 Obstructive jaundice**
Domains assessed	**Communication** **4 marks** **Professionalism** **4 marks**

Domain	Mark
Communication Uses appropriate opening/introductions and establishes purpose of the interview. Uses technical/non-technical language appropriately, accurately and with fluency. Confirms that there is common understanding. Establishes relationship of respect with others. Adapts language/behaviour as needed and adjusts style of questioning (open/closed) as appropriate. Establishes rapport with others. Uses appropriate body language and eye contact. Demonstrates clarity and focus in communication. Demonstrates active listening towards others. Demonstrates empathy and responds appropriately to patient's concerns and questions. Adequate closure of interview. Takes a comprehensive history from a patient who does not feel at all well. Does not alarm patient excessively with possible diagnosis at this stage – need to await results of investigations. Aware of issues surrounding the wife.	0–4
Professionalism Plans ahead, identifies requirements and prioritises accordingly. Demonstrates strategic and tactical planning ability. Able to recognise and manage complex and competing needs. Manages time and resources effectively. Appreciates need to involve other agencies for care of the wife. Aware that patient must be admitted for investigation and probable ERCP in the first instance. Does not criticise patient's smoking and drinking habits at this stage. Is sympathetic to this patient's considerable problems.	0–4

Examiner 2 overall assessment (circle one):

Fail **Borderline** **Pass**

Appendix D

Questionnaire for Junior Doctors

1. Did you communicate with actors in the communication skills stations of the MRCS Part B OSCE, or did the examiners perform the role of the simulated patients?
   - □ Actors □ Examiners

1a. (If the person selects 'Actors') Did the expectations, reactions and mannerisms of the actors compare to the expectations, reactions and mannerisms of real patients with whom you communicate on a day-to-day basis?

- □ Most Certainly
- □ Certainly
- □ Neutral
- □ Slightly
- □ Not At All

1a. (If the person selects 'Examiners') Did the expectations, reactions and mannerisms of the examiners compare to the expectations, reactions and mannerisms of real patients with whom you communicate on a day-to-day basis?

- □ Most Certainly
- □ Certainly
- □ Neutral
- □ Slightly
- □ Not At All

2. If you found that the expectations, reactions and mannerisms of the actors/examiners were not similar to those of real patients, please state in what way.
   (FREE-TEXT BOX)

3. Did you follow any frameworks of communication in the communication skills stations of the MRCS Part B OSCE?
   - □ Yes □ No

3a. If yes, which one(s)?

- □ SPIKES
- □ ICE
- □ Bayer Institute for Healthcare Communication E4 Model
- □ The Three-Function Model
- □ The Calgary–Cambridge Observation Guide
- □ The Patient-Centred Clinical Method
- □ The SEGUE Framework for Teaching and Assessing Communication Skills
- □ The Four Habits Model
- □ Other (FREE-TEXT BOX)

3b. If yes, how often do you use these in clinical practice?

- Always
- Often
- Sometimes
- Rarely
- Never

4. How often are you expected to give similar information to patients in clinical practice as you were asked to give in the MRCS Part B OSCE (e.g., informing the patient that he/she has breast cancer or colon cancer)?
   - Always
   - Often
   - Sometimes
   - Rarely
   - Never

5. Do you believe that you communicated with the actor/examiner in the MRCS Part B OSCE in a similar manner to how you communicate with patients in clinical practice?
   - Most Certainly
   - Certainly
   - Neutral
   - Slightly
   - Not At All

6. If the way in which you communicated in the MRCS Part B OSCE was different to how you communicate in clinical practice, please state how.
   (FREE-TEXT BOX)

7. How did you prepare for the communication skills component of the MRCS Part B OSCE? (*Please tick all that apply.*)
   - Textbooks
   - Online Resources
   - Attendance Courses
   - Online Courses
   - Practice with Senior Colleagues
   - Other (+ FREE-TEXT BOX)
   - None

8. Has the experience of preparing for communication in a simulated setting in the MRCS Part B OSCE enhanced your skills as a doctor?
   - Most Certainly
   - Certainly
   - Neutral
   - Slightly
   - Not At All

9. Has your ability to communicate confidently in clinical practice increased after having prepared for and sat the MRCS Part B OSCE?
    - □ Most Certainly
    - □ Certainly
    - □ Neutral
    - □ Slightly
    - □ Not At All

The assessment of communication skills within the MRCS Part B OSCE is:

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
10. Authentic	□	□	□	□	□
11. Overly Artificial	□	□	□	□	□
12. Relevant	□	□	□	□	□
13. Important	□	□	□	□	□
14. True to Life	□	□	□	□	□
15. Valuable	□	□	□	□	□
16. Taxing	□	□	□	□	□

17. Which Medical School did you attend?
    - □ Drop-Down Menu of Medical School in the UK
    - □ Other (+ FREE-TEXT BOX)
    - □ Prefer Not to Say

18. What is your current level of training?
    - □ Clinical Fellow
    - □ Clinical Research Fellow
    - □ Core Surgical Trainee 1
    - □ Core Surgical Trainee 2
    - □ Core Surgical Trainee 3
    - □ Foundation Year 1
    - □ Foundation Year 2
    - □ Foundation Year 3

- Specialty Doctor
- Specialty Trainee 3
- Specialty Trainee 4
- Specialty Trainee 5
- Staff Grade
- Trust Grade Doctor
- Research Fellow
- Prefer Not to Say

19. When did you sit the MRCS Part B OSCE? (If you have sat the exam more than once, please select the month and year of your *most recent* sitting.)
    - October 2018
    - February 2019
    - May 2019
    - October 2019
    - February 2020
    - October 2020
    - May 2021
    - July 2021
    - October 2021
    - February 2022
    - Prefer Not to Say

20. With which Royal Surgical College did you sit the MRCS Part B OSCE? (If you have sat the exam more than once, please select the College of your *most recent* sitting.)
    - Royal College of Surgeons of Edinburgh
    - Royal College of Surgeons of England
    - Royal College of Surgeons of Glasgow
    - Royal College of Surgeons of Ireland

21. How many times have you taken the MRCS Part B OSCE?
    - 1
    - 2
    - 3
    - 4
    - More than 4
    - Prefer Not to Say

Appendix E

Participants' Responses to the Question '*If the way in which you communicated in the MRCS Part B OSCE was different to how you communicate in clinical practice, please state how.*'

Identifier	Comment	Theme	Positive/Negative
P1	more intense/speeded up, as the station is short in comparison to how long may need to be spent discussing the situation in real life.	▪ Time Constraint	Negative
P2	The examiners new [*sic*] when you are struggling with learning how to communicate. In reality, patients assume you must have skills to be attending to them at that moment.	▪ Examiners Appreciate Candidates' Limitations	Positive
P3	Less interactive than patients in general, but this is clearly appropriate considering the time constraints of the OSCE	▪ Less Interactive ▪ Time Constraint	Neutral
P4	Not a great actor, tried to mislead and in an entirely fair situation	▪ Mislead	Negative
P5	Not realistic. patients don't ask so many questions in real life.	▪ Unauthentic ▪ Style of Questions	Negative
P6	A bit fake	▪ Unauthentic	Negative
P7	Extremes of emotions were often exaggerated i.e anger, upset, shock. I feel these emotions are present in real life interactions but slightly more nuanced.	▪ Exaggerated ▪ Unauthentic	Negative
P8	The actors [*sic*] reactions were perhaps slightly exaggerated compared to	▪ Exaggerated ▪ Unauthentic	Negative

	those of real patients. I also failed the communication skills station and I'm not sure why		
P9	Exaggerated. Actors asked difficult questions that patients would not ask in real life.	▪ Exaggerated ▪ Style of Questions ▪ Unauthentic	Negative
P10	The actors were more intense, tearful and difficult to placate than the vast majority of patients that I encountered in real life.	▪ Unauthentic	Negative
P11	Patients are not so confrontational in hospitals. It was difficult to manage as it was a bit over the top.	▪ Confrontational ▪ Unauthentic ▪ Exaggerated	Negative
P12	The actors were over enthusiastic & dramatic. Patients are not like this in real life.	▪ Dramatic ▪ Unauthentic	Negative
P13	Bit exaggerated compared to real patients	▪ Exaggerated ▪ Unauthentic	Negative
P14	I havent [*sic*] seen patient that reacts like that in hospital	▪ Unauthentic	Negative
P15	quite dramatic	▪ Dramatic	Negative
P16	Some actors were almost theatrical, especially in the breaking bad news stations.	▪ Dramatic	Negative
P17	Too much rehearsed and sometimes exaggerated.	▪ Over-Rehearsed ▪ Exaggerated	Negative
P18	I found the examiners communicated like patients. I have heard from colleagues who sat the exam pre COVID with actors that the actors often	▪ Authentic	Positive

	overplay the situation and are more dramatic than patients. I was glad that the examiners acted like patients as I would not know how to deal with very angry or inconsolable actors in an exam setting.		
P19	The actor in one station was very angry. I have never seen a patient become so angry in the ward/clinic. It was slightly over the top and I lost my confidence for a while.	▪ Exaggerated ▪ Unauthentic	Negative
P20	Some of the actors exaggerated the situation**.** Some questions were unusual and not what patients ask (from my limited experience).	▪ Exaggerated ▪ Style of Questions ▪ Unauthentic	Negative
P21	in one station the actor tried to take me off topic. I told her that I did not know the answer to her question and she kept trying to lead me down different avenues away from the scenario. Patients don't do that.	▪ Mislead ▪ Unauthentic	Negative

Appendix F

Participants' Responses to the Question '*If you found that the expectations, reactions and mannerisms of the actors/examiners were not similar to those of real patients, please state in what way.*'

Identifier	Comment	Theme
P1	more rushed in OSCE.	▪ Time Constraint
P2	As explained above	▪ Behaviour of Actor Compared to Behaviour of Real Patient
P3	It is a false situation and more a measure of examinees [*sic*] acting ability. Feinging [*sic*] sympathy for someone pretending to greive [*sic*] in an exam is entirely different to doing it in real life.	▪ Artificial
P4	Similar but not identical as the patient wasnt [*sic*] real	▪ Artificial
P5	In real life practice I don't stick to the communication model so ridgly [*sic*] but adjust depending on what the patient has said, whereas on [*sic*] the exam I felt like I had to stick to a rigid model so as not to lose marks.	▪ Artificial ▪ Desire to Pass Exam
P6	Somewhat more brief than usual due to time pressure of exam	▪ Time Constraint
P7	Actors did not behave like real patients. I therefore did not communicate as I would in real life.	▪ Behaviour of Actor Compared to Behaviour of Real Patient
P8	I was anxious and therefore did not follow the steps as I'm used to	▪ Pressure of Exam Situation
P9	It was different because patients are not that angry or upset in hospital. I had to think of another way to deal with them in the exam.	▪ Behaviour of Actor Compared to Behaviour of Real Patient

P10	I tried to communicate in the same way but the actors were more dramatic than patients. I also never have to tell patients that they have cancer so I wouldnt [*sic*] communicate this in real life.	▪ Behaviour of Actor Compared to Behaviour of Real Patient ▪ Expectations in Exam Compared to Expectations in Reality
P11	i dont [*sic*] see patients that react like the actors	▪ Behaviour of Actor Compared to Behaviour of Real Patient
P12	Even though I don't give this information in real practice, I tried to communicate as I would with a patient.	▪ Expectations in Exam Compared to Expectations in Reality
P13	Just trying to do what the examiners expect in an exam. Artificial set-up.	▪ Artificial ▪ Desire to Pass Exam
P14	As mentioned in the previous questions, the examiners acted like patients and I was able to communicate in the same way as I do in the hospital. If the examiners were very dramatic (like I have heard that actors are), I am not sure if I would have communicated in the same way.	▪ Behaviour of Actor Compared to Behaviour of Real Patient
P15	In most of the stations I communicatd [*sic*] in the same way as usual. The actors were fine. In the one station where the actor was very angry, I had to try to communicate to my best ability. I haven't had to communicate with someone so angry before.	▪ Behaviour of Actor Compared to Behaviour of Real Patient ▪ Expectations in Exam Compared to Expectations in Reality
P16	I have never told a patient that they have cancer and so I don't know how I would communicate this in real life. I have watched my consultant deliver this information so I tried to mirror what I had seen.	▪ Expectations in Exam Compared to Expectations in Reality
P17	I tried to communicate in the same way even though in one station the actor tried to lead me down the wrong path	▪ Behaviour of Actor Compared to Behaviour of Real Patient

Appendix G

Interviewees' Responses to the Question '*In the MRCS Part B, candidates are often asked to inform a (simulated) patient that he/she has cancer. Do you expect Foundation Year Doctors and Core Surgical Trainees to inform patients that they have cancer?*'

Identifier	Comment	Theme
Cons1	Although the ability to speak to patients about their cancer and aspects of their treatment is a valuable skill that doctors need to be taught, confidence with communication of these difficult diagnoses is important otherwise a lack of communication in this area can lead to compromised patient care.	▪ Important Skill ▪ Prioritise Patient
Cons2	One of the main reasons why the juniors are not the best person to go and explain is because of the…not the lack of communication skills or not lack of empathy. It's the lack of detailed knowledge. Because if *[uhh]* you go and tell the patient that it is a cancer, then the patient will say "what are my treatment options?", "what are the complications?", "what are the mortality rates?", "what are the best centres in the world?". Now I think the consultant or a senior member of staff would be in a better position to answer those questions than a junior member of staff. I don't think it is down to *[uhh]* the communication skills…but it is down to the limited experience and clinical knowledge.	▪ Limited Experience ▪ Limited Knowledge
Cons3	I think, at the end of the day, the most important person is that patient. *[umm]* So I think for something as ground-breaking or devastating as that news, it *[uhh]* should be given by somebody with sufficient experience. And a lot of the time I think the problem is that it's not necessarily breaking the bad news to the patient that's the issue…but it's the questions that the patients can ask you after that and your ability to deal with that. …you could tell anybody that they have cancer but what does that mean and what's gonna happen next and what does that involve…I think	▪ Prioritise Patient ▪ Limited Knowledge

	that's a lot for a Foundation Trainee to be able to do.	
Cons4	That's something that I don't expect. However, at any level of training *[umm]* doctors are going to have to deal with difficult situations *[umm]* whether that's dealing with difficult patients or that's…you know…giving bad news even if that's not a cancer diagnosis. *[umm]* So I don't think that it's a bad thing to have in the MRCS examination.	▪ Important Skill
Cons5	This is done in practice by the consultant or a senior trainee *[uhh]* but practice at this and learning skills from *[uhh]* an early stage can help you develop that language and the way you *[uhh]* deliver that news better with experience.	▪ Important Skill
Cons6	The MRCS OSCE is an exam that confirms a trainee is ready to become a registrar. Even though an FY2 or CT1 would not be expected to give this information to patients, that FY2 or CT1 would be expected to do so when he or she is an ST5. It is important that he or she is able to do this. If we think about the bigger picture, these scenarios are relevant.	▪ Important Skill
Reg1	In clinical practice, we do not expect our junior colleagues to see the patient or break any form of bad news. However *[uhh]* I've seen in rare circumstances that the junior colleague would need to break bad news to the patient and it's important for them to have the appropriate communication skills to do so.	▪ Important Skill

Appendix H

Interviewees' Responses to Question 1 ('*Do you believe that trainees who have prepared for the MRCS Part B are able to communicate with patients better than those who have not?*') and Question 2 ('*Do you believe that trainees who have passed the MRCS Part B are able to communicate with patients better than those who have not?*')

Identifier	Question 1 (Q1)	Question 2 (Q2)	Theme
Cons1	**Yes.** '…the trainees who have prepared for the MRCS OSCE do have a higher standard of communication than those who have not…the MRCS demands and dictates a level of communication that is required within the clinical workplace.'	**Not necessarily.**	Q1: Develop Appropriate Skills
Cons2	**Yes.** 'Once you have prepared for the exam, you suddenly become aware of [what good communication is].'	'I haven't consciously tried to discriminate' between the two groups.	Q1: Develop Appropriate Skills
Cons3	**Not necessarily.** 'I think experience is more important. Even if you've prepared, you need to be able to put that *[uhh]* revision into a practical context to really learn.'	**Not necessarily.** '…how long they've had experience on the shop floor in outpatient clinics and in clinical environments *[umm]* makes more of a difference than simply passing the exam.'	Q1: Experience Q2: Experience
Cons4	**No.**	**No.** '…communication with patients can really only be assessed over time and in different circumstances and I think assessing that in an exam setting probably isn't a true reflection of	Q2: Unreflective

		how well or badly a trainee communicates.'	
Cons5	**Not necessarily.**	**Not necessarily.** 'I'd say those who communicate well are more likely to get through the exam than those who don't, but having the exam doesn't make you a good communicator.'	Q2: Unreflective
Cons6	**Not necessarily.** 'Some trainees who haven't prepared for the MRCS yet are very good communicators…perhaps because Medical Schools here teach it very thoroughly. It doesn't mean they are able to manage difficult conversations though. This is gained through experience…not revision books.'	**No.**	Q1: Experience
Cons7	**Yes.** 'They have learnt tips on how to communicate. These are helpful in practice for juniors.'	**Yes.**	Q1: Develop Appropriate Skills
Reg1	**No.** 'I think the background of the colleagues I work with affects their communication skills rather than preparation for the MRCS OSCE.'	**No.** 'We have colleagues who are better communicators than colleagues who have passed the exam'.	Q1: Background
Reg2	**Yes.**	**Yes.**	
Reg3	**Yes.**	**Yes.**	

Appendix I

Introductory Email for Potential Participants in the Study

Subject of Email: Can You Contribute to Research on the MRCS Part B Examination?

Dear Colleague,

We are undertaking research at the Department of Education, University of Oxford which explores the validity of the communication skills component of the MRCS Part B examination. The Principal Researcher is Dr Rebecca Williams, who is attached to the Department of Education at the University of Oxford. This research is being completed under the supervision of Dr Michelle Meadows.

The aim of this study is to:

- investigate the validity of the way in which junior surgeons' communication skills are assessed.
- discuss valid methods (or models) of assessing junior surgeons' communication skills.
- lay the foundations for further research that can lead to the creation of more valid methods/models of assessing the communication skills of junior doctors.

We would like to invite you to participate in this research by completing a short questionnaire which asks about your perception of the communication skills aspect of the MRCS Part B examination and its relationship to your day-to-day clinical practice. It should take you **no more than five minutes** to complete.

Who Can Participate?

- Participants must have attempted the MRCS Part B at least on one occasion between October 2018 and February 2022.
- Participants must be working in the UK's NHS.
- Participants must have experience of communicating with patients in a clinical setting.
- Participants must have undertaken surgical training placements post-qualification.
- Participants must have qualified from medical school at least one year ago.

The primary data gathered from surgical trainees such as yourself who have sat the MRCS Part B examination will allow the validity of the communication skills component of this postgraduate assessment to be explored.

The data will be used by myself (the primary researcher) and my supervisor; no other individual or third party will have access to the data you provide. In addition, no personal or identifiable data will be used within the study.

If you are interested in participating in this research by completing the short questionnaire, please **click here**. You will receive the relevant information, including the link to the questionnaire, shortly after.

Thank you very much for your time in reading this email and for considering this request. We look forward to hearing from you soon.

Yours faithfully,

Dr Rebecca Williams

MSc Student

University of Oxford

Department of Education

15 Norham Gardens

Oxford

OX2 6PY

United Kingdom

Contact Email Address: rebecca.williams2@lmh.ox.ac.uk

Appendix J

Online Research Template

The Assessment of Surgeon-Patient Communication: An Examination of Validity

CUREC Approval Reference: CIA-22-086

General Information

The aim of this study is to:

- investigate the validity of the way in which junior surgeons' communication skills are assessed.

- discuss valid methods (or models) of assessing junior surgeons' communication skills.

- lay the foundations for further research that can lead to the creation of more valid methods/models of assessing the communication skills of junior doctors.

We appreciate your interest in participating in this online questionnaire. You have been invited to participate as you have attempted the intercollegiate MRCS Part B examination between October 2018 and February 2022, are working in the NHS, and interact with patients on a daily basis. Please read this information before agreeing to participate. If you wish to participate, please tick the 'yes' box below.

You may ask any questions before deciding to take part by contacting the researcher (details below).

The Principal Researcher is Dr Rebecca Williams, who is attached to the Department of Education at the University of Oxford. This project is being completed under the supervision of Dr Michelle Meadows.

You will be required to complete a short questionnaire which asks about your perception of the communication skills aspect of the MRCS Part B examination and its relationship with day-to-day clinical practice. It should take you no more than five minutes.

The primary data gathered from surgical trainees such as yourself who have sat the MRCS Part B examination will allow the validity of the communication skills component of this postgraduate assessment to be explored. The data will be used by the primary researcher and her supervisor; no other individual or third party will have access to the data you provide.

Do I have to take part?

No. Please note that participation is voluntary. If you do decide to take part, you may withdraw at any point for any reason before submitting your answers by pressing the 'Exit' button or closing the browser.

A 'prefer not to say' option has been included for each set of questions, should you prefer not to answer a particular question.

How will my data be used?

We will not collect any data that could directly identify you.

Your IP address will not be stored. We will take all reasonable measures to ensure that data remain confidential.

The responses you provide will be stored in a password-protected electronic file on University of Oxford secure servers and may be used in academic publications and conference presentations. Research data will be stored for three years after publication or public release of the work of the research.

Who will have access to my data?

The University of Oxford is the data controller with respect to your personal data and, as such, will determine how your personal data is used in the study. The University will process your personal data for the purpose of the research outlined above. Research is a task that we perform in the public interest. Further information about your rights with respect to your personal data is available from https://compliance.admin.ox.ac.uk/individual-rights.

The results will be written up for a Master of Science (MSc) degree.

Who has reviewed this study?

This project has been reviewed by, and received ethics clearance through, a subcommittee of the University of Oxford Central University Research Ethics Committee [CIA-22-086].

Who do I contact if I have a concern or I wish to complain?

If you have a concern about any aspect of this study, please speak to Dr Rebecca Williams (rebecca.williams2@lmh.ox.ac.uk) or her supervisor Dr Michelle Meadows (michelle.meadows@education.ox.ac.uk), and we will do our best to answer your query. We will acknowledge your concern within 10 working days and give you an indication of how it will be dealt with. If you remain unhappy or wish to make a formal complaint, please contact the Chair of the Research Ethics Committee at the University of Oxford who will seek to resolve the matter as soon as possible:

Social Sciences & Humanities Interdivisional Research Ethics Committee; Email: ethics@socsci.ox.ac.uk; Address: Research Services, University of Oxford, Boundary Brook House, Churchill Drive, Headington, Oxford OX3 7GB

Please note that you may only participate in this survey if you are 18 years of age or over.

☐ I certify that I am 18 years of age or over

If you have read the information above and agree to participate with the understanding that the data you submit will be processed accordingly, please tick the box below to start.

☐ Yes, I agree to take part

Appendix K

Participant Information Sheet

The Assessment of Surgeon-Patient Communication: An Examination of Validity

PARTICIPANT INFORMATION SHEET

Central University Research Ethics Committee Approval Reference: CIA-22-086

Introductory paragraph

You are being invited to take part in a research project. Before you decide whether you wish to participate, it is important for you to understand why the research is being conducted and what it will involve. Please take the time to read the following information. You may please ask us if there is anything that is not clear or if you would like further information.

Why is this research being conducted?

This study aims to:

- investigate the validity of the way in which junior surgeons' communication skills are assessed.
- discuss valid methods (or models) of assessing junior surgeons' communication skills.
- lay the foundations for further research that can lead to the creation of more valid methods/models of assessing the communication skills of junior doctors.

It will gather primary data from consultant surgeons and senior registrars who oversee junior surgical trainees. It is hoped that this data will allow the validity of the communication skills component of the MRCS Part B examination to be explored.

Why have I been invited to take part?

You have been asked to participate in this research since you:

- are a consultant or senior registrar in the NHS.
- are involved in training junior surgical trainees.
- oversee the way in which junior surgical trainees communicate with patients.

Nine other consultants and senior registrars will also be recruited for this aspect of the study.

Do I have to take part?

No. It is up to you to decide whether or not to take part. You can withdraw yourself from the study, without giving a reason, by advising us of this decision. The deadline by which you can withdraw any information you have contributed to the research is 01/08/22.

The data that you have provided will continue to be saved and stored on Nexus 365 OneDrive (the researcher's University of Oxford account) as an encrypted and password-protected file, and it will be destroyed in accordance with the UK General Data Protection Regulation and the Data Protection Act; it will be deleted from the Nexus 365 OneDrive on which it is stored at the end

the required storage period. However, the information that you have provided will no longer be used in the study.

What will happen to me if I take part in the research?

- You will receive a request to conduct an interview with the primary researcher via Microsoft Teams. A mutually convenient date on which to conduct the interview will be found.
- You will be asked to complete and sign a written consent form to confirm your participation in the study.
- The interview should take approximately 20 minutes, and it will be a one-off occurrence.
- It will be a semi-structured interview. You will be asked about the ways in which your trainees communicate with patients in a clinical setting and how their preparation for the MRCS Part B examination has impacted their communication skills.
- With your consent, we would like to audio record you as this will provide an accurate record of our conversation.
- Microsoft Teams does not allow the isolation of audio from a video recording, and we would, therefore, like to video record the interview. Since only the audio feed of the interview will be required for later analysis, the video will be deleted as soon as the transcription of the audio is complete.
- You will be able to ask to pause or stop the interview at any time.

What are the possible disadvantages and risks in taking part?

The information you provide will be anonymised before it is used. As such, there will not be any risks to your participation.

Are there any benefits in taking part?

It is hoped that this research will help junior surgeons who are preparing for the MRCS Part B examination, as well as the consultants and senior registrars who train them. It is also hoped that this research will provide a platform for a wider discussion on the validity of the methods currently used to assess the communication skills of junior surgeons and that this, in turn, will have an impact on patient care.

What information will be collected and why is the collection of this information relevant for achieving the research objectives?

Audio recordings, video recordings, transcripts of the audio recordings, written consent forms, and contact details (for the purpose of this research only) will be collected.

The audio and video recordings of the interviews will be saved and stored as encrypted and password-protected files on Nexus 365 OneDrive (the researcher's University of Oxford account). They will be accessible to the researcher and the researcher's supervisor only. They will be stored for at least three years after final submission of the dissertation.

The consent forms, any 'opt-out' forms and contact details will be stored as encrypted and password-protected files on Nexus 365 OneDrive (the researcher's University of Oxford account) for the sole purpose of this research. They will be accessible to the researcher and the researcher's supervisor only. They will be stored for at least three years after final submission of the dissertation.

Any personal data will be destroyed to comply with the UK General Data Protection Regulation and the Data Protection Act; it will be deleted from the Nexus 365 OneDrive on which it is stored at the end the required storage period.

Will the research be published? Could I be identified from any publications or other research outputs?

The findings from the research will be written up in a dissertation as part of a Master of Science (MSc) degree. The findings might also be included in academic publications and conference presentations. The information you provide will be de-identified to ensure that participant confidentiality is maintained. You will not be identifiable from the data.

I would like your permission to use direct quotations, but without identifying you, in any research outputs.

A copy of my dissertation will be deposited both in print and online in the Oxford University Research Archive where it will be publicly available to facilitate its use in future research.

Data Protection

The University of Oxford is the data controller with respect to your personal data, and as such will determine how your personal data is used in the study. The University will process your personal data for the purpose of the research outlined above. Research is a task that is performed in the public interest. Further information about your rights with respect to your personal data is available at https://compliance.admin.ox.ac.uk/individual-rights.

Who has reviewed this study?

This study has received ethics approval from a subcommittee of the University of Oxford Central University Research Ethics Committee (reference: CIA-22-086).

Who do I contact if I have a concern about the research or I wish to complain?

If you have a concern about any aspect of this study, please contact Rebecca Williams (rebecca.williams2@lmh.ox.ac.uk) or Dr Michelle Meadows (michelle.meadows@education.ox.ac.uk), and we will do our best to answer your query. We will acknowledge your concern within 10 working days and give you an indication of how it will be dealt with. If you remain unhappy or wish to make a formal complaint, please contact the Chair of the Research Ethics Committee at the University of Oxford who will seek to resolve the matter as soon as possible:

The Chair, Social Sciences & Humanities Interdivisional Research Ethics Committee;
Email: ethics@socsci.ox.ac.uk; Address: Research Services, University of Oxford, Boundary Brook House, Churchill Drive, Headington, Oxford OX3 7GB

Further Information and Contact Details

If you would like to discuss the research with someone beforehand (or if you have questions afterwards), please contact:

Dr Rebecca Williams
Department of Education
University of Oxford

15 Norham Gardens
Oxford
OX2 6PY
United Kingdom

rebecca.williams2@lmh.ox.ac.uk

Appendix L

Written Consent Form for Consultant Surgeons and Senior Surgical Registrars

Consent to take part in 'The Assessment of Surgeon-Patient Communication: An Examination of Validity'

Central University Research Ethics Committee (CUREC) Approval Reference: CIA-22-086

Purpose of Study:

The aim of this study is to

- investigate the validity of the way in which junior surgeons' communication skills are assessed.
- discuss valid methods (or models) of assessing junior surgeons' communication skills.
- lay the foundations for further research that can lead to the creation of more valid methods/models of assessing the communication skills of junior doctors.

	Please initial each box if you agree with the statement
I confirm that I have read and understand the information sheet for the above research. 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 point until 01/08/22, without giving any reason.	☐
I understand who will have access to personal data provided, how the data will be stored and what will happen to the data at the end of the project.	☐
I understand that I will not be identifiable from any publications or conference presentations that might result from this research.	☐

I consent to being audio recorded. ☐

I consent to being video recorded. ☐

I understand how audio recordings and videos will be used in research outputs. ☐

Use of quotations: Please indicate your preference (select *one* option):

a) I do not wish to be quoted. ☐

or

b) I agree to the use of quotations in research outputs if I am not identifiable. ☐

I give permission for you to contact me again to clarify information. ☐

I understand how to raise a concern or make a complaint. ☐

I agree to take part. ☐

Optional: I agree that my personal contact details can be retained in a secure database so that the researchers can contact me about future studies. ☐

_____ dd / mm / yyyy _____

Name of participant Date Signature

_____ dd / mm / yyyy

_____

Name of person taking consent	Date	Signature