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Clinicians: enabled by empathy?

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University of Wollongong

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Clinicians: Enabled by Empathy?

A thesis submitted in partial fulfilment of the requirements for the award of the degree

Doctor of Psychology (Clinical)

at the

University of Wollongong

Jessica Ogle

B. Psych (Hons)

School of Psychology

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Declaration

I, Jessica Ogle, declare that this thesis, submitted in partial fulfilment of the requirements for the award of Doctor of Psychology (Clinical), in the School of Psychology, University of Wollongong, is wholly my own work unless otherwise referenced or acknowledged. The document has not been submitted for qualifications at any other academic institution.

Jessica Ogle

10 December 2012
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I can no other answer make, but, thanks, and thanks
- William Shakespeare

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Abstract

When training clinically competent doctors, most medical schools focus upon components of the interpersonal process between doctor and patient, such as empathy in the doctor-patient relationship. Although empathy is generally seen as a desirable attribute for medical professionals, it has usually been assessed through self-report measures, which fail to capture the expression of empathy in the context of the clinical setting. This thesis sought to examine the relationship between clinician clinical competence and empathy in medical care. The participant sample was drawn from training doctors (medical students) due to the potential to influence this group at an early stage in their professional education and career.

Study 1 began this endeavour by investigating the feasibility and interrater reliability of assessing empathy through observer-ratings, using videotaped simulated patient encounters in the context of an Objective Structured Clinical Examination (OCSE). This method of assessment was found to be feasible and to have high interrater reliability, providing a valuable method for examining empathy in the context of patient care.

Study 2 investigated the relationship between empathy and clinical competence among medical students. The results suggested that a doctor-patient relationship fostered by empathy may complement the skills and knowledge required to effectively care for a patient. Strategies that enhance the behavioural expression of empathy may make medical students seem more clinically competent to both examiners and to patients. However, there was also evidence that the medical students’ internal attitudes and emotions were discrepant with their behaviour.

Study 3 expanded on this research by exploring the discrepancies between self- and observer-ratings of empathy. It focused specifically on whether medical students who demonstrated discrepancies in self- and observer-ratings of empathy differ from those who did not demonstrate discrepancies, with regards to personality, attachment, and clinical competence. Results suggested that students differ with regards to extraversion, openness, and total competence. It was proposed that a deficit in metacognitive abilities, in addition to lower clinical competence, affects medical student’s abilities to provide accurate self-assessments.
There are criticisms that OSCE consultations lack authenticity of real clinical relationships and that expectations are focused upon other agendas when the context is dominated by assessment. Additionally, there are arguments that the OSCE is not an optimal way of assessing a meaningful relationship in which empathy plays a real role. In the minority of circumstances, this may be the case, given it is possible that some medical students may learn that it pays to adopt the view that “if you cannot feel it, fake it”. However, while OSCE simulations may have a high degree of artificiality, they do enable assessment of performance of clinical skills in which the conceptual approach to the health problem, and the quality of the relationship established have to be integrated. This thesis addressed previous limitations in the assessment of empathy in medicine. The combined results of the three empirical chapters contribute to the underlying theory of empathy and suggest that empathy may be a pivotal component of clinical competence.
Publications and Presentations

The following publications and presentations have been produced as a result of the research conducted for this thesis.

Manuscripts under Review


Conference Presentations


the national conference of the Australian and New Zealand Association for Health Professional Educators, Rotorua, New Zealand.

**Ogle, J., Bushnell, J., & Caputi, P (2012, August).** *Empathy in medical care.* Paper to be presented at the international conference of the Association for Medical Education in Europe, Lyon, France.
### List of Acronyms and Abbreviations

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<td>AMC</td>
<td>Australian Medical Council</td>
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<tr>
<td>ANOVA</td>
<td>Analysis of Variance</td>
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<td>BFI</td>
<td>Big Five Inventory</td>
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<td>CTT</td>
<td>Classical Test Theory</td>
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<tr>
<td>ECR</td>
<td>Experiences in Close Relationships Scale</td>
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<tr>
<td>GSM</td>
<td>Graduate School of Medicine</td>
</tr>
<tr>
<td>JSPE-S</td>
<td>Jefferson Scale of Physician Empathy – Student Version</td>
</tr>
<tr>
<td>OSCE</td>
<td>Objective Structured Clinical Examination</td>
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<td>REM</td>
<td>Rating Scales for the Assessment of Empathic Communication in Medical Interviews</td>
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CHAPTER 1

Introduction

1.1 An Overview of Empathy

1.1.1 Origin and History of the Term Empathy

The term empathy was first coined by Titchener in 1909 as an English translation of the German word *Einfühlung*, meaning "feeling into" (Vischer, 1873 cited in Neumann, Bensing, Mercer, Ernstmann, Ommen, & Pfaff, 2009). The word *Einfühlung* had its origins in philosophic aesthetics and was originally used to address an observer's feelings elicited by works of art and nature and rather than to describe an interpersonal attribute (Wispe, 1986). For example, to truly appreciate a work of art, one should attempt to imaginatively place themselves in the context of the work. In this sense, the word was used to illustrate the projection of human feelings onto the natural world and inanimate objects (Pigman, 1995).

Conceptually, the notion of empathy grew out of work which systematically organised the concept of Einfühlung for psychology (Lipps, 1903 cited in Wispe, 1986). This view argued for empathy as a concept central for the philosophical and psychological analysis of our aesthetic experience. Einfühlung was seen as a phenomenon through which people knew and responded to one another. It was argued to be preceded by projection and imitation, and that as imitation of feeling increases, Einfühlung increases. It was this conception of empathy that was held in mind in Titchener's (1909) translation of Einfühlung to empathy.

In the translation of Einfühlung to empathy, emphasis was placed on a perceptive awareness of another person's affect and the sharing of feelings (Titchener, 1924). Empathy was viewed from a reactive-projective perspective, a process of humanising objects and feeling into them. Theories of empathy were originally derived from this view of empathy until the introduction to empathy of a cognitive component - the ability to understand (Mead, 1934). The cognitive perspective recognised the self-other differentiation in empathy and described the capacity of an individual to take on the role of other as a means of understanding how other views the world. This shifted the focus from "feeling into" the experience of other to cognitively understanding it.
In the course of psychotherapy's history, empathy became an extremely important concept in understanding why and how therapy works. The significance of empathy in the clinician-patient relationship and as a facilitator of diagnostic outcomes was first described by Southard in 1918. Since that time, psychoanalysts have regarded empathy as a critical component of psychoanalytic cure (Kohut, 1977 cited in Duan & Hill, 1996) and humanistic theorists have considered empathy as a necessary and sufficient climate for psychological change (Rogers, 1959). Thereafter, empathy found new life in diverse applications of psychology, including pro-social behaviour and altruism, social psychology, child development, as well as clinical psychiatry and clinical psychology (e.g., Batson & Coke, 1981; Davis, 1994; Hoffman, 1977; Ickes, 1997). Such a broad interest in empathy across various disciplines may have contributed to the scope of disagreement among theorists, researchers and clinicians as to an appropriate definition and description of empathy, as well as to the multitude of theoretical positions.

1.1.2 Definitions, Descriptions, and Features

"The word empathy sometimes means one thing, sometimes means another, until now it does not mean anything"

- Reik, 1948 (p. 357)

More than sixty years later, Reik’s words still ring true. There is little consensus in the literature on the definition and specific features of empathy. Arguments have been put forth for empathy as either a personality trait (known as dispositional empathy; e.g., Hogan, 1969) or a state (e.g., Dymond, 1949). It has been described as cognitive (e.g., Dymond), affective (e.g., Batson & Coke, 1981), or a combination of both (e.g., Davis, 1994). Rather than presenting an exhaustive catalogue of definitions and descriptions of empathy, this thesis will selectively focus upon those definitions that provide a framework for conceptualising empathy in the context of patient care (which will be outlined in Section 1.2).

Perhaps the most well known view of empathy is the metaphor of putting oneself into the shoes of another (Berger, 1987). This view is largely built on the often-cited definition of empathy as an "ability to perceive the internal frame of reference of another with accuracy as if one were the other person but without ever losing the ‘as if’ condition" (Rogers, 1959, p. 210). Empathy has been described as entering into the
private perceptual world of another individual and becoming familiar with it (Rogers, 1975). Likewise, some early psychoanalytic theorists defined empathy as seeing ‘as if’ from within the individual who is being observed (Schroeder, 1925). Empathy has also been described as the capturing of another individual’s internal affective state without actually experiencing that individual’s feelings; and as being able to feel another’s experiences and feelings as if they were one’s own (Clark, 1980; Hogan, 1969). These views emphasise an ‘as if’ or ‘without joining’ feature of empathy. This ‘as if’ quality is crucial in clinician-patient interactions as it allows the clinician to responsibly engage in an exploration with the patients’ experiences without becoming enveloped or overwhelmed with the patients’ emotions.

Empathy has also been defined as an element of emotional intelligence. Emotional intelligence is an ability to understand one’s feelings, to recognise and understand the feelings of others, and to express one’s emotions appropriately and effectively (Goleman, 1995). Empathy overlaps with the interpersonal domain (perceiving other’s emotions) and covers the ability to be aware of and understand another person’s emotions and experiences, and to communicate that awareness to others. As can be seen from the range of different frameworks above, over many decades of use, empathy has generally been described as a concept that in contemporary language, involves either a cognitive or an emotional domain, or a combination of both.

**Cognitive and Emotional Empathy**

The cognitive view of empathy places emphasis on understanding another person’s inner experiences and an ability to view the world from the other person’s perspective. Perspective taking and role taking are cognitive activities which feature heavily in cognitive perspectives of empathy (Dymond, 1949). The cognitive view of empathy, therefore, places emphasis on understanding and insight rather than on emotional involvement. This can be distinguished from the emotional view of empathy, which focuses on the emotional response, especially the generation of similar feelings and sharing emotions between people. Empathy has been defined from the emotional perspective as experiencing the emotional state of another individual (Rushton, 1981), and as an emotional response elicited by and congruent with another individual’s emotional state (Eisenberg, 1989).
Numerous researchers, however, argue empathy to involve both emotion and cognition (Baron-Cohen & Wheelwright, 2004; Davis, 1994). A definition of empathy which unites the cognitive and emotional views may therefore be “a set of constructs having to do with the responses of one individual to the experiences of another. These constructs specifically include the process taking place within the observer and the affective and non-affective outcomes which results from those processes” (Davis, 1994, p. 12). It may be considered impossible to treat emotion and cognition as two completely independent entities because one cannot wholly exist without the other (Hojat, 2007). However, it has been argued for practical reasons, the distinction between the two is important, to prevent confusion between the concepts of understanding and feeling and, therefore, between empathy and sympathy (Hojat, 2007).

1.1.3 Empathy and Sympathy

The distinction between cognition and emotion provides a framework for differentiating between empathy and sympathy. A fundamental aspect of empathy is the ability to understand the other person and their experiences like self, while sustaining a clear separation between self and other (Decety & Jackson, 2004). This suggests that a key feature of empathy, that differentiates it from the emotional processing that occurs in sympathy, is the dominance of cognitive information processing (Brock & Salinsky, 1993). It has been suggested that the two concepts have different aims and behavioural motivations. The aim of empathy is to know another’s concerns and experiences better, whereas the aim of sympathy is to feel another’s emotions better (Hojat, 2007). Empathy may, therefore, facilitate helping behaviour aimed to reduce another person’s distress. Given that the sympathetic sharing of emotions leads to physiological arousal and the experience of adverse emotions, the helping behaviour of sympathy may involve attempts to reduce one’s own feelings of distress or alternatively to feel entitled to receive compensation for “sharing the pain”. (Coke, Batson, & McDavis, 1978). These distinctions between cognition and emotion, understanding and feeling, and empathy and sympathy have significant implications for the conceptualisation and measurement of empathy in patient care.

1.1.4 Empathy as Related to Sex Differences and Personal Qualities

An individual may possess more or less empathy than another, depending upon developmental, social and other endogenous and exogenous factors.
Sex differences

Differences in personal qualities between men and women have long been debated. It has been argued that women are more perceptive to emotions than men, encompassing qualities that can play a role in better understanding, and hence to greater empathic relationships (Buss & Schmitt, 1993; Trivers, 1972). Studies indicate that women are more skilful than men at initiating empathic relationships (e.g., Eagly, 1995). Caring qualities (e.g., caring, friendliness, social sensitivity, and so forth), intrinsic to women, have been generalised towards other settings and targets, such as patients. Findings with regards to sex differences in empathy in medical professionals tend to favour females. Female general practitioners spend more time with their patients, have fewer patients, and render more preventive and patient-oriented care (Roter, Hall, & Aoki, 2002). Additionally, in the majority of studies, female medical clinicians tended to rate themselves as more empathic than their male counterparts (Barnsley, Williams, Cockerill, & Tanner, 1999; Berg, Majdan, Berg, Veloski, & Hojat, 2011; Hojat et al., 2002; Hojat et al., 2005). In an early study, however, no sex differences were found among medical students (Kupfer, Drew, Curtis, & Rubinstein, 1978), suggesting that these results may not be consistent over time or differing cultures.

Attachment

There is theoretical and empirical support for the relationship between attachment and empathy (Bowlby, 1982). The quality of early relationships with parents is a significant factor in the development of capability for interpersonal relationships, and one which is influenced largely by developmental factors. Attachment theorists posit that people’s internal working models of past and present relationships guide their behaviour in attachment related situations. Because the ability to provide a secure base for others is at least moderately dependent on the ability to recognise the needs of others, individuals with secure attachments are more likely to be empathic than those individuals with insecure attachments (Britton & Fuendeling, 2005). In regards to a medical setting, those medical students who were highly satisfied with their childhood relationships with their mother obtained significantly higher empathy scores than those who did not (Hojat et al., 2005).
Of the many personal qualities which may be related to a competent clinician, one quality which may be particularly relevant is empathy. Another set of factors, which may contribute to overall success as a clinician, is specific type of personality style. Over the past two decades, general consensus among researchers and practitioners has emerged that, at the highest level, individual trait differences can be summarised by five broad factors: openness, conscientiousness, extraversion, agreeableness, and neuroticism (McCrae, 2009). This does not mean that personality differences are reduced to only five traits, but rather, these five dimensions characterise people's personality at the broadest conceptual level (Goldberg, 1981). The way people behave in interpersonal relationships and interactions may be determined by their individual characteristics, and this may be especially true when it comes to expressing empathy. However, when it comes to the literature exploring the relationship between personality and empathy, the research is limited.

A number of personality traits may promote or hamper interpersonal relationships. Agreeableness is a trait strongly implicated in the prediction of prosocial and aggressive behaviours (Graziano & Eisenberg, 1997) and is primarily a dimension of interpersonal behaviour. Conscientiousness, as a personality trait, correlates negatively with Eysenck's dimension of psychoticism (which is defined by a lack of empathy; Aluja, García, & García, 2002), and inhibits aggressive behaviours (John, Caspi, Robins, Moffitt, & Stouthamer-Loeber, 1994). Low neuroticism is related to prosocial behaviours and concern for others (Shiner & Caspi, 2003). Consequently, significant correlations between empathy scores and personality measures of human relationships can be expected. In a study of medical students, empathy was positively associated with sociability, and negatively associated with aggression-hostility (Hojat et al., 2005). There has been some evidence that components of dispositional empathy (which is defined as a relatively stable trait) are related the five-factor structure of personality (Mooradian, Davis, & Matzler, 2011).

1.1.5 Theoretical Perspectives

The theoretical exploration of empathy has pursued two different paths and appears to suffer from a lack of distinction between function and motivation. This situation is due to the contrasting emphasis of biologists and psychologists, with the former focusing on
what a particular behaviour is good for, and the latter looking at how that behaviour came about. Therefore, the first path has addressed the evolutionary and biological function or purpose of empathy, essentially the question *why* we empathise. The second path has examined the development and expression of empathy in psychological and behavioural terms and yields various mechanisms of *how* we empathise.

**Evolutionary and Biological Perspectives**

Evolutionary theory postulates that in the history of our species, a struggle for existence has resulted in the survival of those best fitted to their environment (Darwin, 1965). During a long evolutionary history, emotions and their expressions and social cognition evolved for their adaptive advantages in dealing with the fundamental task of survival (Ekman, 1992). A number of authors have argued the existence of a common evolutionary root in the channels of empathic communication (Allport, 1924; Elkman, 1992; Jung, 1964), as the capacity for empathy may be considered to improve fitness for survival (Brothers, 1989). For example, to distinguish enemies from friends and danger from safety, human beings developed the capacity to read emotions from non-verbal clues, such as facial expression, bodily movement, tone of voice and so forth. Those individuals with a higher capacity for understanding other people's state of mind could escape danger more easily than those who lacked this skill. Human beings also developed skills to conceal emotions and intentions from predators, such as manipulation and deception. Therefore, those individuals who had highly developed empathy skills (i.e., were sensitive in detecting social clues and good at concealing their own), were more fit for survival (Humphrey, 1983).

Survival of the fittest is often viewed as a function to support survival of the individual and is driven by the "selfish gene" which determines whether to fight, flee or protect (Dawkins, 1999). Altruistic behaviour, such as empathy, is therefore puzzling to those who believe the purpose of the struggle for existence is preservation of an individual's own genes (Hojat, 2007). It has been proposed, however, that human beings are not exclusively programmed to preserve their own individual genes, but are also programmed to altruistically protect the survival of others who share similar characteristics; that is, support survival of the species (Buck & Ginsburg, 1997; Hamilton 1964; de Quervain et al., 2004).
Behaviours, social interactions, and cognitive and emotional processes are derived from neurophysiological operations of the brain (Kandel, 1998). Different areas of the brain have been implicated in studies on the neuroanatomy of empathy. Converging evidence from neuroimaging and lesions studies supports a model of two separate systems for empathy: an emotional system and a cognitive system (Shamay-Tsoory, 2011). Emotional aspects of empathy have been hypothesised to be linked with the orbitofrontal areas of the brain, while cognitive aspects of empathy, such as perspective-taking and role-taking skills, are linked to functions of the frontal lobe (Eslinger, 1998). In particular, the right frontal lobe has been implicated in the capacity to understand the mental state of others (Stuss, 2001). The ability to recognise expressed emotion via facial expression is impaired in those individuals with right hemisphere damage (Kolb & Taylor, 1981).

Other biological perspectives have considered empathy to be a genetically determined attribute that is enhanced or inhibited by different life experiences (Mumford, 1967 cited in Hojat, 2007). Results of 'twin studies' suggest empathy is more highly correlated in monozygotic twins than in dizygotic twins (Matthews, Batson, Horn, & Rosenman, 1981; Scourfield, Martin, Lewis, & McGuffin, 1999; Zahn-Waxler, Robinson, & Emde, 1992).

*Developmental, Social and Clinical Psychology Perspectives*

Despite the evidence suggesting empathy is rooted in evolution and biology, the expression of empathy is dependent on environmental factors. Empathy is nurtured in the early rearing environment, specifically in relation to the quality of early attachment relationships (Henderson, 1974). Additionally, the family environment early in life plays a vital role in developing the ability to empathise (Fonagy, 2001). Development of empathy occurs in a rearing environment characterised by parental warmth and responsiveness, satisfaction of the child's emotional needs, and opportunities for the child to observe and experience warm interpersonal responses in diverse situations (Barnett, 1987 cited in Hojat, 2007). Children with a strong capacity for empathy tend to have parents who are verbally explicit about their feelings, offer emotional support, and who are generally tolerant (Mehrabian, Young, & Sato, 1988).

The dynamics and consequences of repeated interactions between mother and child have been extensively described in attachment theory (Bowlby, 1973, 1980, 1982). This
theory was conceived as a general theory of psychosocial development, and was viewed as a framework for later interpersonal and social relationships. Attachment theory postulates that a loving and responsive mother serves as a secure base that allows the child to explore the world safely. This can be distinguished from an insecure attachment which is the result of a physically or emotionally unavailable mother (Bowlby, 1988). Therefore, a necessary condition for the growth of empathy is a secure attachment style (Mussen & Eisenberg-Berg, 1977 cited in Hojat, 2007). The type of attachment developed in early childhood is likely to endure throughout life and, therefore, has broad implications for developmental, social and clinical psychology (Ainsworth, 1985).

Human facial expressions provide clues about an individual's mental state. From an early age, infants pay attention to, and mimic facial expressions (Meltzoff & Moore, 1997). The unconscious, automatic imitation of another person's facial expression (facial mimicry) and bodily gestures (motor mimicry) generates an automatic and corresponding response in the observer, that leads to better understanding of experiences to those experienced by the observed individual (Basch, 1983). This phenomenon has been observed across the lifespan and is an important facet of empathy, fostering similarity in behaviour, cognition, and feeling (van Baaren, Decety, Dijksterhuis, van der Leij, & van Leewen, 2009).

As a part of cognitive-emotional development, infants learn to internally represent the mental states of others (Fonagy & Target, 1996). This ability is known as theory of mind and is akin to the “perspective-taking” component of cognitive empathy. As children enter preschool they are generally capable of taking another's perspectives, and throughout development there are significant gains in the area of cognitive empathy (Wellman, Cross, & Watson, 2001). As discussed in Section 1.1.2, the ability to understand others' perspectives is integral for effectively identifying with another's experience. Theory of mind helps transform the early development of perspective taking, to another focused experience by more fully attaching one's empathic understanding to a conceptualisation of the other person's experience.

Summary

The evolutionary roots of social behaviour, research findings on the neuroanatomy of empathy, and the results of heritability research suggest the foundation of empathic function is hardwired. However, the expression of empathy also appears dependent on
developmental factors, such as the family environment. Additionally, the motivation for prosocial behaviour and empathic relationships are the outcome of social-emotional exchanges, developed in early childhood.

1.2 Empathy in Medical Care

"Illness cannot be understood without understanding the patient, and healing begins, not when medicine is administered, but how it is administered"

Hojat, 2007 (p. 120)

1.2.1 Key Features of Empathy in Medical Care

Theories of empathy provide a framework for the definition and conceptualisation of empathy in the context of a clinical setting. Researchers proposed the following definition of empathy in the context of medical care: "Empathy is a predominately cognitive (rather than an emotional) attribute that involves an understanding (rather than feeling) of experiences, concerns, and perspectives of the patient, combined with a capacity to communicate this understanding" (Hojat, 2007, p.80) This definition emphasises three specific features of empathy: cognition, understanding, and communication, which will each be elaborated on.

Cognition

As discussed in Section 1.1, there has been ongoing debate regarding the nature of empathy as either cognitive, affective, or a combination of both. The position that empathy in the context of patient care is predominately cognitive is based on literature concerning cognitive information processing. Empathy emerges as a result of mental activities, such as reasoning and appraisal, which are considered the basis of clinical judgement (Hojat, 2007). Additionally, experienced therapists tend to respond to patient's distress with cognitive, rather than emotional feedback (Tausch, 1988).

In the context of medical care, the distinction between cognition and emotion is important because of the different implications regarding patient outcomes (Hojat, 2007). It may be beneficial for clinicians to only experience their patient’s feelings to the extent necessary to improve their understanding of their patients, without hindering
their judgment (Starcevic & Piontek, 1997). The notion of clinicians maintaining an emotional distance from their patients is not a challenge to the popular view of patient-centred medicine, but rather is used to describe the boundaries of emotional engagement in the context of patient care, in addition to preventing the use of sympathy rather than empathy (Blumgart, 1964; Halpern, 2001; Jensen, 1994; Lief, Lief, & Lief, 1963). An emotional distance (or 'as if' quality) may help the doctor avoid emotional over-involvement which can endanger doctor judgment, but may also to maintain the doctor's personal stability (Jensen, 1994).

**Understanding**

Understanding another individual’s feelings and behaviours is a key feature of empathy in the context of patient care (Levinson, 1994). Understanding the patient’s physical, mental, and social world is important because it fulfils a basic human need (Hojat, 2007). The inclusion of understanding in the conceptualisation of empathy in medical and patient care is based on definitions of empathy which emphasise stepping into the patient's shoes, that is, engaging in perspective taking, rather than "feeling into" the patient's internal world. It is important for clinicians to understand the patient and to possess the ability to view the world through the patient’s eyes without losing sight of one’s own personal and clinical role and responsibilities.

Empathy is a dynamic process in which the clinician attempts to reach an increasingly accurate understanding of the patient's perspective, concerns, and experiences. This ability is referred to accurate empathy, and involves the clinician’s sensitivity to the patient’s current feelings, and the verbal ability to communicate this empathic understanding to the patient, in a language attenuated to their sense of feelings (Truax, 1961). A clinician demonstrating a high level of accurate empathy communicates a deeper level of attunement to the patient’s concerns and experiences, in addition to conveying the message "I am with you".

**Communication**

Not only does empathy in patient care depend on the clinician’s ability to accurately understand his or her patient, but it rests on the clinician’s ability to communicate this understanding back to the patient. Even if clinicians understand their patient’s perspective, it is likely they will not be perceived as empathic by their patient if they are
unable to demonstrate or communicate that they have understood (Bylund & Makoul, 2005). There are many opportunities in clinical interactions to express empathic understanding (Morse, Edwardsen, & Gordon, 2008). Ways in which the clinician may communicate this understanding is through validation, self-disclosure, rephrasing, metaphors, and/or the expression of empathic understanding. The communication of empathic understanding supports the patient and is anticipated to be implicated in the clinical competence of the clinician.

1.2.2 Measurement

Empathy can be measured from three different perspectives in patient care: self, patient, and observer (Hemmerdinger, Stoddart, & Lilford, 2007). Although empathy is generally seen as a desirable attribute for clinicians to display in the context of the clinical setting, it has usually been assessed in research through self report measures (Pedersen, 2009). This method has the advantage of administrative convenience, and does focus upon the subjective view of the clinician about the extent to which they are empathic, but fails to capture demonstration of empathic skills in the clinical encounter. Chapter 2 will explore the feasibility and reliability of assessing empathy through observer-ratings using videotaped simulated patient encounters. Using videotaped simulated patient encounters enables assessment of empathy in a range of clinical contexts and, therefore, allows clinicians to demonstrate, rather than describe via self-report, how they interact with patients. Furthermore, the use of videotaped consultations provides the chance for a more thorough assessment of empathy by an observer viewing the interaction without time restraint and less subject to the “halo” bias in which an examiner’s rating of empathy may be influenced by the clinician’s clinical competence.

1.2.3 The Need for Human Connection in Illness

The human tendency to seek connections has an evolutionary root and a survival advantage (Hojat, 2007). As outlined in Section 1.1.5, our survival depends on the capacity to understand social clues and skills to communicate our understanding. Human connections are, therefore, reinforced by empathic engagement. Among the factors that fulfil the human need for connectedness are social institutions, such as family, marriage, and the social support network - including clinician-patient empathic relationships (Hojat, 2007). In epidemiological research, the relationship between social
connection and health outcome is fairly well established (Glynn, Christenfeld, & Gerrin, 1999). Making social connections serves to promote physical, mental, and social well-being, whereas breaking social connections impacts adversely on well-being (Glynn, Christenfeld, & Gerrin, 1999). A social support system generally provides the following three resources (Cohen, 2004): (1) instrumental - the provision of material aids; (2) emotional - the expression of empathy, caring and reassurance; and (3) informational - the offering of relevant information to help the individual make informed choices and cope with the difficulties. The clinician-patient relationship, therefore, may be viewed as a special kind of social support system to provide these resources (Goubert et al., 2005).

During illness there can be feelings of isolation and distress, and it is natural for humans to seek out connection and affiliation during these times (Taylor, Klein, Gruenwald, Gurung, & Fernandes-Taylor, 2003). Therefore, the presence of an empathic clinician in times of illness and suffering provides the patient with social support, and may help the patient feel like they are not alone in their distress. It has been shown that a clinical encounter has a potential healing power and that the benefit of the clinician, as a support system for increased well-being and health outcomes, is underpinned by an empathic interpersonal connection between clinician and patient (Novack, 1987; Spiro, 1986 cited in Hojat, 2007).

1.3 Clinical Competence

Whilst patients generally want their doctor to be empathic, they do not want this to be at the expense of clinical competence, which is considered the most necessary quality (Colliver, Willis, Robbs, Cohen, & Swartz, 1998). It is generally agreed competence is more than just the possession of attitudes, knowledge, and skills. It involves the application of these to the clinical environment to achieve optimal patient outcomes (Cate, Snell, & Carraccio, 2010).

As in other parts of the world, Australian medical schools aim to produce graduates with commitment for lifelong learning and the attributes that form a solid foundation on which to build a professional and clinically competent career. The Australian Medical Council (AMC), in their development of a framework for competence-based education, defined and explored the relationship between competence and competency (AMC
Competence-Based Medical Education Working Group, 2010). Specifically, the AMC differentiated between codified knowledge (knowledge that is transmittable in formal, symbolic language - also known as explicit knowledge; Edmonson, Winslow, Bohmer, & Pisano, 2003) and tacit knowledge (knowledge that is rooted in action and often acquired through experience, Polanyi, 1966). The AMC stated that competency begins at the level of codified knowledge, skills, and values, however, the development of tacit knowledge, skills, and values contributes to the development of competence. In this regard, overall competence is composed of both codified and tacit knowledge.

A popular framework for the assessment of clinical skills was earlier described by Miller (1990). Like the subsequent work of the AMC in Australia, it considers the relationship between competence and performance. Depicted as a pyramid (see Figure 1.1), Miller’s framework describes four layers of competence. Working upward from the base, the student first knows something and then knows how to apply that information. When moving from knows to knows how, the student demonstrates codified knowledge acquisition, and an understanding of using that information. Next the student shows how they apply the knowledge, and finally, at the apex, the student does the acquired skills in the clinical environment with patients. This does or action component of the pyramid is difficult to measure accurately and reliably, and is has, therefore, been assumed that the shows how and does levels of the pyramid imply attainment of basic elements of clinical skills and competence (Miller, 1990).

![Miller's Pyramid of Assessment for Clinical Competence](image.png)
Miller's framework differentiates between competence (lower levels of the pyramid) and performance (higher levels of the pyramid). Once the student demonstrates the application of codified knowledge in diverse and complex situations, performance is observable and tacit knowledge is enhanced. However, performance is not only driven by competence (composed of codified and tacit knowledge), but is also impacted by individual characteristics and factors of the clinician and environmental influences. The AMC framework of competency, competence, and performance (see Figure 1.2; AMC Competence-Based Medical Education Working Group, 2010) emphasises the concepts described above.

![AMC Conceptual Framework for Competence-Based Medical Education](image)

**Figure 1.2** AMC Conceptual Framework for Competence-Based Medical Education

The implication of the AMC framework for student assessment is that overall assessment and performance should be assessed within the context of clinical practice, rather than at the level of competencies (i.e., lower levels of Miller’s pyramid). The Objective Structured Clinical Examination (OSCE) was developed to assess the complex notion of clinical competence (Harden, Stevenson, Downie, & Wilson, 1975).
During an OSCE, medical students enter a simulated clinical encounter (known as a 'station') and demonstrate their clinical skills on a standardised patient (SP), with the aim to show competence in a particular skill or management of the patient. Stations may include history taking, test interpretation, patient education, risk assessment, physical examination, or other clinical tasks. OSCEs are established as a regular method of student assessment (Turner & Dankoski, 2008), and are described in more detail in Chapter 2 of this thesis.

1.4 A Theoretical Framework

The theoretical link between empathic clinician-patient engagement and clinical competence is based on three perspectives (Hojat, 2007). First, from a medical perspective, it is assumed that when an empathic relationship is formed between a clinician and patient, patients will be more open regarding their symptoms and concerns, and the result will be reflected in a more accurate medical history and thus a better understanding of the patient as a person. This will often lead to a more precise diagnosis. Second, from a psychological perspective, in an empathic relationship, the patient perceives a clinician as a trustworthy attachment figure. By experiencing a genuine human connection free of anxieties and concerns, patients may view their clinician as a secure base, and explore unknown aspects of their illness and disclose concerns without fear. Third, from a sociological perspective, the patient may view an empathic clinician as a helpful member of a social support system which has positive effects upon on their physical, mental, and social wellbeing.

Evidence to support these perspectives was presented in Sections 1.1.5 and 1.2.3. On the basis of these propositions, it is reasonable to expect that an empathic clinician-patient relationship would lead to clinician clinical competence, however, there is a dearth of empirical evidence to support this direct link in medical care. Until recently, this was largely due to the ambiguity regarding an operational definition of empathy in patient care and lack of a sound measure for empathy specifically for use in the context of the clinical setting.
1.5 Thesis Outline

The primary aims of this thesis were: i) to trial the use of videotaped simulated patient encounters for the assessment of medical student empathy; ii) to examine the role of medical student empathy during clinical interactions across a range of conditions and disorders; and iii) to explore discrepancies between self- and observer-ratings of empathy among medical students. This thesis is, therefore, comprised of a series of studies that build on one another. This thesis is presented in the format of journal articles (Thesis Style 2 under the University of Wollongong Submission Guidelines), with the exception of Chapter 3 – which, in an effort to reduce repetition of aspects of methods common to subsequent chapters, outlines the methods relating to both Chapters 4 and 5. Chapters 2, 4 and 5 have been submitted for publication and have been presented at national and international conferences in psychology and medical education. The publication status of each study is noted within each corresponding chapter. This means that there is inevitably some repetition, especially in the introduction section of the papers, and in order to try and manage this, a brief overarching introductory section has been added.

1.6 Significance of the Thesis

Empathy has long been considered an important attribute of clinicians, particularly in the context of psychotherapy. Despite the abundance of research into empathy in the psychological literature, empirical research into empathy in the context of medical care is difficult to find. While more recently the research into empathy in medical practice has increased, assessment of empathy has tended to rely exclusively on self-report measures (Pedersen, 2009). This thesis investigates the advantages and disadvantages of complementing self-ratings of empathy with an observer perspective of empathy in the context of patient care.

There have been criticisms of assessment of empathy during simulations on the grounds that assessments of clinical competence using simulations are artificial, with so many other foci and agendas that they are not a good context for exploring empathy. The brevity of many examination formats using simulation has also been argued to preclude the experience of real empathy, thus fostering a superficial rendition of rehearsed
“empathic behaviours” for the benefit of the observing examiner (Hanna & Fins, 2006; Wear & Varley, 2008). Such criticism, however, ignores the fact that a very high proportion of the delivery of medical care happens in time periods of less than ten minutes per patient, and students of medicine need to learn to establish effective relationships with their patients within these constraints. Although simulations may have a higher degree of artificiality than some workplace-based assessment formats, they do enable assessment of performance of clinical skills in which the conceptual approach to the health problem, and the quality of the relationship established have to be integrated. Therefore, the reduction of empathy to its behavioural components - the surface, or behavioural manifestations of empathy may be considered just as important, if not more so than a clinician’s internal experience of empathy in the absence of accompanying empathic behaviours.

Conceptually, empathic communication and behaviour should also play a critical role in the effectiveness of the clinical encounter in medical practice. The methods outlined in this thesis allowed an opportunity to examine not only the internal motivations and attitudes of the medical student (which has been predominately researched in medicine), but also the behavioural expression of empathy in the context of medical care and the relationship of such empathy with student clinical competence across a variety of disorders and medical conditions. Investigations into variations of clinical competence among medical students have important implications for medical educators, clinicians, patients and the community. If medical educators are able to nourish those factors which promote empathy in the doctor-patient relationship then the benefits for the clinician may also ultimately extend to the patient and community.
CHAPTER 2

Don't Tell Us, Show Us: Assessing Empathy using Videotaped Simulated Patient Encounters

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2.1 Introduction

In the context of patient care, empathy involves the ability of the clinician to understand the experiences, concerns, and perspectives of the patient, and to communicate this understanding to the patient (Hojat, Gonnella, Erdmann, & Vogel, 2003). This definition emphasises three specific features of empathy: cognition, understanding, and communication. Understanding and appreciating the patient’s experience, concern and perspective leads to an increase in ability to diagnose accurately and provide effective patient care (Schneiderman, 2002). However, even if clinicians understand their patient’s perspective, it is likely they will not be perceived as empathic by their patient (or an observer) if they are unable to demonstrate or communicate that they have understood (Bylund & Makoul, 2005). This aspect of the definition emphasises a behavioural component of empathy that requires clinicians to express empathic understanding at opportune moments during the clinical interaction.

Empathy has been linked to enhanced therapeutic alliance, or clinician-patient relationship (Bertakis, Roter, & Putman, 1991; Livinson & Roter, 1995). The clinician-patient relationship has an important role in the delivery of medical care, associated with greater patient adherence to treatment, satisfaction with the clinician and the health care system, the recall and understanding of medical information, improvement of quality of life and social, physical, and psychological well-being (Bertakis, Roter, & Putman, 1991; Hojat et al., 2002; Kim, Kaplowitz, & Johnston, 2004; Vermeire, Hearnshaw, Van Royen, & Denekens, 2001). Furthermore, greater clinician satisfaction with their relationships with patients may act as a safeguard against professional stress, burnout, substance abuse, and suicide attempts in the clinician (Sullivan, 1990).
It is not surprising then, that patients want their clinicians to be empathic as well as competent (Colliver, Willis, Robbs, Cohen, & Swartz, 1998). Education, development, and assessment of medical student empathy emphasises to students the importance of empathy in the context of patient care. Empathy in medicine can be assessed from three different perspectives: self, patient, and observer (Hemmerdinger, Stoddart, & Lilford, 2007). Self-ratings of empathy are based upon standardised questionnaires. The use of standardised questionnaires can also be completed by patients to assess the empathy they experience from the clinician during a clinical interaction, known as a patient-rating. Finally, the use of standardised measures by an expert observer to rate the empathy in the clinical interaction is known as an observer-rating. An observer-rating can include the use of ‘standardised’ or simulated patient encounters to control for observed differences secondary to differences between patients (Hemmerdinger, Stoddart, & Lilford, 2007).

Quantitative studies of empathy in medicine have often focused exclusively on self-report measures (Pedersen, 2009). Of the self-report measures, a number have been developed to measure empathy in adults. While these instruments may be useful for some applications in the general population, their relevance to the context of patient care is limited. The self-report measures answered by medical students or doctors were predominately outside of the clinical context (Pedersen, 2009). To tap into the essence of empathy in the context of patient care, it is necessary to assess empathy in a situation which resembles a 'real-world' clinical interaction.

This chapter explores the value and practicality of conducting observer-ratings of medical student empathy using videotaped simulated patient encounters recorded during a summative OSCE. The assessment of empathy via videos of simulated patient encounters is an appealing proposition because it addresses the short-comings associated with relying solely on self-ratings of empathy. Furthermore, it introduces a novel extension of the OSCE by enabling another observer of student behaviour to participate, without the time constraints normally present in an OSCE examination. It allows the medical students an opportunity to demonstrate the expression of a desirable attribute of a clinician.

The process of assessing empathy in the context of simulated patient encounters operates at shows how or performance based level of assessment, using Miller’s Pyramid
as a framework for assessing clinical competence (as depicted by Figure 1.1, in Section 1.3; Miller, 1990). This emphasis upon a behavioural component of assessment of empathy in the context of simulation has received criticism (Hanna & Fins, 2006; Wear & Varley, 2008) because of the lack of authenticity of simulated learning activities, and artificial nature of the experience when one is “performing” empathic behaviours and attitudes while being assessed or graded. However, observing empathy during simulated encounters does circumvent the problems associated with self-ratings widely used in empathy research. Corresponding to the lower levels of self-assessed knowledge at the base of Miller's pyramid, self rating of empathy fails to capture what medical students actually do when coming face to face with a patient.

2.2 Assessing Empathy using Videotaped Simulated Patient Encounters

The OSCE was originally developed as a way of obtaining reliable and objective assessment of clinical skills (Harden, Stevenson, Downie, & Wilson, 1975). Since this first description, OSCEs have been widely adopted as a useful component of assessment in medical schools (Van der Vlueten, 1996). The popularity of the OSCE comes from its greater authenticity than written forms of assessment, and use of standardised testing procedures. Medical students enter a simulated clinical encounter (known as a 'station') and demonstrate their clinical skills on a SP, with the aim to show competence in a particular skill or management of the patient. OSCEs are used to assess clinical, technical and practical skills, as well as demonstrating higher-order skills (Newble, 2004). There are many advantages of the OSCE and SPs: they permit the simulation of real life scenarios; they have authenticity by relating closely to the brief consultations through which most medicine is delivered most of the time; they use a controlled and safe setting; stations may be adjusted to meet the learning needs and skill level of the student; the patient interaction and condition is uniform across participants; scenarios that are distressing to real patients can be simulated; and examiners have access to feedback from patients (Norman, Barrows, Gliva, & Woodward, 1985; Sanson-Fisher & Poole, 1980; Wallace, Rao, & Haslam, 2002). Disadvantages have also been noted and include the cost, the artificiality of having to "perform" in front of one or more examiners; training issues in setting up the stations and training examiners in
marking and standard setting; the use of idealised 'textbook' scenarios that may not mimic real life scenarios, and may not assess more complex skills evident, for example, in a real long-term doctor-patient relationship (Hodges, Regehr, Hanson, & McNaughton, 1997; Wallace, Rao, & Haslam, 2002).

In spite of the reservations expressed by some researchers about the role of simulation in promoting learning and assessing it, simulated patient encounters do provide opportunities to assess empathy. Whereas self-ratings treat empathy as a stable “trait”, which is either present or absent, observer-ratings allow scope to consider empathy as a “state”, which manifests itself in different ways across clinical encounters with diverse patients with diverse backgrounds, problems, and personalities (Colliver, Conlee, Verhulst, & Dorsey, 2010). There are arguments suggesting behavioural empathy can be measured effectively by simulated patient encounters (Teherani, Hauer, & O'Sullivan, 2008). Well-constructed simulations can provide a window into medical students’ attunement to the patient and importantly, their ability to acknowledge, address and communicate to the patient that they have accurately understood their experience, perspective and concerns.

Videotaping the simulated patient OSCE encounters provides an additional dimension to this approach. Practically, videotaping the OSCE performance and assessing medical student empathy at a later date means fewer clinical assessors need to be present at the live OSCE station. This approach alleviates pressure not only for clinical assessors, but also the medical students. In addition, viewing videotapes of OSCE performance at a later date means that the clinical assessors can undertake a comprehensive and thorough standardised assessment of empathy that could otherwise not be completed during the live OSCE. This enables raters of empathy to be blind to the live OSCE scores. Raters with no specific knowledge of the medical knowledge, skill or procedure being assessed may be less subject to a “halo” bias than an examiner focused upon simultaneously assessing clinical competence.

In order to explore the feasibility and interrater reliability of this approach, a small trial was conducted, employing two expert observers to view videotapes and rate medical students on their empathy during a number of diverse simulated patient encounters. This trial was conducted to inform planning for a larger scale study assessing the relationship between medical student empathy (both self- and observer-rated) and
clinical competence. The intent of this chapter is to outline the methods of this approach, provide a brief overview of feasibility issues, and discuss the results of a interrater reliability analysis.

2.3 Participants and Methods

2.3.1 Participants

All current Year four students of a regional and rural Graduate School of Medicine (GSM), were informed of, and invited to take part in the study \( (n=77) \). The response rate was 61% \( (n=47; \text{Males } n = 18; \text{Females } n = 29) \). Because medical examiners and SPs were also visible or audible on the video recordings, consent was also sought from these individuals. The response rate of consent for medical examiners was 64% \( (n=34) \) and for SPs was 68% \( (n=30) \).

2.3.2 OSCE

Empathy was assessed in medical students participating in a summative OSCE as part of course assessment. The summative OSCE consisted of 13 SP cases representing commonly encountered problems in general medicine, psychiatry, obstetrics and gynaecology, paediatrics, and surgery, in addition to a station examining the participants’ clinical log. Cases were selected and developed by staff of the GSM. Each case required nine minutes of a simulated patient encounter during which the student consulted with the SP. Students were then graded by medical professionals (examiners) resulting in a total score. This score consisted of a process score (verbal and non-verbal communication, structure of consultation etc.), a content score specific to the OSCE station, and a rating of student performance by the SP.

2.3.3 Videotaping of the OSCE

Digital video cameras were attached to tripods and placed in each room where the simulated consultations took place. Student performance was videotaped with consent from students, examiners and SPs. The recording was done digitally, and was converted to computer files for ease of scoring.
2.3.4 Raters

Two expert raters, who were blind to the live competency scores of the OSCE, were involved in assessing medical student empathy in each videotaped simulated consultation. Rater 1 (registered psychologist and chief investigator of this study), undertaking study in the Doctor of Psychology (Clinical), had three years of clinical experience. Rater 2 (intern clinical psychologist), undertaking study in the Master of Psychology (Clinical), had four years of clinical experience. Given that these raters were clinicians and researchers, they were considered typical of the population of raters who may use this tool.

2.3.5 Assessment of Empathy

The two raters independently assessed participants' level of empathy using the Rating Scales for the Assessment of Empathic Communication in Medical Interviews (REM; Nicolai, Demmel, & Hagen, 2010; see Appendix D). The REM comprises six items related to empathy (subscale $& = .93$; example item “Did the physician try to put him/herself in the position of the patient?”) and three items related to confrontation (subscale $& = .87$; example item “Did the physician ‘preach?’”). Empathy in the REM is defined as the clinician’s cognitive ability to perceive and understand the patient’s perspective and the behavioural ability to communicate this understanding to the patient (Hojat et al., 2002). Since there is evidence that clinicians mingle empathic and confrontational behaviour and that the positive effects of empathy are neutralised when confrontational behaviour is not eliminated, the confrontational factor highlights the aspect of talking down the patient so that the clinician can make his/her own point (Miller, Yahne, Moyers, Martinez, & Pirritano, 2004). Empathy is measured on a seven-point Likert scale - the two endpoints are described in specific behavioural terms, for example, indicating that the physician showed a lot of interest in the patient’s opinion (seven points) or showed no interest in the patient’s opinion (one point). Items assessing confrontation were turned to give all items the same direction. Thus, a higher value indicates greater empathy and less confrontation. Convergent validity has been established and previously described (Nicolai, Demmel, & Hagen, 2010).

While there are a number of observer-rated measures of empathy, the REM was chosen for a number of reasons. Firstly, the REM specifically measures behavioural components of empathy in the context of patient care. Other measures of the doctor-
patient interaction which are based on a coding system, e.g., the Roter Interaction Analysis Scheme (Roter & Larson, 2002) and the Verona Medical Interview Classification System (Del Piccolo, Putnam, Mazzi, & Zimmerman, 2004), although covering behavioural dimensions within medical consultations, do not specifically measure empathy. Additionally, the use of coding systems can be expensive and time consuming (Mead & Bower, 2002). The REM is accessible, easy to use and demonstrated high levels of measurement reliability. The 9 items take approximately 5-10 minutes to complete which is advantageous for time concerns. Furthermore, the REM is based on a cognitive and behavioural definition of empathy which is consistent with the prevailing view of empathy in the context of medical care.

2.3.6 Procedure

The GSM OSCE is run in the format of three rounds (i.e., morning, mid-morning, and afternoon) with two circuits running simultaneously at each round (i.e., circuit A and circuit B). While each of the two circuits utilised the same set of examiners across all three rounds, the SPs were changed at the end of each round (and in some cases, within rounds). As indicated in Section 2.3.1, to be eligible for participation in the study, consent was needed from not only participants (medical students), but also examiners and SPs. Therefore, the number of stations for rating participant empathy, was directly related to which examiners and SPs also consented. The data matrix on the following page shows the available participation across OSCE stations.
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The raters viewed the video recordings of the simulated patient encounters, and evaluated the extent to which the participants displayed specific empathic behaviour as indicated on the REM (Nicolai, Demmel, & Hagen, 2010).
2.4 Data Analysis

As described above, due to the overlap of consent of students, examiners, and SPs, the data sample was not fully crossed. While all participants \( p \) were rated by the same two raters \( r \), they were not rated across all stations \( s \). While samples of data that match the \( p \times r \times s \) fully crossed design could be selected from the participant population, their size would be quite small. Such small sample sizes might not generalise to the larger population or replicate in future research. As a result, the current study used a single-faceted design, i.e., \( p \times r \). In this design, each participant is observed and rated by the same raters. Both generalisability theory (G-theory) and classical test theory (CTT) are powerful psychometric tools for this evaluation. G-theory and CTT have a number of similarities, and G-theory is often viewed as the child of CTT. However, as summarised by Brennan (2011), G-theory has a number of advantages, and is particularly well suited to address reliability. The most frequently reported statistic in generalisability analyses is a reliability-like coefficient known as a generalisability coefficient (or g-coefficient).

2.5 Results

2.5.1 Feasibility

In assessing the feasibility of this approach, financial cost, technological and organizational requirements were considered. As this study made use of an established summative OSCE, a number of organisational and financial issues associated with setting up and implementing a new OSCE were precluded. This study also made use of existing equipment (video recording devices at each station and a computer), which were used for the purpose of enabling additional examiners to rate the student OSCE performance should there be uncertainty or disagreement about the level of student performance. Each rating required approximately 15-20 minutes (9 minutes to view SP consult plus approximately 5-10 minutes to score the REM). Therefore, this study required no more than 50 hours of viewing and rating participant empathy. Costs associated with this study were minimal and included a casual research assistant wage for rater 2.
2.5.2 Interrater Reliability

Assessment of medical student empathy may vary according to the individual observing and rating it, despite using the same rating tool. Using the REM (Nicolai, Demmel, & Hagen, 2010), the participants were independently rated on empathy across 146 instances and various OSCE stations. Two sets of analyses were conducted to determine interrater reliability. Firstly, an intraclass correlation analysis was performed. Total empathy scores were judged to be extremely reliable for the two raters, with a reliability coefficient of 0.90. This result indicates a strong degree of agreement between the two raters on empathy. Secondly, a g-coefficient was derived to investigate the interrater reliability achieved in the scoring of empathy across stations. Coefficients were derived for each station of the summative OSCE, and are presented in Table 2.1. A g-coefficient can be interpreted as an index of the dependability of a particular measurement process. The magnitude of the coefficients indicates strong agreement between the raters on medical student empathy across the five different stations.

<table>
<thead>
<tr>
<th>Medicine (n=18)</th>
<th>Paediatrics (n=36)</th>
<th>Psychiatric (n=34)</th>
<th>Surgery (n=29)</th>
<th>Obstetrics &amp; Gynaecology (n=29)</th>
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</thead>
<tbody>
<tr>
<td>g-coefficient</td>
<td>.794</td>
<td>.942</td>
<td>.969</td>
<td>.944</td>
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</tbody>
</table>

2.5.3 Raters' Subjective Experience

In addition, to interrater reliability analyses, the raters' provided their subjective experience of rating the medical students on empathy using the REM. Both raters found the REM easy to use and felt that the items were appropriate reflections of behaviours consistent with empathy and confrontation. They additionally found that the scoring was relatively quick. Rater 1 found it useful to not only consider empathic and confrontational behaviours, but also to observe missed opportunities for empathy when
scoring the students. Both raters felt that rating the confrontational behaviours was less relevant for this particular population and situation (i.e., students performing in an examination). Overall, the raters had a positive experience using the REM.

2.6 Discussion

Research into empathy has been limited by a focus on self-rated assessments. The results of this study suggest that observer-ratings of empathy in the context of simulated patient encounters are feasible, reliable, and potentially valuable. Based on the research findings, the use of videotaped simulated patient encounters in the assessment of medical student empathy is organisationally and financially feasible. This is mainly due to making use of and building on already available resources. In this case, the summative OSCE and technology and equipment were effectively used to implement the described methods. This meant the only cost associated with these methods was the casual wage for a research assistant. Students were also accustomed to being videotaped during assessment, and so this method was not particularly intrusive. Scoring of the REM took each rater approximately 5-10 minutes, and was easily completed after the viewing of the 9 minute simulated patient encounter.

An additional aim of this study was to assess the interrater reliability using the REM to assess student empathy. The g-coefficients indicate a substantial level of agreement between different raters on the same target and are sufficiently large to suggest that the REM can provide reliable assessment of the construct across raters. It is likely that the limited sample size for the medical station influenced the lower g-coefficient on this station.

Although the feasibility and interrater reliability of this method appear promising, arguably, empathy is more than a set of behaviours; it is also an internal state. Therefore, a limitation of this study is the use of only one method of assessment. That is, observer-ratings fail to take into account the private experience of the clinician. This study, however, is a trial for a larger study which uses multi-modes of assessing empathy. In future studies, the use of self-rated measures in addition to observer-ratings could provide information regarding convergent validity. The method outlined in this paper also provides an opportunity to assess the relationship between medical student
empathy and clinical performance during an OSCE. Given the increasing interest in the relationship between empathy and competence, and the tendency of studies to limit their assessment of empathy to self-ratings, researchers may wish to consider the use of videotaped simulated patient encounters as a means of investigating this relationship.

2.6.1 Conclusion

Assessment of medical student empathy utilising videotaped simulated patient encounters communicates to students and patients the importance of empathy as a critical component of effective patient care. The method described in this chapter has proven to be feasible and reliable. It put a twist on the traditional use of the OSCE, adding value to an existing assessment process for educators, students, patients, and ultimately the community. In order to obtain greater validity, this form of assessment could be complemented with self-ratings or workplace based assessments that focus on the extent to which students establish genuine empathic connections with patients over time in real clinical encounters. This method of assessment is important, because it requires the clinician to demonstrate empathy within the clinical context and face to face with a patient - which is exactly where we want empathy to occur.
CHAPTER 3

Methods

Chapter 2 described a pilot study of the use of videotaped simulated patient encounters for the assessment of empathy in Year 4 medical students. This method of assessment was found to be feasible and reliable, and therefore, appropriate for further application in this thesis. Chapter 3 describes subsequent development and refinement of the methods presented in Chapter 2, using Year 3 medical students, an additional measure of empathy (i.e., a self-report instrument), and further assessments (i.e., self-report measures of personality and attachment). This chapter forms the basis of the study described in Chapters 4 and 5 and was included to eliminate repetition in the methods section of these chapters.

3.1 Participants

All Year 3 students (n=77) of a regional and rural Australian Graduate School of Medicine (GSM) were informed of, and invited to take part in the project. The response rate was 74% (males n=22; females n=35). The participant sample was drawn from medical students due to the potential to influence this group at an early stage in their professional education and career.

3.1.1 Medical Examiners and Standardised Patients

Because medical examiners and SPs were also visible or audible on the video recordings, consent was also sought from these individuals. The response rate of consent for medical examiners was 84% (n=49) and for SPs was 75% (n=47).

3.2 OSCE

For background information regarding the OSCE as a form of clinical assessment, please refer to Chapter 2 (Section 2.2). The OSCE outlined in this, and the subsequent two chapters, is based on a different iteration of the OSCE outlined in the pilot study (Chapter 2). The OSCEs differ with regards to participant sample (Year 4 versus Year 3
medical students) and, therefore, differ in terms of content of stations, and often SPs and examiners.

As a part of routine course assessment, Year 3 students participated in a summative OSCE, which consisted of 13 SP cases representing commonly encountered problems in surgery, paediatrics, obstetrics and gynaecology, general medicine, and psychiatry, in addition to a station examining the participants’ log of clinical encounters. Staff of the GSM selected and developed cases. Each case required nine minutes of a simulated clinical encounter (known as a 'station') during which the student consulted with the standardised patient.

Given the overlap in consent from medical students, examiners, and SPs, the current study assessed 10 of the 13 stations. These stations were comprised of two psychiatric stations (1. Investigating substance abuse/dependence; and 2. Conducting a risk assessment), two paediatric stations (1. Conducting a 6 week postnatal check-up; and 2. Investigating height in the low percentile), two obstetric and gynaecological stations (1. Investigating fertility issues; and 2. Conducting a 41 week antenatal check-up), two surgical stations (1. Conducting a peripheral vascular examination; and 2. Investigating hematuria), and two medical stations (1. Conducting a cranial nerve examination; and 2. Checking a medication chart).

### 3.2.1 Assessment of Clinical Competence

Students were graded by two examiners (medical professionals) resulting in a competence score for each OSCE station. This competence score consisted of a process score (verbal and non-verbal communication, structure of consultation, etc.), a content score specific to the OSCE station, and a rating of student performance by the SP. The overall total competence score reflects the students' total scores from all thirteen OSCE stations, which has then been halved to account for two OSCE examiners assessing competence.

### 3.2.2 Videotaping of the OSCE

Videotaping of the OSCE occurred as outlined in Chapter 2 (Section 2.3.3).
3.3 Assessment of Empathy

Empathy was assessed using self-rating and observer measures of empathy in the context of patient care. Both instruments were based on a definition of empathy involving the doctor's cognitive ability to perceive and understand the patient's perspective, and the behavioural ability to communicate this understanding to the patient (Hojat, Gonnella, Erdmann, & Vogel, 2003). Given the complexity of the construct of empathy and recommendations to assess empathy from more than one perspective (Pedersen, 2009), it was considered important to use measures reflecting the students' internal empathy, in addition to the behavioural expression of empathy as observed in the clinical context.

3.3.1 Observer-Rated Empathy

Empathy was assessed by an expert observer using the REM (Nicolai, Demmel, & Hagen, 2007). The rationale for use of the REM, in addition to details regarding the instrument, is outlined in Chapter 2 (Section 2.3.5).

3.3.2 Rater

Interrater reliability was established as high during a trial of assessing empathy in simulated patient encounters using the REM (see Chapter 2). The current study, therefore, utilised one rater, blind to the OSCE scores, to independently assess medical student empathy using the REM. The rater (registered psychologist and chief investigator of this study), undertaking study in the Doctor of Psychology (Clinical), had three and a half years of clinical experience (including comprehensive clinical training focusing on clinician-patient interactions and dynamics).

3.3.3 Self-Rated Empathy

While there are a number of measures of empathy for the general population, this thesis required an operational self-report measure of empathy specifically applicable to medical students. A revised version of the Jefferson Scale of Physician Empathy (JSPE; Hojat et al., 2001) was used. The revised "S" version was constructed on the basis of a review of the literature, followed by pilot studies involving practicing doctors, medical students, and residents, and is specifically applicable to medical students (JSPE-S; see Appendix C). Psychometric data in support of the original JSPE have been reported for
medical students (Hojat et al., 2001). Convergent validity was confirmed by significant correlations between scores on the empathy scale and conceptually relevant measures, such as compassion ($r=0.48$). Also, significant correlations were observed between the JSPE and Interpersonal Reactivity Index (Davis, 1983) subtest scores for empathetic concern ($r=0.41$), perspective taking ($r=0.29$), and fantasy ($r=0.24$). Discriminant validity was supported by the lack of a relationship between empathy and conceptually irrelevant measures such as self-protection ($r=0.11$, non-significant). Internal consistency reliability of the original scale was determined by a coefficient alpha of 0.89 for medical students. The JSPE-S comprises 20 items and participants indicate their level of agreement to each item on a 7 point Likert scale (1 = strongly disagree, 7 = strongly agree). The JSPE-S total score ranges from 20 to 140, with a higher score indicating a higher level of empathy.

3.4 Further Assessment

As outlined in Section 1.1.4, an individual possesses more or less empathy depending on a number of internal and external factors. The methods outlined below, i.e., the assessment of personality and attachment among medical students, is applicable to the study outlined in Chapter 5.

3.4.1 Assessment of Personality

Personality and empathy are attributes which are relevant to interpersonal relationships. While personality literature shows that narrow facets of personality are better predictors of behaviour than broad factors (Paunonen, 1998), given the limited available literature regarding personality and empathy, this thesis intends to explore the relationship broadly using the Big Five Factors. At a broad level, the Big Five structure captures common personality descriptions. The Big Five Inventory (BFI - see Appendix E; John, Donahue, & Kentle, 1991) is a 44 item self-report inventory designed to measure the Big Five dimensions of personality (Openness - 10 items, Conscientiousness - 9 items, Agreeableness - 9 items, Extraversion - 8 items, and Neuroticism - 8 items). The alpha reliabilities of the BFI scales range from .75 to .90 with an average above .80 (Rammstedt & John, 2005; Rammstedt & John, 2007). It has a mean test-retest stability
of .74, with stability correlations of .79 for Extraversion and Openness and .70 for Agreeableness, Conscientiousness, and Neuroticism (Hampson & Goldberg, 2006).

3.4.2 Assessment of Attachment

Research on adult attachment is lead by the assumption that the same motivational system (attachment behavioural system) responsible for the close emotional bond between parents and their children is responsible for the bond which develops in adult romantic relationships. On the basis of these parallels, it has been argued that adult romantic relationships, like infant-caregiver relationships, are attachments (Hazen & Shaver, 1987). This thesis, therefore, assessed adult attachment, as a means of identifying general attachment style. The Experiences in Close Relationships (ECR; see Appendix F) scale is based on a factor analysis of most of the existing self-report measures of adult attachment (Brennan, Clark, & Shaver, 1998). The measure consists of two subscales composed from 36 items on a seven-point scale (18 items per subscale). The avoidance subscale (α = .94) reflects discomfort with closeness and discomfort depending on others, while the anxiety subscale (α = .91) reflects a fear of rejection and abandonment.

3.5 Procedure

Prior to the OSCE examination day, participants were asked to complete the BFI, ECR, and JSPE-S, in addition to consenting to release their grades and video recordings of the summative OSCE for the purpose of obtaining competence scores and rating student empathy. The summative OSCE was videotaped. Participants commenced the summative OSCE as a part of their course assessment. They were graded by examiners and patients on their performance. Examiners and patients were also asked to consent to release video recordings for which they were audible or visible. Following the examination period, the rater who was blind to the competency scores of the OSCE, rated participant empathy in each videotaped simulated consultation using the REM. This procedure enabled research questions and hypotheses relating to Chapters 4 and 5 to be addressed.
CHAPTER 4

Medical Students: Enabled by Empathy?

Adapted version submitted for publication as: Ogle, J., Bushnell, J. A., & Caputi, P.
Empathy is related to clinical competence in medical students. Medical Education. Under review following minor revisions

4.1 Introduction

Medical schools aim to produce graduates with the attributes that build a professional and clinically competent career. Clinical competence has been defined as “the habitual and judicious use of communication, knowledge, technical skills, clinical reasoning, emotions, values, and reflection in the daily practice for the benefit of the individual and community being served” (Epstein & Hundert, 2002, p. 226). During medical training, competence builds on a foundation of basic knowledge, ethics, and skills (Epstein & Hundert, 2002). Using an OSCE, students are routinely assessed in skills such as communication, patient education, clinical examinations, medical procedures, detection of disease or disorder, prescribing, and interpretation of results (Harden, Stevenson, Downie, & Wilson, 1975). Competence, therefore, covers a number of skills and dimensions.

In studies of reasons for complaints about medical error or malpractice, an overwhelmingly dominant theme was poor communication (Jagsi et al., 2005; Lefevre, Waters, & Budetti, 2000; Levinson, Roter, Mullooly, Dull, & Frankel, 1997; Taylor, Wolfe, & Cameron, 2004; Temelkovski & Callaghan, 2010; West et al., 2006). Effective doctor-patient communication requires a level of interpersonal skill, and capacity to reflect on the clinical interaction and the doctor-patient relationship. There has been some evidence of a positive influence of the quality of the doctor-patient relationship on patient outcomes (Stewart, 1995; Street, Makoul, Arora, & Epstein, 2009). Empathy has long been considered a component of the interpersonal process between clinician and patient that is vital to the establishment of an effective clinician-patient relationship (Rogers, 1975). In medical care, empathy is characterised by the ability of the doctor to comprehend and convey understanding of the experience of the patient. In doing so,
the doctor uses cognitive processes to understand the experiences, concerns, and perspectives of the patient. Doctors must also possess the capacity to communicate this understanding back to the patient. This definition of empathy emphasises three specific features of empathy: cognition, understanding, and communication (Hojat, Gonnella, Erdmann, & Vogel, 2003).

Conceptually, empathy should be associated with increased doctor competence and more effective patient care (Hojat, 2007). Components of the doctor-patient relationship which enable empathic engagement (doctor communication, verbal interaction and non-verbal cues, etc.) are associated with patients’ adherence to treatment; higher levels of satisfaction with the doctor/medical student and the health care system; better recall and understanding of medical information; and improvement of quality of life and social, physical, and psychological well-being (Colliver, Willis, Robbs, Cohen, & Swartz, 1998; Mercer, McConnachie, Maxwell, Heaney, & Watt, 2005). Furthermore, when doctors report a loss of empathy they subsequently show an increase in their rate of self-perceived major medical errors (West et al., 2006).

There has been recent evidence that higher levels of empathy are associated with higher levels of clinical competence and positive patient outcomes (Hojat et al., 2002; Hojat et al., 2011). These studies, however, have focused exclusively on self-report measures of empathy and, therefore, fail to capture what the doctor actually does when coming face to face with a patient. This current study expands on previous research by addressing both internal and behavioural components of empathy, incorporating self-reports of empathy and observer-ratings of empathy using videotaped simulated patient encounters from a summative OSCE. As indicated by the definition of empathy in medical care, an important behavioural component of empathy involves the doctors’ ability to communicate their understanding of the experiences and concerns of the patient. The implication, therefore, is that a positive relationship exists between the doctors’ self-report of empathy and the behaviours they portray in the clinical context. While self-ratings may consider empathy a "trait" which is either present or absent, the use of observer-ratings allows us to consider empathy as a "state" which manifests itself in different ways across different clinical encounters (Colliver, Conlee, Verhulst, & Dorsey, 2010).
The purpose of this study was to investigate the relationship of both internal and behavioural empathy to clinical competence among medical students. The primary purpose of the OSCE was assessment of clinical competence. The recording of simulated patient encounters in the OSCE provided an opportunity for retrospectively assessing empathy, and thus exploring the relationship between student empathy and competence. It was hypothesised that self-ratings of student empathy would be positively associated with clinical competence scores. Similar to the first hypothesis, it was also expected that those students who gained higher observer-ratings of empathy during the simulated clinical interaction would gain higher clinical competence scores.

4.2 Methods

Please refer to Chapter 3 of this thesis for details regarding participants, assessment of clinical competence and empathy, in addition to procedural information.

4.3 Results

It was hypothesised that students who exhibited higher levels of empathy (self-rated and observed) would demonstrate higher levels of clinical competency in patient care. Therefore, it was expected that there would be a significant difference in total competence scores between students with low and high empathy (observed and self-rated). Table 4.1 presents summary statistics for student competency and empathy.
Table 4.1 Summary statistics for student competency and empathy

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<tr>
<th></th>
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<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>SD</th>
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<td>Total Competence</td>
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<td>218.50</td>
<td>182.61</td>
<td>17.76</td>
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<td>Observer-rated empathy</td>
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<td>52.60</td>
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<td>Self-rated empathy</td>
<td>56</td>
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<td>111.98</td>
<td>11.22</td>
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<tr>
<td>(JSPE-S Score)</td>
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</table>

Table 4.2 presents the results of correlational analyses examining the association between medical student empathy and clinical competence.
### Table 4.2 Correlations between medical student empathy and clinical competence across a variety of simulated patient encounters (stations)

<table>
<thead>
<tr>
<th>Station</th>
<th>Empathy Measure</th>
<th>Patient Score (Examiner 1)</th>
<th>Process Score (Examiner 1)</th>
<th>Content Score (Examiner 1)</th>
<th>Total Score (Examiner 1)</th>
<th>Process Score (Examiner 2)</th>
<th>Content Score (Examiner 2)</th>
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<td>.574**</td>
<td>.444**</td>
<td>.532**</td>
<td>.626**</td>
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<td>.496**</td>
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<td>.456**</td>
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<td>.575**</td>
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1 Station 1: Obstetric and gynaecological consultation focusing on a history taking interview (n=49); Station 2: Medical consultation focusing on a medication chart review (n=48); Station 3: Paediatric consultation focusing on a history taking interview (n=34); Station 4: Psychiatric consultation focusing on a history taking interview (n=34); Station 5: Paediatric consultation focusing on a history taking interview and examination (n=52); Station 6: Medical consultation focusing on an examination (n=36); Station 7: Psychiatric consultation focusing on a risk assessment (n=60); Station 8: Surgical consultation focusing on an examination (n=48); Station 9: Surgical consultation focusing on a history taking interview and examination (n=59); Station 10: Obstetric and gynaecological consultation focusing on an antenatal examination (n=44).

*p<.05; **p<.001
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<td>.010</td>
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The pattern of results indicated significant correlations between observer-ratings and clinical competence, but not between self-rating of empathy and clinical competence. The significant positive correlations were observed for both the process and content components of performance on the OSCE. A further correlational analysis was carried out (see Table 4.3) examining the association between self-rated empathy and observer-rated empathy across the different OSCE stations. In addition to assessing the relationship between the total JSPE-S score and observed empathy, the underlying components of the JSPE-S were also assessed so as to consider whether particular factors of the instrument captured the behavioural expression of empathy as measured by the REM. As outlined by Hojat (2007), the factor structure of the JSPE-S involves: Factor 1 - "Perspective Taking" (items 1-10); Factor 2 - "Compassionate Care" (items 11-18); and Factor 3 - "Standing in the Patient's Shoes" (items 19-20). There were no significant correlations between self- and observer-ratings of empathy, including the underlying factors of the JSPE-S.

Table 4.3 Correlations between medical student self-rated empathy and observer-rated empathy

<table>
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<tr>
<th>Station</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
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<th>9</th>
<th>10</th>
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<tbody>
<tr>
<td>Total</td>
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<td>-.054</td>
<td>.311</td>
<td>-.241</td>
<td>.020</td>
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<td>.131</td>
<td>.066</td>
<td>-.139</td>
<td>.110</td>
</tr>
<tr>
<td>JSPE-S</td>
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<td>-.099</td>
<td>.251</td>
<td>-.236</td>
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<td>-.087</td>
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<td>.137</td>
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<td>.012</td>
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<td>-.201</td>
<td>.040</td>
<td>.038</td>
<td>.192</td>
<td>.147</td>
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<td>.063</td>
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<tr>
<td>Factor 2</td>
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<td>-.049</td>
<td>.161</td>
<td>-.120</td>
<td>.117</td>
<td>-.151</td>
<td>.199</td>
<td>.045</td>
<td>-.108</td>
<td>-.010</td>
</tr>
</tbody>
</table>

An independent t test revealed a statistically reliable difference between the mean total competence score for those students low in observed empathy (M = 165.86, SD = 12.92) and for those students high in observed empathy (M = 190.35, SD = 14.00), t(55) = 6.28, p = .000, α ≤ .01. There was no statistically reliable difference observed for mean total competence score for low self-rated empathy (M = 179.46, SD = 16.90) and high self-rated empathy (M = 183.13, SD = 17.69), t(51) = .64, p = .525.
4.4 Discussion

It was anticipated that medical students’ clinical competence in recognising and treating a range of disorders and medical conditions would be better in the presence of greater student empathy. Support was found for this hypothesis, with rating of student empathy by an independent observer strongly associated with examiners judgements of greater clinical competence and with significant differences in mean total competence scores noted between students who were low versus high in observed empathy. Self-rated empathy, however, was not associated with clinical competence or observer-ratings of empathy. First, the strong association between clinical competence and the behavioural expression of empathy (as indicated by observer-ratings) will be discussed. This will be followed by a brief discussion of explanations for the discrepancy between self- and observer-ratings of empathy.

The relationship between the independent observer’s rating of empathy and the examiner’s rating of clinical competence was not simply the result of qualities of an empathic relationship being implicitly included in the examiners global rating of a student’s handling of the process and structure of the consultation. Some aspects of the skilful management of the process of a consultation may be inherently similar to the concept of empathy. Examiners allocated up to one third of their marks to aspects of the consultation process such as initiating, structuring and concluding the consultation, gathering and giving information in an ordered fashion, attending to timing and keeping the interview on task, with efficient transitions between tasks using signposting, and appropriate use of summary to confirm understanding. However, (with the exception of one examiner in one station), there were significant correlations between the independent observer’s rating of empathy and the examiner’s judgement of clinical competence in relation to content specific to the clinical task being examined, as well as to the generic aspects of consultation process and structure.

The results of the $t$ test suggest that observed behaviour indicative of empathy has a significant relationship with clinical competence in medical care. Specifically, our results suggest when students are more empathic in consultation with an SP, they appear more clinically competent. Furthermore, the results of this study indicate an association between observed empathy and clinical competence across a range of medical conditions and disorders, and different clinical tasks involving history-taking, procedural
and examination skills, and patient education. While the majority of previous research has examined the role of empathy and the doctor-patient relationship in psychotherapy, there are interpersonal processes common to both psychotherapy and medical consultations. Doctors seek to understand the experiences, concerns and perspectives of the patient in order to ascertain information regarding the patients' presenting problems. Communicating and gathering information from a patient is an important step in formulating an accurate diagnosis and treatment plan. A doctor-patient relationship fostered by empathy appears to complement the skills and knowledge required to effectively care for a patient. Empathy in a doctor-patient relationship, therefore, appears to be relevant to all consultations, regardless of whether they are for psychological or medical issues.

It was expected that a positive relationship would exist between the students’ self-report of empathy and the behavioural expression of empathy in the context of a clinical interaction. However, the lack of congruence between the student’s self reported empathy, and the independent-observer rated measure of empathy suggest that this may not be the case. Observer-ratings of empathy broadly assess verbal communication skills as well as physical behaviours, but do not directly assess the internal emotion, attitudes or motivation of the student (Chen, Pahilan, & Orlander, 2009). If the observable and behavioural components of empathy are discrepant with the student’s internal disposition, this raises questions regarding the fundamental nature of genuine empathy, and, therefore, the important aspects of empathy to assess. This discrepancy suggests that underlying empathy may not be indicative of the quality and effectiveness of the use of empathy in a clinical interaction. We can offer some explanations which are worthy of further investigation.

Given students rated themselves differently from observer-ratings suggests that the rating scales may be measuring different constructs. Despite using the same operational definition of empathy the scales obviously differ in items. The REM assesses empathic behaviours in the context of patient care; the JSPE-S self-report measure however, fails to capture what the student actually does during the clinical interaction. It is possible that the JSPE-S measures attitudes towards empathy. Attitudes are not strong determinants of behaviour when situational pressures are strong (Lavine, Huff, Wagner, & Sweeney, 1998). In the case of an OSCE, the situational pressures to perform a certain way may explain the attitude-behaviour incongruence.
Alternatively, a student’s self-evaluation may not predict actual performance because they are poor at accurately assessing their internal state. This may be a developmental issue for students early in their career as doctors. There have been a number of studies which suggest that empathy among medical students decreases during medical school, as rated by self report measures (Chen, Pahilan, & Orlander, 2009; Hojat et al., 2004; Newton, Barber, Clardy, Cleveland, & O'Sullivan, 2008; Spencer, 2004). There have been arguments suggesting that this self-perceived reduction in empathy may actually be trading empathy for the ability to get through the day, feeling poorly prepared for new responsibilities, or guilt associated with lack of compassion towards those patients have illness 'brought on' by factors which are potentially under their control (Colliver, Conlee, Verhulst, & Dorsey, 2010). Whatever the confusion, the behavioural expression of empathy, as perceived by the patient, does not appear to suffer (Chen, Pahilan, & Orlander, 2009).

Perhaps a more cynical, but equally plausible, explanation is that medical students modify their behaviours in the context of a summative examination in order to perform in a way they believe the examiners desire. The students are aware that OSCEs demand certain processes such as empathic behaviour, in order to demonstrate clinical competence and that a poor examination mark could adversely affect their studies to become a doctor. There is a very real possibility that students adapt their performance to meet the requirements of the examiners checklist of behaviours. Even so, the behavioural manifestation of empathy may be most important in the context of patient care; a doctor who has internal empathic understanding of the patient, but does not effectively communicate such an understanding may not be perceived as empathic by the patient or an observer (Hojat, 2007).

4.4.1 Conclusion

While self-report measures are the most common method of assessing empathy in patient care, the use of self-assessment tools may not sufficiently predict empathic behaviour. For empathy to be effective in patient care, patients need to perceive their doctor as acting empathically towards them (Squier, 1990). The results of this study indicate that empathy may be an enabling factor in clinical competence and that clinicians should make the most of opportunities to express their understanding and validation of their patients' concerns. Despite the discrepancy between self- and
observer-ratings, the patient’s need for an empathic doctor will always be important, and, therefore, medical students should be equipped with the appropriate knowledge and skills to both understand the patient and communicate this understanding to the patient (Hojat, 2007).
CHAPTER 5

Feeling it or Faking it? An Exploration of Discrepant Self- and Observer-Ratings of Empathy among Medical Students

Manuscript prepared for submission to Medical Education as: Ogle, J., Bushnell, J. A., & Caputi, P. Feeling it or faking it? An exploration of discrepant self- and observer-ratings of empathy among medical students

5.1 Introduction

In the context of patient care, empathy is characterised by the clinician's cognitive understanding of a patient's concerns, perspectives, and experience and the ability to communicate this understanding back to the patient (Hojat et al., 2001). Empathy helps the patient to feel understood, heard, and validated and has been implicated in increased patient satisfaction, treatment adherence and clinician competence (Hojat et al., 2002; Hojat et al., 2011; Kim, Kaplowitz, & Johnston, 2004; Ogle, Bushnell, & Caputi, 2012). The majority of research in medicine, however, has focused exclusively on self-ratings of empathy, which fail to take into account how the clinician actually behaves in a consultation with a patient. Assessing empathy through expert and patient external observers, in addition to self reports, gives an overall impression of the clinician's internal empathic disposition as well as the overt expression of empathy.

Recent studies have explored self-rated and observed empathy in medical students (by standardised patients and independent observers), and have shown discrepancies between the two measures (Chen, Pahilan, & Orlander, 2009; Ogle, Bushnell, & Caputi, 2012). It appears that self-report measures of empathy may be poor predictors of actual empathic behaviours. In addition, empathic actions during simulated patient consultations may be considered unreliable cues to underlying empathic attitudes and disposition. These findings raise difficult questions regarding the fundamental nature of genuine empathy and, therefore, the important aspects of empathy to assess. A number of explanations for the differences between self- and observer-ratings of empathy were previously offered (see Chapter 4), and in this chapter we further explore the data.
One explanation for this discrepancy is the possibility that medical students adopt the view that "if you cannot feel it, fake it". During a simulated patient encounter, the medical student is observed and assessed by simulated patients and examiners. The situational pressures associated with this scenario have the potential to lead medical students to alter their behaviour. Some authors have proposed that whatever the student communicates to the simulated patient is to impress the examiners, not for the well-being of the patient, who is not sick anyway (Hanna & Fins, 2006). These authors argue that simulated patient encounters cannot measure genuine empathy and that the student performs a superficial set of “desired behaviours” as opposed to acting in a way consistent with their internal state (Hanna & Fins, 2006; Wear & Varley, 2008).

This chapter aims to explore the discrepancies between self- and observer-ratings of empathy by comparing individual differences among medical students. Specifically, whether medical students who demonstrated discrepancies in self- and observer-ratings of empathy differ from those who did not demonstrate discrepancies with regards to personality constructs (extraversion, agreeableness, conscientiousness, neuroticism, and openness), attachment subscales (avoidance and anxiety), and clinical competence (total competence scores). In doing so, we hope to also address arguments suggesting medical students fake empathy in the context of simulated patient encounters.

5.2 Methods

Please refer to Chapter 3 of this thesis for details regarding participants, assessment of clinical competence, empathy, personality, and attachment, in addition to procedural information.

5.3 Results

In order to explore the discrepancies between self- and observer-ratings of empathy, the medical students were divided into four groups based on a contingency table for self-ratings of empathy (JSPE-S) and observed empathy (REM) during simulated patient encounters (see Table 5.1). The division into high and low groups were based on whether the medical student fell above or below the mean score for the instrument. For
the purpose of the results and discussion sections these four groups will be labelled: 'high-high', 'high-low', 'low-high', and 'low-low'. Table 5.1 shows that the majority of students who exhibited high levels of empathy during a simulated patient encounter had congruent internal levels of empathy (81%). Additionally, there were more students who performed in accordance with their self-ratings of empathy (64%) as opposed to those who performed discrepantly. Of those students who had discrepant scores, the majority had inflated self-ratings (65%) as opposed to higher observer-ratings. Table 5.2 presents descriptive statistics for medical student personality, attachment and total competence scores.

Table 5.1. Self-rated (JSPE-S) and observed empathy (REM) during simulated patient encounters.

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<th>Observer-rated empathy (REM)</th>
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<tr>
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Table 5.2. Descriptive statistics for medical student personality, attachment, and total competence scores.

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<td>Agreeableness</td>
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<td>30</td>
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2 'high-high' - high observed and high self-rated empathy; 'high-low' - high observed but low self-rated empathy; 'low-high' - low observed but high self-rated empathy; 'low-low' - low observed and low self-rated empathy.
<table>
<thead>
<tr>
<th></th>
<th>High-low</th>
<th>Low-high</th>
<th>Low-low</th>
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<td>0.63</td>
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A one-way analysis of variance (ANOVA) compared the mean personality, attachment, and total competence scores of medical students (as grouped by cell from Table 5.1). This test revealed statistically significant differences, at an alpha level of .05, for extraversion (F = 6.35, p < .01), openness (F = 3.26, p < .05), and total competence (F = 11.53, p < .01), as shown in Table 5.3.
Table 5.3. ANOVA

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<thead>
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<td>.085</td>
</tr>
<tr>
<td>Neuroticism</td>
<td>0.23</td>
<td>.873</td>
</tr>
<tr>
<td>Openness</td>
<td>3.26</td>
<td>.029</td>
</tr>
<tr>
<td>Avoidant Attachment</td>
<td>2.69</td>
<td>.056</td>
</tr>
<tr>
<td>Anxious Attachment</td>
<td>0.49</td>
<td>.692</td>
</tr>
<tr>
<td>Total Competence</td>
<td>11.53</td>
<td>.000</td>
</tr>
</tbody>
</table>

Post-hoc analyses were carried out. With regards to extraversion, a Tukey HSD test indicated that the mean for 'low-low' (M = 2.54, SD = .40) was significantly lower than the mean 'high-high' (M = 3.58, SD = .60), 'high-low' (M = 3.44, SD = .65), and 'low-high' (M = 3.78, SD = .58). The means of 'high-high', 'high-low', and 'low-high' did not differ significantly from each other. With regards to openness, a Tukey HSD test indicated that the mean for 'low-high' (M = 4.01, SD = 0.63) was significantly higher than the mean for 'low-low' (M = 3.28, SD = 0.45). With regards to total competence, a Tukey HSD test indicated that the mean for 'high-high' (M = 190.93, SD = 13.49) was significantly higher than the mean for 'low-high' (M = 164.29, SD = 11.24) and 'low-low' (M = 172.80, SD = 15.23). The mean of 'high-low' (M = 184.21, SD = 17.47) was also significantly higher than the mean of 'low-high'.

Although not reaching significance, with regards to agreeableness results of the Tukey HSD test were in the direction of a difference between both groups who demonstrated high empathy, with the mean of 'high-high' (M = 4.18, SD = 0.50) larger than the mean of 'high-low' (M = 3.63, SD = 0.47). Also not reaching significance but with results in that direction was the Tukey HSD test looking at openness, with a difference between both groups who rated themselves highly on empathy, with the mean of 'low-high' (M = 4.01, SD = 0.63) higher than the mean of 'high-high' (M = 3.58, SD = 0.48).
5.4 Discussion

This chapter sought to explore discrepancies found between self- and observer-ratings of empathy among medical students. In doing so, we aimed to assess whether those students who had discrepant self- and observer-ratings differed from those students who did not, and if so, how? We compared the groups of medical students on personality, attachment, and clinical competence. The results of this chapter suggest significant differences between groups on extraversion, openness, and total competence scores. There were also differences approaching significance with regards to agreeableness. This discussion will focus on examining the differences between the four groups of medical students, in addition to addressing previous arguments that medical students potentially fake empathy in the context of simulated patient encounters.

Those students who behave in accordance with their internal empathic state are those in the 'high-high' and 'low-low' groups. Not surprisingly, those students with high empathy and congruent self- and observer-rating also had the highest clinical competence scores. They also tended to have high levels of extraversion, conscientiousness, agreeableness, and openness. In addition, these students tended to have secure attachment styles. These results are not overly surprising. Personality constructs, such as extraversion, agreeableness, openness, and conscientiousness tend to promote interpersonal relationships. Conscientiousness, in particular, has been found to predict long-term success in medical training (Doherty & Nugent, 2011). Furthermore, the relationship between attachment and empathy has theoretical and empirical support (Bowlby, 1982). These results support findings that individuals with secure attachment are more likely to be empathic (Britton & Fuendeling, 2005). This is because securely attached individuals may have had a rearing environment where their emotional needs were met and they received responsive and empathic care-giving, leading to the development and capacity to readily respond in attachment situations with empathy (Bowlby, 1982).

Alternatively, those students with low empathy and congruence between observer- and self-ratings of empathy had significantly lower levels of extraversion than all other medical students, and generally had lower scores on conscientiousness, agreeableness, and openness. They also had significantly less clinical competence than those students who exhibited high empathic behaviour. In addition, these students tended to endorse insecure attachment style items. Again, these results are not particularly unexpected.
Introversion (or low extraversion) may be viewed as a personality construct which hampers interpersonal relationships, as would lower levels of agreeableness, openness, and conscientiousness. With regards to attachment, theorists posit that people's internal working models of childhood attachment relationships guide their behaviour in attachment related situations (Bowlby, 1982). Therefore, a clinician with a higher avoidant attachment score is less likely to be empathic during a clinician-patient interaction.

Of most interest to this chapter are those groups who behave discrepantly from their self-reported empathic state ('high-low' and 'low-high'). The majority of participants with discrepant scores were those who demonstrated low empathy during the simulated patient encounters, but had rated themselves highly on the self-report measure of empathy. The tendency of these medical students to hold overly favourable views of their empathic abilities was surprising, but perhaps illustrates the "above-average effect", or the tendency of the average person to believe he or she is above average (Alicke, Klotz, Breitenbecher, Yurak, & Vredenburg, 1995; Kruger & Dunning, 2009). The difficulties in recognising one's own incompetence, leading to inflated self-assessments, has previously been described as a deficit in what cognitive psychologists term metacognition (Kruger & Dunning, 2009; Everson & Tobias, 1998). Metacognition refers to the ability to know how well one is performing (Kruger & Dunning, 2009). That is, with regards to metacognition and empathy, the same skills and knowledge that enable one to produce empathy are the skills and knowledge necessary to recognise empathy, and thus to determine if one is empathic or not. Research has also shown that incompetent individuals lack the metacognitive skills necessary for accurate self-assessment (Kruger & Dunning, 2009). These findings are supported by our results. This particular group of medical students ('low-high') had the lowest total competence scores, even lower than the individuals who had performed and rated themselves as low on empathy. This may explain why these students had discrepant self- and observer-ratings of empathy. It is difficult then to have confidence in this group's self-assessment of personality and attachment, given their lack of insight into their own internal experience and the potential to project a more competent and ideal self through their self-ratings.

The smaller discrepancy group consisted of those medical students who exhibited high empathy during the simulated patient encounters but had rated themselves as low in
their self-reports. This group tended to have lower levels of agreeableness, when compared to those students who demonstrated 'high-high' empathy, although this result did not reach significance. With regards to competence, this group of students outperformed both groups of students who demonstrated low empathy during the simulated patient encounters. This group performed more empathically than their self-reported internal feelings of empathy. There are a number of authors who may, therefore, view their enactments during simulated patient encounters as, to some extent, fake (Hanna & Fins, 2006; Wear & Varley, 2008; Hodges, 2003). Drawing from previous research regarding the association between empathic behaviours and increased patient satisfaction, compliance and clinician competence (Hojat et al., 2002; Hojat et al., 2011; Kim, Kaplowitz, & Johnston, 2004; Ogle, Bushnell, & Caputi, 2012), it is not surprising that, for these students, learning and performing the skills and tricks of surface empathic behaviours positively impacted on their clinical competence. The nature of simulated patient encounters and the way in which these might affect medical practice, including the doctor-patient interaction, has previously been explored (Hodges, 2003), and may account for the modification of performances, potentially to satisfy evaluation goals and examiners.

However, while our results suggest that faking empathy during simulated patient encounters may be a problem among medical students, it appears that this is only for the minority. Of the two groups of students who had discrepant self- and observer-rated empathy scores ('high-low' and 'low-high'), the majority tended to have higher self-assessments of their empathy as compared to performance of empathic behaviours. Moreover, the majority of students overall acted in a way consistent with their self-ratings of empathy rather than discrepantly. Therefore, with regards to concerns that medical students are only appearing empathic during simulated patient encounters, the evidence shows that most students do have authenticity surrounding their empathic behaviours. Accordingly, it is unlikely that the simulation produces fake performances and, therefore, medical educators can feel confident that, in the majority of cases, they are not only teaching students to act as empathic doctors, but to be empathic doctors.

5.4.1 Conclusion

In sum, by exploring underlying personal attributes, we attempted to unveil the underlying factors that impacted on congruent versus discrepant self- and observer-
ratings of empathy. It appears that students differ with regards to extraversion, openness, and total competence. We propose that a deficit in metacognitive abilities, in addition to lower clinical competence, affects medical student's abilities to provide accurate self-assessments. Furthermore, in the minority of cases, it appears that situational pressures of simulated patient consultations, may lead medical students to act inconsistently with internal empathic emotions in order to portray the characteristics of an 'ideal' doctor by expressing empathic communication and behaviours.
CHAPTER 6
Conclusions and Implications for Further Research

This chapter summarises the major findings from the methodological and empirical chapters, outlines limitations of the studies in addition to providing suggestions for future research, and discusses the implications these research findings have for understanding the relationship between clinician empathy and competence.

6.1 Summary

Chapters 2 and 3 presented a comprehensive methodology for assessing medical student empathy in the context of patient care. Chapter 2 conducted a trial of observer-ratings of medical student empathy using videotaped simulated patient encounters. This method addressed the short-comings associated with relying on self-ratings, and therefore, improved on previous studies of empathy in medicine which tended to focus exclusively on self-report measures (Pedersen, 2009). Assessing empathy through videotaped simulated patient encounters was found to be feasible, reliable, and add value to existing assessment practice. The REM was accessible and easy to use and allowed a comprehensive assessment of overt empathic communication and behaviours. This method was found to have high interrater reliability, with consistent empathy ratings between two expert observers across diverse simulated consultations. The outlined methods were also organisationally and financially feasible. Making use of an already established summative OSCE within the GSM (and the associated technology, i.e., video cameras) meant there were minimal difficulties in executing this method. While observer-ratings of empathy specifically required the medical student to demonstrate empathy in the clinical context, it became apparent that they should be complemented with self- and/or patient-ratings of empathy to give a complete picture. Chapter 3 expanded on the methodology of Chapter 2 and addressed the aforementioned limitation by accompanying the observer-ratings with self-ratings of empathy (JSPE-S).

Conceptually, empathy is believed to be associated with clinical competence, however, there have few empirical studies investigating this relationship. Building on Chapters 2 and 3, Chapter 4 described the results of a study on the relationship between medical student empathy and clinical competence. Observed empathic behaviour, as rated
objectively by an independent observer, was strongly associated with clinical competence. The robust correlation between the behavioural expression of empathy and clinical competence was evident across diverse types of consultations and a wide range of medical conditions. Observable empathy was also strongly associated with patients’ ratings of the students' clinical performance. However, self-rated empathy was not associated with clinical competence. The results suggest that a doctor-patient relationship fostered by empathy appears to complement the skills and knowledge required to effectively care for a patient. Empathy appears to be relevant to all consultations, regardless of whether they are for psychological or medical issues. The reasons for a lack of congruence between the independent observer-rated measure of empathy, and the student’s self reported empathy were not immediately obvious, but raised the spectre of medical students learning that it pays to adopt the view that “if you cannot feel it, fake it”.

Chapter 5 described and reported the outcomes of a study conducted to further investigate the discrepancies between self- and observer-ratings of medical student empathy. Specifically, whether medical students who demonstrated discrepancies in self- and observer-ratings of empathy differ from those who did not demonstrate discrepancies with regards to personality, attachment, and clinical competence. A one-way ANOVA revealed significant differences between the groups on extraversion, openness, and total competence scores. Those medical students who had high and congruent levels of internal and behavioural empathy tended to score higher on personality traits which promote interpersonal relationships, had superior clinical competence, as well as endorsed secure attachment style items. Those medical students who had low and congruent levels of internal and behavioural empathy tended to have low extraversion and endorsed insecure attachment style items. With regards to those medical students with discrepant levels of internal and behavioural empathy (that is, high-low and low-high groups), it was suggested that they may fake empathy in the context of simulated patient encounters to portray the characteristics of an ideal doctor (high-low group) or may have deficits in metacognitive abilities (low-high group). Deficits in metacognitive abilities impact on clinician competence and may lead to a tendency to believe one is more competent than is true.
6.2 Limitations and Suggestions for Future Research

The methodological and empirical work in this thesis extends on previous research and provides novel insights into the relationship between clinician empathy and competence. However, there are some general limitations of the studies that warrant consideration and should be addressed in future research.

It has been said that empathy, like beauty, is in the eye of the beholder (Colliver, Conlee, Verhulst, & Dorsey, 2010). The major limitation of this thesis is the absence of patient-ratings of empathy. Although our method of assessing empathy is useful in capturing observers' perception of empathy, the rater needs to make assumptions regarding the internal experience of the patient. In keeping with evidence-based medical education, patients' perspectives are important in determining whether empathy in the context of the therapeutic relationship and consultation has been established, and the inclusion of patient ratings for future research is recommended. Specifically, using well trained SPs for these ratings could enhance the training and assessing of empathic behaviours and could help identify those students with important deficiencies.

A limitation to the psychometric evaluation of individual differences among medical students with discrepant or congruent empathy ratings (Chapter 5) is related to the participant sample. The small sample size significantly hampered data analysis and limited the potential for significant results. The comparison of groups with larger participant numbers is anticipated to confirm and extend on the findings of Chapter 5, with regards to personality, attachment, and clinical competence.

Despite these limitations, however, the major findings of this thesis support recommendations to assess and enhance empathy skills in undergraduate and graduate medical education. While this research is limited to one medical school, results may be applicable to all schools with a similar structure. Replication of this study in multiple institutions and across different countries may further establish clinicians’ empathy as an important component of their overall competence. Researching ways to develop and advance empathy in medical education and practice will help place empathy in the domain of evidence-based medicine.
6.3 Conclusion

Empathy is a complex entity, yet critical to the practice of medicine. This thesis has addressed major methodological limitations of previous research assessing the relationship between empathy and clinical competence in medicine. Results suggest assessing medical student empathy using an observer rating scale is feasible and reliable. The finding that the self-report measure of empathy was not related to observable behaviours is particularly important, given that the majority of research into empathy in medicine has utilised self-report instruments. It appears that relying on self-reports may be unwise, and that researchers in the field should consider assessing interactions in a clinical environment to measure empathy. This method (i.e., observational) of assessing empathy in medicine, therefore, may be viewed as superior to the norm (using self-report instruments) given it's specificity to clinical practice. Additionally, utilising the examination nature of OSCEs allows direct analysis of observed empathy during a simulated patient consultation and its relationship to clinician competence. From a medical perspective, the empathic relationships formed between the medical students and SPs appeared to facilitate sincerity about patient symptoms and concerns, and was reflected in a more accurate diagnosis and conceptualisation of the patient. This method also allowed for the observation of empathy as a dynamic process across diverse simulated consultations and thus, underpinned the theoretical framework of empathy in patient care.

With regards to theories of empathy there have been ongoing discussions regarding the fundamental nature of empathy, specifically regarding empathy as a personality trait (or general ability) versus a situation-specific state. This thesis provides unique insights into this argument and, therefore, has significant implications for the theory and definition of empathy. The implicit underlying assumption of empathy as a personality trait is that some individuals are more empathic than others, either by nature or through development (Duan & Hill, 1996). Empathy as a situation-specific state, however, involves responding vicariously to a stimulus or a stimulus person (Batson & Coke, 1981). The theory underlying this view of empathy is that empathic experience varies by the situation, regardless of an individual's developmental level of empathy. This view of empathy allows psychotherapy researchers and social psychologists to examine the outcome effect of clinician empathy during consultations as well as manipulate empathy
to understand its role in specific situations. This thesis showed that empathy is a dynamic, rather than static, process. To an extent, medical students appear to have an underlying empathic disposition which may be influenced by particular personality traits and attachment style. A dispositional explanation of empathy, however, presupposes a degree of congruency among internal thoughts and feelings and external behaviours and actions. While some medical students report being more empathic than others, the overall empathic behavioural response during simulated patient consultations was situation specific. For some medical students they are potentially able to manipulate empathic behaviours to demonstrate competence in a specific context.

A situation-specific perspective of empathy considers empathy to be amenable to change through training and learning. Therefore, this thesis provides valuable and practical information for medical education and clinical practice. The strong association between observed clinician empathy and clinical competence suggests that empathy may be a pivotal process underlying effective patient care. Cultivating empathy in medical students and teaching the skills of empathic behaviours should be on the agenda for medical education. While this thesis has raised questions about empathic communication and behaviours beyond their surface manifestations, given that the patients' need for an empathic clinician is essential, acting in an empathic manner may be sufficient. Post-training, if empathy is continually fostered, the benefits of empathy in the clinical environment may include the provision of effective patient care and, therefore, are extremely valuable for the patient and wider community.
References

Chapter 1


Decety & W. Ickes (Eds.). *The social neuroscience of empathy* (pp. 31-42). Cambridge, MA: MIT Press.


**Chapter 2**


**Chapter 3**


**Chapter 4**


**Chapter 5**


**Chapter 6**


Appendices

Appendix A - Participant Information Sheet

TITLE: Clinicians: Enabled by Empathy?

PURPOSE OF THE RESEARCH
This is an invitation to participate in a study conducted by researchers at the University of Wollongong (UoW). The purpose of the research is to investigate the how psychological attributes of medical students affect empathy and clinical competency.

INVESTIGATORS
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A/Prof. Peter Caputi  
School of Psychology  
(02) 4221 3717  
pcaputi@uow.edu.au

METHOD AND DEMANDS ON PARTICIPANTS
If you choose to be included, you will be asked to participate in completing a series of questionnaires which measure psychological attributes and empathy, and to allow Jessica Ogle access to your Objective Structured Clinical Examination scores and video-tapes. The questionnaires should take approximately 30 minutes to complete and will be administered both at a baseline period and at the time of the study.

POSSIBLE RISKS, INCONVENIENCES AND DISCOMFORTS
Apart from the 30 minutes of your time for completing the questionnaire, we can foresee limited risks for you. In answering some of the questionnaires about relationships and parents, you may experience discomfort or distress. If so, please contact Northfield’s Clinic (4221 3747) at UoW for further discussion. In addition, if your data reveals any clinical levels of depression, anxiety and/or stress you will be approached by the chief investigator, Jessica Ogle, for a discussion of your scores and options for treatment if you so wish. Your involvement in the study is voluntary and you may withdraw your participation from the study at any time and withdraw any data that you have provided to that point. Your individual data will not be revealed to any of the staff at the Graduate School of Medicine, and will not be identifiable in the overall analysis and write-up of the data. Refusal to participate in the study will not affect your relationship with the Graduate School of Medicine or the University of Wollongong.

BENEFITS OF THE RESEARCH
This research will ultimately provide information on trainee clinicians’ personal characteristics which may influence empathy and clinical competence. This has important implications for the detection and management of disease and disorders. Findings from the study will be published in a Doctoral Thesis and medical or psychological journals. Confidentiality is assured, and you will not be identified in any part of the research.

ETHICS REVIEW AND COMPLAINTS
This study has been reviewed by the Human Research Ethics Committee (Social Science, Humanities and Behavioural Science) of the University of Wollongong. If you have any concerns or complaints regarding the way this research has been conducted, you can contact the UoW Ethics Officer on (02) 4221 4457.

Thank you for your interest in this study.
Appendix B - Consent Form

Consent Form

Clinicians: Enabled by Empathy?

Researchers: Jessica Ogle, John Bushnell, & Peter Caputi

I have been given information about the study “Clinicians: Enabled by Empathy”. I have discussed the research project with Jessica Ogle, who is conducting this research as part of a Doctor of Psychology (Clinical) project, supervised by Prof. John Bushnell, in the Graduate School of Medicine at the University of Wollongong, and A/Prof. Peter Caputi, in the School of Psychology.

I understand that there are no potential risks or burdens associated with this study.

I understand that my participation in this research is voluntary, I am free to refuse to participate and I am free to withdraw from the research at any time. My refusal to participate or withdrawal of consent will not affect my relationship with the Graduate School of Medicine or the University of Wollongong.

I understand I will be approached by Jessica Ogle if my data suggest clinical levels of depression, anxiety, and/or stress.

If I have any enquiries about the research, I can contact Jessica Ogle on 0431 033 392 and Prof. John Bushnell or if I have any concerns or complaints regarding the way the research is or has been conducted, I can contact the Ethics Officer, Human Research Ethics Committee, Office of Research, University of Wollongong on 4221 4457.

By signing below I am indicating my consent to participate in completing a series of questionnaires regarding my psychological attributes (both at baseline and during the study) and to allow the researchers access to my scores and video-tapes for the Objective Structured Clinical Examination. I understand that the data collected from my participation will be used predominantly for a marked component of a Doctorate of Psychology (Clinical) research project, and may also be used in summary form for journal publication, and I consent for it to be used in that manner.

Signed: .................................................
Date: .............../....../......

Name (please print): .................................................

........................................................................
Appendix C - Jefferson Scale of Physician Empathy - Student Version

**Instructions:** Please indicate the extent of your agreement or disagreement with each of the statements. Please use the following 7-point scale (a higher number on the scale indicates more agreement):

Mark one and only one response for each statement

1. Doctors’ understanding of their patients’ feelings and the feelings of their patients’ families does not influence medical or surgical treatment
2. Patients feel better when their doctors understand their feelings
3. It is difficult for a doctor to view things from their patients’ perspectives
4. Understanding body language is as important as verbal communication in doctor-patient relationships
5. A doctor’s sense of humour contributes to a better clinical outcome
6. Because people are different, it is difficult to see things from patients’ perspectives
7. Attention to patients’ emotions is not important in history taking
8. Attentiveness to patients’ personal experiences does not influence treatment outcomes
9. Doctors should try and stand in their patients’ shoes when providing care to them
10. Patients value a doctor’s understanding of their feelings which is therapeutic in its own right
11. Patients’ illnesses can be cured only by medical or surgical treatment; therefore, doctors’ emotional ties with their patients do not have a significant influence in medical or surgical treatment
12. Asking patients about what is happening in their personal lives is not helpful in understanding their physical complaints
13. Doctors should try to understand what is going on in their patients’ minds by paying attention to their non-verbal cues and body language
14. I believe that emotion has no place in the treatment of medical illness
15. Empathy is a therapeutic skill without which the doctor’s success is limited
16. Doctors’ understanding of the emotional status of their patients, as well as that of their families is one important component of the doctor-patient relationship

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Please note the term ‘physician’ was replaced by ‘doctor’ for the purposes of this thesis

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3 Please note the term ‘physician’ was replaced by ‘doctor’ for the purposes of this thesis
17. Doctors should try and think like their patients in order to render better care
18. Doctors should not allow themselves to be influenced by strong personal bonds between their patients and their family members
19. I do not enjoy reading non-medical literature or the arts
20. I believe that empathy is an important therapeutic factor in medical treatment
Appendix D - Rating Scales for the Assessment of Empathic Communication in Medical Interviews

What impression did you get from this consultation? Please circle one number for each question

1. Did the medical student provide the opportunity for the patient to give his/her opinion?
   - 1 - 2 - 3 - 4 - 5 - 6 - 7
     no opportunity | a lot of opportunity

2. Did the medical student treat the patient as an equal partner?
   - 1 - 2 - 3 - 4 - 5 - 6 - 7
     not equal | completely equal

3. Did the medical student show understanding of the patient’s point of view?
   - 1 - 2 - 3 - 4 - 5 - 6 - 7
     no understanding | a lot of understanding

4. Did the medical student try to put him/herself in the position of the patient?
   - 1 - 2 - 3 - 4 - 5 - 6 - 7
     not at all | a lot

5. Did the medical student show interest in the patient’s opinion?
   - 1 - 2 - 3 - 4 - 5 - 6 - 7
     no interest | a lot of interest

6. Did the medical student put the patient under pressure?*
   - 1 - 2 - 3 - 4 - 5 - 6 - 7
     no pressure | a lot of pressure

7. Did the medical student “preach”?*
   - 1 - 2 - 3 - 4 - 5 - 6 - 7
     did not “preach” | “preached” a lot

8. Did the medical student admonish the patient?*
   - 1 - 2 - 3 - 4 - 5 - 6 - 7
     not at all | a lot

9. Was the medical student responsive to the patient?
   - 1 - 2 - 3 - 4 - 5 - 6 - 7
     not responsive | very responsive

* Please note the term 'physician' was replaced by 'medical student' for the purposes of this thesis.
Appendix E - Big Five Inventory

How I am in general

Here are a number of characteristics that may or may not apply to you. For example, do you agree that you are someone who likes to spend time with others? Please write a number next to each statement to indicate the extent to which you agree or disagree with that statement.

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<tr>
<td>1</td>
<td>Disagree</td>
<td>2</td>
<td>Disagree</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Strongly</td>
<td>a little</td>
<td>nor disagree</td>
<td>a little</td>
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I am someone who…

1. _____ Is talkative
2. _____ Tends to find fault with others
3. _____ Does a thorough job
4. _____ Is depressed, blue
5. _____ Is original, comes up with new ideas
6. _____ Is reserved
7. _____ Is helpful and unselfish with others
8. _____ Can be somewhat careless
9. _____ Is relaxed, handles stress well.
10. _____ Is curious about many different things
11. _____ Is full of energy
12. _____ Starts quarrels with others
13. _____ Is a reliable worker
14. _____ Can be tense
15. _____ Is ingenious, a deep thinker
16. _____ Generates a lot of enthusiasm
17. _____ Has a forgiving nature
18. _____ Tends to be disorganized
19. _____ Worries a lot
20. _____ Has an active imagination
21. _____ Tends to be quiet
22. _____ Is generally trusting
23. _____ Tends to be lazy
24. _____ Is emotionally stable, not easily upset
25. _____ Is inventive
26. _____ Has an assertive personality
27. _____ Can be cold and aloof
28. _____ Perseveres until the task is finished
29. _____ Can be moody
30. _____ Values artistic, aesthetic experiences
31. _____ Is sometimes shy, inhibited
32. _____ Is considerate and kind to almost everyone
33. _____ Does things efficiently
34. _____ Remains calm in tense situations
35. _____ Prefers work that is routine
36. _____ Is outgoing, sociable
37. _____ Is sometimes rude to others
38. _____ Makes plans and follows through with them
39. _____ Gets nervous easily
40. _____ Likes to reflect, play with ideas
41. _____ Has few artistic interests
42. _____ Likes to cooperate with others
43. _____ Is easily distracted
44. _____ Is sophisticated in art, music, or literature
Appendix F - Experiences in Close Relationships Scale

The statements below concern how you feel in emotionally intimate relationships. We are interested in how you generally experience relationships, not just in what is happening in a current relationship. Please indicate the extent of your agreement or disagreement with each of the following statements by writing the appropriate rating number in the boxes on the right hand column. Please use the following 7-point scale (a higher number on the scale indicates more agreement):

1 Strongly Disagree 2 3 4 5 6 7 Strongly Agree

1. I prefer not to show a partner how I feel deep down.
2. I worry about being abandoned.
3. I am very comfortable being close to romantic partners.
4. I worry a lot about my relationships.
5. Just when my partner starts to get close to me I find myself pulling away.
6. I worry that romantic partners won't care about me as much as I care about them.
7. I get uncomfortable when a romantic partner wants to be very close.
8. I worry a fair amount about losing my partner.
9. I don't feel comfortable opening up to romantic partners.
10. I often wish that my partner's feelings for me were as strong as my feelings for him/her.
11. I want to get close to my partner, but I keep pulling back.
12. I often want to merge completely with romantic partners, and this sometimes scares them away.
13. I am nervous when partners get too close to me.
15. I feel comfortable sharing my private thoughts and feelings with my partner.
16. My desire to be very close sometimes scares people away.
17. I try to avoid getting too close to my partner.
18. I need a lot of reassurance that I am loved by my partner.
19. I find it relatively easy to get close to my partner.
20. Sometimes I feel that I force my partners to show more feeling, more commitment.
21. I find it difficult to allow myself to depend on romantic partners.
22. I do not often worry about being abandoned.
23. I prefer not to be too close to romantic partners.
24. If I can't get my partner to show interest in me, I get upset or angry.
25. I tell my partner just about everything.
26. I find that my partner(s) don't want to get as close as I would like.
27. I usually discuss my problems and concerns with my partner.
28. When I'm not involved in a relationship, I feel somewhat anxious and insecure.
29. I feel comfortable depending on romantic partners.
30. I get frustrated when my partner is not around as much as I would like.
31. I don't mind asking romantic partners for comfort, advice, or help.
32. I get frustrated if romantic partners are not available when I need them.
33. It helps to turn to my romantic partner in times of need.
34. When romantic partners disapprove of me, I feel really bad about myself.
35. I turn to my partner for many things, including comfort and reassurance.
36. I resent it when my partner spends time away from me.