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Enhancing empathy in medical students using FLEX Care communication training

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**Enhancing empathy in medical students using FLEX Care™
communication training**

by

Carla A. Stebbins

A dissertation submitted to the graduate faculty
in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

Major: Education (Educational Leadership)

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For the Major Program

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ABSTRACT

The purpose of this study was to test the ability of an interpersonal communication program to enhance empathy within a sample of second-year osteopathic medical students. Researchers within the fields of medicine and medical education agree that empathy has a significant effect on clinical outcomes, and in improving interpersonal relationships of physicians and their patients. However, numerous studies suggest the empathy levels of medical students decline as they proceed through their training.

This study's true experimental, posttest-only control-group pilot study allowed for the comparison of posttest measures between sample groups. The experimental group treatment included exposure to a new interactive interpersonal communication in health care training workshop grounded in the psychological type theory and the Myers-Briggs Type Indicator®. Posttest measures included the use of a new empathy assessment tool designed specifically for use within medical school populations (the Jefferson Scale of Physician Empathy—student version).

An historical review of the literature allowed for the development of a contemporary conceptualization of physician empathy emphasizing the cognitive, affective, and behavioral domains of an individual's psychological make-up while also embracing a physician's ability to establish therapeutic relationships with his or her patients. In addition, the critical role of self-awareness was highlighted in its ability to limit the risks associated with physician empathy as well as facilitate the process of empathy development.

Results highlight the FLEX Care™ program's ability to affect student behavioral empathy development while also emphasizing the program's ability to increase students'

awareness of their own preferences and preferred style of communication. Results observed between student empathy and assessed communication skill scores and gender, extracurricular program involvement, and psychological type characteristics, also highlighted statistically significant and substantive findings.

Conclusions drawn from study findings allowed for the development of recommendations that, if implemented, would provide medical schools a comprehensive formal curriculum designed to enhance empathy in medical students and reverse the effects of the rigors and socialization process of medical training. Suggestions for further study are also provided.

CHAPTER 1. INTRODUCTION

Just over a year ago I had the privilege of interviewing a local oncologist for a qualitative study researching successful physician leaders. A few short excerpts from our conversation are provided as follows (Stebbins, Personal communication, 2004):

...it's a different social, economic world (than when I went to medical school)...you can't just make a diagnosis and leave the room; you have to address their [the patient's] finances, their insurance, their support systems at home...if you recommend the treatment and it can't be implemented because there is no one to pay for it, what good is it? (p. 13)

I think it's the greatest privilege in the world (to care for these people). In oncology, there is very little veneer. If somebody comes in...they've just learned that they have cancer...they're not caring about the car or house payment. Their plate is full." He adds, "It's amazing the resiliency of the human being...the way they can stand up and take adversity on and continue on with their lives...the inner strength that these people have is incredible...it is truly amazing. I often think to myself, my God, how do they do it? They're tough, tough, people...You devote your entire effort and all of your energy to that patient because they're counting on you, you're it. (p. 16)

I feel blessed to just be able to take care of them...you can't get a much higher privilege you know, it's humbling when someone says, 'I'm just going to do what you say,' it's extremely humbling. (p. 17)

As a preclinical educator working within a health sciences university, I was provided a rare glimpse into a physician's perspective of his relationship with patients. From that encounter, I began to understand empathy and the critical importance it plays in the effective delivery of health care. I immediately joined others on my campus in the pursuit of a curriculum that supports the development of empathic physicians.

Background of the Study

Researchers of empathy have failed to agree on a definition that conceptualizes the empathic relationship that some physicians, such as the oncologist above, have established

with their patients. There is, however, agreement that empathy is a complex and multidimensional concept, involving the cognitive (knowledge), affective (emotional), and behavioral (action) domains of an individual's psychology and that empathy can be enhanced, refined, and reinforced through educational intervention (Benbassat & Baumal, 2004; Halpern, 2001; Hojat, Gonnella, Mangione, Nasca, & Magee, 2003; Shapiro, 2002).

A review of the literature also highlights a number of common phrases or themes among empathy studies that are both unique within the context of the physician-patient relationship and are essential in the establishment of an empathic relationship: perspective taking; interpreting the related feelings of the patient; staying aware of the distinction patient and physician, or not owning the patient's reality; assisting or helping the patient in the relief of symptoms or achievement of health; and, finally, effective communication based on the needs of the patient (Allen & Brock, 2000; Diseker & Michielutte, 1981; Halpern, 2001; Hojat et al., 2003; Rogers, 1980; Shapiro, 2002).

Evidence from this review of clinical empathy placed particular emphasis on the effective communication skills of the physician. In other words, to be an empathic physician, or to be viewed as an empathic physician, is heavily (although not completely) reliant on effective communication and interpersonal communication skills (Diseker & Michielutte, 1981; Hojat, Gonnella, Nasca, Mangione, Vergare, & Magee, 2002a; Shapiro, 2002).

This study used the operational definition as developed by Hojat et al. (2003) at the Center for Research in Medical Education and Health Care (CRMEHC) at Jefferson Medical College:

A cognitive (as oppose to affective) attribute that involves an *understanding* of the inner experiences and perspectives of the patient,

combined with a capability to *communicate* this understanding to the patient [emphasis added]. (Hojat et al., 2003, p. 28)

The CRMEHC researcher's conceptualization of empathy in patient care situations serves as a basis for their instrument, the Jefferson Scale of Physician Empathy (see Appendix A-1).

The definition cited previously, although limited in its ability to embrace all the aforementioned components, emphasizes the two key concepts CRMEHC perceives to be the most significant in the construct of empathy in patient care situations: cognitive understanding and communication.

Empathic physicians

Benbassat and Baumal (2004) reported that, "one of the most studied professional attributes of physicians is empathy" (p. 833). Researchers of the physician-patient relationship agree that empathy plays a significant role in the establishment of a therapeutic relationship which, in turn, facilitates the achievement of desired clinical outcomes as well as patient satisfaction with their physician and overall health care encounter (Allen & Brock, 2000; Hausman, 2004; Ong, De Haes, Hoos, & Lammes, 1995). In addition, empathic physicians are more satisfied with their own career choice. By empowering their patients to own and make decisions related to their own health and well-being, empathic physicians reduce the pressure on themselves to make decisions for their patients or to own their patient's treatment outcome. Similarly, through the employment of their empathic skill, physicians are provided an effective tool when working with difficult patients or difficult situations that increases their understanding of the patient and their sometimes powerful reactions (anger, crying, denial, etc.) to information regarding their health.

Medical student empathy

Numerous studies initiated to understand better the relationship of empathy and the physician-in-training highlight that medical students, in general, lose their ability to empathize as they progress through their preclinical and clinical curriculum (Aswani, 2001; Diseker & Michielutte, 1981; Hojat et al., 2002a). Several theories exist to offer explanation for this result, to include the rigors of medical school. Benbassat and Baumal (2004), however, summarized the view of many who have studied this phenomenon. They charged medical schools and their un-relinquished commitment to the socialization process which promotes “an ethic of detachment, self-interest, and objectivity” (p. 832).

Empathy training in medical education

Prior attempts undertaken by educators to enhance or increase empathy through the medical school curricula have used a variety of approaches. Some medical schools have promoted courses:

- exposing students to the humanities through the study of literature, narratives and art (Aswani, 2001; Charon, 2001; Fishbein, 1999; Novack, Suchman, Clark, Epstein, Najberg, & Kaplan, 1997; Spiro, 1992);
- providing students exposure to the patient’s perspective through real or simulated patients (Feighny, Arnold, Monaco, Munro, & Earl, 1998; Henry-Tillman, Deloney, Savidge, Grahma, & Klimberg, 2002 [cited by Hojat et al., 2003a]; Wilkes, Milgrom, & Hoffman, 2002);
- offering self-exploration experiences through a process of reflection (Charon, 2001; DasGupta & Charon, 2004; Henderson & Johnson, 2002);
- while others have used communication and interpersonal communication training through a variety of focused interactive workshops (Fine & Therrien, 1977; Kramer, Ber, & Moore, 1987; Swanson-Fisher & Poole, 1978; Winefield & Chur-Hansen, 2000).

Although consistent and positive results have been achieved through each of these approaches, each program has successfully impacted only one dimension successfully (cognitive, affective, or behavioral) of empathy among its study participants; only a small sampling of these findings have attained significance levels that have enabled the generalization of results; and none of these studies produced evidence of the long-term retention of empathy within study participants. Additionally, medical schools, like other institutions of higher education, have limited resources to invest in any new curricular intervention, and each addition to the curriculum must fit within the already compressed schedules of medical students.

FLEX Care™

FLEX Care™ is a new interpersonal communication training program developed by two researchers who combined their knowledge of Carl Jung, Isabel Briggs, and Katherine Myers' theory of psychological type and the Myers-Briggs Type Indicator® with their experience in delivering communication training within the business and industry, higher education, and health care settings (Allen & Brock, 2000). The FLEX Care™ program workshop begins by providing participants instruction and experience in recognizing their own preferences related to the four dimensions of type preference: how individuals are energized, how they gather information, how they base their decision making, and how they organize their lives. The four domains are briefly outlined as follows:

1. *Extraversion or Introversion (E/I)*: The extravert's interests focus on the outer world of action, objects, and persons, whereas the introvert's interests focus on the inner world of concepts and ideas.

2. *Sensing or Intuition (S/N)*: The sensing person collects information from the immediate, real, practical facts of life, whereas the intuitive person sees the possibilities, the relationships, and the meaning of experience.
3. *Thinking or Feeling (T/F)*: The person with a thinking preference makes judgments objectively and impersonally, considering the causes of events and where decisions may lead. The feeling preference person makes judgments subjectively and personally, weighing values of choices and how they affect others.
4. *Judging or Perceiving (J/P)*: The judging preference person prefers to live in a decisive, planned, and orderly way, so as to regulate and control events. The perceiving preference person prefers to live in a spontaneous, flexible way, aiming to understand life and adapt to it.

Next, the FLEX Care™ program provides direction to participants on how to identify the preferences of others through the observation of their verbal and nonverbal cues, while also providing a tool to teach students how to *flex* [emphasis added] their communication or move their style of communication towards the needs and desires of the patient. Allen and Brock (2000) shared the potential outcome of this learned skill: “The patient will feel listened to and heard” (p. 39). Hojat et al. (2003) shared a quotation from an unknown source that reinforces the importance of such an achievement, “To be understood is a basic human need that can be fulfilled when an empathic relationship is established” (p. 25).

Statement of the Problem

Researchers agree that empathy has a significant effect on clinical outcomes, and in improving interpersonal relationships of physicians and their patients. Medical educators agree that empathy must be cultivated during medical education (Hojat, Gonnella, Nasca, Mangione, Veloksi, & Magee, 2002b). However, the findings of numerous studies suggest that medical students’ empathy declines as they progress in their didactic and clinical curriculum (Aswani, 2001; Diseker & Michielutte, 1981; Hojat et al., 2002b). Despite attempts to reverse this trend, a need remains for a curricular intervention that can enhance

medical students' empathy on multiple levels (cognitive, affective, and behavioral), while enabling educators to assess the long-term effects and offer additional opportunities to enhance, refine, and reinforce the concepts delivered throughout the educational experience of the students. In addition, irregardless of the method used to teach interpersonal communication, it must provide a framework that enables practitioners to alter their approach based on the needs of the patient and the situation at hand—in other words, a highly prescriptive model does not allow for enough flexibility to make its use practical in a health care setting. Finally, the intervention must be cost-effective yet efficient in its ability to fit within the compact schedules of today's medical students.

Purpose of the Study

The purpose of this true experimental, posttest-only control-group pilot study was to test the effect of a new interpersonal communication training program (FLEX Care™), grounded in the theory of psychological type, with a group of second-year medical students on its ability to impact empathy levels. The design of the study provided for a number of additional control variables to understand further the effect of the intervention on study participants. Student participant empathy levels were measured using the student version of the Jefferson Physician Empathy Scale that measures the orientation or attitudes of medical students toward physician empathy in patient-care situations. An evaluation form, completed by each student's standardized patient, also was used to measure a simulated patient's perception of the student's communication and empathy skill. The experimental group treatment exposed participants to the MBTI® and the Health Care Communication in FLEX Care™ model through an eight-hour interactive workshop.

Research Questions

Although the FLEX Care™ program was designed to specifically impact participant communication effectiveness, this study was designed to test the theory that this communication training program's foundation in psychological type theory will produce a significant, positive effect (as other communication trainings have) on the empathy scores of the experimental group participants. Five research questions guided the design of the study:

1. Will the introduction of FLEX Care™ training to second-year osteopathic medical students significantly raise their empathy scores when compared with the control group?
2. Will the FLEX Care™ training significantly increase medical students' evaluation scores as determined by their standardized patients' when compared with the control group participants?
3. Will study participants' empathy scores significantly relate to the student's prior experience with the MBTI®, prior direct patient care experience, gender, anticipated specialty selection, or participant involvement in any additional curricular interventions designed to enhance empathy?
4. Will study participants' Jefferson Physician Empathy scores reflect significantly higher levels of empathy as compared to other medical students' scores available in the literature?
5. What is the psychological type profile of the experimental group and how does this group compare with published findings of other medical student samples? What is the relationship between students' type preference and empathy levels?

Hypotheses

Five corresponding hypotheses were used in the data analysis:

1. There are significant differences in empathy scores between the experiment and control groups using the Jefferson Scale of Physician Empathy (student version).
 H_0 : There are no significant differences in empathy scores between the experiment and control groups using the Jefferson Scale of Physician Empathy (student version).
2. There are significant differences in evaluation scores between the experiment and control groups using the Standardized Patient Feedback Form – Part II.
 H_0 : There are no significant differences in evaluation scores between the experiment and control groups on the Standardized Patient Feedback Form – Part II.
3. There are significant relationships between participant empathy scores and students' prior experience with the MBTI®, prior direct patient care experience, participant involvement in additional curricular interventions designed to enhance empathy, gender, or anticipated specialty selection.
 H_0 : There are no significant relationships between participant empathy scores and students' prior experience with the MBTI®, prior direct patient care experience, participant involvement in additional curricular interventions designed to enhance empathy, gender or anticipated specialty selection .
4. There are significant differences between study participants' Jefferson Physician Empathy scores and other medical students' mean scores.
 H_0 : There are no significant differences between study participants' Jefferson Physician Empathy scores and other medical students' mean scores.

5. There are significant MBTI® type characteristic differences among experimental group participants and JSPE empathy scores, gender, and anticipated specialty selection.

H₀: There are no significant MBTI® type characteristic differences among experimental group participants and JSPE empathy scores, gender, and anticipated specialty selection.

Significance of the Study

As mentioned previously, there are numerous benefits to patients, the health care system, and even to physicians themselves when physicians are equipped with the ability to empathize with their patients. Four specific areas most impacted by a physician's ability to communicate empathically are addressed in the review of the literature: patient compliance, patient satisfaction, patient autonomy or shared decision making, and physician satisfaction. Overall, the ability of a physician to develop an empathic relationship with patients enables more efficient and effective interactions between patients and their physicians, providing relief to many of the problems confronting the U.S. health care system. The medical education system, in response to the needs of the industry and society, needs to develop graduates who can fulfill this void.

This study adds to the empirical evidence available on empathy development initiatives within medical school curricula. In addition, the administrators on one university campus, various oversight, credentialing, and accrediting bodies (i.e., Association of American Medical Colleges, Institute of Medicine, Accreditation Council for Graduate Medical Education, Association of American Colleges of Osteopathic Medicine, etc.), as

well as the administration and faculty from medical schools around the world, have called for increased research in the development (and testing) of curricular interventions that enhance empathy and interpersonal communication skills among today's medical students.

Researchers from the CRMEHC stress the importance of continued research on physician empathy (Hojat et al., 2003) by emphasizing that the trust between physicians and patients can be established and maintained through mutual understanding and empathic interpersonal interactions. The physician-patient connection is the very basis of healing. Hojat et al. concluded with a quotation from Lewinsohn (1998):

No other profession has more at stake than medicine if the trust between caregiver and care receiver is broken. Medicine cannot be praised without this bond between the doctor and his patients, between scientist and practitioner, between society and the medical profession. (cited in Hojat et al., 2003, p. 36)

Summary

Medical schools across the U.S. are charged with the job of preparing future physicians who are prepared to meet the needs of a growing body of health care stakeholders, to include but not limited to, their patients. Fishbein (1999) identified three "potentially enormously potent challenges" commanding the attention of physicians and educators: the unbridled and relentless tide of scientific and technologic discovery; the harsh, cold discovery of the enormous financial burden that sophisticated medical care imposes on a health care system; and the public's desperate plea for physicians who are more caring and more communicative (p. 647). Fishbein concluded, "...for as much as the public demands scientifically sophisticated physicians, its confidence and trust will be earned by those who demonstrate compassion and empathy" (p. 647).

As the oncologist shared in the beginning of this chapter, medicine has changed dramatically in the last 50 years. Physicians can no longer focus on the disease, but must consider the person behind the disease. They must take into account the whole person: "...you have to address their finances, their insurance, their support systems at home...if you recommend the treatment and it can't be implemented because there is no one to pay for it, what good is it?" (Stebbins, 2004, p. 13). Just as the system of health care has changed, so have the requirements of the physicians who will support it.

Medical educators must continue to develop interventions that reduce the cumulative effect of the medical education process on each student's ability to empathize with one another and their patients. They also must guide students in developing effective communication and interpersonal communication skills, and teach them how to fulfill a basic need within their patients—"to be understood" (Hojat et al., 2003, p. 25). The current study tested the ability of an interpersonal communication program developed on a foundation of psychological type theory specifically for health care professionals to use in their encounters with patients. In addition to providing a straightforward and reliable framework for appreciating difference in communication preferences, the FLEX Care™ program also provides a rare opportunity for medical students to learn more about themselves, their strengths and weaknesses, including their own preferred communication style.

CHAPTER 2. LITERATURE REVIEW

Overview

This chapter introduces the ongoing dialogue in the medical and medical education literature surrounding the concept of empathy in the physician-patient relationship. The theoretical foundation of physician empathy, the effects of empathy on the physician-patient relationship, the role communication plays in the establishment of empathic relationships, the effect of empathy on physicians, the effects of the medical education process on its students' level of empathy, as well as the results of studies that have been undertaken to enhance or develop empathy in medical students, will be addressed.

The review also introduces Carl Rogers' theory on client-centered counseling, as it contributes to the establishment of a therapeutic physician-patient relationship, as well as supporting theorists in the area of effective communication. In addition, the FLEX Care™ program is discussed based on research undertaken in medical settings by Brock and Allen (2000). The FLEX Care™ model is heavily grounded in Carl Jung's theory of psychological preferences; therefore, an introduction to psychological type theory will also be provided in addition to an introduction to the FLEX Care™ model for health care communication.

Understanding physician empathy

Before reviewing the literature regarding the need for or effect of empathic physicians, it is first necessary to define empathy in the context of a physician-patient relationship. What is empathy, and what is it not? Is empathy a personality trait that someone is born with, or is it a skill that can be learned or enhanced through a curricular intervention?

Similarly, is it necessary to then look at the role of communication in the establishment of a therapeutic relationship by a physician?

The concept of “empathy” has a long history, originated in 1872 by Robert Vischer, a German philosopher, in addressing an observer’s understanding of the feelings that are perceived from works of art (Hojat et al., 2003). The term empathy is translated from the German word *Einfühlung*, which literally means “to feel into” (Halpern, 2001). In 1903, Theodor Lipps, a German theorist, defined empathy, or *Einfühlung*, as “the power of projecting one’s personality into (and fully comprehending) the object of contemplation” (Halpern, 2001, p. 75), the same definition is used today by the *Oxford English dictionary*.

Although the origin of the word and the concept of empathy can be pinpointed to a specific point in history, the implications of this concept have been surrounded in debate within the medical community over the latter half of the 20th century. Even today, results of a review of the literature within the limited fields of medicine and medical education highlight many concepts that one might describe as “empathy” or characteristics of an “empathic physician.” These include: perspective taking, attentive or reflective listening, patient-centered, humanistic, compassionate, caring, etc. This finding highlights what virtually all researchers have suggested: *physician empathy is a complex, multidimensional skill* [emphasis added] (Benbassat & Baumal, 2004; Halpern, 2001; Hojat et al., 2003). In other words, to be perceived as empathic involves more than a single skill; rather, it is an integrated function involving the cognitive, affective, and behavioral domains.

Medical education researchers have borrowed from the fields of psychology, sociology, bioethics, and nursing, to advance the conceptualization of empathy in a patient care setting. These studies (published from 2000-present) highlight a new clarity as to what is

desired: providing a more contemporary understanding of physician empathy in the physician-patient relationship. Although consensus is still out of reach, central themes are emerging. An introduction to the conceptualizations of these 21st century theorists is provided as follows.

Based on research conducted through the CRMEHC, Hojat et al. (2003) introduced a number of conceptual views on empathy in an attempt to grasp a definition of physician empathy. They began with Carl Rogers' (1959) description 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" (cited in Hojat et al., 2003, p. 26). Rogers emphasized the importance of the professional to perceive another person's experiences without losing the perception of separateness. Hojat et al. further expanded that, without the "as if" condition, the professional enters into the territory of sympathy (versus empathy). Then they introduced a series of theorists, such as Bolognini (1997), Aring (1958), and Kohut (1971), whose definitions of empathy varied in the emphasis of the cognitive and affective domains, while also determining the degree of connectedness versus separateness of the physician with his or her patient. Aring (1958) added the third domain of behavioral empathy through emphasis of the action or behavioral aspects of empathy (cited in Hojat et al., 2003, p. 26). Hojat and colleagues also made several important conceptual clarifications in their exploration of physician empathy:

Empathy versus sympathy

Sympathy is defined as the act or the capacity of entering into or joining the feelings of another person, whereas *empathy* is defined as the capacity to understand, but without

joining the feeling of the patient (Hojat et al., 2003). A review of these definitions highlights the subtle difference of whether or not the physician “joins” the feelings of the patient.

Although the concepts of empathy and sympathy are often viewed as the same, there is a distinguishable difference in a patient care situation. Hojat et al. (2002b) emphasized their view of the relationship between the cognitive and affective domains of empathy in sharing “both concepts involve sharing, but empathetic physicians share their understanding, while sympathetic physicians share their emotions with the patients” (p. 1563).

Hojat et al. (2003) further explained that, if in excess, sympathy could interfere with objectivity in diagnosis and treatment. They described the physician’s “compassionate detachment” in expressing empathetic concern for the patient while keeping sympathy at a reasonable distance to maintain emotional balance. Furthermore, an “affective distance” between the physician and patient has been considered desirable to avoid intense emotional involvement that might jeopardize clinical neutrality and personal durability (Hojat et al.).

Cognitive and affective domains

Empathy is believed to involve cognitive as well as affective or emotional domains (Hojat et al., 2003). Hojat et al. reported that the *cognitive* domain of empathy involves the ability to understand another person’s inner experiences and feelings and a capability to view the outside world from the other person’s perspective. The *affective* domain involves the capacity to enter into or join the experiences and feelings of another person. Kim, Kaplowitz, and Johnston (2004) added that the cognitive aspect also involves effectively communicating the person’s perspective back to the patient, while the affective aspect of physician empathy involves the physicians’ ability to respond to and improve his or her patients’ emotional

state. Finally, in a recent study on empathy, Kim et al. reported that controversy exists regarding whether empathy is an affective or cognitive construct or both. They concluded:

The most prevailing current view among empathy theorists and researchers holds that empathy entails both affective and cognitive elements and that only the clear recognition of both the affective and cognitive aspects can improve our understanding of empathy. (p. 239)

In a 2001 study of practicing physicians, Hojat et al. (2002b) confirmed the prior belief that physician empathy is a multidimensional concept involving at least three components: perspective taking, compassionate care, and standing in the patient's shoes. Perspective taking was found to be the core ingredient of empathy and involved the physician's ability to think like the patient. Compassionate care (assigned the emotion in patient care) and standing in the patient's shoes (feeling like the patient) were both specific to the patient-physician relationship.

Reciprocity

Another feature of empathy Hojat et al. (2003) emphasized is that of *reciprocity*. Unique to the patient-physician relationship, is a patient's comprehension that the physician understands. This notion of reciprocity highlights the contribution that empathy plays in building a trusting relationship that often results in better compliance and clinical outcomes. Allen and Brock (2000) added that effective communication, or the ability of a physician to identify (or "tune-in") and then match the information and decision-making needs of a patient, is the first step to building trust and credibility.

Holistic approach

Understanding the patient through verbal and non-verbal communication aids in the development of a positive physician-patient relationship. Francis W. Peabody (1927) described this notion as “the practice of medicine in its broadest sense includes the whole relationship of the physician with his [her] patient” (cited in Hojat et al., 2003, p. 27). Similarly, in his landmark article, *The care of the patient*, Sir William Osler (1932) suggested, “it is as important to know what kind of a man has the disease, as it is to know the kind of disease has the man” (cited in Hojat et al., 2003, p. 27). Osler further advised physicians to “listen to the patient” because the patient is “telling you the diagnosis” (p. 27). Hojat et al. (2003) further described the positive physician-patient relationship with a quote from Reik (1948): “to learn how one mind speaks to another beyond words and in silence, he must learn to listen ‘with a third ear’” (p. 27).

Benbassat and Baumal (2004) added to the dialogue surrounding the conceptual complexity surrounding empathy:

The word empathy has been variably identified with putting oneself cognitively into another person’s psychological perspective, or with an affective response to another person’s plight. Others have equated empathy with compassion, a sense of ‘we’ rather than ‘I and you’ and ‘an openness to, and respect for the personhood of another. (p. 833)

After struggling with these diverse frameworks, Benbassat and Baumal (2004) articulated the following definition of empathy:

A multiple-phase process rather than a single event—empathy begins with gaining an insight into the patient’s concerns, feelings and sources of distress. This insight is followed by engagement (i.e., identification with these feelings). In turn, this produces compassion (i.e., a feeling of discomfort produced by the distress of another person). Compassion leads to a desire to remove the cause of distress or at least to alleviate it. (p. 833)

Benbassat and Bauml (2004) continued by describing that each of these steps has mediating variables that influence whether empathy progresses or not. In other words, the first step is mediated by the patient's ability to convey his or her concerns or distress, and by the doctor's ability to encourage the patient to do so. To move from insight into the patient's concerns to engagement requires the doctor to self-transpose into another person's situation and to identify with the suffering of people of different backgrounds and values. Engagement may progress to compassion and an attempt to help. However, they warn, the insights provided by engagement may be used to harm or manipulate others.

Further insight into the concept of physician empathy has resulted from the work of Shapiro (2002) who conducted a qualitative study to explore how 12 primary care clinician-teachers attempt to convey empathy to medical students and residents. Shapiro reported that the faculty had clear conceptualizations of what empathy meant in clinical practice. All respondents described empathy with phrases such as "putting myself in the patient's shoes" or "climbing into the same boat as the patient." All distinguished empathy from sympathy and agreed that empathy is more than an intellectual understanding or a cognitive analysis. The respondents recognized that empathy involved personal relatedness. Some disagreement did emerge as to the precise balance between the cognitive and affective components. Some cautioned that emotion (affective empathy), unfiltered by cognition, could be unhelpful and misleading to the clinician. Others stressed that the key component of empathy was the emotional connection with the patient, and without this affective bond, mere behavioral attempts at empathy would produce its antithesis (Shapiro).

Allen and Brock (2000) further added to the discussion surrounding cognitive and affective empathy. First, they strongly emphasized the need for the practitioner first to

understand their own preferred communication style and how it may vary from that of their patient. Second, they highlighted that empathy is not “putting myself in the patient’s shoes” because, “it is obvious that I haven’t got their illness—but saying to the patient what I heard them say and the feeling it seemed to carry” (p. 82). Allen and Brock limited affective empathy, “rather than immediately ‘matching’ the patient’s emotional behavior, it may be necessary to identify it” (p. 82). They further highlighted that training in psychological type theory can help health care practitioners identify the preferences of the patient and allow the practitioner to respond appropriately based on their (the patients) needs. Allen and Brock’s addition to the debate is that patients are not all the same. Their *needs or wants for cognitive or affective empathy vary in emphasis and order based on the individuals type preferences* [emphasis added]. This approach is unique as compared with other theorists who strive to identify *an* [emphasis added] empathetic approach or process for physicians to use in all health care encounters.

“Empathy in action” was also uncovered in Shapiro’s (2002) work. All study respondents agreed that the purpose of empathy is to render more meaningful assistance to the patient by ensuring they are clear about the patients needs; however, an implementation component, or the willingness to help the patient in concrete, specific ways (e.g., streamlining the hospital stay or prescribing less expensive medication), not simply listening to the patient’s problems (Shapiro).

Halpern (2001) responded to the debate surrounding the role of affective empathy within the concept of clinical empathy, in her book, *From detached concern to empathy*. Halpern discussed the struggle to adopt many of the prior theories surrounding empathy into a clinical context:

Empathy has been described in a variety of ways, such as an end result, a tool, a skill, a kind of communication, a listening stance, a type of introspection, a capacity, a power, a form of perception or observation, a disposition, an activity, or a feeling. Current theories of empathy do little to clarify the confusion, because ... they overlook the possibility of a cognitive benefit from emotional engagement and therefore have no concept of emotional reasoning. (p. 67)

Halpern (2001) began with a characterization of empathy as “An essentially experiential understanding of another person that involves an active, yet not necessarily voluntary, creation of an *interpretive* [emphasis added] context” (p. 77). Two additional points for clarification were made with regards to use of the phrase “creation of an interpretive content.” First, Halpern noted the critical emphasis is on common human possibilities, rather than on people actually sharing similar experiential histories. Physicians who in no way share patients’ actual predicaments, may share a range of imagined possibilities. For example, a non-grieving physician who is nevertheless motivated by attachments and vulnerable to loss will attend to the nuances of a patient’s grief, in part because of their common human vulnerabilities. Second, physicians must see in their patients not what is relevant to their own self-interests, but instead, they need to imagine the patients’ actual experiences through a shared interest in common human struggles and emotions.

Halpern (2001) later augmented: “...where the empathizer is able to resonate emotionally with, yet stay aware of, what is distinct about the patient’s experience” (p. 85). Reflecting on earlier psychoanalytic discourse on empathy, a passage from Kohut (1959) is shared that highlights some clinicians’ belief in “merging” or a co-experience of emotion:

The therapist’s capacity to feel what the patient feels allows her to identify with the patient to the degree that she can temporarily experience a sense of herself and the patient as one person, thereby gaining access to how it feels to be in the patient’s concrete situation. (cited by Halpern, 2001, p. 78)

Halpern (2001), however, argued that merging involves little cognitive content of its own; therefore, it is insufficient for grasping another's distinct emotional point of view.

Additionally, identification and fantasy are not consistent with the empathizer's need to "stay aware" or to not take oneself to be in another's here-and-now and the importance of "decentering," or to step aside from our own perspective to fully appreciate another's situation.

Imaging *how* it feels to experience something from the perspective of the agent rather than the external observer concluded Halpern's (2001) conceptualization of clinical empathy. It was later noted that a physician using his or her imagination unifies the details and nuances of the patient's life into an integrated affective experience of how it feels to have a certain illness, disability, or psychological injury. An on-going dialogue with the patient allows physicians to correct inaccuracies in their perceptions. Halpern described the overall goal:

The physician's imagination and feelings work together to create a unified affective world that has the character of an experiential "totality." This is like the totality created by a dancer, which cannot be reduced to a sum of discrete movements, as it adheres in her style, her time, and her pauses between movements. Similarly, physicians express empathy not only by making accurate comments about a patient's feelings, but by their timing, vocal tones, pauses, and overall attunement to the affective style of a patient.
(p. 93)

Halpern (2001) noted that empathy supplements objective knowledge, the use of technology, and other tools to make accurate diagnosis. Clinical empathy, therefore, is the most effective way to make correct diagnosis based on a *full* understanding of the patient's problems.

Considering the views of the theorists introduced previously, a contemporary conceptualization of empathy would include a focus on the cognitive, affective, and

behavioral domains: Empathic physicians strive to *understand and accept* the inner experiences of another person; through an *interpretive* process of *imagining how* it feels to experience their reality; while also maintaining their own separate “staying aware,” “*as if*,” or “decentering” posture; striving to *help*, not just listen; and finally, to engage in a safe and open process of discovery through *effective communication* that is based on the *needs or preferences* of the patient [emphasis added].

As introduced in Chapter 1, this study used the operational definition developed by the Center for Research in Medical Education and Health Care (CRMEHC):

A cognitive (as oppose to affective) attribute that involves an *understanding* of the inner experiences and perspectives of the patient, combined with a capability to *communicate* this understanding to the patient [emphasis added]. (Hojat et al., 2003, p. 28)

Although limited in its ability to embrace all of the components identified in the more contemporary conceptualization of physician empathy above, their definition serves as the basis for their instrument, the Jefferson Scale of Physician Empathy. CRMEHC emphasizes two key terms perceived to be the most significant in the construct of empathy in patient care situations: cognitive understanding and communication.

Nature of empathy

Similar to the conceptualization of empathy, the origin or nature of empathy is also the object of considerable debate among empathy researchers. From a medical education perspective, the nature of empathy is critical to the role educators take in developing empathic physicians. If empathy is an innate characteristic, the emphasis of educators would be on the selection of empathic applicants. If empathy is a skill, the emphasis is on the process of education and training and the building of a curriculum to support its

development. Carlozzi, Bull, Stein, Ray, and Barnes (2002) reported that various definitions of empathy are based to some extent on the theories from which they are derived; therefore, the nature of empathy also is viewed from the theoretical perspective or approach of the researcher.

Hojat et al. (2003) consented on the debate of the nature of empathy: "Research findings remain inconsistent about how amenable empathy is to educational intervention" (p. 35). However,

... our findings that empathy scores decline during medical education, suggest that empathy is likely to be amenable to change. If empathy scores can change in a negative direction during medical education, they can also change in a positive direction by targeted education programs. (p. 35)

Shapiro's (2002) study highlighted that most of the 12 clinician-teacher respondents believed empathy to be both a skill and an attitude, although pediatricians and women physicians generally tended to emphasize its innate qualities, while others favored a more reductionistic, behavioral definition. Some noted that they could not imagine not being empathic, while others stressed the importance of analyzing, specifying, and "working on" empathic skill development.

Halpern (2001) consistently referred to "empathic skills" which infers the belief that empathy is, in fact, teachable. Halpern recommended that empathy be taught during medical training and that this training should involve specific verbal and non verbal communication skills and a cultivation of curiosity about others, to include a sensitivity to others emotional reactions, and an ongoing capacity to see the patient's situation, motives, and reactions as distinct from their own. Rogers (1980) added, "the ability to be accurately empathic is something that can be developed by training...this subtle, elusive quality...is not something

one is 'born with;' rather it can be learned, and learned most rapidly in an empathic climate" (p. 150). Introduced previously, Benbassat and Baumal (2004) defined empathy as a "multi-phased process rather than a single event" and provide a four staged process. They believe that the first step, which is "gaining an insight into the patient's concerns, feelings, and sources of distress," (p. 834) is a teachable skill, while the subsequent steps are mainly related to the personality traits of each individual student.

This focus of the current study was on the development of clinical empathy which aligns with the conceptualization that empathy (at least in part) is a learned skill that can be enhanced, refined, and reinforced through educational intervention within the medical school curriculum (Benbassat & Baumal, 2004; Halpern, 2001; Hojat et al., 2003; Shapiro, 2002). Furthermore, each of the theorists mentioned support a training approach that helps students to: (1) understand the unique perspectives and experiences of patients; and (2) develop their verbal and nonverbal communication skills to reflect their understanding back to the patient, which is congruent with the FLEX Care™ training program goals. Results of this study add to the empirical research addressing the development of empathy in medical training.

Therapeutic relationship

Central to the conceptualizations of empathy presented by Hojat et al. (2003), Halpern (2001), Shapiro (2002), and many others, is Carl Rogers (1980) theory of client-centered counseling. A central figure in the field of humanistic psychology, Rogers is often quoted by authors within the medical education literature for his conceptualization of empathy as the foundation of a therapeutic relationship (Diseker & Michielutte, 1981; Hojat

et al., 2003; Mangione et al., 2002; Rosenfield & Jones, 2004). Medical educators identify with Rogers' (1980) theory, whose central hypothesis is:

Individuals have within themselves vast resources for self-understanding and for altering their self-concepts, basic attitudes, and self-directed behavior; these resources can be tapped if a definable climate of facilitative psychological attitudes can be provided. (p. 115)

According to Rogers (1980), there are three conditions that must be present for a climate to be “growth promoting,” or when the development (change) of the person is the goal: genuineness, unconditional positive regard, and empathy. A brief introduction into the three core conditions follow (Rogers, 1980):

1. *Genuineness*, realness or congruence. The more the therapist is himself or herself in the relationship, putting up no professional front or personal façade, the greater is the likelihood that the client will change and grow in a constructive manner. Rogers (1980) uses the term “transparent” to share the essence of this condition, “the therapist makes himself or herself transparent to the client; the client can see right through what the therapist is in the relationship; the client experiences no holding back on the part of the therapist” (p. 115). There is a close matching, or congruence, between what is being experienced at the “gut” level, what is present in awareness, and what is expressed to the client.
2. *Unconditional positive regard*, acceptance, caring, or prizing. When the therapist is experiencing a positive, accepting attitude toward whatever the client is at that moment, therapeutic movement or change is more likely to occur. The therapist is willing for the client to be whatever immediate feeling is going on—confusion, resentment, anger, courage, etc. Such caring is nonpossessive. The therapist prizes the client in a total, rather than a conditional, way.
3. *Empathic understanding*. This means that the therapist senses accurately the feelings and personal meanings that the client is experiencing and *communicates* [emphasis added] this understanding to the client. Rogers (1980) added that when this condition is functioning at best the therapist is so much inside the private world of the other that he or she can clarify not only the meanings of which the client is aware but even those just below the level of awareness. Rogers noted that this level of sensitive, active listening, is rare. “We think we listen, but very rarely do we listen with real understanding, true empathy,” added Rogers (1980, p. 116). “Yet listening, of this very special kind,” Rogers added, “is one of the most potent forces for change that I know” (p. 116).

Rogers (1980) later provided further insight into his understanding of the role of empathy within this client (or patient) relationship. "... research evidence has kept piling up, and it points strongly to the conclusion that a high degree of empathy in relations is possibly *the* (emphasis added) most potent factor in bringing about change and learning" (p. 139). In other forms of therapy, the therapist is clearly the expert, who is actively manipulating the situation for the client's benefit. However, central to Rogers' model, is a new role for the therapist—a way of "being with people that locates power in the person, not the expert" (p. 140). Rogers clarified that the therapist should participate in "a flow of experiencings to which the client can turn again and again as a referent in order to discover the meaning of those experiences" (p. 141). Finally, Rogers further emphasized that to accurately empathize with another requires the therapist "lay aside your self" which requires them to be secure enough in themselves that they know they will not get lost in the world of the client. "... being empathic is complex, demanding, and strong," wrote Rogers, "yet also subtle and gentle—a way of being" (p. 143).

Rogers (1980) concluded with a short description of the effect of such a climate on a client and how it facilitates change:

Briefly, as persons are accepted and prized, they tend to develop a more caring attitude toward themselves. As persons are empathically *heard*, it becomes possible for them to listen more accurately to the flow of inner experiencings. But as a person understands and prizes self, the self becomes more congruent with the experiencings. The person thus becomes more real, more genuine. These tendencies, the reciprocal of the therapist's attitudes, enable the person to be more effective growth-enhancer for himself or herself. There is a greater freedom to be the true, whole person [emphasis added]. (pp. 116-117)

Rogers (1980) client-centered theory provides the theoretical underpinning for many researchers theories related to physician empathy and the physician-patient relationship. His

client-centered model has been adopted by physicians striving to develop a therapeutic relationship with their patients to facilitate necessary change in their health behaviors while also protecting themselves from (over) identification with their patients. Referred to as patient-center care in a health care setting, the goal is for the physician to engage the patient into sharing their concerns, expectations, and desires for health-related information. In an effort to support the patient's health and wellness goals, Benbassat and Baupal (2004) improved their clinical outcomes, and increased their satisfaction with the provider.

A critical point that should not be overlooked is Rogers' (1980) emphasis of the need for therapists' self-awareness or knowledge of self in the establishment of a therapeutic relationship. Rogers described the first condition as "genuineness" or the therapist *being* [emphasis added] himself or herself within their relationship with their clients as a foundation of the establishment of a growing or learning environment. Rogers continued emphasizing the need for the therapist to "... be secure enough in themselves that they know they will not get lost in the world of the client" (p. 143) further highlighting the need for self awareness. Allen and Brock (2000) also emphasized the need for practitioners to know themselves and their preferences and "the ways which they typically respond" (p. 81). An awareness of self is the foundation of understanding differences in others—helping practitioners understand and even appreciate patients or colleagues who show preferences different from their own (which could establish the second condition of "unconditional positive regard"), providing the basis for effective and empathic understanding and communication.

Physician-patient communication

Although labeled as a separate yet desired competency within the medical literature, effective communication skills play an integral role in the patient's perception of an empathic physician. Halpern (2001) earlier introduced the origin of the word "empathy," further comments on the critical role communication plays in a contemporary conceptualization of empathy, "Though useful then, the concept of *Einfühlung* is insufficient to account for clinical empathy because it fails to link empathy with an *interpersonal exchange*" (emphasis added) (p. 76). The origin of the concept of empathy was originally linked to an internal appreciation for the feelings one experiences when viewing a work of art. However, establishing a therapeutic relationship with a patient is dependent on the physician's ability to first build a client or patient-centered climate that encourages patients to share their experiences. The addition of communication to the concept of empathy, has redefined its role in a clinical setting.

Communication versus interpersonal skills

Duffy, Gordon, Whelan, Cole-Kelly, and Frankel (2004) stated that communication with patients is the core clinical skill for the practice of medicine:

Specific tasks and observable behaviors that include interviewing to obtain a medical history, explaining a diagnosis and prognosis, giving therapeutic instructions and information needed for informed consent to undergo diagnostic and therapeutic procedures, and providing counseling to motivate participation in therapy or to relieve symptoms. (p. 497)

While *communication skills* are the performance of specific tasks and behaviors by an individual to facilitate the exchange of health related information, *interpersonal skills* are inherently relational and process oriented. Interpersonal skills focus on the effect of

communication on another person. Interpersonal skills build on basic communication skills, which alone are “insufficient to create and sustain a therapeutic relationship” (Duffy et al., 2004, p. 498). Allen (2002) added that there are two important aspects to the work of health care professionals: One is the “what” or the skills, knowledge and experience (communication skills) that is brought to the patient; the second, is the “how” or the way we interact and communicate with the patient (interpersonal skills). Allen further explained that, as patients increasingly become more sophisticated in the services and expectations, they demand within the context of increased financial and time constraints (representing the “what”), “the ‘how’ becomes increasingly more important” (p. 10).

Duffy et al. (2004) outlined the important elements of interpersonal skills: (1) respect, including treating others as one would want to be treated; (2) paying attention to the patient with open verbal, nonverbal, and intuitive communication channels; (3) being personally present in the moment with the patient, mindful of the importance of the relationship; (4) having a caring intent, not only to relieve suffering but also to be curious and interested in the patient’s ideas, values and concerns; and (5) flexibility, or the ability to monitor the relationship in real time and adjust interpersonal skills as necessary (p. 498).

Therefore, according to Duffy et al. (2004), to be regarded as an effective communicator, a physician would need to move beyond the mutual sharing of health related information and instead facilitate the building of a (long- and short-term) relationship with each individual patient based on the *patient’s* unique wants/needs or preferences for information and in how they make decisions related to shared information [emphasis added]. Interestingly, this perspective conflicts with the statement by Duffy et al. that respect is demonstrated by “treating others as one would want to be treated” (p. 498). Allen and Brock

(2000), the authors of FLEX Care™ Health Care Communication Model, commented further on the error of most communication models in assuming that everyone with whom one desires to communicate with will react the same way, or what works for one person will be equally good for another. Therefore, an effective interpersonal relationship with a patient must be based on the unique perspectives, needs, and wants of the patient, not the physicians. This concept directly supports the physician or clinical empathy conceptual framework established earlier (Halpern, 2001; Hojat et al., 2003; Rogers, 1980) in that an empathic relationship is developed by the physician's willingness to understand, interpret, imagine how, help, and communicate from the *patients perspective*, not "treating others as one would want to be treated" [emphasis added] (Duffy et al., 2004, p. 498).

The literature clearly shows the vital importance both communication and interpersonal communication skills play in a patient-care setting and how empathic physicians or a physicians who can empathize with their patients, can better facilitate the establishment of a therapeutic relationship with his or her patient. It is also evident that the interrelated and exponential nature of these concepts (communication, interpersonal skills, and empathy) could, in fact, contribute to the confusion that surrounds their inclusion and assessment in medical education curricula, as well as the general practice of medicine. Patients, medical educators, and even some physicians themselves can see the importance of these skills, but without a clear understanding of the concepts and their relationship to empathy, training or educating someone in their effective use, is difficult to say the least.

Purposes of physician-patient communication

Ong, De Haes, Hoos, and Lammes (1995) reported that among inter-personal relationships, the doctor-patient relation is one of the most complex (p. 903). It involves interactions between individuals in non-equal positions, is often non-voluntary, concerns issues of vital importance, is therefore emotionally laden, and requires close cooperation. While sophisticated technologies often are used for medical diagnosis and treatment, interpersonal communication is the primary tool by which the physician and patient exchange information and arrive at diagnosis and decisions on a range of treatment options (Ong et al., 1995; Allen, personal communication, January, 7, 2005).

In an issue of *Health Communication*, Wanzer, Booth-Butterfield, and Gruber (2004) reported that patient anxiety may be due, in part, to health care providers' lack of supportive, patient-oriented communication skills. They continued, "Today, the approach to treating patients places greater emphasis on communication during the care-giver and patient meeting than in previous years" (p. 364). Reasons given to explain this shift point to health care providers being increasingly aware of the benefits of patient-centered medicine, especially in preventative medicine, chronic care, adherence, and rehabilitation and a concern about malpractice litigation and other patient problems. Again, Allen (2002) added that: "available treatment options are developing ever faster and often have to be discussed in the context of financial and time constraints" (p. 10). Additional reasons given for the increase emphasis in effective physician-patient communication, include patient satisfaction, physician satisfaction, accurate diagnosis, and malpractice litigation (Brock & Allen, 1999, pp. 24-25).

Following their comprehensive review of the literature, Ong et al. (1995) reported that certain aspects of doctor-patient communication seem to have an influence on patients' behavior and well-being, to include satisfaction with care, adherence to treatment, recall and understanding of medical information, coping with the disease, quality of life, and even state of health. Three different purposes of communication between doctors and patients were outlined: creating a good inter-personal relationship; exchanging information; and, making treatment related decisions (Ong et al.). Each is briefly described as follows.

Creating a good inter-personal relationship. Considered the prerequisite to optimal medical care, a good interpersonal relationship is an important purpose of communication. Again, definitions of a "good" interpersonal relationship vary; however, from a clinical/psychotherapeutical perspective, a "good" relationship between physician and patient is determined by its therapeutic qualities. Irwin (1989) viewed clinical medicine as "communication between two people aiming to establish or sustain an effective working relationship in which mutual trust exists" (cited by Ong et al., 1995, p. 904). Again, Carl Rogers' client-centered theory is cited as the foundation of the effective therapeutic relationship that fosters growth or change in attitudes or behaviors. Ong et al. commented on the importance of empathy in the establishment of doctor-patient relationships:

Even though different authors define empathy in different ways, they agree that this core condition must be considered very important. Empathic doctor-patient relations consist of: eliciting feelings, paraphrasing and reflecting, using silence, listening to what the patient is saying, but also to what he is unable to say, encouragements and non-verbal behavior. (p. 904)

Exchange of information. Another main purpose of medical communication is promoting the exchange of information between the doctor and the patient. Information can

be thought of as resources brought to the verbal interaction by both parties. The exchange of information consists of information-giving and information-seeking (Ong et al., 1995).

From a medical point of view, doctors need information to establish the right diagnosis and treatment plan. From the patient's perspective, two needs have to be met when visiting the doctor: "the need to know and understand (to know what is the matter, where the pain comes from) and the need to feel known and understood (to know the doctor accepts him [her] and takes him [her] seriously" (Ong et al., 1995, p. 904). To fulfill doctors' and patients' needs, both alternate between information-giving and information-seeking.

Ong et al. (1995) reported on recent studies that have shown that physicians generally seem to underestimate patients' desire for information, including the type of information they are seeking, and typically do not adequately solicit information regarding the patients concerns. Where cancer is concerned, the need for information is especially great. Blanchard, Labrecque, Ruckdeschel, and Blanchard (1988) found that 92% of the interviewed cancer patients desired all information about their disease, good or bad (cited by Ong et al., 1995, p. 904). Furthermore, these patients reported dissatisfaction with the exchange of information stemmed from a lack of concordance between the perceptions of patients and doctors. When informing cancer patients about their disease, doctors may define medical information objectively or report the type of disease, its stage, and the type of treatment; while patients define it in terms of its personal relevance to them—"Will I fully recover? How much pain will I have? How can I manage my recovery?" Physicians may feel they have given precise and relevant information, while the patient may feel they have learned nothing new or their questions remain unanswered (Ong et al., 1995).

Allen and Brock (2000) provided direction on the lack of congruence between physician and patient's expectations. Through their application of Jung's psychological type theory and the insight it offers on the differences of individual perspectives, they differentiated between two psychological dichotomies of Sensing and Intuition in how individuals process the gathering of information and what one pays attention to. Patients and physicians with a preference for sensing tend to be focused in the present and concentrate on practical tasks. Patients demonstrating a Sensing preference may ask for detailed, factual information about their current situation and not care for speculation or conjecture. Their emphasis and order for information is first on the detailed, factual information about the current situation and may at some point desire input on the future, but initially may find these discussions stressful and irrelevant. Similarly, physicians with a sensing preference are more likely to first focus on the practical reality of the patient's condition. Their emphasis is on seeking clarity on "what is, how many, what has been done already?"

In contrast, patients with a preference for Intuition tend to focus on possibilities and what might be rather than details and what is. Their emphasis is first on conceptual questions about the overall situation and may become visibly irritated or fatigued with detail. They may be observed to "switch-off" if over-loaded with detail. Physicians who prefer Intuition strive to identify patterns and look for a variety of possibilities (options) that are unique. They strive for the association of ideas—and are often viewed as innovative (Allen & Brock, 2000).

Ong et al. (1995) reported several startling statistics related to the exchange of information between physician and patient: Physicians contribution to the medical dialogue is on average 60% while patients on average contribute 40% to the conversation; 23% of the

medical interaction is question-asking by the physician using mostly close-ended questions, while 35% is information-giving by the physician; however, another study reports that on average, doctors spend a little more than one minute during a 20-minute encounter giving information. Again, Allen and Brock (2000) added insight from the theoretical perspective of psychological type and the Extraversion-Introversion domain. They introduced those with a preference for Extraversion as having a tendency for “thinking out loud.” An idea becomes fully formed when articulated. Physicians and patients demonstrating Extraversion may be perceived as easy to engage in conversation, easy to know at some level, not always able to listen, may interrupt, and prefer more versus less verbal communication and feedback. On the other end of the dichotomy is Introversion. Physicians and patients who prefer Introversion chose to first ponder and reflect on ideas, before sharing. Allen and Brock shared a common concern of patients and physicians with an Introversion preference, the patient or physician “... has thought about something for so long that they believe it has been shared when it has not” (p. 11). Therefore, physicians and patients with a preference for Introversion may be seen as less easy to engage in conversations, may include long pauses, less overtly in need of communication, and partiality for written information to review and reflect on. Allen and Brock concluded that these differences between Extraversion and Introversion can lead to very different styles of communication, while an understanding of the varying approaches can improve mutual understanding.

In their article, *Soliciting the patient's agenda*, Marvel, Epstein, Flowers and Beckman (1999) examined the extent to which experienced family physicians in various practice settings elicit the agenda of concerns patients bring to their offices. Results showed that physicians solicited patient concerns in 75% of the initial interviews. Patients' initial

statements of concern were completed in only 28% of the interviews; instead, physicians redirected (or interrupted) the patient's opening statements after a mean of 23.1 seconds. Patients allowed to complete their statement of concern, used only 6 seconds more on average than those who were redirected before completion. Furthermore, the study showed that late-arising concerns were more common when physicians did not solicit patient concerns during the interview. Marvel et al. concluded, "Soliciting the patient's agenda takes little time and can improve interview efficiency and yield increased data" (p. 283).

Ong et al. (1995) concluded by encouraging physicians to embrace an empathic approach in their communication with their patients:

Physicians should first encourage their patients to discuss their main concerns without interruption...and elicit patients' perceptions of the illness and the feelings and expectations associated with the disease in order to achieve an effective exchange of information. (p. 905)

Medical decision-making. Another major purpose of medical communication is to enable doctors and patients to make decisions about treatment. Several studies report that patients today are seeking shared decision-making with regards to their care and treatment options selected where in prior years physician-centered or paternalistic decision-making models dominated the process (Allen & Brock, 2000; Halpern, 2001; Hausman, 2004). Significant research has been conducted to explore this new model from both the patient and physician perspectives. Hausman reported that today's patient are more medically sophisticated and that failure to solicit their input reduces buy-in to the treatment, increases lack of commitment to the process, and ultimate noncompliance with the treatment. However, Ong et al. (1995) reported that the result of several studies indicate that patients continue to rely on their physicians to assume primary responsibility in the decision making

process; however, patients want adequate information to understand why the physician recommended one treatment over the other and information to help them manage their disease. Providing the physician perspective, Fallowfield, Hall, Maguire, and Baum (1990) explained that some physicians have difficulty in giving patients responsibility for medical decisions: if the treatment the patient selected is unsuccessful, patients may feel they made the “wrong” choice thereby demonstrating that all the variables involved were not given adequate consideration (cited in Ong et al., 1995).

Allen and Brock (2000) also provided insight into varying expectations of the physicians’ role in decision making with their application of this process to the psychological preferences of individual patients. Using Jung’s theory of psychological type, they share the two psychological dichotomies of how individuals weigh decisions: Thinking and Feeling. Patients and physicians with a Thinking preference tend to base decisions on logical cause and effect thinking (“if this...then that”). They tend to emphasize the analysis of the situation in a non-personal, objective manner first. When communicating, they are likely to appear detached and task-centered and may appear to be critical when examining an idea and often test the practitioner or patient to ensure their knowledge, experience, and overall competence. Their emphasis on seeking the “truth” regarding the/their condition and treatment options reflects their desire for respect and their need to direct their own future and to be directly involved in their treatment decisions. The emphasis of a Thinking preference when first weighing a decision, especially when contrasted with a Feeling preference, may at its extreme be misinterpreted as cold and uncaring, overly critical and even competitive.

The Feeling preference represents the other end of Jung’s judging or weighing of decisions domain (Allen & Brock, 2000). Patients and clinicians with a preference for

Feeling tend to base their decisions on values that center on people. Conclusions tend to be sought through a subjective process, identifying what will please others or what is the person-centered value. Recognizing another's personal needs and expressing appreciation of their individuality are of great importance for those with this preference. A value of harmony in interactions may initially take precedence over logic, of which competency of the practitioner and patient in their ability to assess their health may be assumed. Difficulty in breaking bad news or complaints on the care they receive may be difficult when limited to their own value set. Again, the emphasis of feelings or protecting the feelings of others when weighing a decision may be misinterpreted as illogical, emotional, or fragile.

Allen and Brock (2000) identified this particular domain at the greatest potential for misunderstanding and bias, which is of particular importance in health care settings, since coming to conclusion and taking action are often the goal of health care encounters. They borrowed a quotation from Bayne (1995) to further articulate the Thinking and Feeling domain as being "...most open to miscommunication, as 'not having emotions' and 'not able to be logical,' respectively" (cited in Allen & Brock, 2000, p. 15). However, they emphasized that every individual has the ability to think and feel (as a basis for decision-making), but they typically have a preference for one over the other.

The final domain from Jung's and Meyer's psychological type theory that influence physician and patient decision-making is the Judging – Perceiving domain or the individual approach to managing or ordering one's life (Allen & Brock, 2000). Allen and Brock described those with a preference for Judging as tending to live life in an organized, planned manner. They typically strive for structure and are usually more comfortable after decisions have been made than they are during the process. Patients or physicians with preferences for

Judging may be seen as needing definite answers, punctual, organized, and making decisions well ahead of time. Individuals who identify with the Judging preference may strive for closure (decision on treatment, next appointment, what action they need to take, etc.) before leaving the physicians office. Indecision may lead to discomfort and/or anxiety for those with a Judging preference.

On the opposite side of the organizing or managing one's life domain are those who prefer Perceiving. Those with this preference are often viewed as the "go with the flow" people (Allen & Brock, 2000). Perceiving types enjoy the actual process involved in decision-making and an early decision can feel restrictive to them. Perceiving types prefer decisions remain open and flexible while continuing to focus on seeking new information, ideas, or solutions. Physicians and patients with a Perceiving preference tend to want lots of information and strive to delay making a final decision until the last minute. They may have more difficulty with compliance, finding treatment schedules confining, or they may change appointments or schedules to fit other aspects of life. Perceiving types may delay decisions and may need more time to process information before coming to a final decision (Allen & Brock).

Non-verbal communication

Much of the discussion in this chapter has been limited thus far to verbal communication; however, it is critical to briefly note that researchers report that only 7% of emotional communication is conveyed verbally; 22% is transferred by voice tone; but 55% is transferred by visual cues, like eye contact and body position (Ong et al., 1995). Non-verbal communication has been operationalized in different ways but typically includes: tone of

voice, gaze, posture, laughter, facial expressions, touch, and the physical distance of the physician from the patient (Ong et al.). Ong et al. reported on a number of studies whose findings explain that patients are very sensitive to and observant of the non-verbal communications conveyed by their doctors. Illness usually involves emotions such as fear, anxiety, and emotional uncertainty, which in turn, result in patients' searching for subtle cues and information about different aspects of their disease. Additionally, "Non-verbal communication 'leaks' messages that are not meant to be transmitted" (Ong et al., 1999, p. 909) adding another evaluative measure for patients. "These inconsistencies [between the physicians verbal and non-verbal message] can be seen as a 'lack of genuineness,' which is one of Roger's core conditions for the establishment of a therapeutic relationship" (Ong et al., 1995, p. 909).

Allen and Brock's (2000) research demonstrated that both verbal communication and non-verbal behavioral differences fit within the established framework of the Myers-Briggs Type Indicator®. The FLEX Care™ model for health care communication emphasizes the need to identify and collectively consider both the verbal and behavioral cues expressed by a patient in an effort to effectively interact with patients. Physicians or patients whose verbal and nonverbal cues do not match create inconsistencies and feelings or thoughts of suspicion or doubt in competence.

Additional variables

Ong et al. (1995) explored additional communicative behaviors that are the target of continued research (instrumental versus affective, privacy, high versus low control, and the use of medical versus everyday language vocabularies) and conclude by identifying several

variables that contribute to the “multifaceted and multidimensional phenomenon” of the doctor-patient relationship:

- *Background variables.* Include cultural variations or differences, the type of doctor-patient relationship desired by both the patient and doctor (“mutuality” or “patient-physician-partnership” versus paternalistic or physician controlled), type of patient and doctor (socio-demographic, psychological and psychosocial, appearance, and health), and diseases (ranging from acute to chronic and mild to life threatening).
- *Process variables.* Types of communicative behaviors or the actual content of the communication between doctors and patients—instrumental or task-focused (cure oriented) or affective or socio-emotional behavior (care oriented).
- *Outcome variables.* Patient outcomes—satisfaction, compliance, recall, and understanding of information are good indicators of the consequences of “talk” but have been labeled “short-term and intermediate.” The long-term consequences of effective doctor-patient communication—such as quality of life, health status, symptom resolution or survival—are unknown. (pp. 912-913)

Ong et al. (1995) provided a proposed framework (Figure 1) for future study that demonstrates possible relationships between the background variables and their influence on communicative behaviors’, and communicative behaviors on patient outcomes.

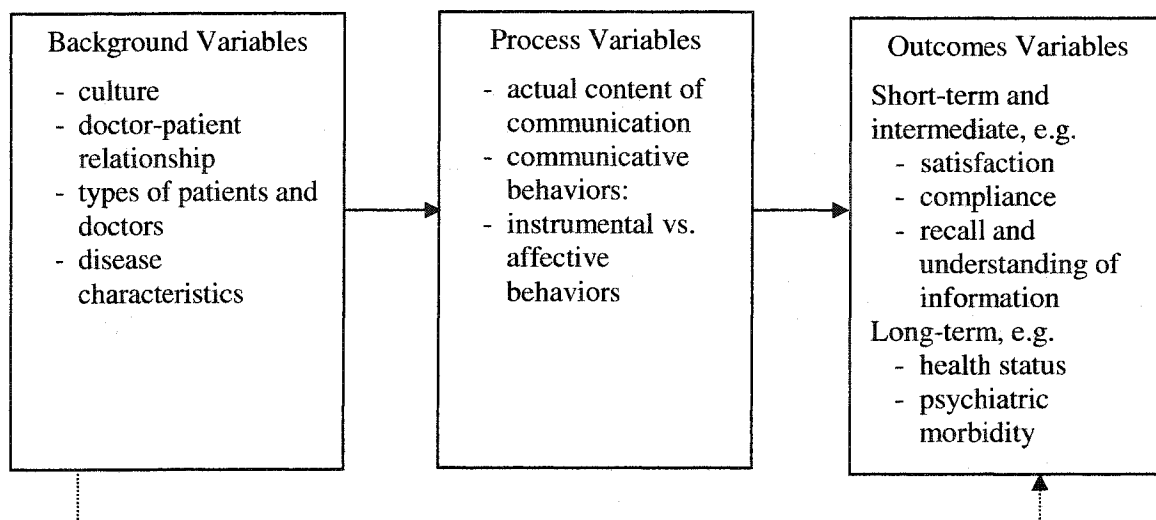


Figure 1. Proposed frameworks for doctor-patient communication

Other proposed frameworks (i.e., Cooper, Roter, Johnson, Ford, Steinwachs, & Powe, 2003; Hausman, 2004; Kim et al., 2004) have attempted to develop a model demonstrating the relationship between background and process variables and their contribution to positive patient outcomes. Although all hypothesized relationships were not significant, these authors have contributed to empirical research available to better learn what variables contribute—and how to—achieve desired health outcomes.

Summary

Empathy is a multidimensional and complex concept, yet medical theorists over the last few years have translated the controversy that surrounds empathy into more contemporary conceptualizations that educators and researchers can use to guide the development of practicing physicians, as well as, future generations of the medical profession.

What has been concluded from the review of the literature? The success of physicians hinges on their ability to create therapeutic relationships with their patients. These relationships then facilitate their patient's growth (or change of behaviors) and, therefore, their achievement of their health and wellness goals. Rogers (1980) hypothesized that to create this condition physicians must be genuine, accepting or non-judgmental, and achieve an empathic understanding of their patient's situation or perspective; however, creation of these conditions is also reliant on the physician's communication and interpersonal communication skills. Physicians must first develop an awareness of themselves and their preferences for interacting with others and then establish good interpersonal relationship with their patients based on their patient's preferences. Duffy et al. (2004) outlined the basis of a

good interpersonal relationship as one built on respect, paying attention to observing the patient's verbal and non-verbal communication, being "present" or in the moment, caring and curious or interested in patient's values, interests, and flexible or willing to adjust to fit the patients needs. Finally, the success of the relationship is dependent on the communication skills of the physician in facilitating the exchange of information and facilitating the patient's decision-making with regard to their medical care.

As mentioned in the introduction to this chapter, there are many traits or characteristics that are often interchanged with that of empathy: perspective taking, attentive listening, patient-centered, humanistic, compassionate, caring, etc. Thus, where does empathy fit into the effective physician-patient relationship? Carlozzi et al. (2002) noted that Rogers emphasized empathy as the most important of the core conditions and as a result, it has been considered by many to be a central ingredient in establishing a therapeutic relationship with a client/patient. Rogers' (1980) definition of empathy describes a cognitive *and* affective level of perspective taking [emphasis added]:

The state of empathy, or being empathic, is to perceive the internal frame of reference of another with accuracy and with the emotional components and meaning which pertain thereof as if one were the person, but without ever losing the *as if* condition. Thus it means to sense hurt or the pleasure of another as he senses it and to perceive the causes thereof as he perceives them, but with ever losing the recognition that it is *as if* I were hurt or pleased and so forth. If this *as if* quality is lost, then the state is one of identification [versus one of empathy]. (pp. 140-141)

Where Hojat et al. (2003) stressed Rogers' "as if" condition requiring a primary focus on cognitive versus affective empathy, Halpern (2001) provided additional insight into the need for both cognitive and affective empathy in the conceptualization of clinical empathy. Stressing the need to "resonate emotionally" in order to make a more correct diagnosis based

on a *full* (cognitive and affective) understanding of the patient's problems [emphasis added]. Halpern stressed the need to fully understand the patient, while maintaining a "disinterest" to protect the physician—patient relationship from the physicians over identification with the patient's scenario and risk projecting themselves (interests, values, beliefs, etc.) onto the patient. Furthermore, Allen and Brock (2000) highlighted what is meant to understand the perspective of another on both a cognitive- and affective-level. Their use of Jung's theory of psychological type, provide a framework of recognizing and appreciating differences or preferences of individuals on how they prefer to gather information and the basis of their decision making. They also asserted that a basic knowledge of psychological type theory through the FLEX Care™ framework, can teach practitioners how to "flex" their communication style towards the needs/wants of the patient which can ultimately "... unlock qualities in both ourselves and the other person which will allow us to work more effectively and creatively together" (p. 5).

Empathy, therefore, is solely the ability to understand the perspective of another built on a healthy awareness of self, whereas the balance of the empathic physician could be explained as a mastery of communication and interpersonal communication skills. Both are interrelated...dependent on each other in the creation of a therapeutic relationship.

The Empathetic Physician

Medical and medical education literature is clear that the ability to express empathy in a physician-patient encounter is desirable. A great deal of the literature also supports a clearer understanding of *why* physicians with this ability are so desired [emphasis added]. Studies have shown that empathy is the foundation of a true therapeutic relationship and is,

therefore, necessary of health professionals to facilitate change and the achievement of health and wellness. However, excellent insight into the anticipated effect of an empathetic physician, both personally and professionally, also is evident. First, a physicians' success is made evident by two observable outcomes in his or her practice: clinical outcomes and patient satisfaction. Two additional outcomes of success seem to benefit the physician in a more personal way. Patient autonomy and the ability to facilitate "difficult patients," or difficult interactions with patients, are benefits that increase the longevity and job satisfaction of empathic physicians. Each of these concepts has been the subject of numerous research endeavors. An introduction is provided to underscore the palpable need for empathy in health care settings.

Clinical outcomes

Allen and Brock (2000) dedicated a full chapter in their book, *Health care communication using personality type: Patients are different!* to adherence (or compliance). They highlighted significant evidence that patient adherence to treatment plans generally is low and that noncompliance places stress on the health care system in wasted medication, continuous need for medical intervention, costs of seeking second opinions, excessive use of emergency health care resources, and the patient's achievement of a full recovery and/or regaining quality of life. Ong et al. (1995) reported that the average percentage of patients likely to be non-complaint with medical advice is as high as 40 to 50% in some settings (p. 911). Fine and Therrien (1977) reported that approximately one-third of all patients fail to comply with such advice (p. 752).

Adherence or compliance is an activity familiar to most health care professionals. It is any activity where the health care team, led by a physician, encourages the patient to pursue a certain course of action (Allen & Brock, 2000) and is evaluated by the extent to which the patient follows his or her doctor's orders or advice. Compliance is typically measured (or operationalized) by reviewing whether or not the patient took the prescribed medication in the dosage and intervals recommended, although other types of compliance exist (Hausman, 2004).

Although research has failed to identify a single contributing factor leading to full patient compliance (Hausman, 2004), several variables have been identified that affect the way a patient receives any new information: the severity of a condition and the likely prognosis, the age of the patient, the extent and amount of deprivation, and, finally, the number of lifestyle changes required at a given time (Allen & Brock, 2000). In general, the medical literature has treated noncompliance as the patient's problem leading researchers to focus on *how to change the patient*; however, recent findings have uncovered that attempts to improve compliance by changing the patients' attitudes and educating patients have failed [emphasis added] (Allen & Brock; Fine & Therrien, 1977; Hausman, 2004).

Hausman (2004) stated, "...specifically, noncompliance, which is blamed for 125,000 deaths per year; \$100 billion in additional health care costs; and 19 % of hospital admissions" (p. 403). Hausman's (2004) findings begin to explain the phenomenon of patient noncompliance as "a failure of physicians to involve patients in their care—failure to create a 'therapeutic alliance' between them" (p. 403), again reiterating the need for physicians to achieve therapeutic relationships with their patients.

Hausman (2004) commented that the phenomenon of non-compliance has led researchers to call for an increased effort in exploring the role of the physician-patient interaction specifically through interpersonal interactions and communication. Numerous recent studies support a link between interpersonal communication and medical compliance (Allen & Brock, 2000; Hausman, 2004; Kim et al., 2004; Levinson, Gorawara-Bhat, & Lamb, 2000; Ong et al., 1995). Hausman's study noted that, "Only open communication significantly affected compliance directly, though interpersonal elements and participative decision-making had an indirect impact through communication" (p. 411). Hausman concluded:

Not only do patients need this rich dialogue to develop a relationship with their physician, they need this type of open communication to become actively involved in decisions reached during the encounter...Because patients are more medically sophisticated, failure to solicit their input reduces buy-in to the treatment, increases lack of commitment to the process, and ultimate noncompliance with the treatment. (p. 407)

Allen and Brock (2000) continued to highlight the physician's ability to impact patient compliance through the use of communication: "It requires more communication skill [beyond the level most physicians have been trained] to ensure committed action" (p. 101). They further explained a fundamental difference of the FLEX Care™ approach from other communication models:

'... it *isn't* the role of a physician to persuade patients to comply passively with what they think might be good for them. Instead, a constructive use of the type framework encourages physicians to communicate with patients *in such a way* as to promote informed decisions that the patient can own" [emphasis added]. (Allen & Brock, 2000, p. 103)

Allen and Brock (2000) stressed the need to teach health care professionals to vary their approach to patients and colleagues, based on their individual

communication needs and wants, to ultimately increase communication effectiveness and to encourage patients to follow clinical advice. Levinson et al. (2000) offered that physicians tend to miss or bypass indirect clues that patients provide, thereby missing potential opportunities to strengthen their relationship with patients. They further promoted the need for “physicians to learn to modify their communication style to build trusting physician-patient relationship and thereby improving the outcome of care” (p. 1026).

Patient satisfaction

“Patient satisfaction as an outcome measure is by far the most recognized and widely used ... this has to do with the fact that it has a ‘logical and intuitive appeal” (Ong et al., 1995, p. 910). Hausman (2004) defined customer satisfaction as “both an affective and evaluative response to a consumption experience” (p. 404). Ong et al. added that the proportion of dissatisfied patients has remained constant over the last 25 years, with a median of 38% for hospital patients, 26% for general and community practice, and 39% for psychiatric patients. Hausman highlighted the unique physician-patient relationship and identified that the medical encounter is complex and diverse in that there are a number of intricate steps to perform and there is a high degree of “executional latitude.” Both the patient’s condition, physician’s preference, as well as unrealistic or poorly formed expectations contribute to the difficulty in evaluating physicians. Patient satisfaction, however, has been identified as a critical outcome variable related to customer retention, word-of-mouth recommendation, as well as, other costly patient behaviors such as appointment breaking (Hausman) and seeking second opinions due to a lack of understanding

or trust. By increasing patient satisfaction, a physician can reduce the economic costs that are often caused by frequent switching of physicians and malpractice suits (Kim et al., 2004).

Satisfaction with service encounters relies heavily on the quality of the interaction between the consumer and service provider. Increased emphasis or reliance on interpersonal communication in the physician-patient encounter have been demonstrated in prior studies to be the result of several known factors common to health care interactions: the extensive information exchange that is necessary, expertise asymmetries, and the stress associated with these encounters, while also heightening patients reliance on their own perception of the quality of the interaction during their evaluative process (Hausman, 2004). Overall, Hausman (2004) noted, “A hierarchy-of-effects suggests that interpersonal interactions generate positive emotional responses to the physician, which generate consumer satisfaction” (p. 405); additionally, evidence has shown that dissatisfied customers leave and that patient satisfaction has no measurable impact on compliance.

Patient-centered care or communication was defined as “care in which the physician responded to patients in such a way as to allow him/her to express all of the patient’s reasons for coming, including: symptoms, feelings, thoughts and expectations” (Ong et al., 1995, p. 911). Consultations with high patient-centered scores also had the greatest percentage of patients highly satisfied. Furthermore, significant results were found in relation to outcomes such as patient reported compliance, patients’ feeling of being understood, resolution of patient concerns and the doctor having ascertained the patients’ reasons for coming (Ong et al.). Additional studies obtained results that demonstrated that, when patients’ requests are met, their satisfaction with the medical encounter increases (Ong et al.). Kim et al. (2004) noted:

...patient satisfaction with health care services and compliance with medical regimens are related *directly* to the interpersonal communication skills between the patient and the provider and are particularly related to the physician's empathic communicative behavior [emphasis added]. (p. 238)

The role non-verbal communication plays in the patients' evaluation of satisfaction has been the topic of a limited number of studies even though the importance of it to ensure effective communication is well documented. One study demonstrated that the higher non-verbal scores in doctor "immediacy" (degree of physical closeness in their interactions) were associated with higher patient satisfaction (Ong et al., 1995).

Patient autonomy or shared decision-making

A recent study asked hospitalized patients what they value in a "good" physician. Schattner, Rudin, and Jellin (2004) were surprised that, for the first time, their research listed attributes in the realm of protecting the patient's autonomy were ranked higher than professional expertise and even humane qualities. Specific attributes selected to represent the category "patient's autonomy" included: informs the patient, represents patient's interests, truthful, and respects the patient's preference.

Rogers (1980) hypothesized that clients or patients "have within themselves the resources to change behaviors or grow" (p. 115) while also introducing the effect of the client-centered relationship as "a greater freedom to be the true, whole person" (p. 117); Halpern (2001) expanded this greater sense of freedom to further describe a secondary benefit of empathy:

Empathy helps patient's process emotionally difficult information, such as hearing a diagnosis of cancer. This serves the important ethical goal of enabling patients to participate more fully in their treatment and in decisions about their futures. (p. 94)

The norm of patient autonomy greatly influences current practice, although it is a recent ideal, emerging from the American medical ethics movement of the last 30 years (Halpern, 2001). The term autonomy refers both to a psychological capacity to make decisions that reflect one's own goals and an ethical ideal of individual self-determination. The term is used in medicine to describe an evolving set of patients' rights, extending from rights to determine what happens to one's own body, to rights to informed consent and refusal of treatment, to rights to participate more fully in medical decision making. Many of these rights have emerged through lawsuits, and hence it is through a legalistic prism that physicians understand their obligations to respect autonomy. Seeing autonomy as freedom from interference, Halpern reported that physicians tend to overlook any positive role they might play in assisting patients to regain psychological autonomy. Respecting autonomy too often translates in practice into leaving patients alone, often without social supports to face difficult medical decisions (Halpern).

Halpern (2001) highlighted the patient autonomy movement with the following, "As recently as 1961, a study in the *Journal of the American Medical Association* reported that 90% of U.S. oncologists would not tell patients they had cancer" (p. 102). The shift from a paternalistic to empathic clinician has required an ethical shift of respecting the patient's autonomy and a commitment to help patients hear and process upsetting information. Halpern (2001) continued, "...the mental condition patients need to exercise autonomy are not determined only by events inside the patient's head but are influenced by emotional interactions with others, including physicians" (p. 102). Halpern concluded:

Patients making daily medical decisions about treatments for heart disease, cancer, hypertension, and diabetes face significant tradeoffs among risk of future mortality, living with dysfunction, living with pain, and

tolerating side effects. Decisions of this sort involve choosing among different possible futures. Physicians concerned with patients' overall well-being cannot decide which type of loss and which type of benefit are of most value for individual lives...The distinct value patient autonomy has, over and above individual well-being, is based on the importance we place on patients acting from their own conceptions of a worthwhile life in making practical choices that will seriously affect the kind of life they lead. (p. 105)

Schattner et al. (2004) further reminded that patient preferences remain integral to modern evidence-based practice, and their study provided a poignant reminder that autonomy is nowadays what the patients want most. Rogers (1980), Halpern (2001), and Allen and Brock (2000) noted that, when patients assume a more active role in their condition and care, in effect it releases the care giver from the burden of sole decision-maker. Instead, they assume a new role—an empathic physician—or a physician who understands and supports informed decisions made from the patients' perspective.

Difficult patients—difficult situations

Allen and Brock (2000) commented that a difficult yet frequent and necessary role of health care professional is the need to break bad news to a patient: “We want to bring our very best to these situations to help our patients and ourselves” (p. 77). Numerous studies within the realm of physician-patient communication have focused on the “emotional reactions” of patients upon the receipt of undesired news, while others, in-turn, often labeled these patients as “difficult” (Fishbein, 1999; Novack, Suchman, Clark, Epstein, Najberg, & Kaplan, 1997; Platt & Keller, 1994; Scales & Miller, 2003). Ong et al. (1995) reported studies where oncologists deliberately withheld information from their patients on the assumption that total disclosure would result in a “strong negative emotional reaction” by the

patient (p. 908). Platt and Keller (1994) contributed a model of empathic communication, as a remedy for “frustrating encounters,” which they described as:

Those [encounters] in which the patient expresses a strong negative emotion such as anger, sadness, or fear, and those in which the patient seems unwilling or unable to assume responsibility for his or her own self-destructive behavior: cigarette smoking, alcoholism, or gluttony. (p. 222)

Others have described anger or crying reactions or those patients with symptoms that elude understanding and fail to improve with appropriate therapy (Novack, et al., 1997; Platt & Keller, 1994). Scales and Miller (2003) described difficult patients as those who are “ambivalent about changing their behaviors...resistance results in observable behaviors such as interrupting, negating, ignoring, and arguing with the provider” (p. 166).

Several authors outlined an approach for physician interactions with difficult patients. Platt and Keller’s (1994) empathic communication model strives to help physicians understand the patient’s feelings and then to communicate this understanding to the patient. The authors shared that illness leads to a sense of isolation, and that all persons want to have their feelings, ideas, concerns, and dilemmas understood by others. They further described that empathic communication interrupts the sense of isolation and creates a strong therapeutic relationship.

Scales and Miller (2003) used the motivational interviewing (MI) model with “difficult” patients. They defined this model as a “patient-centered, directive method for enhancing intrinsic motivation to change by exploring and resolving ambivalence” (p. 169). The MI model relies heavily on empathic listening backed by simple reflections that avoid judging, criticizing, or blaming the patient. Skillful reflective statements by the physician are used to build confidence by focusing on prior success efforts and reframing past attempts as

practice rather than failure. Deeper reflections attempt to reveal and explore the meaning or feeling behind what has been spoken, uncovering potential barriers to change.

Allen and Brock (2000) highlighted that there is a great deal of literature providing help and support for those needing to break bad news—some of which is quite prescriptive and involves ground rules or steps. They, along with others, argued that there is a need to tailor information sharing and respond to the behaviors that the patient is currently demonstrating versus a preconceived plan that fails to cater to the patient's individual needs (Buckman, 1992, Kaye, 1995 as cited in Allen & Brock, 2000). It is recommended that health professionals observe the behavior cues of the distressed patient, acknowledge or identify and name a patient's behavior, and act to address pain or discomfort when possible.

The importance of self-awareness on the part of the physician, especially when working with patients who show different preferences, is continually stressed in the literature (Allen & Brock, 2000; Platt & Keller, 1994; Rogers, 1980; Shapiro, 2002). Allen and Brock remarked that knowledge of their own type preferences provides health professionals a "baseline for how the world is approached" (p. 36). Novak et al. (1997) also supported the need for self-awareness:

Physicians' personalities, personal histories, family and cultural backgrounds, values, biases, attitudes, and emotional 'hot buttons' influence their reactions to patients. Unrecognized feelings and attitudes can adversely affect physician-patient communication: they may interfere with physicians' abilities to experience and convey accurate empathy; may preclude or distort meaningful discussions with patients about dying, sexuality, and other difficult topics; or may lead to underinvolvement or overinvolvement with certain patients. Unacknowledged needs can 'leak' inappropriately during the medical encounter and endanger the physician-patient relationship. (p. 502)

Ong et al. (1995) offered a potential reason for the discomfort some physicians experience when exposed to emotional reactions: "as the physicians' reluctance to learn how

to handle their own anxieties and uncertainties surrounding certain diagnosis” (p. 908). Platt and Keller (1994) added that physicians and medical students alike often have difficulty providing empathic communication when they, themselves, are experiencing strong negative feelings. Platt and Keller further emphasized that empathic communication offers a technique for dealing with the patients’ emotions and with the physicians own feelings of discomfort, thereby creating a therapeutic interchange for *both* [emphasis added]. Shapiro (2002) reported that empathic communication not only improved the physicians relationship with their patients, but it also made the practice of medicine more rewarding, more interesting, less frustrating, and more pleasurable, “a way of making medicine feel more human” (p. 327).

Allen and Brock (2000) added that an increased focus on managed care has resulted in less physician independence, which has lead many physicians to an increase in dissatisfaction and questioning their choice of a profession. They wrote that “self-efficacy is certainly as important to health practitioners as it is to patients” (p. 24). Allen and Brock advised that an understanding of personality types can provide medical students and practitioners a framework with which to understand “self; an attraction to certain specialties; an understanding of patient communication difference...and an understanding of faculty members’ approach to the content and process of health care” (p. 24). Novack et al. (1997) continued the promotion of self or personal awareness to reverse the increased trend of physician burnout. They reported studies that have found that about 25% of physicians experience psychiatric morbidity and burnout and conclude by emphasizing that:

... improved self-awareness facilitates healing relationships with patients...and help trainees and practicing physicians become more effective

in their care of patients and should increase professional satisfaction, perhaps preventing or alleviating burnout. (pp. 502, 507)

Summary

Hausman (2004) demonstrated that the pattern of relationships in her proposed model of physician-patient interactions is fairly complex, reflecting both direct and mediated relationships among several evaluative outcomes that ultimately determine the success of a physician: compliance, satisfaction, repatronization, and recommendation. Hausman further elaborated that the complexity and interrelatedness of this relationship suggests a physician cannot simply improve one of these outcomes and hope to impact the others.

Thus, what is the core variable or physician skill that would impact all of these outcomes? Hausman (2004) remarked, "... interpersonal elements influence satisfaction and recommendations. Satisfaction, in turn, influences repatronization and recommendations" (p. 411). Hausman added the critical need for physicians to "demonstrate a concern for the patient as an individual ...while allowing themselves to care about and sympathize with their patients ... [to ultimately] improve physician interactions and therefore satisfy and retain patients" (pp. 411-412). Although Hausman's findings and discussion affirmed the importance of an interpersonal relationship between physician and patient, a continued discussion highlighted that time limitations and the cumulative effect of these potentially 'negative' encounters (or the practice of sympathy) on the physicians' well-being, demonstrate a lack of familiarity with a contemporary conceptualization of physician empathy.

Kirsner (2002) shared a quote from his article, *The most powerful therapeutic force*: "sick people need physicians who can understand their diseases, treat their medical problems,

and accompany them through their illness” (Charon, 2001, as cited in Kirsner, p. 1909).

Kirsner concluded while also reiterating the need for empathic physicians:

the patient-physician relationship is, in fact, a powerful therapeutic force, synergistic with medication...The most fundamental attraction in medicine is still this unique patient-physician relation...this is the fundamental reason why anybody should become a physician...without knowledge, empathy, and the highest ethical standards, no one can be a truly great physician. (p. 1909)

The review of literature provided in this section outlined the expected outcome of a physician who successfully embraces clinical empathy. Empathic physicians facilitate their patient’s achievement of clinical outcomes through a process of empowerment that results in the patient owning or assuming responsibility for their health and wellness. A direct and measurable outcome of their effort is reflected in their patients satisfaction with care received. Finally, empathic physicians assume a new or renewed role in the care of their patients that protects them from the wear and tear of working with difficult patients and difficult situations, thereby improving their professional satisfaction and reducing the occurrence of stress and burnout. These outcomes therefore support the goal of the academic medical community in its desire to enhance communication, interpersonal communication, and empathy in the future generation of physicians.

Empathy in Medical Students

Measuring empathy

Efforts to assess and trend empathy throughout the medical education experience has been well documented in the literature for more than two decades. However, until recently, medical education researchers have borrowed empathy assessment tools from fields

unfamiliar with the unique relationship between the physician and his or her patient (i.e., Davis's Interpersonal Reactivity Index [IRI], Hogans's Empathy Scale, Carkhuff-Truax empathic understanding scale, Barrett Lennard's Relationship Inventory, Mehrabian & Epstein's Empathic Tendency Scale [ETT], Mehrabian's Balanced Emotional Empathy Scale (BEES), etc.). Several authors have, therefore, questioned the reliability of these tools to measure the unique perspective of clinical empathy (Diseker & Michielutte, 1981; Hojat et al., 2001a; Jarski, Gjerde, Bratton, Brown, & Matthes, 1985). In addition, results of prior studies using a variety of measures, have made it difficult to compare findings since each instrument uses a different operational definitions of empathy.

Referred to as physician or clinical empathy, the contemporary conceptualization of empathy introduced previously, has created a need for a tool for use exclusively in health care settings. In 2001, Hojat et al. (2003), from the Center for Research in Medical Education and Health Care (CRMEHC) at Jefferson Medical College, in Philadelphia, Pennsylvania, responded to this need by developing and testing a tool to "empirically investigate the development of physician empathy as well as variation and its correlates in different stages of medical education, among different groups of medical students and physicians" (p. 28). The Jefferson Physician Empathy Scale (JPES) has since provided CRMEHC, as well as others, an opportunity to validate previously tested research hypotheses concerning physician empathy. A brief review is provided as follows.

Scores and academic performance on objective examinations

Hojat et al. (2001b) examined the correlations between the JPES scores and several measures of academic performance, to include: the Medical College Admission Test

(MCAT—biological sciences, physician sciences, and verbal reasoning scales); first- and second-year medical school grade-point averages (GPAs); and scores on medical licensing examinations (Step 1 and Step 2 of the United States Medical Licensing Examinations [USMLE]). None of the correlations were statistically significant.

These findings were consistent with several prior studies. Diseker and Michielutte's (1981) comparison of student MCAT scores and empathy scores (Hogan Empathy Scale) resulted in a low but consistent and statistically significant *negative* relationship [emphasis added]. No significant relationship was determined between student empathy scores and student preclinical and clinical quality point averages, while negligible correlations were found between empathy scores and students performance on the National Board of Medical Examiners (NBME) examinations Part I and Part II (currently known as the USMLE—Step 1 and Step 2).

Prior to Diseker and Michielutte (1981), Hornblow, Kidson, and Jones (1977, as cited in Diseker & Michielutte) reported a positive correlation between the Hogan Empathy Scale and peer-rated, patient-rated, and self-rated empathy (specifically interpersonal effectiveness) in Australian medical students. In addition, Hornblow et al. (1977) replicated earlier findings indicating that empathy is unrelated to scholastic skill.

Kupfer, Drew, Curtis, and Rubinstein (1978, as cited in Diseker & Michielutte, 1981) examined the relationship between Medical College Admission Test (MCAT) scores and empathy scores (Hogan Empathy Scale) by levels of training. In the second-year class, they found a low but significant positive correlation between scores on the MCAT Science subtest and empathy scores, while in the fourth-year class the correlation with the same subtest was significant and in the *opposite* direction [emphasis added].

Therefore, CRMEHC concluded that empathy has no relationship with academic performance measures obtained from objective evaluations (Hojat et al., 2002c).

Scores and ratings of clinical competence in medical school

Hojat et al. (2002c) hypothesized that medical students who obtain higher scores on the JSPE would also obtain higher clinical competence ratings in medical school based on the notion that interpersonal skills were among the factors often considered in the assessment of clinical competence. CRMEHC's assumption, which was also demonstrated by this researcher previously in this chapter during a discussion on patient satisfaction, a patient's perception of empathy of their physician (or medical student), significantly overlaps with their perception of their interpersonal skills (Hojat et al., 2003).

Hojat et al. (2002c) confirmed their hypothesis by observing high scorers on the JSPE were significantly more likely to obtain "high honor" ratings of global clinical competence, and low scorers on the JSPE were more likely to obtain marginal clinical competence ratings in six core clerkships (i.e., family medicine, internal medicine, obstetrics and gynecology, pediatrics, psychiatry and surgery) during the third year of medical school. Again, these findings are consistent with previous research reported by Colliver, Willis, Robbs, et al. (1998) in which empathy, as reported by standardized patients, was found to be associated with better performance in history taking and physical examinations among fourth-year medical students (cited in Hojat et al., 2003, p. 30). Therefore, CRMEHC concluded that empathy scores, measured by the JSPE, can predict clinical competence ratings to a significant degree (Hojat et al., 2003).

Empathy and gender

Hojat et al. (2003) noted that they consistently observed women scoring higher than men on the JSPE. Studies conducted in 2002 by CRMEHC resulted in female students outscoring their male classmates (Hojat et al., 2002a) and female physicians scored higher than male physicians not only on the total JSPE scores but also on different items of the scale (Hojat et al., 2001b). Significant gender differences were observed in the favor of women, in particular, to the items on the scale that measure “perspective taking” (Hojat et al., 2003). Similarly, Haidet, Dains, Paterniti, Hechtel, Chang et al. (2002) reported that females had higher Patient-Practitioner Orientation Scale (PPOS) scores than did male students. Higher values on the PPOS correspond to more patient-centered and egalitarian attitudes in regard to the doctor-patient relationship, which is consistent with attitudes linked to empathic physicians.

Although CRMEHC findings were consistent with other study findings, research has yet to suggest why there are gender differences in empathy (Hojat et al., 2003). Hojat et al. provided some speculation on the gender differences of empathy using the evolutionary theory of parental investment (female caring quality), women’s increased perception of emotions, an increase reception to emotional signals, empathy as a feminine trait, and Zinn’s (1993) findings that men are more often inclined to offer rational solutions while women are more likely to offer measures of emotional support and understanding.

Empathy and specialty

Little empirical evidence is available to link empathy and physician specialty; however, Hojat et al. (2003) reported that CRMEHC was able to replicate consistent findings

in three separate studies that produced significant differences on scores of the JSPE among physicians in “people oriented” specialties (e.g., family medicine, internal medicine, pediatrics, obstetrics and gynecology, psychiatry, and medical subspecialties) and “technology oriented” specialties (e.g., anesthesiology, radiology, pathology, surgery, and surgical specialties). Physicians in “people oriented” specialties consistently outpaced their counterparts in “technology-oriented” specialties in total empathy scores. The highest average scores were obtained by psychiatrists; however, these scores were not significantly different from physicians in family medicine, internal medicine, pediatrics, and emergency medicine (Hojat et al., 2002b).

Hojat et al. (2003) specified that the differences in the empathy scores observed among physicians in different specialties do not necessarily indicate a deficiency in empathy in the low-scoring groups due to a small effect size and based on the presumption that the duties required for each category (people- versus technology-oriented) may *require* different levels of empathy [emphasis added].

Changes of empathy scores in medical school and residency

As mentioned previously, it is generally accepted in the medical education community that empathy levels decline as students progress through their training (Benbassat & Baumal, 2004; Feighny, Arnold, Monaco, Munro & Earl, 1998; Fine & Therrien, 1977; Hojat et al., 2004; Kramer, Ber & Moore, 1987; Swanson-Fisher & Poole, 1978; Winefield & Chur-Hansen, 2000) although a few select studies have demonstrated otherwise. For example, from the CRMEHC, Mangione et al. (2002), observed a consistent decline in the scores of the JSPE among medical residents at different levels of postgraduate training, but

the decline did not reach a conventional level of statistical significance. However, a study from the CRMEHC conducted by Hojat et al. (2004), noticed a statistically significant decline among medical students during their clinical education (i.e., third year) of medical school.

Haidet et al. (2002) reported a significant association between a medical student's year and their Patient-Practitioner Orientation Scale score. They concluded, "... our data suggest that the attitudes of students in the later years of medical school are more doctor-centered or paternalistic (factors not associated with empathic physicians) than those of students in earlier years" (Haidet et al., p. 571). Finally, in a longitudinal study of interns as they progressed through an internal medicine residency program, using the Profile of Mood States (POMS) and Interpersonal Reactivity Index (IRI), Bellini, Baime, and Shea (2002) noted:

Interns in this cohort arrive with high levels of vigor, energy, and well-established ability to demonstrate empathic concern. However, as early as November (with a June program start date), we found that significant mood changes were already evident among our cohort. Interns became more angry and depressed. (p. 3145)

Potential causes for the decline

A myriad of potential causes for this decline have been proposed by numerous researchers. Aswani (2001) highlighted two traditional views that physicians-in-training "absorb" during medical school that drive empathy to a low point. One is the "care:cure dilemma" that asserts "doctors do the curing and nurses do the caring" (p. 1). The other is the traditional format of interviewing and the social ethos of medical training and medical practice, which stress clinical detachment. Finally, Aswani pointed to the rigors of medical

school and their cumulative toll on students. Factors that drain a medical student's empathy include: over-exhaustion; insufficient skill to deal emotionally with their encounters of illness, death, pain, and suffering; organizational demands or limitations; and, a lack of example or correction of behavior (Aswani). Bellini et al. (2002) and Spiro (1992) supported Aswani's theory and added factors such as isolation, long hours of service, relocation away from support systems, sleep deprivation, demands of patient care, financial indebtedness, and reduced time with family. They further commented that the cumulative effect is most often feelings of exhaustion, anxiety, and depression. Spiro remarked, "Our energy gets us into medical school and after that, little energy remains for contemplation" (p. 844).

Haidet et al. (2002) highlighted that, despite curricula reform to enhance patient-centered care through instruction on communication skills, professional values, and humanistic attitudes, there is still "a large body of qualitative and ethnographic data to suggest that the culture of medical education focuses more on the biomedical mechanisms of disease than on issues central to patients' preferences, concerns, and emotions" (p. 568). The dynamic between the schools curriculum and culture may act as a barrier to educators' attempts to promote a patient-centered care model. Furthermore, Haidet et al. commented:

Medical sociologists and anthropologists suggest the methods for managing work, mistakes and emotions, in addition to the language and manner of presentation that students acquire during their training, direct students away from patient-centered attitudes in spite of the international movement toward patient satisfaction and patient-centered care. (p. 573)

Spiro (1992) instructed that during medical education students are first taught science, and then they are taught "detachment." Spiro commented, "... as I know them, college students start with much empathy and genuine love—a real desire to help people...however, they learn to mask their feelings, or worse, deny them" (p. 843). Spencer (2004) reported that

this decline in idealism has long been recognized by medical educators and has been enshrined in an old catchphrase that describes the two traditional phases of preclinical and clinical medical education as “pre-cynical” and “cynical.” Spiro suggested that the increase in molecular biology to the exclusion of the humanities encourages students to focus not patients, but on diseases. They learn detachment and equanimity, to which they later add “the armor of pride and the fortress of a desk between themselves and their patients” (p. 843).

Medical students become practicing physicians frustrated by certain patients or aspects of their practices and occasionally are stressed to the point of “burnout.” The absence of opportunities to support self awareness in medical education was the focus of research by Novack et al. (1997): “... medical schools and residency curricula often do not include these activities ... worse yet, some aspects of medical education promote self-defeating attitudes and behaviors that may hinder the development of trainee personal awareness” (p. 503). DasGupta and Charon (2004) described a “lived detachment or disembodiment from their own bodily experience that is reinforced, if not mandated, by their inculcation into medical culture” (p. 355). They further described the process of medical training and how it creates a dichotomy whereby “patients are identified by their bodies while physicians’ bodies are secondary to physicians’ minds” (p. 351) affording little opportunity for the physician to deal with personal illness. Novack et al. (1997) projected that these students and physicians would benefit from enriching their self awareness in interactions with patients and colleagues, thereby stimulating adaptive attitudinal and behavioral changes that can lead to a deeper and more sophisticated understanding of their own, and their patient’s behavior.

Spiro (1992) recounted the first year medical student entering the cadaver lab, as the beginning of the detaching or “hardening” process. Students rarely hear complaints from

cadavers during dissection, what is observed (visuals) begins to take precedence over what is heard. Spiro also points to the decline of spontaneous collegiality within medical faculty as pressure for increased productivity continues. A decline in conversations between faculty and faculty with students,' inhibits the sharing of experiences and feelings thereby missing an opportunity for faculty and students to together develop empathy. "Work is everything," wrote Spiro, "so little time remains for contemplation, and none remains for the humanities" (p. 844). Spiro concluded his argument with an analogy of an artist to further illustrate the impersonal and objective nature of clinical medicine today:

Artists discover themselves in their work; they uncover the subject in their drawing or painting. In the same way, history taking can be a discovery for the physician. However, as abstraction in art represents withdrawal, the abstraction of disease may distance us from the patient. (p. 844)

Empathy training in medical education

Producing an empathic physician is a desirable outcome of medical schools; therefore, medical schools need to explore methods of developing their students with stable or increasing levels of empathy (Benbassat & Baumal, 2004; Clack et al., 2004; Diseker & Michielutte, 1981; Fine & Therrien, 1977; Halpern, 2001; Hojat et al., 2003; Swanson-Fisher & Poole, 1978; Winefield & Chur-Hansen, 2000). Empathy in the physician-patient relationship has been defined as complex and multidimensional skill; therefore, it is no surprise that there are a variety of approaches being used by numerous medical school initiatives around the world. A sampling of these initiatives is provided as follows.

Study of literature, narratives, and art

Numerous researchers from the medical community support the inclusion of an undergraduate liberal arts background in incoming medical students and/or the infusion of liberal arts content throughout the student's education (Aswani, 2001; Fishbein, 1999; Novack et al., 1997; Spiro, 1992). Fishbein (1999) rationalized the study of literature, history, and philosophy in medical school in order to challenge the student's imagination to grow and develop—by “having our imaginations stretched and being made to enter into unfamiliar situations or to see points of view other than our own” (p. 649). A foundation in the liberal arts, Fishbein purported, will encourage the development of communication, observational, and judgment skills, which through imagination, the ability to anticipate, and by logical reasoning, are paramount to the successful practice of medicine. Spiro (1992) reported that “reading must be accompanied by conversations that broaden the vista available to us if we listen...continuing discussions about patient-doctor relationships and about human relationships in general throughout medical school and during residency, will fan the passion of empathy” (p. 846).

Charon (2001) stated, “the effective practice of medicine requires narrative competence” (p. 1897). Defined as the ability to acknowledge, absorb, interpret, and act on the stories and plights of others, narrative competence is a physician's ability to practice medicine with empathy, reflection, professionalism, and trustworthiness. Medicine practiced with narrative competence uses the “close” reading of literature, reflective writing, and authentic discourse with patients, to examine and illuminate the physician's relationship with their patients, colleagues, society, and self. A number of medical programs have incorporated

narrative work into medical curricula to teach students about the patient's experience and the physician's interior development. Narrative writing by students is used to strengthen reflection, self-awareness, and the adoption of patient's perspectives (Charon).

Stebbins (2004) shared the insight of a medical school dean who suggested that medical student's personal development suffers as they are exposed to fewer influences outside the field of medicine. Referred to as the "funneling" effect, the dean described a problem with the current system of medical education:

We funnel people down a very structured curriculum, the funnel narrows...and then...it spits them out the other end as a doctor. You lose a lot as a person in that funneling process...that is one of my goals...to be able to have graduates that are better rounded from the standpoint of the world and where we live and the communities they live in. (p. 15)

This dean encouraged students to expand their view of medicine by participating in elective courses offered throughout the preclinical medical program. Select elective courses made available to students include: Mental Illness and the Cinema, Medicine and the Humanities, Physician Leadership, Global Health Issues, Pain and Pain Management, and Medical Anthropology.

Exposure to patient perspectives

Select medical schools have incorporated experiences into their curriculum to expose medical students to the experience of patients. Wilkes, Milgrom, and Hoffman (2002) shared the results of a study designed to test the experience of being hospitalized on volunteer-second year medical students and their levels of empathy. The findings of this qualitative study resulted in commonly shared responses about the nature of hospitalization itself and the interactive behaviors of health care providers. Student participants reported a significant

change in their attitude and knowledge on the patient's perspective of being hospitalized. All participating students commented that the experience gave them "confidence that they will be far more empathetic to patients than they might otherwise have been" (p. 533). Even in light of the cost, ethical concerns, and intensive administrative resources necessary to coordinate such experiences, researchers reported that the intervention "affected the students" and would be repeated.

Feighny et al. (1998) reported that the importance of empathy and communication in the patient-physician relationship requires their cultivation and is not to be left to chance. This group of researchers used a two by three between-subjects factorial design to test the impact of a multidimensional empathy training program based "on the maxim that true empathy comes from 'walking in someone's shoes'" (p. 14). Training activities were structured to help 55 medical student (first, third, and fifth year) participants think (cognitive empathy), feel (affective empathy), and act (behavioral empathy) as diabetic patients. Several evaluation measures (Interpersonal Reactivity Index, Carkhuff Empathic Understanding Scale, Medical Helping Relationship Inventory, Arizona Clinical Interview Rating scale, and American Board of Internal Medicine Communication Skills Survey) were used to test the outcome of training on students' cognitive, affective, and behavioral empathy and their communication skills with patients. Mixed results were revealed. Cognitive and affective empathy of students at the three student levels typically did not change; however, behavioral empathy of first and third-year students were higher than students in the control group. No change was detected on any level of empathy in fifth-year students. Feighny et al. drew several conclusions: First, results indicate that the most effective time to train student on empathy is in the early years of the medical school experience; second, training efforts

should focus on the behavioral dimensions of both empathy and communication skills; finally, empathy and physician communication skills can be trained.

Finally, Hojat et al. (2003) described a “patient navigator” approach where students “shadow” a patient during a visit to their doctor or observe their patient throughout his or her treatment. This type of intervention is designed to foster understanding of patients experience and therefore enhance empathy in participating students.

Des Moines University’s College of Osteopathic Medicine recently established the Chronic Care Community Osteopathic Professional Education Program (C.O.P.E.) to introduce first and second year medical students to patients living with chronic illness while fostering compassionate health care (Des Moines University, Chronic Care Program, 2004). Students in this elective program are linked to a chronically ill patient through the program and provided the opportunity to learn all aspects of the patient’s condition and care through in-depth history taking, assistance of the primary care provider or faculty mentor, and through direct study and discussions with the patient. Students study the psychological, financial, and interpersonal impact of the disease affecting their patient, which provides a more complete or holistic view of the patient’s perspective. Students meet with their patients, at minimum, every six to eight weeks throughout the program. This study used C.O.P.E. participation as a control variable. Results on empathy levels of study participants are reviewed in Chapter 4.

Communication and interpersonal training

The role communication and interpersonal communication play in a patient’s perception of physicians empathy has already been established. Effective communication

skills are an essential component of a contemporary definition of clinical empathy.

Numerous studies have been conducted to test the effect of various communication training approaches on student empathy (Fine & Therrien, 1977; Kramer, Ber, & Moore, 1987; Swanson-Fisher & Poole, 1978; Winefield & Chur-Hansen, 2000). A brief introduction to several of these interventions is provided as follows.

An experimental study to test the effectiveness of a systematically planned training program for the development of interpersonal relationship skills of first-year medical students was comprised of an experimental group of 20 volunteer students, while additional 23 volunteers served as the control group (Fine & Therrien, 1977). The experimental group of students participated in an eight-week (12 contact hours) training program that involved role playing between the faculty and students as physician, patient, and evaluator. Students were coached on the use of specific (helpful versus harmful) responses that have been found to increase trust and openness. Feedback from faculty during role playing was used to shape responses to increase empathic accuracy, immediacy, and personal meaning. The Truax Accurate Empathy Scale, a scale used in psychotherapy research, was modified to make the wording appropriate to the medical setting. The pretest and posttest were administered to both groups and compared for the effectiveness of the training. Results clearly indicated that the students who participated in the training were significantly more able to respond empathically to patients than the students in the control group. Although Fine and Therrien identified the need for follow-up studies to determine whether skills were maintained over time, they were able to demonstrate a significant effect on first year medical students' levels of empathy through the use interpersonal skills training.

Kramer et al. (1987) observed the dehumanization effects on medical students during their clinical clerkship and among physicians through an increase use of rejecting behaviors (manifested by sarcasm, verbal rejection, contempt, evading eye contact, and ignoring patient's verbal and nonverbal cues) and a decrease in supporting, empathic behaviors during medical interviews. First, fourth, and fifth-year medical students participated in an interpersonal skills workshop (15 total contact hours) on the use of supporting behaviors in the medical interview using instruction, open small group discussion, and role playing. Participation in the workshop resulted in a long-term decrease or abolishment of observed rejecting behaviors among medical students and physicians using trained observers. Kramer et al. concluded that rejection behaviors are the "gravest manifestation of dehumanization" in medical students and physicians and, therefore, "the evaluation of long-term effects of interpersonal skills training programs...should not be based on the assessment of the participants' empathic behavior alone, but should also identify and measure their rejecting behaviors" (p. 909).

Two additional studies were undertaken in Australia with undergraduate medical students. Swanson-Fisher and Pool (1978) conducted an experimental study using 135 randomly assigned preclinical students (112 assigned to the experimental group, 23 to the control group) and a commercially available video training program (15 total contact hours). Students were assessed by trained raters on their ability to empathize in an actual patient 15-minute interview, before and after the training. After-training scores of the experimental group were highly significantly different. Study findings indicated that the empathy training was effective in increasing the subjects' level of empathy. The authors further highlighted that the results achieved were obtained using a relatively inexpensive technique and,

therefore, “empathy training should be seen as an essential, rather than as an extra, or unimportant, aspect of the curriculum in the preclinical years” (p. 475). They identified further research to determine the long-term effects of such training programs.

Finally, Winefield and Chur-Hansen (2000) collaborated with 115 first year undergraduate medical students on an introduction to medical communication skills course. Pretest and posttest empathy scales tracked the results of the course that included lecture, videotape, handouts, two three-hour small group skill training workshops with standardized patients, and a final exercise that required students to conduct two interviews with a stranger on a relevant event that required a psychological adjustment. The empathy scale used was based on materials prepared by Danish and Hauer (as cited in Winefield & Chur-Hansen, 2000). Student participants expressed satisfaction with the experience and pre- and posttest overall comparisons reached levels of significance. The authors further commented that pre- and posttest measures indicated that 70% of the class made some improvement in knowledge of how to respond with empathy to expressions of emotion by another, yet nearly one-third of the class made no gains. They specifically identified several individual attitudinal barriers to learning how to listen and respond to patient’s feelings and recommended further investigation on how to overcome their studies limitation.

Self-exploration

Charon (2001) reported that narrative writing by students and physicians has become a staple in many medical schools and hospitals to “bridge the divides that separate physicians from patients, themselves, colleagues, and society...narrative medicine offers fresh opportunities for respectful, empathic, and nourishing medical care” (p. 1897).

Henderson and Johnson (2002) offered an innovative approach to the development of the reflective skills of medical students. They introduced the use of reflection and analytic skills to facilitate a broad aim of medical education to develop “autonomous professionals capable of self-monitoring their work” (p. 2). Third-year undergraduate medical students took part in 16 full- or half-day workshops with a range of content themes. Following each of the workshops, students were emailed the learning objectives of the workshop and then instructed to evaluate the workshop (in 750 words or less) based on their achievement of each objective. Upon receiving the students’ evaluations, the facilitators would review and respond, thereby encouraging a personal dialogue about the students’ learning that was designed to also encourage further reflection. Henderson and Johnson report that the “increasing richness and the quality of the feedback from our students as the year progressed suggest that this method of evaluation is useful” (p. 5) in the development of self-knowledge and empathy and to encourage a reflective habit.

DasGupta and Charon (2004) introduced a reflective writing exercise conducted in a second-year medical student humanities seminar. Their “personal illness narrative” exercise was created as a medium for students to elicit, interpret, and translate their own (or those of loved ones) personal illness experience while witnessing their colleagues’ stories. In contrast to narrative reflection (also called “empathic witnessing”), where the focus is to reflect on the patient’s story, this exercise focused on the students’ personal experiences with illness (DasGupta & Charon, p. 351). Qualitative analysis of students’ evaluation comments indicated that the exercise was well received and highly recommended for other students and residents. “The emotional difficulty that students described in reflecting on their illnesses,” described the researchers, “represents what may be lived detachment or disembodiment from

their own bodily experience that is reinforced, if not mandated, by their inculcation into medical culture” (p. 355). DasGupta and Charon concluded that this experience may counteract the traditional distancing of physicians’ minds from their bodies and lead to more empathic and self-aware practice.

Role-models

Additional research points to the faculty (pre-clinical and clinical) of medical schools and residency programs as playing a significant role in the development of empathy in their students. Research by Brownell and Cote (2001) highlighted that residents contribute their professional development to their role models—both positive (93% listed those clinical faculty whose behaviors were most congruent with their own) and negative (43% listed clinical faculty whose behaviors were most contradictory with their own)—as well as contact with their patients and their families (50%). Residents surveyed included competence, respect, and empathy as the top three attributes of professionalism. Their research further highlighted that although residents’ knowledge is limited in scope, it is quite good, even though it is dependent on their interaction with role models to develop themselves professionally.

Henderson and Johnson (2002) specifically commented on the critical role facilitators of their workshops play in development of the reflective skills of medical students. The facilitators in the study created workshop climates characterized by flexibility, empathy, equality, tentativeness, and openness. The safe environment established by faculty, encouraged non-defensive and highly participatory students, while also encouraging students to learn from mistakes and challenging, uncomfortable, or upsetting emotional experiences.

Henderson and Johnson's finding supported Rogers (1980) earlier comment that empathy "... can be learned, and learned most rapidly in an empathic climate" (p. 150).

Kramer et al. (1987) included clinical physicians and student tutors in their rejecting behaviors workshop. Their rationale was in response to the student's progress towards greater responsibility for patient with more complicated disease: "In the face of growing, feelings of inadequacy, and frustration, they [students] tend to imitate their clinical teachers' patterns of dealing with such feelings" (p. 909). Therefore, role models were similarly trained to exhibit congruent patterns of communication. Spencer (2004) reminded teachers that they, themselves, must model Rogers' "core conditions" in their relationships with learners, "how can we expect students to behave appropriately if they are not treated with respect and empathic understanding?" (p. 917).

Timing of interventions

A variety of interventions were developed at various stages of the medical education process with the majority taking place either earlier or later versus in the middle of the students training. Similarly, Benbassat and Baumal (2004) reported the need for teaching interventions in the preclinical and clinical curriculum. They provided that training should be introduced in the preclinical phases and then reemphasized throughout the clinical phase. It is also important to include a multi-step approach to teaching various forms of empathy (cognitive, affective, and behavioral) throughout the process of medical education and a continuous process of assessing student performance based on clearly understood performance criteria.

Summary

A review of the literature surrounding the assessment of empathy in medical students as well as a variety of attempts medical schools have initiated to reverse the documented decline have highlighted several generally accepted outcomes of the medical training process. First, medical students arrive with idealistic dreams and humanistic values of helping people achieve a high quality of life; however, somewhere along their path (and earlier versus later) their ability to empathize with other's needs and wants decline. Although no direct cause has been uncovered for this decline, much speculation exists from survivors of the embattled process. To blame are the stress, rigors, and style of medical training, as well, as the long-term affect of the medical training culture and socialization process on its trainees. This effect often results in medical students' general abandonment or suppression of a humanistic, patient-centered approach, in favor of a more scientific, doctor-centered approach to patient care. Further research has uncovered that although patients desire to be cured or relieved from illness or the symptoms of their illness (technical skill), their need and want of a humanistic approach remains stronger than ever.

Where should educators begin to fix the system? Hojat et al. (2003) drew attention to the selection process and the standard objective measures used to support selection decisions (MCAT, GPA, etc.). They stressed the need for continued research on physician empathy not only because of its importance in training humane physicians, but also because of its implications in the selection and education of medical students and residence and in career counseling. They concluded, "... this essential humanistic aspect of medicine eludes the performance measures commonly used in medical education" (p. 32). Nevertheless, Downie (2002) noted that there is consistent belief among medical educators that most medical

student's already have humane qualities such as sensitivity. Downie remarked, "The relevant question is, therefore not how to *create* such qualities in students, but how it comes that medical education *destroys* them" [emphasis added] (p. 505).

Research has been presented on various institutions' approaches to enhance the multidimensional skill of empathy within the formal medical school curricula. These include an infusion of the humanities through study of literature, narratives and art to expand the minds and views of students and to encourage curiosity or interest in mankind; exposure to the patient's perspective through real or simulated patient experiences with illness; self-exploration through process of reflection; the careful selection of appropriate faculty to demonstrate and role model the practice of empathy; and finally, communication and interpersonal communication training through a variety of focused interactive workshops. Although consistent and positive results have been achieved through each of these approaches, each has only successfully impacted one dimension (cognitive, affective, or behavioral) of empathy. In addition to the determination of what approach should be incorporated in empathy training, other variables open to debate include: the *timing* of the intervention or scheduling when should the training take place: *frequency*, or how often students receive instruction; *how* long each intervention should or the optimal number of contact hours; and finally, how to reliably assess or measure the effect of interventions [emphasis added]. All of the interventions addressed previously vary in their approach to these questions and the related outcomes achieved.

Medical schools are often faced with limited resources as are most higher education institutions. In addition, medical students have very compressed schedules making it difficult to schedule any additional experience. However, it would be beneficial to introduce an

intervention approach (to encourage empathy development) that could combine various levels of empathy development into its training, while also providing a relatively short and concise schedule. The FLEX Care™ program, based on Jung's theory of psychological type, was the treatment intervention for this study. It was hypothesized that this program has the ability to influence participants on all three levels of empathy, providing a concise and cost effective intervention for medical schools interested in enhancing their students' empathy. Again, results from this study expand the educator's knowledge regarding empathy development.

Psychological Type Theory

This section briefly introduces Carl Jung's theory of psychological types through the Myers Briggs Type Indicator (MBTI®) and the FLEX Care™ communication training program. Furthermore, the researcher demonstrates how this unique approach to communication training can impact students on multiple dimensions of empathy.

Jung's theory of psychological type theory

Carl Jung was a Swiss physician and psychologist who originally published his theory of psychological type in 1921 (McCaulley, 1978). Psychology type theory is believed by some to be one of the most comprehensive current theories to explain human personality (McCaulley, 1978). Jung's theory grew out of his clinical observation that:

...much apparently random variation in human behavior is actually quite orderly and consistent, being due to certain basic differences in the way people prefer to use perception and judgment... (McCaulley, 1978, p. 1)

Jung's theory of psychological types postulates that there are four basic mental processes (Sensing, Intuition, Thinking and Feeling), used by everyone, but not equally

preferred and developed (McCaulley, 1978). Everyone uses all four processes, but individuals are distinguished by their relative preferences for each of the four reflected by the *emphasis* and *order* in which they use them [emphasis added] (Allen, 2002). A more in-depth discussion of the four processes is provided in the introduction of the FLEX Care™ theory.

In normal development, members of each type are motivated to use the processes they are disposed to prefer; through practice, they develop expertise in the activities for which their preferred processes are particularly useful (McCaulley, 1978). Skills and increased interests grow from “specializing” in preferred functions and lead to characteristic habits, attitudes, and behaviors associated with type. At the same time, Jung (1971) also explained that “we naturally tend to understand everything in terms of our own type” (cited by Allen & Brock, 2000). Type preferences are not static but dynamic. In early life, the best development involves discovering one’s natural predispositions and developing the preferred functions through meeting challenges with purposeful effort. The theory enables continued growth and development throughout life, as each type comes to greater appreciation of and command over functions, which in early life were less interesting and less developed.

Jung emphasized the dynamic and growing command of the mental processes for two reasons (McCaulley, 1978). First, the word *type* connotes to many a static rather than dynamic system [emphasis added]. A feeling of being “pigeon-holed” or “boxed in” can result without clarification of the theory. A more important reason for stressing the development dynamics of the theory is that, “young people entering the health professions are, in theory, at a stage where they are still gaining command of perception and judgment” (McCaulley, p. 14). McCaulley further highlighted the foundational role health professionals played in the development of the MBTI® by Isabel Meyers:

Myers' research with medical and nursing students stemmed from her belief that the life-and-death decisions in the health professions require the *best* use of perception and judgment, both for the sake of the patient, and for the sense of adequacy in the professional (pp. 14-15).

McCaulley (1978) explained that Myers' goal in using the MBTI® in medical and nursing education was to find ways for students of all types to improve their command of perception (Sensing or Intuition) and judgment (Thinking or Feeling) as part of their professional training.

Myers-Briggs Type Indicator®

The Myers Briggs Type Indicator or MBTI® is a questionnaire specifically designed by Isabel Briggs Myers and Katharine C. Briggs to make it possible to put to practical use Jung's theory (McCaulley, 1978). In brief, the four dimensions measured by the MBTI® are provided (Stilwell, Wallick, Thal, & Burlison, 2001, p. 15).

1. *Preferred direction of energy—Extraversion or Introversion* (represented by the letter "E" or "I")—Individuals with a preference for Extraversion tend to focus on the outer world of action, objects, and persons, whereas those with a preference for Introversion tend to focus on the inner world of concepts and ideas.
2. *Preferred focus of gathering information—Sensing or Intuition* (represented by the letter "S" or "N")—An individual with a preference for Sensing tends to collect information from the immediate, real, practical facts of life, whereas persons with a preference for Intuition tend to see the possibilities, the relationships, and the meaning of experiences.
3. *Preferred focus for making decisions—Thinking or Feeling* (represented by the letter "T" or "F")—The person with a preference for Thinking tends to make judgments objectively and impersonally, considering the causes of events. The preference for Feeling person makes judgments subjectively and personally, weighing values of choices and how they affect others or their own inner value system.
4. *Preferences orientation to life—Judging or Perceiving* (represented by the letter "J" or "P"). The person with a preference for Judging prefers to live in a decisive, planned, and orderly way, so as to regulate and control events. The individual with a preference for Perceiving prefers to live in a spontaneous, flexible way, aiming to understand life and adapt to it as it unfolds.

Myers and Briggs actively developed the Indicator in the 1940s. The Indicator was later published as a research instrument by the Educational Testing Service in 1962. A few medical schools incorporated it into longitudinal studies in the late 1960s, and it was discovered by a growing number of researchers and counselors in public schools, community colleges, colleges and universities, and professional training programs in the late 1960s and early 1970s. In 1975, Consulting Psychologist Press (C.P.P.) became the publisher of the MBTI®, and for the first time it was available to psychologist through normal distribution channels (McCaulley, 1978).

Today, the MBTI® is the most widely used instrument for understanding normal personality differences (Myers, McCaulley, Quenk, & Hammer, 1998). More than two million Indicators are administered annually in the world. The MBTI® is also used internationally and has been translated into more than 30 languages. Because it explains basic patterns in human functioning, the MBTI® is used in a variety of settings, to include career development of health professionals (Stilwell et al., 2001). Validity and reliability data for the MBTI- Form M are shared in Chapter 3.

Type and medical students

The use of the MBTI® personality inventory in career counseling to help people find meaningful and productive work was one of Isabel Briggs Myers' original motivations in the development of the instrument over fifty years ago. Career counseling applications were one of the first areas of applied research on type, and the field continues to generate a large number of research studies (Myers et al., 1998).

McCaulley (1978) reported that ethical users of the MBTI® assume that any complex task needs the expertise of all kinds of people. Therefore, no type should be ruled out of an occupation, based on type alone, if the person is otherwise motivated and qualified. However, both researchers and counselors find that, in fact, all types are not equally interested in all occupations (McCaulley).

During the developmental phases of the MBTI®, Myers collected two large samples of data on health professionals (McCaulley, 1978). The first was a sample of 5,355 medical students from 45 medical schools, tested in the 1950s. Myers had analyzed the data to see if the type differences in aptitude and achievement were consistent with type differences found in high school and college samples, and in 1963 compared the entire sample with the American Medical Directory to determine if type differences were associated with the specialty choice of the study subjects (Stilwell et al., 2001). Myers found that even though all 16 individual types are not evenly distributed in the general population, all MBTI® types were admitted to medical school in approximately even numbers. “Her sample had the most balanced distribution of types of any professional group yet studied” (McCaulley, 1978, p. 55). Because medicine is a remarkably diverse field, Myers concluded that, “it has appeal for—and gains strength from—all psychological types” (cited in Stilwell et al., 2001).

During the 1960s and 1970s, a new composite of 7,190 medical students was tested by Myers and McCaulley (Stilwell et al., 2001). Some shifts in frequency were noted: there was a higher representation of those who prefer Intuition (62%), Feeling (58%), and Judging (58%), with only a small difference on students who preferred Extraversion to Introversion (48% and 52%, respectfully). McCaulley (1978) concluded, “medicine is still attracting all 16 types, but not in the same proportions as in the 1950s” (p. 64).

Two follow-up studies have been completed of medical students in the last few years: Stilwell et al. (2001) studied 3,987 students who graduated from one of 12 participating U.S. medical schools from 1983 through 1995, and Clack, Allen, Cooper, and Head (2004) studied 313 medical graduates in the United Kingdom who had graduated from Kings College between 1985-1986 and 1989-1990. Both studies were undertaken to provide additional information to medical students as they go through the career selection process and specifically aimed to identify; however, Stilwell et al. specified the following objectives: changes in the MBTI® profile of the medical school population over time, differences between MBTI® profiles of men and women and the effects, if any, of the increased number of women in the medical school, possible associations between particular types and medical career choices, and possible type differences of graduates selecting primary care and specialties. The Clack et al. study added a comparison of the personality profiles of medical school graduates to those of the UK adult population norms to determine if differences existed between the two groups and their dimensions of psychological type.

The most obvious change over time reported by both studies was the increase in the number of women represented within each sample (Clack et al., 2004; Stilwell et al., 2001). Stilwell et al. reported an increase from 6% in the 1950s to 40% in the most current sample, while Clack et al. reported 51% of their sample represented by female graduates. A second finding of these studies was a shift on the T – F dimension. Stilwell et al. reported that the original sample (1950s) and the current sample (1980s and 1990s) were similar, each with a large number of those indicating a preference for Thinking (54% and 55%, respectfully), whereas the 1960s-1970s sample indicated that the majority indicated a preference for Feeling (56%). Clack et al. reported even higher Thinking preferences (64%) in their current

sample. The final overall trend was on the J-P dimension. Stilwell et al. highlighted that the earliest sample reports the majority of students indicated a preference for Perceiving (53%), whereas the latter two samples showed a shift to a preference for Judging (58% and 59%). Clack et al. discovered an even higher number of students with reported Judging preference (68%).

Stilwell et al. (2001) offered a several insights on these trends: First, the increase in students indicating a preference for Feeling in the 1960s – 1970s “may reflect the culture of the period, which was perhaps, more idealistic and service-oriented than either the previous or present culture” (p. 19). Second, the shift from a majority of students indicating a preference for Perceiving in the earliest sample to Judging in the latter two samples may be associated with the increases in technology and information in all medical fields. “Whereas a physician in the 1950s used more Perceiving skills to examine and diagnose, today’s physicians order tests and then interpret (judge and deduce) results, rather than relying on more inductive processes,” (Stilwell et al., p. 19). The increasing amount of bureaucracy, paperwork, and organizational involvement that is necessary to practice medicine today may also be associated with a preference for Judging. Additional findings from the comparative MBTI® study by Stilwell et al. (2001) and Clack et al. (2004) are provided as follows:

Type and gender

Stilwell et al. (2001) noted only one significant finding: For the 1950s sample, students indicating a preference for Thinking were predominately men (55%) whereas students indicating a preference for Feeling were predominately women (58%). For the 1980s – 1990s sample, this pattern repeated: 62% of men indicated a preference for Thinking

while 57% of women indicated a preference for Feeling. Stilwell et al. continued by describing the significance of this finding: "... it is also descriptive of the general population, though unlike the general population, this is the *only* subscale that is clearly differentiated by gender" [emphasis added] (p. 19). Stilwell et al. concluded:

It is likely that women who entered medicine earlier had to be more like men on this dimension (more tough-minded, thinking types) to feel comfortable and accepted in what was, at the time, a very male-dominated field. In the current sample with 40 percent women, perhaps a critical mass has been reached so that all types of women feel comfortable entering medicine. The data are, therefore, more typical of the general population on this dimension. (p. 19)

Type and specialty

McCaulley (1978) reported that all preferences for type are more likely to have developed the skills and interests associated with their perception (Sensing and Intuition, or S/N) and judgment preference (Thinking and Feeling, or T/F) and to be somewhat less interested in the tasks requiring use of their two less preferred functions. "In theory, people are likely to seek careers which call on the functions which provide greater interest and satisfactions and in which they have developed greater skills" (McCaulley, p. 50).

The same principle applies to the four attitude preferences (Extraversion and Introversion, or E/I; Judging and Perceiving, or J/P), although the effect of preferences may be more in how the tasks are carried out rather than the choice of the tasks themselves (McCaulley, 1978):

As a beginning, we looked at health professions on which we had data, to see whether the patterns of type distribution seemed to make sense in light of our understanding of the tasks of those professionals. We were particularly interested in the combination of preferences: ST (interested in using technical skills and equipment); SF (interested in actual care of the patient day-to-day); NF (interested in understanding, communicating with, facilitating the growth

of patients); and, NT (interested in the scientific and analytic sides of health). (p. 51)

Clack et al. (2004) summarized the distribution of their sample with the four combinations of perception and judgment: Sensing with Thinking (ST) (32.3%); Intuition with Thinking (NT) (31.3%); Intuition with Feeling (NF) (19.2%); and, Sensing with Feeling (SF) (17.2%).

The Stilwell et al. (2001) analyses of the 1980s – 1990s data set incorporated gender and type (single scale versus a combination preferences) simultaneously in determining if they are associated with specialty choice at the time of Match (residency obtained through the Early Specialty Match, the Military Match, or the National Residency Matching Program). A key finding of their study was that gender was the strongest predictor of specialty selection (Stilwell et al.). Women chose primary care residencies more often (61%) than non-primary care (39%); men are equally divided between the two.

Stilwell et al. (2001) drew the following conclusion: Female students with a preference for Introversion and Feeling were associated with choosing primary care. “This finding is not surprising in that primary care is highly service-oriented,” concluded Stilwell et al., “money and prestige are not as likely to be motivating factors for primary care practitioners” (p. 19). The rewards of long-term relationships with patients and families are consistent with preferences for Feeling and Introversion. Another conclusion on the attraction of females to primary care includes: Fewer required years in residency and the ability to devote time to a family sooner than a longer residency would permit.

There was a strong association of between family medicine and those students indicating a preference for Feeling. Stilwell et al. (2001) commented, “This is also intuitively

understandable, as family medicine is generally viewed as less technologically oriented than other areas of primary care” (p. 19). Again, the continuity with patients and nurturing role of the family physician would be appealing to those with a preference for Feeling.

The results provided demonstrate that the MBTI® has remained a useful tool in understanding some aspects of personality and how they relate to choice of medical specialty. Stilwell et al. (2001) remarked, “Although type should never be the determining factor in specialty selection, it may be used to ascertain if the students’ type will be representative of, or underrepresented in, their chosen specialty” (p. 20).

Type comparison of medical graduates and adult population

Clack et al. (2004) offered another application of the MBTI® with a study comparing type preferences between a sample of medical school graduates and a sample of the adult population in the UK. Their finding highlighted significant differences between these two samples suggesting potential points for miscommunication in the doctor-patient relationship. “...these doctors might benefit from education in the concept of psychological type differences and how these could affect communication with their patients,” concluded Clack et al. (p. 177).

Applying the MBTI® to health care communication

A brief overview of select interpersonal communication programs used in medical education was given previously. Although many of these programs, produced positive results based on their own unique theoretical framework, each is highly prescriptive and, therefore, limited in its ability to influence multiple-dimensions of empathy or provide an effective tool for physicians to use in their approach to a variety of communication situations (i.e., patient

or colleague, to deliver good news or bad news, supporting or rejecting behaviors, etc.). The FLEX Care™ health care communication model is a specific application of the MBTI® designed to enhance interpersonal communication in a health care setting (Allen & Brock, 1999). Allen and Brock acknowledged the importance of doctors, nurses, and other allied health practitioners to work together effectively in situations where “accuracy is critical and compassion is key” (p. 1). However, with an increase in the diversity of patient needs, backgrounds, expectations, and sophistication, a tool was needed to facilitate physicians in delivering highly effective communication that would lead to desired clinical outcomes and satisfaction of the patient, physician, and other support personnel (Allen & Brock, 2000; Brock & Allen, 1999).

The FLEX Care™ model is based on the original work of Susan Brock, an organization consultant and licensed psychologist whose research and work was focused on using type in *practical influencing situations* [emphasis added] (Allen & Brock, 1999). Initially, hundreds of people who had verified their four-letter type preference responded in writing to the question, “How do you prefer to be sold to?” or “How do you prefer to be influenced in practical influencing situations?” (Brock & Allen, 1999, p. 19). The responses were analyzed as to whether any aspects of type helped to cluster the responses. Brock discovered almost immediately that there was an obvious and reliable pattern. Brock launched the FLEX Sell® and FLEX Talk® programs in 1989 to teach sales and other professionals how type affects communication in selling and other practical influencing situations. Today, literally thousands of sales professionals across the U.S., Canada, Europe and the UK, Australia, Argentina and the Pacific Rim have confirmed Brock’s original findings (Brock & Allen, 1999).

In the early 1990s, Judy Allen, who had a background in nursing and education, participated in a FLEX program and immediately recognized the value of the model in a health care setting (Allen & Brock, 1999). Shortly afterward, both Allen and Brock launched a pilot study in England, asking individuals (who had verified their type) to record how they would prefer to receive bad news. Simultaneously, they researched the available literature on health care communication and made a significant observation:

... each system or model of communication apparently failed to take note of differences between patients in terms of personality type. Indeed, some models appeared quite prescriptive, giving to-do's like cookbook recipes. That practitioners might also have preferences that influence their approach to patients seemed to be largely absent. (Allen & Brock, 1999, p. 3)

These factors encouraged the team to move forward. They set out to gather more data by distributing questionnaires in both the U.S. and U.K. The questionnaire was expanded to ask people how they preferred to receive routine communication in a health care setting as well as their original question of how each would prefer to receive bad news. Allen and Brock (1999) shared a significant finding, "Our questions were [worded] neutral (for example: 'If my doctor delivers bad news to me, I'd like...'), yet many of the responses contained the words 'do not'" (p. 3). When patients were interviewed in more depth, Allen and Brock discovered that many retained vivid and distressing memories of being spoken to inappropriately at a moment in their lives, which was already distressing. They highlighted one interviewee's response that summed up the concerns of many:

My experience is thankfully limited but I rarely feel as if I am being spoken to as an intelligent, professional person. I have found I had to assert myself and complain constructively (at times) and when using that strategy a different attitude then emanates. A lack of effective communication is evident in many health professionals, which I think adds to their stress, as they struggle to find ways of dealing with people. (p. 4)

Allen and Brock (1999) also shared another respondent's comment on the potential for good in positive exchanges, "I have already said, but want to say again, that being fully listened to and heard is so important it feels as if it's *part of the caring and healing process*" [emphasis added] (p. 3).

Collected and assessed within the context of the original findings of Brock's earlier work, the data confirmed Allen's and Brock's (1999) expectation that type preferences do affect the way in which patients preferred to receive, and make decisions on, information in a health care setting, while also influencing the pace and the movement to closing the encounter. They developed and published their findings in a book entitled, *Health care communication using personality type: Patients are different!* (Allen & Brock, 2000). The following provides an introduction to Allen and Brock's FLEX Care™ model.

Four-Part Framework®

Brock (1991) used common everyday words and phrases to explain type within her four-part communication model in the FLEX Sell® and FLEX Talk® programs (Allen, n.d., as cited in Allen & Brock, 2000, p. 10). These highly descriptive and easy to remember phrases supplement Jung's (i.e. Extraversion, Introversion, Sensing, etc.), and Briggs and Meyer's MBTI® (i.e., "E," "I," "S," etc.) language to describe the four preference domains. Table 1 illustrates Brock's communication model, called the Four-Part Framework®, that was carried forward into the FLEX Care™ model along with the Flex language for the four domains of type:

Table 1. Four-Part Framework®

Stages of the communication process	Four preference domains with Flex, Jungian, and MBTI® language	
1. Initiating the conversation	“Talk it Out” (Extraversion) (E)	“Think it Through” (Introversion) (I)
2. Gathering information	“Specifics” (Sensing) (S)	“Big Picture” (Intuition) (N)
3. Suggesting a course of action	“Logical Implication” (Thinking) (T)	“Impact on People” (Feeling) (F)
4. Closing	“Joy of Closure” (Judging) (J)	“Joy of Processing” (Perceiving) (P)

Type mode and behavior cues

The FLEX Care™ model and training program provides participants a very practical application of psychological type theory by also introducing the concept of “type mode.” Allen and Brock (2000) remind that we use all of the type preferences depending on the situation and that no preference is better or worse than the other. They continue with an analogy of a house to highlight that we have each have a favorite room in the house that is where we would prefer to be, the most comfortable place in our house. This favorite room represents our preferred four-letter type. However, throughout our day we may find it necessary to move into other rooms, or “modes,” as the occasion warrants. “Type mode” is a term describing the preference of type currently being used or presented by an individual. Allen and Brock (2000) present the relevance of observing an individual's type mode through their presented behavior cues:

Because observing, not labeling, is the key, it is not necessary to know another's type preference. It is only necessary to watch for behavior cues in the moment, remembering that the person may be visiting another room in their “house” and will want to be treated in accordance with the current room.
(p. 25)

Brock (1991) identified common behavior cues from the data collected that could be “seen and heard”. These four common behavior cues can be used to identify the type mode of those in which people interact (Table 2) (cited Allen & Brock, 2000, pp. 12-23): Each cue includes descriptors that help one to observe and identify the behavior cue.

Table 2. FLEX Care™ behavior cues

Extraversion and Introversion—how you are energized

- | | |
|---|--|
| <ul style="list-style-type: none"> ▪ Talk it out: -Rapid speech -Appears to “think aloud” -Interrupts -Louder volume of voice | <ul style="list-style-type: none"> ▪ Think it through: -Pauses while giving information -Quieter voice volume -Shorter sentences – not run on |
|---|--|

Sensing and Intuition—what one pays attention to

- | | |
|--|--|
| <ul style="list-style-type: none"> ▪ Specifics: -Asks for step-by-step information or instructions -Asks “what,” “how” questions -Uses precise descriptions | <ul style="list-style-type: none"> ▪ Big Picture: -Asks for current and long-range implications -Asks “why” questions -Talks in general terms |
|--|--|

Thinking and Feeling—a basis for decision making

- | | |
|---|---|
| <ul style="list-style-type: none"> ▪ Logical Implications: -Appears to be “testing you” or your knowledge -Weighs the objective evidence -Not impressed that others have decided in favor -Conversations follow a pattern of logic – “if this, then that” | <ul style="list-style-type: none"> ▪ Impact on People: -Strives for harmony in interaction -May talk about what they value -Asks how others acted/resolved the situation -Matters to them whether others have been taken in account |
|---|---|

Judging and Perceiving—preferences for managing one’s life

- | | |
|--|---|
| <ul style="list-style-type: none"> ▪ Joy of Closure: -Consistently early or on time for appointments -Impatient with overly long descriptions or procedures -The tone is “let’s get it done” -May even decide prematurely -Uses “ed” words: “looked, compared, evaluated” | <ul style="list-style-type: none"> ▪ Joy of Processing: -May be late for appointments or forget the time during an appointment -Seem to want “space” to make own decisions -Feels put off by closing a conversation before they are ready -Generally won’t decide until the last moment -Uses “ing” words: “looking, comparing, exploring” |
|--|---|
-

With the FLEX Care™ program, the emphasis is first on knowing one's own preferred communication style, your strengths and weaknesses as a communicator (self awareness) and then on observing, not labeling, the type preferences of others. Therefore the program works to help participants understand and practice observing behavior cues of type. as introduced previously, it also stresses the need to watch behavior cues in the moment (“type mode”), remembering that the patient or individual may not be using their natural preference yet will still desire to be treated accordingly.

Allen and Brock (2000) shared a particularly important finding their study revealed, common theme represented by all types: When individuals are asked about what they want or need in a health care situation, ‘*listen*’ seems to rise to the level of a plea. It appears more often than any other word in the Flex data [emphasis added] (p. 45).

Allen continued to describe an additional benefit to “tuning” into a patients or individuals behavior cues: “Taking the time to notice behavior cues has the added bonus of helping one to listen and to be seen to be listening” (Allen, personal communication, January 7, 2005).

Health Care Communication in FLEX Care™. Allen and Brock (2000) outlined the Four-Part Framework® and Health Care Communication in FLEX Care™ model (Figure 2). First, however, each stage is described briefly (Allen & Brock, 2000, pp. 32-33):

Stage 1: Initiating the interaction. The first stage often includes an arrival, a short greeting, perhaps a handshake and then a settling in to the physical surroundings. Brock discovered that in the initiation stage that Extraversion and Introversion play a major role. Patients preferring Extraversion, or those in an “Talk it Out” mode, prefer more energy to be shown, such as a faster verbal pace, more body animation and closer physical interaction,

STAGES OF INTERACTION	PREFERENCES TO CONSIDER IN PATIENTS									
1. Initiating the interaction	TALK IT OUT (Extraversion) E	THINK IT THROUGH (Introversion) I								
2. Investigating needs and 3. Suggesting a course of action	<p style="text-align: center;">Specifics (Sensing – “S”)</p> <table border="1" style="width: 100%; text-align: center;"> <tr> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">Logical Implications – “T”</td> <td>PRACTICAL FACTS (ST)</td> <td>PERSONAL SERVICE (SF)</td> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">Impact On People – “F”</td> </tr> <tr> <td style="writing-mode: vertical-rl; transform: rotate(180deg);">Logical (Thinking – “T”)</td> <td>LOGICAL OPTIONS (NT)</td> <td>SUPPORT THEIR VISION (NF)</td> <td style="writing-mode: vertical-rl; transform: rotate(180deg);"></td> </tr> </table> <p style="text-align: center;">The Big Picture (Intuition – “N”)</p>		Logical Implications – “T”	PRACTICAL FACTS (ST)	PERSONAL SERVICE (SF)	Impact On People – “F”	Logical (Thinking – “T”)	LOGICAL OPTIONS (NT)	SUPPORT THEIR VISION (NF)	
Logical Implications – “T”	PRACTICAL FACTS (ST)	PERSONAL SERVICE (SF)	Impact On People – “F”							
Logical (Thinking – “T”)	LOGICAL OPTIONS (NT)	SUPPORT THEIR VISION (NF)								
4. Next steps or closing	JOY OF CLOSURE (Judging) J	JOY OF PROCESSING (Perceiving) P								

*From FLEX Care™: Building Customer Relations Using Personality Type—Participant Workbook Allen and Brock, 2000 (p. 31). Copyright 2002, Judy Allen and James Gray. Used with Permission (see Appendix B-1). Center for the Application of Psychological Type, Gainesville, FL.

Figure 2. Four Part Framework© and Health Care Communication in FLEX Care™*

than do those who prefer Introversion. Patients with a “Think it Through” preference may use fewer words, and be comfortable with more physical distance.

Stage 2 and 3: Investigating needs and suggesting a course of action. As the process moves forward into the stages of investigating needs and suggesting a course of action, people look for information to be presented in their preferred mode and for their process of coming to a conclusion or a decision to be honored. This is the heart of any communication or practical influencing process. The aspect of type that is most closely linked to the heart of

communication, are the four combinations of Jung's perceiving (Sensing (S) or Intuition (N)) and judging (Thinking (T) or Feeling (F)) preferences. The four combinations are called functional pairs: ST, SF, NF, and NT. The functional pairs are introduced later in this section.

Stage 4: Next steps or closing. Finally, at the stage of moving to closure and setting out the next steps, Brock highlights "there appears to be a link with the Judging and Perceiving preferences" (p. 32). Patients with a Judging preference, or operating in a "Joy of Closure" mode, may want to move as rapidly as possible to closure. People with a Perceiving preference, or operating in a "Joy of Processing" mode, often have a variable pace determining whether closure is actually seen as necessary or whether remaining open is more beneficial.

As mentioned previously, Allen and Brock (2000) stated that the heart of the communication process is establishing purpose (i.e., "I see you are here for a blood pressure check, is that right?"). In the four-stage communication model just reviewed, establishing purpose is accomplished in stage two, "investigating needs," and stage three, "suggesting a course of action" (p. 33). The data collected in both the original and subsequent studies demonstrated that the most powerful predictor of how a person prefers to be communicated with is consistent with their type preferences, especially in the areas of the functional pairs. The functional "mental" pairs or the "cognitive core," serve as the foundation for understanding differences in communication and therefore are of particular importance to health care practitioners. Since patients are often dealing with fundamental issues that may have deep and frightening implications, practitioners who are willing to work with patients based on their preference in gathering information and basing decisions will, according to the FLEX Care™ theory, relieve stress and foster more informed decisions. Allen and Brock

(2000) provided the following data from their research in understanding the needs of each functional pair in health care settings (p. 44) (Table 3). They also provided a table of “To do’s” created from the data collected that practitioners can use in their approach with varying functional type preferences (Table 4).

Table 3. Needs of the four functional pairs in a health care setting

-
- **Specifics/Logical Implications (ST)**
 - Be knowledgeable, efficient, competent, pay attention to detail
 - Understand my needs
 - Give me time to absorb events

 - **Specifics/Impact on People (SF)**
 - Be friendly, caring, cheerful
 - Listen to me
 - Treat me as a person (possibly “known” by name to the professional)
 - Ensure privacy
 - Be efficient

 - **Big Picture/Impact on People (NF)**
 - Treat me as an individual
 - Respect my view, involve me
 - Be kind, sympathetic
 - Be professional, that is, listen to me

 - **Big Picture/Logical Implications (NT)**
 - Be professional
 - Respect my intelligence
 - Involve me in decisions, offer alternatives
 - Treat me as a competent person
-

Table 4. "To do's" for type modes in health care settings*

<p>ST—Facts with practicality</p> <ul style="list-style-type: none"> ▪ Be brief, give concise facts ▪ Be straightforward and honest ▪ Know the facts about my condition and expect to be questioned on them ▪ Give me information on the specific treatment options so I can weigh them ▪ Present the information in a logical way, do not go off on a tangent ▪ Give me factual written information about my condition/treatment ▪ Have available percentages or relevant data for comparison and information ▪ Expect to be "tested" 	<p>SF—Personal service</p> <ul style="list-style-type: none"> ▪ Listen carefully to me, give me your time and complete attention ▪ Be warm and friendly ▪ Give me factual information honestly, but with a personal touch—for example, remember what I've already told you ▪ Provide practical information and examples about my condition ▪ Tell me about other people who have had the same treatment ▪ Explain any options clearly and allow me time to decide
<p>NF—Supporting their vision</p> <ul style="list-style-type: none"> ▪ Treat me with respect—as a whole person with a unique perspective ▪ Listen to and value my concerns ▪ Provide overall solutions—an overview without details ▪ Take time to discuss my concerns; be honest but kind ▪ Know that my case is unique to me ▪ Be sincere ▪ Get to know me as a person ▪ I may want to discuss alternatives or complementary treatment; take this seriously 	<p>NT—Logical options with competence</p> <ul style="list-style-type: none"> ▪ Respect my intelligence and my need to understand ▪ Demonstrate your competence ▪ Answer my questions in an honest, open way; do not hide anything ▪ Give me overall options so I can see a pattern ▪ Be informed about new alternative treatments ▪ Do not expect or assume a personal relationship—that will be built when competence is shown ▪ Show that you continually update your knowledge ▪ Listen to my views; ask before giving advice.

*Allen & Brock, 2000, p. 46.

In addition, Allen and Brock (2000) identified major themes for each of the four functional type preferences:

... for ST's the focus is on the facts, well-ordered and delivered with the minimum of fuss. The NF's priority is to be seen as an individual with complex personal needs. SF's place the highest value on a caring, personal service, while NT's seek recognition of their intelligence and demonstration of competence by professionals with whom they are working (p. 45).

Allen and Brock's (2000) investigations stemmed from the observation that "different types literally use different words to express similar meanings and as a result have difficulty communicating with each other" (p. 30). Study data revealed some particular words and phrases which are characteristics of certain type preferences. For example, "empathy" is often and spontaneously used by NF types. It is also used by some NT types but rarely by Sensing types. The word "relationship" is also used by those with an Intuitive preference (Big Picture)—if a word is longer, those who prefer Intuition tend to use it. Sensing types tend to use words and phrases which are more down to earth (i.e., "get to know me" versus "relationship"). Finally, as mentioned earlier, all types listed "listen" as their first want or need in a health care setting. Allen and Brock (2000) concluded:

Different types have different understandings of what listening means, but one thing is certain: if we listen closely for behavior cues and then respond using a matching "dialect" the patient will know that we *listened* and *heard*" (emphasis added) (p. 45).

Training workshop

Throughout their research, Brock and Allen (1999) determined that they would first write a comprehensive publication and then would develop and publish training materials. In 2000, they published *Health care communication using personality type: Patients are different!* Shortly after their book hit bookstore shelves, Susan Brock lost her battle with

breast cancer. Judy Allen continued researching and writing, and in 2002 published the corresponding workbook and leaders guide, *FLEX Care: Health Care Communication Skills using Personality Type*.

The primary objective of their book and training program was, first, to help participants determine their own preference, “as a baseline for how the world is approached” (Allen & Brock, 2000, p. 36). Becoming aware of type differences helps the participant realize that “Not everyone wants what I want in a health care situation” (p. 46). The critical importance of determining one’s own type preference is highlighted in the following quotation that Allen (2002) provided in the training materials from a doctor/participant in one of her workshops:

It’s difficult for me to think as a patient...I suppose that’s because I speak to them in the way that I would want to be spoken to...oh, I see now, there’s no real difference between what I do and what I would want for myself (p. 29).

This quotation further emphasizes that health care practitioners (as well as most others) often communicate with patients based on their *own* preferred style of communication, not necessarily from their patient’s preference [emphasis added]. The importance of this finding cannot be over-emphasized. In the review of the literature surrounding physician-patient communication, it is clear that patient compliance with medical advice is largely based on open communication based on the needs and wants of the patient and shared decision-making (Allen & Brock, 2000; Hausman, 2004) and patient satisfaction is based largely on the patients perception of the quality of the interaction (Hausman).

Next, participants are provided the opportunity to observe individual behavior cues and identify the related type “mode” (the preference that is being displayed at the moment) of

the four functional types (ST, SF, SF, NT). Finally, through these first two experiences, participants develop a better understanding of others (especially those of contrasting preference), gain perspective, and then practice *flexing* (Allen & Brock, 2000, p. 38) their communication to match or move toward the preference of the other person's type mode (Allen, 2002, p. 39). Allen and Brock (2000) emphasized two important points to their theory: (1) all types are desired, no type preference is inherently good or bad; and (2) practitioners should only flex, or alter their communication style ("tune in") when appropriate. A professional should only flex, or adjunct their approach, if they are experiencing ineffective communication (i.e., "If it ain't broke, don't fix it!") never to manipulate. Finally, Allen (2002) shared a quotation in the training workbook:

If we can understand and value different approaches, we may unlock qualities in both ourselves and the other person which will allow us to work *more effectively and creatively together* (emphasis added) (p. 15).

Managing stress and breaking bad news

An additional area of Allen and Brock's (2000) research was in the area of facilitating practitioners in stress management and the breaking of bad news to patients. They added that "breaking bad news is a particularly sensitive process that makes the use of type even more important" (p. 81). In a follow-up study of participants of known type, each participant was asked to respond to the question "If my doctor delivers bad news to me I'd like ..." (p. 205). Responses were consistent to the functional type preferences introduced. Allen and Brock also highlight an important finding "the more acceptable the mode of communication to the patient, the more likely he or she is to take it in" (p. 77) ultimately influencing patient compliance.

Allen and Brock (2000) returned to the FLEX Care™ model when providing direction on breaking bad news. They first introduced concepts related to type development. Based on the work of Carl Jung, Isabel Myers refined the descriptions of the four functions (Sensing, Intuition, Thinking, and Feeling), and further developed the theory of the natural hierarchy (development) of these functions as part of the application of the MBTI® instrument. The hierarchy describes that each person uses all four of the functions but that they develop differently and according to a natural hierarchy (Allen, 2002, p. 50):

1. Dominant function
2. Auxiliary function
3. Third (or Tertiary) function
4. Fourth (or Inferior) function

Allen (2002) explained that the dominant and auxiliary functions are those identified as our preferences in our four-letter MBTI® type preference. They are used most often and easily and include one data-gathering (Sensing or Intuition) and one decision-making function (Thinking or Feeling). The third and fourth functions are used less often and are likely to be more difficult to use. They also represent one data-gathering function (Sensing or Intuition) and one decision-making function (Thinking or Feeling). However, Allen noted, these functions *can be* “developed consciously—and often develop in any event as we grow older—but tend not to be as effective as the dominant and auxiliary functions” [emphasis added] (p. 50).

The theory of natural hierarchy is introduced in the FLEX Care™ model to help practitioners work within stressful environments. Built on Naomi Quenk’s original work, Allen described that from a type perspective, stress, and the ways in which it is manifested in

behavior, can be divided into two levels: stress and extreme stress. When stressed or under pressure, most types tend to become more “like themselves” and may even become more exaggerated. When in extreme stress, or when the pressure becomes unbearable, Allen (2002) explained, “we have a tendency to ‘flip’ into a negative version of our less preferred (Tertiary and Inferior) functions” (p. 52). Allen continued to describe potential factors that can cause a “flip:”

- Fatigue, too much pressure
- Acute anxiety
- Overuse of alcohol or drugs
- Serious or long-term illness

Allen (2002) shared further insight from Naomi Quenk (1996) who described the related behavior cues as: “Very powerful and exaggerated; uncharacteristic behavior; people experiencing this flip are described as being totally unlike themselves...extreme, like a caricature of that type...immature...childish, touchy, undifferentiated” (cited in Allen, 2000, p. 52). Once stress or extreme stress (“flip”) behavior is identified, Allen (2002, p. 53) provided direction on what to do (Table 5).

Allen and Brock (2000) continued to stress that it is important for the practitioner to respond to the current needs of the patient not from a preconceived plan that may fail to take in the patients changing needs. However, “when patients are under stress, it is no longer appropriate to flex our communication” (Allen, 2002, p. 52). Allen and Brock (2000) also commented on the benefit of having a practitioner who knows their own preference, “This self-awareness can help a great deal, particularly when communicating with a patient who shows very different preferences” (p. 81). Furthermore,

Table 5. What can we do about it? Understanding stress from the perspective of type

Regardless of the level of stress, patients are likely to need:

- You to listen and to show that you are listening
- A calm atmosphere with no pressure
- Respect for his or her autonomy
- To be asked what help they most need

When patients are experiencing STRESS, it can help to:

- Encourage a pause for reflection and to actually clarify the situation
- Explore possible areas of concern
- Identify steps to deal with practical and/or emotional issues and available resources

Were patients are experiencing EXTREME STRESS, it can help to:

- Identify, where possible, the main problem (extreme stress can often be triggered by a minor event)
- Address that problem if at all possible
- Be as directive as the situation requires and the patient can take in that moment.

In addition:

- Patients often seek out professionals who they feel will respond empathetically
 - We need to remember that stressful situation within health care teams as well as with patients
 - Patients with different personality preferences are likely to be stressed by different things and may need a different approach when under stress.
-

An understanding of type theory can help people of each type to develop adequate command of all of their functions. It can be tempting to use our knowledge of type dynamics as an added excuse for staying the same... If we do this, we are simply 'labeling' ourselves and missing a potential opportunity for growth. (Allen & Brock, 2000, p. 166)

Summary

Judy Allen and Susan Brock took their knowledge of Carl Jung's, Isabel Briggs,' and Katherine Myers' theory of psychological type and Myers-Briggs Type Indicator®, along with Brock's prior work with the FLEX Sell® and FLEX Talk® programs and other

psychological type experts, and developed a practical application to help physicians, as well as all members of the health care team, communicate more effectively with each other and their patients. Few look forward to an encounter with the health care system. At best, it is a stressful time of uncertainty and anxiety for what the future may hold. Practitioners of the health care system can play a significant role, especially when the outcome (diagnosis or prognosis) isn't so good. Effective communication, tailored to the needs of the individual patient, is the first step.

Allen and Brock's (2000) Health Care Communication in FLEX Care™ provides direction on understanding how to identify the preferences of others through the observation of their verbal and nonverbal cues. Furthermore, it provides a tool to teach physicians how to flex or move towards the needs and desires of the patient. Allen shares (2002) that if a physician can learn to communicate from the patients perspective, versus their own, the patient will "feel listen to and heard" (p. 39). Finally, first and foremost, their program promotes self-discovery. Physicians, or medical students, are afforded a rare opportunity (especially for physicians-in-training) to learn more about themselves, their preference for communication, how their preference might vary from the needs and wants of others, and what they can do to enhance the quality of communication and interactions with others. The introduction of type development theory or the theory of natural hierarchy of functional types, provides direction on managing the stress and potential extreme stress of not only their patients (breaking bad news) but within their own lives. Plus, they learn that they can develop their least developed functions, through additional personal development.

The FLEX Care™ program, therefore, offers a viable opportunity for medical students to discover true differences in the preferences of others (cognitive empathy).

Through this discovery, the student can develop an appreciation for the unique preferences of those they encounter throughout their professional careers while further learning the needs and desires of types unlike themselves (affective empathy) and how they can move toward or flex their communication to meet the needs of their patients (behavioral empathy). Unlike other interpersonal communication programs presented earlier, the FLEX Care™ program is not prescriptive, but instead provides the student a unique and rich view into their own psychology, as well as, and a practical tool to interact with a variety of individuals they will work with and treat.

Summary

The literature review confirmed what a number of researchers have theorized—that empathy is a highly complex and multidimensional concept. Recurring themes evidenced in the review of literature enabled this researcher to contextualize a more contemporary conceptualization of this illusive skill in light of the physician-patient relationship [emphasis added]:

Empathic physicians strive to *understand and accept* the inner experiences of another person; through an *interpretive* process of *imagining how* it feels to experience their reality; while also maintaining their own separate “staying aware,” “*as if*,” or “de-centering” posture; striving to *help*, not just listen; and finally, to engage in a safe and open process of discovery through *effective communication* that is based on the *needs or preferences* of the patient.

Termed “physician empathy” or “clinical empathy,” this conceptualization provides a comprehensive view (from the practitioner perspective) of the desired relationship a physician should strive to achieve with each patient. An introduction to such terms as sympathy, cognitive and affective empathy, therapeutic relationships, communication, and

interpersonal and nonverbal communication were reviewed, as well as the nature of empathy, supporting the development of this definition.

To contribute to the further understanding of empathy within the field of medical education it is, however, necessary to determine an operational definition that can measure the success of an intervention. This study employed the use of the operational definition of physician empathy as developed by Hojat et al. (2003) at the Center for Research in Medical Education and Health Care (CRMEHC) at Jefferson Medical College. CRMEHC researcher's conceptualization of empathy in patient care situations serves as a basis for their instrument, the Jefferson Scale of Physician Empathy (JSPE). Although the definition does not embrace all of the elements outlined in the researcher's definition, it does emphasize the two key terms that CRMEHC believe to be the most significant in the construct of empathy in patient care situations: cognitive understanding and communication (Hojat et al., 2003).

The second part of this chapter discussed the empathic physician. Why do we want physicians with this skill? What difference does it make to patients, health care delivery, or physicians themselves? Is it just a nice skill to have or should the development of empathy be a significant objective of medical school curricula? The review of the literature highlighted many benefits available to a physician with this complex skill. Four success indicators were uncovered and shared: clinical outcomes, patient satisfaction, patient autonomy, and the ability to facilitate "difficult patients" or difficult situations with patients. Clinical outcomes and patient satisfaction are common measures of the health care system. They use these outcome measures to determine if physicians are competent in their technical skills as well as effective in their ability to communicate with their patients. Patient autonomy or shared decision-making is rising to the forefront of patient's expectations of their physicians, while

the stress of interactions with difficult patients or difficult situations is taking its toll on the personal and professional durability of many physicians. Empathic physicians have a skill available to them that can help them facilitate patient-centered decision-making, thereby improving clinical outcomes and satisfaction, while also reducing the wear and tear that results from physician-centered practice.

Next, a problem facing most medical educators was discussed—a process of education that results in a more dehumanized, scientific, doctor-centered physician. Many potential causes, as well as interventions employed to reverse the effect, were shared. Although several have demonstrated success in producing an increase in the empathy levels of medical students, none have provided a cost effective or time efficient training targeted to impact multiple levels of empathy (cognitive, affective, or behavioral). Furthermore, none of the current methods to increase empathy within the medical student populations have embraced all three levels of empathy along with training to encourage self-awareness. Numerous researchers of the physician-patient relationship and empathy stress the critical importance of the practitioner developing an awareness of self (Allen & Brock, 2000; Charon, 2001; DasGupta & Charon, 2004; Halpern, 2001; Henderson & Johnson, 2002; Novack et al., 1997; Platt & Keller, 1994; Rogers, 1980; Shapiro, 2002). An awareness of self can serve practitioners in several ways. First, without an understanding of themselves it is difficult to develop an awareness or appreciation of the varying perspectives of others. Second, an awareness of self can protect the practitioner from over identifying with another individuals reality. Finally, an awareness of self can facilitate the continued professional development and continuous self-monitoring necessary for a successful career.

The final section of this chapter introduced Carl Jung's psychological type theory and an instrument developed to put his theory to practical use, the Myers-Briggs Type Indicator®. Psychological type theory, along with the MBTI®, provide a framework to explain and build understanding (and even an appreciation) of preferences in how an individual is energized, how they gather information, how they base their decision making, and how they organize their lives. In 2000, Judy Allen and Susan Brock developed and published the Health Care Communication in FLEX Care™ model to provide health care professionals a “straightforward, reliable framework for understanding differences with patients, families and coworkers” (p. viii). Used within the medical school curricula, the FLEX Care™ model extends the students awareness of themselves to an awareness of differences between individuals—to the ability to identify behavior cues of the individuals type “mode” while also providing them an opportunity to learn and practice how to “flex” their communication style to match that of their patient or colleague. Allen (2002) highlighted that this ability to flex resulted in patients reporting that they felt “listened to and heard” (p. 39) and that this process of communication facilitates health care professional's ability to *demonstrate their empathic understanding* by respecting individual preferences [emphasis added].

The purpose of this chapter was to introduce the evolution of the concept of empathy within the confines of the physician-patient relationship. Medicine is very complex and technical. Patients today are more savvy consumers than in past years. Many have come not only to desire effective interactions with their health care professionals, but also on behalf their advocates (insurers, employers, regulators, etc.) who demand effective interactions. Medical educators have heard the cry, but have had difficulty conceptualizing and

operationalizing empathy as evidenced with the assortment of curricular interventions producing varying levels of success. Psychological type theory offers an explanation for this difficulty, as well as, a solution. Jungs', Briggs', and Myers', theory of psychological preferences and Allen and Brock's application of this theory in the FLEX Care™ program explain that there isn't one right way to empathize with all patient because, as Allen and Brock (2000) shared in their book, *Patients are different!* Successful practitioners must understand themselves and their own personal preferences in how they interact with others and they must learn to vary their approach to meet the individual needs of their patients. The FLEX Care™ program, introduces an easy to use framework to help physicians understand these differences and respond appropriately.

CHAPTER 3. METHODOLOGY

This study was conducted to measure the effect of FLEX Care™ training on student empathy. The purpose of this chapter is to provide a detailed description of the research design that was used to plan and structure this study.

Research Design

This pilot study employed a true, experimental—posttest-only control-group—design (Krathwohl, 1998), following a post-positivistic theory (Creswell, 2003). Krathwohl (1998) noted, “Experimentation provides one of the strongest chains of reasoning for linking cause to effect, ... It requires that two or more situations be exactly alike except for one thing—the presence of a treatment or whatever independent variable we are studying” (pp. 498-499). In this study the independent variable was FLEX Care™ training, which was used to measure enhanced empathy in medical students. The study design was selected to evaluate the alternative hypothesis: “There is a significant difference in scores between the experiment and control groups on the Jefferson Scale of Physician Empathy (Student Version) and the Standardized Patient Feedback Form-Part II ” (see Appendix A1 and A2). This study was built upon previous research that investigated levels of empathy within medical students using an empathy assessment scale (Disker & Michielutte, 1981; Finn, 2003; Hojat et al., 2001a, 2002b). Figure 3 provides an illustration of the specific design (Creswell, 2003; Krathwohl, 1998). The nature of experimentation design required the researcher to preplan who will get what treatment, when, and how, as well as who will be measured, when, where, and with what. The following subsections discuss the decisions made to support the selected design.

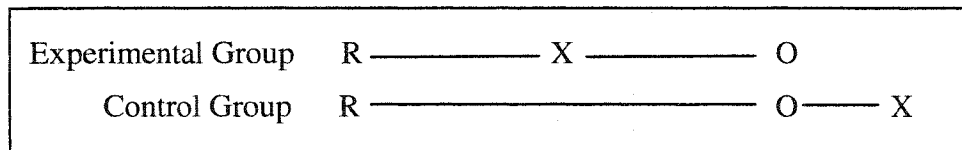


Figure 3. Posttest-only control group design

Population and Sample

The population of this study comprised the 188 members of the College of Osteopathic Medicine (COM), Class of 2007. When this study was conducted, the Class of 2007 was in its second year of preclinical study within the COM curriculum. The program's four years of study are divided equally into a preclinical and a clinical phase, resulting in a "two-plus-two" curriculum that combines lecture and laboratory studies with clinical experiences in teaching hospitals, clinics, and community service agencies (www.dmu.edu/com/curriculum).

According to Des Moines University's director of enrollment, the Class of 2007 consisted of 56% ($n = 105$) male and 44% ($n = 83$) female, with an average age of 25 (Grissom, personal communication, September 23, 2004). Only 14% ($n = 26$) of the incoming class were members of a minority group, with Indian/Pakistani students representing almost half of the non-European students. The majority of students were from Midwestern states, with almost 25% ($n = 47$) residing in Iowa. The typical Class of 2007 enrolled student holding a Bachelor's degree in a basic science; only three students held undergraduate degrees with majors in pre-medicine. The complete enrollment profile for the Class of 2007, which provides aggregate demographic data, is given in the appendix. Since the start of their program (August 2003), the class had lost 13 students, resulting in a 6% attrition rate.

Study participants consisted of student volunteers from the COM, Class of 2007. In consulting *Statistical methods for psychology* (Howell, 2002), a sample size of 126 was determined, with a predetermined statistical significance of .05, a power of .80, and a medium effect size of .50. Increasing the desired sample size for this study to 130 (representing 69% of the population) allowed for a small degree of attrition (3%, or 4 students).

Participant recruitment included an introduction and public endorsement of the study by the Dean of the College of Osteopathic Medicine, followed by a second endorsement by the Chair of Family Medicine. An announcement of the study opportunity along with the participant application and consent form was posted on the DMU Student Portal, and follow-up electronic messages were sent by the researcher to all members of the Class of 2007 until the application deadline (see Appendix C).

Using a systematic sampling technique by Long, Convey, and Chwalek (1985), the researcher assigned volunteer participants randomly into two groups: experimental and control. Use of volunteers in both the control and experimental groups established that both groups were similarly affected by selection, thereby protecting the study results from “selection” threats to internal validity (Krathwohl, 1998). Random assignment also employed blocking or stratified sampling regarding participant gender. Research has shown that female students and physicians tend to score higher on empathy assessment scales (Hojat et al., 2002b); therefore, blocking the sample ensured representativeness of gender in each group (Krathwohl, 1998). Group assignments, along with their related duties, were reviewed at a participant meeting prior to the start of the training program. Duties were also outlined on the

participant consent form that student volunteers reviewed and signed prior to joining the study.

Experimental Procedures

The 65 randomly assigned experimental group members participated in a health care communication skills training program (FLEX Care™) that was scheduled for 2-hour training sessions, one evening a week, for a total of four weeks. Two sections of 32 and 33 students were held concurrently to enable optimal participation. Each experimental group participant was provided a complete set of training materials and a meal/beverage prior to each of the four training sessions. The treatment (FLEX Care™ training) included the following intervention:

- MBTI® sorter, support materials, and training to further their understanding of type theory, their own type strengths and weaknesses, and stress management.
- FLEX Care™ training and support materials to further their understanding of type theory and its relationship to effective communication in a health care setting (between physician and patient; physician and other health professionals, etc.); and an opportunity to further develop (and demonstrate) skills in the application of the FLEX Care™ Model.

At the conclusion of the training and before the posttest, students in the experimental group were asked to complete a FLEX Care™ Training Evaluation Form. Results did not directly support the objectives of this study, but enabled the training facilitator (this researcher) an opportunity to review student perspectives on the strengths, weaknesses and overall value of the workshop.

The 65 randomly assigned control group participants did not participate in the MBTI® or FLEX Care™ training until after the posttest. Following the posttest, the researcher offered an additional training session for members of the control group. Control

group participants received the same treatment (FLEX Care™ training) as outlined previously.

Materials

Students assigned to the experimental group were exposed to a variety of materials and experiences. First, all 65 students received a FLEX Care™ Participant Workbook to use throughout the training program. Within the first module of the workshop, students completed the Myers-Briggs Type Indicator® (MBTI) and were provided with a guided interpretation of their results. Supplemental materials to support students' discovery of their type preference were distributed. Finally, students within the experimental group participated in three additional training sessions that introduced the Health Care Communication in FLEX Care™ model.

FLEX Care™: Health Care Communication Skills using Personality Type

In 2000, Susan Brock, PhD, an organizational consultant and licensed psychologist, along with Judy Allen, MA, RN, researched and wrote, *Health care communication using Personality Type: Patients are different!* This book introduced FLEX Care™, a model for understanding communication within a health care setting, based on the psychological type theory originally developed by Carl Jung. Two years later, Allen, a health care practitioner, researcher, and consultant working with MBTI® in health care, developed and published a workbook entitled, *FLEX Care: Health Care Communication Skills using Personality Type*, and began offering training on its use to qualified MBTI® administrators.

The FLEX Care™ model is based in part on the prior work of Susan Brock. During the 1990s, Brock gathered more than 2,000 responses by people of known MBTI® preferences to the question: “How do you prefer to be influenced?” The responses were analyzed to determine whether any aspect of type helped to cluster the responses. These early investigations provided an obvious and reliable type-related pattern. Each aspect of type contributed to an aspect of communication and could be mapped onto a four-stage communication framework: (1) Initiating the interaction; (2) investigating needs; (3) suggesting a course of action; and (4) moving to a commitment—next steps or closure (Allen & Brock, 2000). Brock developed the FLEX Talk (for use in a variety of business settings) and FLEX Sell (for use in sales and customer service) models based on the results of her research (Allen, 2002).

Together, Brock and Allen surveyed and interviewed hundreds of patients and providers of health care services, asking them how they would prefer to receive communication and how they would prefer to have bad news broken. The pattern of responses replicated Brock’s earlier findings (Allen, 2002). Their research culminated in the development of the Health Care Communication in FLEX Care™ Model provided in the Figure 2 (see Chapter 2) (Allen & Brock, 2000).

According to Allen (2002), the FLEX Care™ workshop consists of four modules where participants are provided the opportunity to:

- recognize their own preferred style of communication in the context of the Flex framework;
- identify behavior cues that indicate particular personal interaction styles;
- recognize that individuals with contrasting styles generally prefer to convey and received information in specific ways;

- recognize how to adjust (or “Flex”)—when necessary—their own preferred approaches to respond better to a particular person; and
- recognize the role of type theory in understanding and managing stressful situations and in delivering unwelcome news.

The interactive workshop developed by Allen (2002) highlights the identification and use of behavior cues in conjunction with the MBTI® instrument and Flex framework. There are four, 3-hour modules which can be delivered in a two-day course or as four half-days. Allen recommended that splitting up the modules into individual training presentations may provide better results. Due to the limitation of medical students’ schedules, the training for the current study was delivered in four, 2-hour sessions.

Participants were provided a 129-page workbook to follow throughout each of the modules. In addition to the workbook, the facilitator used overhead transparencies and flipchart paper to provide the basis of the FLEX Care™ model. The application of the theory took place in a number of small group activities focused around the participant’s functional type (ST, SF, NT, NF). Participants were provided several opportunities to practice identifying type-related behavior cues and then “flexing” or adjusting their approach to individuals with different communication preferences. Another significant experience provided through the workshop was the feedback received from other participants with contrasting preferences.

After the experimental group completed the training program, all study participants completed the posttest. Krathwohl (1998) noted, “Retests of personality measures typically increase apparent ‘adjustment’; sensitized subjects have increase awareness of socially approved answers” (p. 512). The posttest-only design was selected to protect the study from “testing” threats to internal validity (Krathwohl).

The Jefferson Scale of Physician Empathy was administered to all second-year student participants (experimental and control groups) following a mandatory attendance class. To enhance the return rate, all student participants received a \$10.00 gift certificate to the University cafeteria when their completed posttests were submitted to the researcher. Completed Standardized Patient Feedback Forms (Part II) for all 130 study participants were copied by the SPAL administrative staff and provided to the researcher for analysis.

The Des Moines University and Iowa State University Institutional Review Boards reviewed the study's protocol and determined that it met the qualification for exemption (see Appendix B-2 and B-3). Exempt approval was received from both institutions on September 22 and October 18, 2004, respectfully. The cost of materials and participant incentives were covered by an internal grant at Des Moines University (see Appendix B-4).

Measures

Six measures were used in the study: (1) Participant Application Form (Appendix C-2); (2) Withdrawal Form (Appendix A-3); (3) Participant Information Questionnaire (Appendix A-4); (4) the Myers-Briggs Type Indicator®; (5) an empathy assessment scale (Appendix A-1); and (6) an evaluation form utilized by standardized patients employed by the DMU-Standardized Patient Assessment Lab (SPAL) (Appendix A-2). All measures were developed by the researcher for the purposes of this study unless otherwise noted.

Participant application and withdrawal forms

After members of the Class of 2007 were notified of the research study, interested students were asked to complete a Participant Application form. This application collected the students' names and contact information as well as their gender and identification

number, and it was used to verify that the students were enrolled in the Class of 2007. Completed application forms were matched with the students' signed consent forms and entered into a database. Volunteers were then sorted by gender and, through a systematic sampling technique, the student volunteers were assigned randomly to either the experiment or control group. Then experimental group participants were again sorted by gender and, through the same sampling technique, randomly sorted into one of the two training sessions offered.

Participation in this study was completely voluntary. All participants were notified on the Participant Consent Form of their right to withdraw from the study at any time and again at the participant orientation meeting. Participants wanting to withdraw were instructed to complete a withdrawal form. The withdrawal form requested the student identification number; asked the student if he or she wished to withdraw completely from the study or if he or she wanted to talk with someone regarding a concern before continuing to participate; finally, requested the student to "provide the researcher and other stakeholders of this study, any insight as to why you have considered, or have chosen, to withdraw."

Participant information questionnaire

All students selected to participate in this study were required to attend a one-hour participant meeting. This meeting provided the venue to collect additional data from the student participants, announce the group (experimental or control) assignments, review the group duties, and administer the MBTI® to the experimental group participants.

The Participant Information Questionnaire requested the student identification number while also being used to collect demographic information as well as control variable data (Creswell, 2003):

Prior experience with MBTI®

A question was asked to solicit each participant's prior experience with the MBTI®. In addition, students were asked if they knew their four-letter type and, if yes, how long ago they participated in interpretation training. It was important to learn each participant's history with the MBTI® for two reasons. First, as with any test, taking the MBTI® multiple times may sensitize the "subject" to a second administration of the sorter, either increasing or decreasing the score and thereby reducing the test-retest reliability (Zeisset, 2000). Second, if the experimental group participants knew their MBTI®, they were not required to retake the sorter but, instead, were provided another opportunity to re-verify their type results in the interpretation training.

Dual-degree student

Student participants were asked if they were enrolled as a: dual-degree student, medical student simultaneously pursuing a Master of Health Care Administration (MHA), or a Master of Public Health (MPH). The significance of collecting this controlling variable was twofold. First, this researcher was a full-time faculty member who teaches within these two programs. Therefore, select participants may have had prior interaction with the researcher in a classroom setting. Second, participation as a dual-degree student requires an additional application process and approvals from both COM and the MHA or MPH program faculty. Dual-degree students are monitored closely to ensure that the primary program (COM)

performance is maintained. Participation in these additional programs, therefore, is reserved for high-achieving students. Together, these two situations could influence the treatment effect (i.e., obtrusiveness and reactivity, researcher expectancy effects, and multiple treatment interactions) thus threatening the external validity of the study (Krathwohl, 1998) and resulting in incorrect inferences from the sample data to other cohorts of medical students (Creswell, 2003).

COM electives

All COM students have the opportunity to take additional elective courses designed by DMU faculty to further their understanding of the practice of medicine, effects of disease, leadership, health literacy, etc. During the fall of 2003, an additional elective experience was added, entitled the “Chronic Care/ Community Osteopathic Professional Education (C.O.P.E.) Program.” It was especially important to identify students who were participating, or had participated in this course since the objective of this program was to enhance empathy in medical students through a more traditional model of partnering the student with a chronically ill patient (Hojat et al., 2003). Again, it was important to control for students participating in the C.O.P.E. Program as well as other elective courses to protect the study from multiple treatment interactions resulting in a threat to external validity.

Direct patient care experience

The FLEX Care™ training program proposes to demonstrate and, therefore, influence health care practitioners on how to “vary the way in which they approach patients and colleagues, to break bad news more effectively and to encourage clients to follow clinical advice” (Allen & Brock, 2000, p. 4). The program was designed for participants who have

experience in providing direct patient care (Allen, personal communication, July 31, 2004). The DMU population demographics highlight that its students vary in age (from 21-47), and educational background and work experience. Some students have prior health care credentials; therefore, select students may have significant direct patient care experience prior to their enrollment in COM, giving them an advantage in the FLEX Care™ training. For these reasons, it was important to monitor (or control) for prior direct patient care experience.

Anticipated specialty selection

An additional question was included on the Participant Information Questionnaire to serve as an independent variable. All student participants were asked to respond to the following question: “To the best of your knowledge, which one specialty from those listed below are you most interested in pursuing upon graduation from DMU?” Hojat et al. (2002a) compared practicing physician empathy scores with their chosen specialty. They then sorted individual specialties into two groups: patient-oriented, and technology-oriented. Their research uncovered a significantly higher average empathy score within the patient-oriented specialties than those in the technology-oriented specialties. Collecting these data for all student participants enabled the comparison of empathy scores by anticipated specialty selection.

Myers-Briggs Type Indicator® (MBTI)—Form M

As part of the FLEX Care™ training, the experimental group completed the Myers-Briggs Type Indicator® (MBTI) prior to the beginning of the FLEX Care™ training. The 93-item, paper-pencil, forced-choice, self-reported questionnaire MBTI® Form M is the current

standard form in use (Hammer, 1996; Myers et al., 1998). Form M was the result of the 1998 revision of the MBTI® receiving final approval from two panels of experts: the MBTI® Research Advisory Board and a panel of type experts. Beginning in 1942, Isabel Briggs Myers and Katharine Briggs developed the initial questions to measure Carl Jung's theory and first tested them on a small criterion group of about 20 relatives and friends whose type preferences seemed clear. After collection, the set of scales became the first form (Form A) of the MBTI®.

Since the beginning the instrument has gone through a number of revisions, including Form G published in 1977 and Form J in 1987 (Myers et al., 1998). Throughout the over 50-year history of its development, the construction of the MBTI® was governed by a single working hypothesis: "...that certain valuable differences in normal people result from their preferred ways of using perception and judgment" (Myers et al., 1998).

Consonant with Jung's theory, using the MBTI® to determine preferences requires that a person choose between two opposites on each of four dichotomies. Therefore, each domain is designed to determine a respondent's preferences on four dichotomies: (a) Extraversion or Introversion; (b) Sensing or Intuition; (c) Thinking or Feeling; and (d) Judging or Perceiving (Myers et al., 1998). The objective of the MBTI® is to determine the person's preference on each of these four dichotomies so that these results can be reported to the person as a four-letter type. Although the measurement of preference is obtained on four individual dichotomies, the results are meant to be interpreted as whole types. The assumption is that, "the whole is greater than the sum of its parts" (Myers et al., 1998, p. 128).

Ethical use of the MBTI® specifies how the instrument is administered by a qualified administrator, and requires that the results are verified during a guided interpretation. In a workshop setting, participants were provided the opportunity to verify the accuracy of their reported type through a series of exercises that demonstrate preferences on each of the four domains. The first module and, therefore, first training session of the FLEX Care™ program included an MBTI® verification workshop. Participants also received a copy of Briggs-Meyers (1998) *Introduction to Type* that includes a full description of the 16 types to further their understanding (and validation) of their whole type. Participants were requested to provide the researcher their “Best Fit” type at the beginning of the second training session. Changes were noted in the data.

Significant research has been and continues to be conducted on the reliability and validity of the MBTI® instrument. Reliability refers to how consistently an instrument measures what it attempts to measure. There are two common ways of determining reliability: test-retest reliability and internal consistency, or split-half reliability (Zeisset, 2000). Test-retest deals with the stability of test scores over time. The *MBTI® manual* reports a 50-year interval study conducted by Katherine Myers with a 1943 high school graduating class (Meyers et al., 1998). Even after 50 years, 54% changed not at all or on just one dichotomy. Hammer (1996) stated that type assignment appears to be reasonably stable over time, but is dependent on the individual’s preference clarity at the time of “testing.” Hammer concluded, “Those with strong preference clarity, across the four scales an average of 92 percent are classified into the same type category on retesting; for medium preference-clarity individuals, on average 81 percent are classified identically” (p. 24). Zeisset (2000)

added that, with shorter interval results, “Generally over 75 percent did not change on individual scales, with over 90 percent agreement in some samples” (p. 27).

Internal consistency reliability determines if each domain measures the same thing throughout all the items while eliminating the need to retest a group, as test-retest requires. Split-half reliability, a form of internal consistency reliability, correlates the scores from items in one half of a scale with scores from the other half of the scale (Zeisset, 2000). Using a 1996 national sample stratified to represent the U.S. population, the *MBTI® manual* (1998) reported logical and consecutive split-half correlations varying between .89 and .94. Coefficient alpha, another type of internal consistency reliability, avoids the need to split a scale and determines an average of all item correlations. Results from the national sample show values ranging from .88 to .93, which fall in the range of “very good” to “excellent” (Myers et al., 1998; Zeisset, 2000). Hammer (1996) concluded:

Based on the meta-analytic findings (average overall reliabilities are .84 and .86 for internal consistency measures, and .76 for temporal stability), the four MBTI® scales clearly compare quite favorably with the levels of reliability seen in even the most well-established and respected trait-based instruments. (p. 24)

Myers et al. (1998) concluded, “The internal consistency of the four MBTI® scales is quite high in all samples, available to date, whether computed using logical split-half, consecutive item split-half, or coefficient alpha” (p. 165).

Validity refers to how well a test measures what it is intended to measure. There are two types of evidence for the validity of the MBTI®: Construct validity (or the meaningfulness of a test), and criterion validity (or the comparison of the MBTI with an established benchmark or criterion). First, evidence for construct validity of the four preference dichotomies uses exploratory and confirmatory factor analyses, and correlations

with scales from other instruments. The *MBTI® manual* (Meyers et al., 1998) summarizes the results of many exploratory and confirmatory analyses, “when the analytic results are viewed together, there is strong support for the construct validity of the MBTI” (p. 173). In fact, several exploratory studies produced “textbook” four-factor structures that almost exactly matched the hypothesized pattern of loading,” (Harvey, as cited in Myers et al., 1998). The *MBTI® Manual* (Meyers et al.) concludes, “there is no question that the results of the faculty analytic studies reported over the past 10-year period have been very supportive of the validity of the four-scale structure of the MBTI” (p. 173).

Finally, the *MBTI® manual* (Meyers et al., 1998) summarizes the bulk of literature available to support both convergent and discriminant validity:

Correlations of the four preference scales with a wide variety of scales from other instruments support the predictions of type theory regarding the meaning of and the behaviors believed to be associated with the four dichotomies. Evidence of the dichotomous nature of the scales was seen in plots of preference scores against external variables. Analysis of these plots demonstrates that the only significant differences between successive groups of scores were exactly at the midpoint of the scales...” (p. 219)

The second type of evidence of validity concerns criterion validity, or the validity of whole types. The primary goal in using the Indicator is to help a person arrive at a complete four-letter type. Therefore, it is important to show that each of the 16 types has unique characteristics and that these characteristics are not entirely predictable from knowledge of the separate preferences (Myers et al., 1998). Instead, Hammer (1996) noted, “type theory predicts the presence of interactive relationships between the preference dimensions” (p. 19). The *MBTI® manual* (Meyers et al.) describes a number of studies in which researchers have produced evidence supporting the existence of these predicted interactions. Myers et al. (1998) concluded:

Evidence on type distributions, attraction and satisfaction in couples, reaction to stress, and factor scores derived from other measures suggests that there are characteristics of whole types that are not predictable from knowledge of the individual preferences alone or from simple additive models of the preferences. Descriptions of the types based on self-reports and on rating by independent observers also show that each of the 16 types can be uniquely described with various sets of adjectives and descriptors. (p. 219)

As mentioned previously, purchase of the MBTI® question and answer sheets requires that the facilitator complete a qualifying program and exam through the Center for the Application of Type (CAPT). This researcher received her qualification in October 3, 2003, and has guided both group and individual interpretation trainings in educational and health care settings.

Jefferson Scale of Physician Empathy (S-Version R)

The Jefferson Scale of Physician Empathy (JSPE) is the primary measurement instrument used to support the true experimental posttest-only control group design, while also providing a measure to evaluate the alternative hypothesis. Faculty from the Jefferson Medical College of Thomas Jefferson University, in Philadelphia, Pennsylvania, developed the JSPE to measure the orientation or attitudes of medical students toward physician empathy in patient-care situations. Prior empathy assessment scales, such as Mehrabian's Balanced Emotional Empathy Scale (BEES), were developed for use with the general population (Hojat et al., 2001). According to Hojat et al. (2002a), the absence of an operational measure specific to the patient-physician situation has resulted in a scarcity of empirical research on empathy in improving clinical outcomes and patient satisfaction. The JSPE is specifically related to the patient-physician relationship and was constructed based on an extensive review of the literature, followed by pilot studies with samples of physicians,

students, and residents. The instrument includes 20 Likert-type items answered on a seven-point scale Hojat et al. (2002a). The scale was designed with half of the items (1, 3, 6, 7, 8, 11, 12, 14, 18, & 19) reverse-scored (1 = Strongly Agree, 7 = Strongly Disagree), while the other half of the items is scored directly based on their Likert weights. Hojat et al. (2002a) explained, “negatively worded items are usually used in psychological tests to decrease the confounding effect of the ‘acquiescence response style’ (e.g., the tendency to constantly agree or disagree)” (p. 58). The total score is the sum of all item scores. The higher the score, the more empathic is the behavioral orientation of the student (Hojat, personal communication, July 6, 2004).

Psychometric data in support of the construct validity and criterion-related validity (convergent and discriminant) of the student version of the scale have been reported in the April 2001 issues of *Educational and Psychological Measurements*. Hojat et al. (2001) reported that the internal consistency reliability (coefficient alpha) of the student version was .89 for medical students and .87 for medical residents. They further concluded, “the magnitude of these estimates indicates that the scores are internally consistent” (p. 363).

To examine the criterion-related validity of scores on the JSPE, the scores for residents and medical students were correlated with the external criterion measures. In all cases, the JSPE achieved statistical significance. Furthermore, observed gender differences in scores of the JSPE is in the expected direction (women scored statistically higher than men), providing further support for construct validity.

The JSPE is owned and copyrighted by Jefferson Medical College. The researcher contacted Dr. Mohammadreza Hojat, Research Professor of Psychiatry and Human Behavior,

at the Jefferson Medical College, and, in July 2004, received a copy of the instrument and permission to use the scale to support this not-for-profit research (see Appendix B-5).

Standardized Patient Feedback Form-Part II

The DMU Standardized Performance Assessment Laboratory (SPAL) is an educational tool that develops and presents simulations of real-life medical scenarios. The SPAL uses simulated, or standardized, patients who are trained and compensated to play the role of an actual patient. The standardized patients enable students to practice communication skills while providing an assessment of their clinical skills in a controlled environment (<http://www.dmu.edu/spal/>).

Standardized patients complete a checklist following their interaction with students. The first part of this checklist includes questions related to the biological system (hematology) for which the student is being graded (Askren, personal communication, August, 2004). The second part of the checklist includes 15 items on a 4-point Likert-type scale (4 = Very well done, 1 = Marginal) rating the student's interpersonal communication skills and his or her ability to display a caring or compassionate demeanor. In addition, a section of the form collects "additional comments or suggestions" from the standardized patient. Again, it is important to note that this instrument (Part II) is not included in the formal assessment of the student. It is solely used to provide students feedback for professional development.

The current Standardized Patient Feedback Form used in the DMU SPAL was developed by the director and trainers of SPAL from a collective review of forms used in

Standardized Performance Assessment Labs across the U.S. Data to support the validity or reliability of this instrument are not available.

In summary, the following data were collected and used to support the study's research questions (Table 6).

Table 6. Data summary table

Group	Gender	Anticipated Specialty Selection	Health Care Experience	Dual-degree enrollment/ COM Electives	4 Letter MBTI Type	Jefferson Physician Empathy score	Standardized Patient Evaluation
Experimental	X	X	X	X	X	X	X
Control	X	X	X	X		X	X
Data Source	Participant Application	Participant Information Questionnaire			MBTI®	Posttests	

Data Analysis

Data collected from the Participant Information Form, the Jefferson Scale of Physician Empathy, as well as, the Standardized Patient Feedback Forms (Part II), for the experimental and control groups were entered into a Microsoft Excel spreadsheet and then downloaded into the Statistical Package for the Social Sciences (SPSS). SPSS was used to screen the quality of the data (accuracy, missing data, extreme values, and adequacy of fit with the assumptions of analysis) and generate descriptive statistics on the demographic data collected to allow for a comparison of the sample and population.

T-tests were used to compare the posttest empathy and standardized patient evaluation scores between the experimental and control groups. Total overall empathy scores, as well as total scores on each of the 20 empathy items and 15 standardized patient evaluations items, were also correlated using Pearson product-moment correlations between gender and anticipated specialty selection. Total overall empathy scores were also correlated

with standardized patient evaluation scores. Statistical significance ($p < .05$), power size (.80), and a total effect (.50) size were used to interpret the statistical test results.

Experimental group MBTI® types were compared on their total empathy scores using a one-way analysis of variance (ANOVA). Additionally, MBTI® types were compared with student gender and anticipated specialty selection using the chi-square test. Furthermore, aggregate and individual item mean empathy scores of DMU students were compared with other medical students outside DMU through published results of studies using the Jefferson Physician Empathy Scale (student version). An overall type description was then generated for the COM Class of 2007, using the experimental participants in the FLEX Care™ training. These data were compared to other medical schools providing a baseline for comparison with future classes to highlight trends in student characteristics and the resulting program/curricular implications.

Assumptions

Five underlying assumptions were made for this study. First, the FLEX Care™ training program was developed for health care practitioners with direct patient care experience (Allen, personal communication, July 31, 2004). The population selected for this study consisted of second-year medical students. The second year of the COM curriculum is the students' final year of preclinical study, as well as their final year on campus. Second-year students move into their third year of clinical (off-campus) rotations in July, 2005; therefore, the students' formal exposure to direct patient care through the COM curriculum has been limited for the most part to their Standardized Patient Assessment Lab (SPAL) interactions. However, the COM admissions website reports that accepted students are

required to have “medical exposure,” which could be medically-related experience (paid or unpaid) providing direct-patient care prior to starting their medical education (retrieved October 1, 2004, from <http://www.dmu.edu/coms/applying.html>). This admission requirement, as well as the advanced status of the student population that participated in this study, supported the assumption that the student participants can reflect on their past or SPAL experiences for the activities that reinforce the FLEX Care™ training program. Actual direct care experience levels of the final sample are reported in Chapter 4.

The second assumption was that the FLEX Care™ Model is based on Jung’s theory of Psychological Type; therefore, the FLEX Care™ program assumed the following (Myers et al., 1998, p. 11):

- “True preferences” actually exist. Preferences can be identified more confidently in persons with good type development than in persons with inadequate type development.
- Persons can give an indication of the preferences that combine to form type, directly or indirectly, on a self-reported inventory.
- The preferences are dichotomized, and the two poles of a preference are equally valuable, each in its own sphere.

In addition, the FLEX Care™ Model assumed that (based on Jung’s theory of psychological type) (Allen & Brock, 2000) that:

- Type preferences can explain how individuals like to receive communication and how they are most likely to impart information to others.
- All preferences are used at various times.
- Type preferences can be observed through an individual’s behavior cues and that these cues will identify the “type mode” as it currently presents itself.
- Individuals can learn how to adjust (“flex”)—when necessary their own preferred approaches to respond to a particular person more effectively.
- Type preferences can help us understand and manage stressful situations and deliver unwelcome news.

A fourth assumption concerned the Jefferson Scale of Physician Empathy (JSPE). Despite reliability and validity data provided earlier, the scale has been available for use for only a relatively short period of time. Authors of the scale have noted several areas of need for future research. Mangione et al. (2002) noted, “further research is needed to examine the relationships between patients’ evaluations of physicians and physicians’ personal qualities” (p. 372). Developers of the scale highlight the need to test it against the “gold standard” for evaluations by patients and *their* [emphasis added] view of the physician’s humanistic qualities. Furthermore, the student version of the JSPE is based on the student’s self-assessment, measuring the student’s perceptions or attitudes of empathy—not the actual behavior displayed (Hojat, 2004).

The final assumption of this study concerned the theoretical underpinning of the origin or nature of empathy. This study followed prior medical education research studies by assuming a behavioral theorist approach in viewing empathy as a skill (versus personality trait) that can be developed or enhanced through targeted educational activities. Furthermore, the results of this study add to the sparse empirical research available on the effectiveness of such interventions.

Limitations

Krathwohl (1998) remarked, “Experimentation clearly can build strong internal validity—the capacity to link cause to effect ... external validity, generality—[is] typically considered its weakness” (p. 502). Several internal threats have been addressed (i.e., selection, testing, treatment, etc.) in previous sections; however, additional internal threats that could not be controlled in the design of the study may confound resulting empathy

scores. Additionally, several external threats to validity may restrict conditions for the generalizability of the results. These possible threats and the steps taken to minimize their effect are provided as follows (Krathwohl, 1998).

Sampling and chance error

Though this study has been designed with adequate statistical power, the researcher's ability to recruit the large (over two-thirds of the population) desired sample size was unknown at the onset. Failure to reach these desired participation levels may result in an inability to detect a statistically significant effect.

Attrition

This study relied heavily on the spirit of volunteerism of 2nd-year COM students, especially those within the experimental group. With hectic schedules, the study schedule situated between two holiday breaks, as well as limited incentives to encourage persistence, participant dropout could have changed the composition of the group and provided a rival explanation of any measured effect. Use of a control group, where students could have dropout in equal numbers, helped to protect the study against threats to internal, but not external validity. Of course, the difference in time commitment and incentives between the experimental and control group confounded the study's limitations.

Treatment interactions

The treatment (independent variable) in this study, the FLEX Care™ training program, was dependent on a participant's understanding and ability to use Psychological Type theory. Although the FLEX Care™ training is a structured program, it is heavily reliant

on the participant's acceptance and willingness to engage in the application of the theory. Without this commitment, the treatment's ability to impact the participant (enhancing empathy) is hindered by his or her biases. In addition, it is important to note that the treatment interaction (FLEX Care™ training) was a four-week-long, eight contact hour interpersonal communication training workshop. This short, limited intervention may not be adequate to demonstrate a significant cause and effect relationship. Additionally, the instruments used may not measure the resulting treatment effect. For this reason, an open-ended question was added to the JSPE asking the participant to share what they believe this study to be about.

Obtrusiveness and reactivity

As described previously, this pilot study introduced FLEX Care™ training to a randomly selected group of student volunteers. This training was unlike any prior curricular experience with COM. COM students had not been exposed to the MBTI® before this study within their DMU experience. In addition, DMU students had little, if any, opportunity to be a part of an applied research study. The novelty, or obtrusive nature, of the treatment and the limited size of the group receiving the treatment may have resulted in the Hawthorne effect, or hypothesis guessing (Krathwohl, 1998). The experimental participants may have reacted when they realized they were being studied and, therefore, inflated the treatment results (Hawthorne effect), or reacted to what they perceived as wanted and, therefore, facilitated the effect to "get the researcher to think well of them" (hypothesis guessing) (p. 520). Other effects that were of concern included: sabotage treatment effect, compensatory rivalry, or novelty effect. Creating conditions that may control these effects have been considered in the

treatment design; however, since the study relied on a large number of student volunteers, it was necessary to actively promote the study's benefits (incentives) and the novelty of the opportunity in order to recruit the required sample size.

Researcher/experimenter effect

The principal investigator of this study was also the facilitator of the FLEX Care™ training program. The dual relationship could have caused an expectancy effect, or participants may have been overly influenced by the researcher to accept and thereby demonstrate a treatment effect (enhanced empathy). Standard controls for this effect, such as a double-blind procedure, were not feasible with the limited available funds. Additionally, it should be noted that the researcher was a novice in the interpretation of the MBTI® and had only completed the FLEX Care™ Workshop training four months prior to the start of the study.

Henshel (as cited in Krathwohl, 1998) noted, "Learning in an artificial situation may enable us to see how we can make the real situation resemble the artificial one" (p. 502). Several controls were built into the design of this study in an effort to minimize threats to validity, yet some remain that may have a significant impact on the results or usefulness of the results. However, through the process of simply trying to understand these phenomena and their potential impact on study effects, the practical applicability of the results has been enhanced.

Summary

The study's true experimental posttest-only control-group design was selected to examine the primary alternative hypothesis: There is a significant difference in scores

between the experiment and control groups on (a) the Jefferson Scale of Physician Empathy (Student Version), and (2) the Standardized Patient Feedback Form-Part II. The objectivist, post-positivist theoretical perspective this study was based on recognizing that there is not one truth or one answer to resolve the documented effects of the medical education process on student empathy. This study, however, adds to or further refines the knowledge available today.

CHAPTER 4. RESULTS

The purpose of this chapter is to present the analysis of the data gathered during this study. Data were gathered using the Participant Application Form, the Participant Information Questionnaire, the MBTI®, and the two posttest measures. Data were entered into a Microsoft Excel spreadsheet and then transferred into the statistical software package, SPSS. Finally, the data were compared based on the student's random assignment to the experimental or control group. Five hypotheses formed the basis for analyzing the data.

Population and Sample

The initial sample was comprised of 109 second-year osteopathic medical students who volunteered to participate in this study by submitting a completed participant application and consent form. From the 109 students originally volunteering to participate, 106 attended the participant meeting and continued in the study. The three students who withdrew did so prior to the start of the training intervention. No withdrawal forms were completed to provide reasons for withdrawal. However, an electronic message was received from one student citing schedule limitations as the reason for withdrawing. All data collected for these students were removed from the sample data. The final sample ($n = 106$) represented 56% of the population of second-year students; 13% less than the desired sample size of 130. The training and control groups each consisted of 53 randomly assigned students. Once the training began, no participant attrition was experienced. Following are demographic and other characteristics of the study sample, as well as for the experimental group only (see Table 7).

Table 7. Characteristics of the study sample and experimental group

Variable	Sample		Experimental group only		
	N (106)	Percent (100.00)	N (53)	Percent (100.00)	
Gender					
	Male	52	49.1	25	47.2
	Female	54	50.9	28	52.8
Age					
	Mean	25.26	-	24.87	-
	Median	24.0	-	24.00	-
	SD	3.109	-	1.98	-
	Range	(23-45) 22	-	(23-31) 8	-
Race/Ethnicity					
	African-American	2	1.9	1	1.9
	Asian/Pacific Islander	7	6.6	3	5.7
	Caucasian/White	91	85.8	45	84.9
	Hispanic	3	2.8	2	3.8
	Other	3	2.8	2	3.8
Prior experience with the MBTI®					
	Yes	28	26.4	18	34.0
	No	78	73.6	35	66.0
Years since last experience					
	Mean	4.33	-	4.33	-
	Median	3.00	-	3.50	-
	SD	3.10	-	2.95	-
	Range	(1-12) 12	-	(1-10) 9	-
Knowledge of 4-letter type					
	Yes	11	10.4	7	13.2
	No	95	89.6	46	86.8
Medical student dual program enrollment					
	Yes	7	6.6	2	3.8
	No	99	93.4	53	96.2
Program					
	MHA	4	3.8	1	1.9
	MPH	3	2.8	-	-
	MHA/MPH	1	0.9	1	1.9
Medical school elective course enrollment					
	Yes	69	65.1	34	64.2
	No	37	34.9	19	35.8
Enrolled in or completed:					
	Chronic Care/COPE Program	37	34.9	20	37.7
	The Cranial Nerves	15	14.2	8	15.1
	Biochemistry	15	14.2	5	9.4
	The Geriatric Experience	10	9.4	5	9.4
	Death and Dying	9	8.5	5	9.4

Table 7. (Continued)

Variable	Sample		Experimental group only	
	N (106)	Percent (100.00)	N (53)	Percent (100.00)
Direct-patient care experience				
Yes	58	54.7	28	52.8
No	48	45.3	25	47.2
Direct-patient care credential				
Yes	31	29.2	13	24.5
No	75	70.8	40	75.5
Type of credentials held				
C.N.A.	15	-	6	-
EMT (B or N)	12	-	5	-
EKG Technician	2	-	1	-
First Responder	2	-	1	-
Phlebotomist	2	-	1	-
Number years provide direct-patient care				
Mean	2.94	-	3.07	-
Median	2.00	-	2.5	-
SD	2.09	-	2.16	-
Range	(1-10) 10	-	(1-10) 9	-
Number of years since you've provided direct patient care				
Mean	1.57	-	1.89	-
Median	1.50	-	2.00	-
SD	0.892	-	0.956	-
Range	(0-4) 4	-	(0-4) 4	-
Anticipated specialty				
Anesthesiology	4	3.8	1	1.9
Emergency medicine	12	11.3	5	9.4
Family medicine	33	31.1	13	24.5
Internal medicine	16	15.1	11	20.8
Neurology	1	0.9	-	-
OB/GYN	6	5.7	4	7.5
Pediatrics	8	7.5	3	5.7
Psychiatry	1	0.9	-	-
Radiology	1	0.9	1	1.9
Surgery	12	11.3	7	13.2
Undecided	2	1.9	1	1.9
Other	10	9.4	7	13.2

Sample gender was almost evenly split, with 52 males and 54 females (representing 49.1 and 50.9% of the sample, respectively). The sample resembles the population gender split of 56% male and 44% female, although there was a slightly higher representation of females in the sample versus the population. The average age of sample participants was 25.3, which mirrors the population average age of 25. The minority representation within the sample (14.2%) also closely matched that of the population, with 14% of the second-year cohort representing non-white/non-European decent. Similar characteristics were displayed between the training group and the larger sample.

Participant prior experience with the MBTI® was limited. Approximately one-fourth, or 26.4%, reported having completed the Indicator before, with the average number of years since their last experience being 4.3. A slightly higher percentage (34%) of experimental group participants reported having had experience with the MBTI®. Only 10.4% of the study sample and 13.2% of the experimental group indicated that they remembered their four-letter MBTI® type. Although completing the MBTI® was voluntary, all experimental group participants completed the Indicator and interpretation training.

Representation of dual degree medical students, or those second-year students pursuing an additional graduate degree in health care administration (MHA degree) or public health (MPH degree) within the study sample was minimal. In total, four students reported dual enrollment in the MHA program; three reported dual enrollment in the MPH program; and, one student reported enrollment in the medical school and both the MHA and MPH programs. Within the training group, two students (3.8%) reported dual enrollment.

Students pursuing an osteopathic medical degree are provided the opportunity to enroll in a series of elective courses offered through their College. Electives vary in topic,

length of delivery, and assessment; however, several electives were identified as having a potential effect on the study. One specific elective with high participant enrollment was the Chronic Care Community Osteopathic Professional Education Program (C.O.P.E.). Over one-third of the study participants (34.9%) reported enrollment in this program. Additional analysis was conducted to determine the potential effect of the C.O.P.E., and several additional electives, on student empathy scores.

Chapter 3 introduced the FLEX Care™ program and its desired or intended audience. The program is intended for use with practicing health care professionals who provide direct patient care services. Student direct patient care experience was gathered and entered into the database in order to monitor the effect of varying patient care experience levels on student empathy scores. Overall, 54.7% of the student participants reported having prior (to medical school) direct-patient care experience, while 29.2% also reported having a direct patient care credential. Similar levels of experience were reported by members of the training group. Of the more than half of those students reporting direct patient care experience, the average number of years since the experience was 1.6 for the study sample and 1.9 for the experimental group only. Second-year students began their curricula in August of 2003, resulting in approximately one and a half years since they transitioned into full-time student status. Certified nurse assistant (C.N.A.) and emergency medical technician (E.M.T.) were the most frequently reported credentials.

Student participants reported their anticipated medical specialty area on the Participant Information Questionnaire. All but two participants were able to determine their area of anticipated medical specialization. As expected within an osteopathic medical school that emphasizes primary care, 70.7% of student participants reported an interest in pursuing a

career in primary care (i.e., emergency medicine, family medicine, internal medicine, OB/GYN, and pediatrics) versus medical specialization (29.2%). Similar interest was demonstrated by the experimental group, with more than two-thirds (67.9%) reporting an interest in primary care.

Analysis

The statistical package SPSS was used to screen the quality of the data (accuracy, missing data, extreme values, and adequacy of fit with the assumptions of the analysis), as well as support the balance of descriptive and inferential statistics. There were no missing data sets, with the exception of one student's Standardized Patient Feedback Form (Part II). When following-up with the Standardized Patient Assessment Lab (SPAL) administrative staff, the researcher learned that one student participant was not required to complete the SPAL lab with the class since the student had completed it the year before. With only one missing set of data, size was not affected by dropouts.

Screening for normality included the analysis of skewness and kurtosis for each variable. Overall, both values were typical in relation to the nature of the variable (all test variables were categorical; therefore, the resulting display was expected since they were not truly continuous variables). The assumption of linearity presupposes that there is a straight-line relationship between two variables. This assumption is important in multivariate analysis because many of the analysis techniques are based on linear variables. Statistical measures of relationship such as Pearson's r capture only linear relationships between variables and ignore any substantial nonlinear relationships that may exist (Mertler & Vannatta, 2002, p. 32). Residual plots were created from a linear regression conducted for each variable.

Examination of the resulting residual plots confirmed that although some variables did cluster toward the top or bottom of the plot (signifying non-normality), none displayed curvilinear relations (signifying nonlinearity) or clusters to the extreme right or left of the plot (signifying heteroscedasticity). Since such extreme clustering was not displayed, it was concluded that the assumptions of linearity and homoscedasticity were met (Mertler & Vannatta, 2002, pp. 51-55). Violations of assumptions for statistical analysis used to support this study are addressed in the following results.

The 20-item empathy scale and Standardized Patient Feedback Form (Part II) were both tested for reliability using Cronbach's alpha. The coefficient alpha for the instrument ($\alpha=.69$) did not exceed, but was very close to, the .70 target. George and Mallery (2003) stated that the reliability of the results are acceptable with an alpha at .70 or above. Hojat (2005) reported a coefficient alpha of .80 for the JSPE using a large longitudinal sample ($n=685$). The coefficient alpha for the Standardized Patient Feedback Form (Part II) posttest instrument ($\alpha=.95$) exceeded the .70 target; therefore the reliability of this instrument's results are excellent.

Results of Hypothesis Testing

Following are the data analysis and statistical tests conducted (as presented in Chapter 3) to support each of the studies hypotheses. For each comparison, the null hypotheses states: There is no difference between the groups analyzed.

Hypothesis 1. There are significant differences in empathy scores between the experiment and control groups using the Jefferson Scale of Physician Empathy.

T-tests were conducted to compare the posttest empathy sum scores and item scores for the experimental and control groups. Mean JSPE empathy scores ranged between a low

of 89 and a high of 138 (highest score possible is 140). The average sum score for all participants was 117.6 (SD= 9.0). Distribution of scores was fairly normal, although a slight negative skew (-.51) was observed. Figure 4 displays a histogram of the JSPE sum score.

Comparison of the experimental and control group sum JSPE scores did not indicate a statistically significant difference between the two groups ($t = -1.531, p < .129$). The control group mean score ($M=118.89$) was slightly higher than that of the experimental group ($M=116.23$). Hence, these results did not support the rejection of the null hypothesis. No significant difference was observed among the experimental group participants' overall perceptions or attitudes regarding empathy in the physician-patient relationship as compared to control group participants.

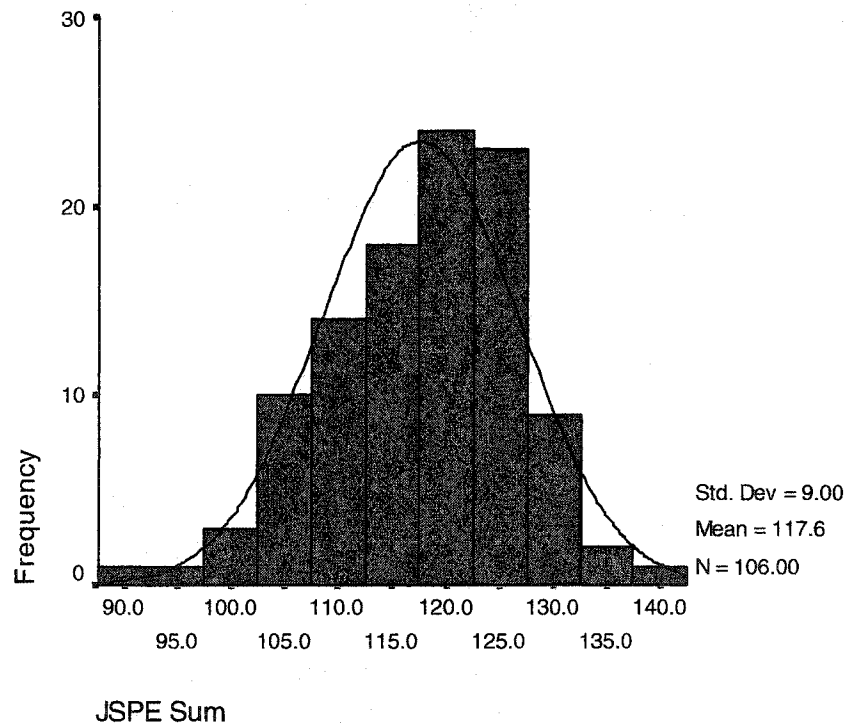


Figure 4. Distribution of JSPE scores for the sample

Item analysis indicated that the experimental group received higher mean scores on four of the 20 items with the control group receiving higher mean scores for the remaining 16 items (Table 8). T-test results indicated that three statistically significant item comparisons were detected (Table 9). Two of the three statistically significant differences observed within the item analysis showed higher scores for the control versus experimental group.

Table 8. JSPE items receiving higher mean scores between experimental and control groups

Item	Mean	<i>p</i>
Q3. It is difficult for a physician to view things from patient's perspectives. (Negative-wording)	Experimental = 4.6226 Control = 4.3396	.326
Q6. Because people are different, it is difficult to see things from patient's perspectives. (Negatively-worded)	Experimental = 4.8868 Control = 4.2453	.043*
Q7. Attention to patients' emotions is not important in history taking. (Negative-wording)	Experimental = 6.4717 Control = 6.4151	.769
Q13. Physicians should try to understand what is going on in their patients' minds by paying attention to their non-verbal cues and body language.	Experimental = 6.4334 Control = 6.3774	.736

*Significant at $p < .05$

Table 9. Significant t-test results of JSPE item scores by student participant group

Item	Mean
Q5. A physician's sense of humor contributes to better a clinical outcome.	Experimental = 4.2075 Control = 5.0566**
Q6. Because people are different, it is difficult to see things from patient's perspectives. (Negatively-worded)	Experimental = 4.8868* Control = 4.2453
Q15. Empathy is a therapeutic skill without which the physician's success is limited.	Experimental = 5.3585 Control = 6.0566*

*Significant at $p < .05$

**Significant at $p < .01$

Pearson's r correlation coefficients were also analyzed for multicollinearity between the items of the JSPE. Though several correlations reached levels of statistical significance, none reached the very high levels of ($r = .9$ and above) which indicates multicollinearity (Mertler & Vannatta, 2002, p. 342).

Nearly all of training program participants (98.1%) acknowledged that the workshop further developed their knowledge and understanding of how to effectively communicate with patients, colleagues, and others. Comments received on the training program evaluation by all 53 experimental group participants were further analyzed for common themes and then reviewed to determine the number of occurrences each theme was repeated in the evaluation comments (Table 10).

Table 10. Appearance and frequency of evaluation comment themes by training workshop participants (N=53)

Evaluation comment themes	Sample comments representing theme	Count	Freq.
1. "Understand differences or different approaches"	<ul style="list-style-type: none"> ■ I understand where they come from. I have more respect for different kind of personalities. ■ I was able to begin to understand the "why" of other peoples' point of view. ■ Realize that not everyone likes to be approached in the same manner as I do. 	45	85%
2. "Engage in a safe & open process of discovery through effective communication"	<ul style="list-style-type: none"> ■ Effectively understand how my patient needs to be communicated to. ■ Recognize other communication styles and accommodate them. ■ It re-enforced how people need a particular style of communication. 	27	51%
3. "Understanding myself better"	<ul style="list-style-type: none"> ■ Helped me identify strengths and weaknesses and allow me to improve how I communicate. ■ It is difficult to understand or even perceive communication barriers without that basic understanding of self. ■ The #1 thing I gained from this class is understanding myself better... 	25	47%

Results of this analysis of the impact of the training intervention provided insight from the student's perspective. Student participants commented on their improved ability to appreciate differences in others (85%) and the need to accommodate these differences through flexing their communication style (51%). Furthermore, participant comments support the opportunity the workshop provided to learn more about themselves and better understand their own preferred style of communication (47%).

A limitation of the study was that the JSPE may not measure the resulting treatment effect produced by the FLEX Care™ program. Thus, to serve as a control for this identified limitation, an open-ended question was added asking the participants to share what they believed was the purpose of the study. Text analysis of the students' response to this question provided additional insight into participant perspective on the treatment effect. Results from an analysis of the comments confirmed that most study participants believed the purpose of the study was to investigate physician communication or how to improve their communication or interpersonal relationships with patients. The frequency of this comment (representing both the experimental and control groups) was consistent with the fact that the recruitment flyer promoted physician-patient communication (Table 11). Finally, only one of the control group participants used the term "flex" in his or her response, which suggested that there was limited contamination between the two participant groups.

As shown in Table 11, the second most frequent suggested study topic fell under the theme "understanding differences." Eighty percent of those who listed learning to "understand differences" as a suggested study topic, were within the experimental group. Additionally, 18 (17%) comments supported the "understanding self" theme; 17 (16%)

Table 11. Comment themes and frequency counts from JSPE posttest open-ended question (N=106)

Evaluation comment themes	Sample comments representing theme	Count	Freq.
1. "Improve communication or relationships"	<ul style="list-style-type: none"> ▪ Interpersonal relationship skills ▪ Paying more attention to communication ▪ Realize how to communicate best ▪ Learn how to communicate more effectively 	74	70%
2. "Understanding differences"	<ul style="list-style-type: none"> ▪ Recognizing different personality types ▪ Different personality type ▪ Patients own wants and needs ▪ Patient communication styles 	50	47%
3. "Understanding self"	<ul style="list-style-type: none"> ▪ Understand our own ▪ Finding out about my own personality traits ▪ Learn about who am I ▪ I was able to see how I communicate 	18	17%
4. "Flex"	<ul style="list-style-type: none"> ▪ Use of word flex, flexing, or flex care 	17	16%
5. "Empathy"	<ul style="list-style-type: none"> ▪ Use of word empathy, empathic, empathizing 	13	12%

comments used the term "flex," "flexing," or "flex care;" and, 13 (12%) participant

comments pointed to the subject the study was investigating: Empathy.

Hypothesis 2: There are significant differences in evaluation scores between the experiment and control groups using the Standardized Patient Feedback Form – Part II.

Results of an Independent Samples T-test indicated no significant difference between the sum scores of the experimental (M=49.61) and control group (M=50.21) or for any of the 15 item scores. The experimental group produced higher individual mean scores for two of the items (although not to a significant level), while the control group produced higher means on the remaining 13 items. These results did not allow for the rejection of the null hypothesis; therefore, no significant difference was produced between the experimental and control groups performance on the Standardized Patient Feedback Form – Part II.

Additionally, there was no significant relationship ($r = -.04$, $p = .36$) between students sum scores on the JSPE and the Standardized Patient Feedback Form – Part II.

Text analysis of the standardized patients comments regarding their students' performance during the standardized patient assessment lab (SPAL) did not produce any core themes. Counts of significant physician-patient interaction terms such as “listening,” “caring,” or “competence” were equally represented in both the control and experimental groups.

Hypothesis 3: There are significant relationships between participant JPSE empathy scores and Standardize Patient Feedback Forms (Part II) and students' prior experience with the MBTI®, dual program enrollment, prior direct patient care experience, participant involvement in additional curricular interventions designed to enhance empathy, gender, and student anticipated specialty selection.

Individual JSPE items as well as the sum scores of participants were correlated with the control and independent variables for this study using Pearson product-moment (one-tail). Follow-up one-way ANOVAs were conducted with those variables showing statistically significant ($p < .05$) relationships.

Prior experience with the MBTI®

As stated previously, approximately one-fourth of the student participants had completed the Myers-Briggs Type Indicator® prior to this study. Results of Pearson product-moment correlation (one-tailed) identified no statistically significant correlation between the total sum, individual item scores of the JSPE, or Standardized Patient Feedback Form – Part II. Results did not support the rejection of the null hypothesis; therefore, no statistically significant difference was observed between empathy scores or scores assessed on the

Standardized Patient Feedback Form (Part II) and participant prior experience with the MBTI®.

Dual-degree student

Less than 7% (seven students) of student participants were dual-enrolled in the Master of Health Care Administration or Master of Public Health programs and the College of Osteopathic Medicine. Representation of dual-enrolled students within the experimental group was limited to less than half (two students) of the overall sample. Pearson product-moment correlation (one-tailed) indicated no statistically significant relationships between participant dual-degree involvement and JSPE item or total score; however, two statistically significant relationships were identified between dual-degree involvement and two items on the Standardized Patient Feedback Form – Part II (Table 12). Feedback Form – Part II

Table 12. Significant correlations between dual-degree student scores and Standardized Patient Feedback Form – Part II

Item	<i>r</i>
Q1. The student asked questions in an organized manner.	-.245**
Q2. The student asked direct, unambiguous questions.	-.253**
Total score	.050

**Significant at $p < .01$

It should be noted that a negative (significant) correlation was observed, indicating that students participating in dual program enrollment received significantly lower scores than non-dual program participants on these items. The observed effect, however, was limited to two of the 15 total items and no significant effect was observed between the sum scores of the experimental and control groups. A lack of statistical evidence did not allow for

the rejection of the null hypothesis; therefore, any multiple treatment effect experienced from dual-program students was limited and is unlikely to threaten the external validity of the study results.

Prior direct patient care experience

Slightly more than half (54.7%) of the student participants reported that, on average, they had approximately three years of direct-patient care experience. Pearson's product-moment correlation (one-tail) produced three statically significant relationships between students reporting direct patient care experience and JSPE and one statistically significant relationship with the Standardized Patient Feedback Form – Part II (Table 13). No statistically significant effect was detected on the sum score of either instrument.

Table 13. Item comparison of participant direct patient care experience on the JSPE and Standardized Patient Feedback Form – Part II (N = 106)

Measure / Item	<i>r</i>
JSPE scale	
Q2. Patients feel better when their physicians understand their feelings.	-.268**
Q4. Understanding body language is as important as verbal communication in physician—patient relationships.	.189*
Q13. Physicians should try to understand what is going on in their patients' minds by paying attention to their non-verbal cues and body language.	-.188*
Standardized Patient Feedback Form	
Q1. Asked questions in an organized manner.	-.172*

*Significant at $p < .05$

**Significant at $p < .01$

Overall, student prior direct patient care experience appears to have a very limited effect on either posttest instrument. Only four items showed a statistically significant difference between student direct patient care experience and item-level empathy or SPAL

assessment scores. Results of this statistical test do not support the rejection of the null hypothesis. No statistically significant difference was detected between direct patient care experience and student participant empathy or SPAL assessment sum scores.

Additional curricular interventions (COM elective)

Almost two-thirds (65.1%) of student participants reported their enrollment in one or more medical school elective course offering. Pearson's product moment correlation (one-tailed) did detect three statistically significant relationships between overall participation in elective courses and JSPE item scores as well as Standardize Patient Feedback Form – Part II (SPFF) item scores (Table 14). No significance was observed between either of the scales total sum scores.

Table 14. Significant correlations observed by overall student enrollment in a COM elective and performance on posttest measures

Measure / Item	<i>r</i>
JSPE scale	
Q11. Patient's illness can be cured only by medical or surgical treatment; therefore, physicians' emotional ties with their patients do not have a significant influence in medical or surgical treatments. (Negatively worded)	-.175*
Q15. Empathy is a therapeutic skill without which the physician's success is limited.	-.286**
Standardized Patient Feedback Form	
Q10. Maintained comfortable eye contact with me.	.168*

*Significant at $p < .05$

**Significant at $p < .01$

Student current or past enrollment in each of the elective courses offered was discussed previously in this chapter. The most popular elective within this sample was the *Chronic Care/Community Osteopathic Professional Education (C.O.P.E.) Program* ($n = 37$). No statistically significance correlation was observed between any of the 20 item scores of

the JSPE, while two significant relationships ($p < .05$) were detected between student participation in the C.O.P.E. Program and items 3 and 9 of the Standardized Patient Feedback Form (Part II).

Only two additional elective courses observed a statistically significant relationship between student participation and total scores on the Standardized Patient Feedback Form (Part II): *The Cranial Nerves* ($n = 15$) and *The Geriatric Experience* ($n = 10$). Although select items reached statistical significance, neither elective showed a statistically significant relationship with the JSPE sum score.

Pearson's product moment correlation indicated statistically significant relationships between six items as well as the sum score on the Standardized Patient Feedback Form (Part II) and student participation in *The Cranial Nerves* elective. Correlation coefficients indicated that experience within this elective increased student performance on this assessment instrument. *The Geriatric Experience* elective observed a statistically significant relationship on all but two of the 15 items, indicating that participation in this elective also had a positive effect on student assessment by SPAL patients. Further analysis was conducted using two independent one-way ANOVAs for each elective and the Standardized Patient Feedback Form (Part II) posttest measure. Results of the analysis of variance between participants of *The Cranial Nerves* elective and SPAL assessment scores indicated a violation of homogeneity of variance on all items as well as the sum score. This result highlights the positively skewed distribution of the data, which threatens the reliability of results. Further analysis was halted.

Results for the analysis of variance between participants of *The Geriatric Experience* and final SPAL assessment scores indicated that 10 items reached levels of statistical

significance along with the total sum score, and three additional questions nearly reached levels of statistical significance. The effect size estimates were calculated for each of the mean differences to detect the practical importance of the statistically significant results (Hojat et al., 2002b) (Table 15).

A strong significant relationship was detected between student participation in the elective *The Geriatric Experience* and their performance on the SPAL assessment. The results of the analysis of the control variable—COM elective participation—observed no significant relationship between student participation in these elective experiences and the JSPE empathy scores. However, evidence exists to reject the null hypothesis regarding COM

Table 15. Results of one-way ANOVA comparing student participation in *The Geriatric Experience* elective and patient evaluation of students' SPAL performance

Item	<i>The Geriatric Experience</i>	
	F	Effect size***
Q1. Asked questions in an organized manner.	9.179	.970**
Q2. Asked direct, unambiguous questions.	7.163	.865**
Q3. Used vocabulary I could understand.	7.172	.866**
Q4. Spoke clearly, with appropriate volume and speed.	3.173	.587
Q5. Listened carefully and did not interrupt.	5.662	.905*
Q6. Demonstrated courteous behavior.	5.599	.770*
Q7. Demonstrated professional behavior.	6.733	.840*
Q8. Was respectful; avoided criticism and judgment.	6.527	.828*
Q9. Conveyed a sensitive and caring attitude regarding my physical and emotional needs.	3.526	.617
Q10. Maintained comfortable eye contact with me.	0.217	.156
Q11. Opened and closed our encounter in a friendly yet professional manner.	3.750	.636
Q12. Dressed professionally, with good grooming.	1.479	.403
Q13. Respected my modesty and made sure I did not feel over-exposed.	7.947	.907**
Q14. Conducted the physical examination with a confident but gentle touch.	5.874	.788*
Q15. Demonstrated an organized approach to his/her examination of me.	4.980	.728*
Sum	6.877	.848*

*Significant at $p < .05$

**Significant at $p < .01$

***Formula to determine effect size: $(\text{mean}_{(\text{participant})} - \text{mean}_{(\text{non-participant})}) / \text{pooled standard deviation}$

elective participation and performance on the Standardized Patient Feedback Form (Part II). Student participation in *The Geriatric Experience* elective received statistically significant higher scores from SPAL patients using the Standardized Patient Feedback Form (Part II).

Gender

Stratifying the sample prior to randomly assigning student participants to the control or experimental group resulted in a near even split of 52 males and 54 females (representing 49.1% and 50.9% of the sample, respectively). Results of Pearson's product-moment correlation (one-tail) indicated a statistically significant relationship between student gender and the total sum and several individual items scores for both the JSPE and Standardized Patient Feedback Form (Part II).

Mean empathy scores (JSPE sum score) of female students ($M = 120.37$, $SD = 7.58$) were significantly higher ($p < .001$) than for male students ($M = 114.63$, $SD = 9.49$).

Statistically significant differences were also observed on nine of the 20 items of the JSPE between female and male participants. Further analysis indicated that student assessments by standardized patients during a SPAL also produced significantly higher ($p < .05$) sum scores for female students ($M = 51.47$, $SD = 6.33$) versus their male counterparts ($M = 49.31$, $SD = 5.76$). Table 16 provides a comparison by item and sum totals for both instruments.

Almost half (7 of 15) of the items on the Standardized Patient Feedback Form (Part II) indicated statistically significant differences, between female and male student participants. Additionally, total sum scores varied significantly ($p < .05$) between the women ($M = 51.47$) and men ($M = 49.31$). Results of this analysis indicated rejection of the null hypothesis and acceptance of the alternative hypothesis, that differences do exist based on

Table 16. Item and sum scores for correlation between gender and the Jefferson Scale of Physician Empathy – Student Version (JSPE) and Standardized Patient Feedback Form – Part II (SPFF)

Item	<i>JSPE</i>	<i>SPFF</i>
	<i>r</i>	<i>r</i>
1	.04	.202*
2	.25**	.272**
3	.10	.213*
4	.08	.123
5	-.08	.112
6	.09	.079
7	.06	.178*
8	.18*	.154
9	.26**	.073
10	.24**	.135
11	.24**	.182*
12	.26**	-.047
13	.18*	.193*
14	.25**	.284**
15	.02	.120
16	.13	-
17	.06	-
18	.14	-
19	.20*	-
20	.15	-
Total	.320**	.178*

*Significant at $p < .05$

**Significant at $p < .01$

gender, with females consistently scoring higher on both posttest measures. Further comparison of these results against other published studies of JSPE scores are discussed in another section of this chapter.

Anticipated specialty selection

Student participants were asked to select from a list of medical specialties that, to the best of their knowledge, represent the specialty they are most interested in pursuing upon graduation. Frequencies representing student interests were provided earlier. Hojat et al.

(2000b) categorized medical specialties into people-oriented (i.e., emergency medicine, family medicine, internal medicine, OB/GYN, Pediatrics, and Psychiatry) and technology oriented (i.e., anesthesiology, neurology, radiology, and surgery) practices. An “other” category provided on the Participant Information Questionnaire, resulted in students listing several additional specialties that were also sorted into the people-oriented category (i.e., ophthalmology, physical medicine and rehabilitation, pulmonary, cardiology, and oncology) and technology-oriented category (i.e., orthopedic surgery, flight surgery and orthopedics). In total, 85 students identified a specialty within people-oriented specialties and 19 students reported specialties under technology-oriented specialties. Two students reported that they were undecided. The resulting scale variable, “student anticipated specialty selection,” is positively skewed with a more peaked than normal distribution (skewness = 1.321, kurtosis = .710).

Pearson’s product moment correlation (one-tailed) observed two statistically significant correlations between the student’s anticipated specialization (people- versus technology-oriented) and items on the JSPE (Table 17), while the relationship between specialty selection category and total JSPE sum scores did not reach significance. No statistical significant relationship was observed between student specialty selection and individual or total sum scores received on the Standardize Patient Feedback Form (Part II). This result contradicts results from the CRMEHC who reported statistically significant differences on 11 of the 20 items ($F_{(20,664)} = 2.25, p = .01$) between the JSPE and student or practicing physicians specialization in people or technology-oriented fields (Hojat et al., 2002a). To further investigate the relationship between medical student anticipated

Table 17. Correlation between student anticipated specialization (people- versus technology-oriented) and JSPE empathy scores

Item	<i>r</i>
Q18. Physicians should not allow themselves to be influenced by strong personal bonds between their patients and their family members.	.193*
Q20. I believe that empathy is an important therapeutic factor in medical treatment.	.215*
Total score	.056

*Significant at $p < .01$

specialization and empathy scores, a follow-up one-way ANOVA was conducted using the actual specialization categories (instead of people and technology-oriented categorization). Mean scores ranged from a high of 128 for psychiatry to a low of 112.7 for the “other” category. Mean scores by anticipated specialty choices are shown in Table 18 and Figure 5.

Table 18. Sample JSPE mean scores by anticipated specialty choice and mean JSPE scores for item 15 by participant anticipated specialty selection

Specialty	N	Mean	SD
Anesthesiology	4	121	11.69
Emergency Medicine	12	115.92	8.35
Family Medicine	33	119.39	7.00
Internal Medicine	16	116.69	10.66
Neurology	1	124	-
OB/GYN	6	122.67	7.94
Pathology	0	-	-
Pediatrics	8	117.88	8.01
Psychiatry	1	128	-
Radiology	1	115	-
Surgery	12	114.08	11.16
Undecided	2	118.5	0.71
Other	10	112.7	10.69
Total	106	117.56	9.00

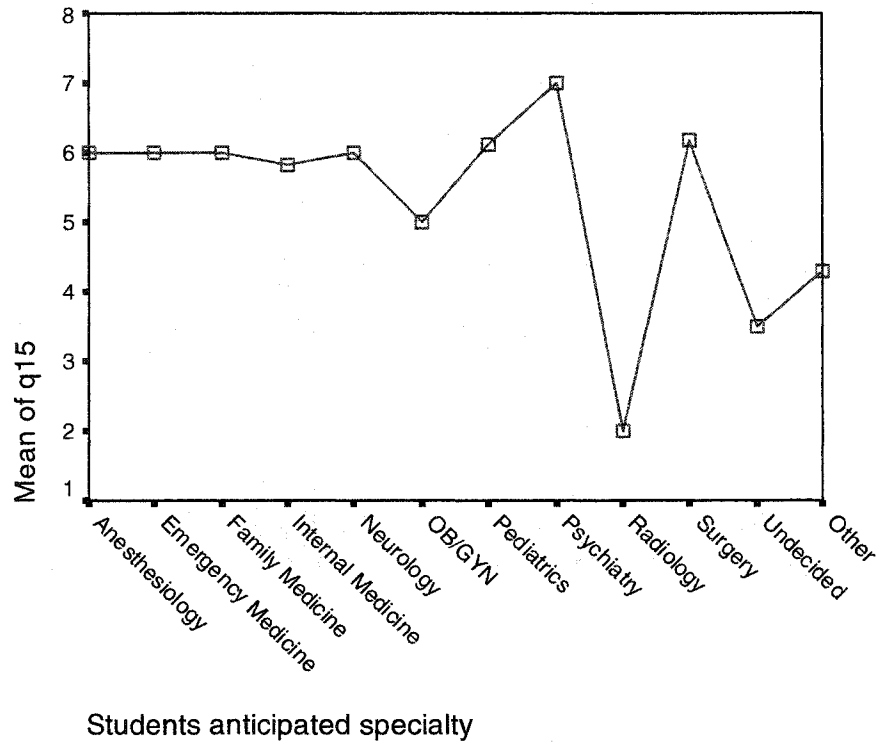


Figure 5. Sample JSPE mean scores by anticipated specialty choice and mean JSPE scores for item 15 by participant anticipated specialty selection

Only one statistically significant difference was observed ($F_{(11,94)} = 2.298, p < .015$) for item 15 (“Empathy is a therapeutic skill without which the physician’s success is limited”). The graph provided in Figure 4 depicts a high mean score of “7” (strongly agree) for psychiatry and a low score of “1” (strongly disagree) for radiology. Overall, results observed in this analysis do not support the rejection of the null hypothesis; therefore, no statistically significant difference was observed between anticipated specialty selection and student empathy or SPAL assessment scores.

Hypothesis 4: There are significant differences between study participant's Jefferson Physician Empathy Scale scores and other medical students mean scores.

The availability of an empathy assessment tool specifically developed for use with medical students allows researchers to compare results within and outside of, specific medical schools. To test this hypothesis, the JSPE results for this sample were compared with results in published studies also using the JSPE. Overall or sum total empathy scores for this sample were compared with available sample data. Empathy scores by gender and medical specialty for both samples were also compared.

Empathy scores

Mean empathy scores for this studies sample of second year osteopathic medical students ($n = 106$) were slightly higher than a large longitudinal sample of allopathic medical students ($n = 685$) at Jefferson Medical College in Philadelphia (M. Hojat, personal communication, February 9, 2005) (Table 19). Comparison of the two sample means using a t-test indicated a statistically significant difference between the two schools' mean empathy scores ($t = 9.5117, p < .001$).

Table 19. Comparison of total JSPE empathy scores by medical school

	Des Moines University		Jefferson Medical College	
N	106		685	
	M	SD	M	SD
Overall score	118	9.0	115	10
Percentile				
25 th	112		108	
50 th	119		115	
75 th	124		122	

In a separate study with a much smaller sample ($n = 125$), Hojat et al. (2004) reported a much higher mean score ($M = 123$, $SD = 9.9$) for a group entering their third year of study. A difference was detected between the mean empathy scores of the two studies ($t = -12.31$, $p < .001$) indicating that the sample from the Jefferson Medical College has statistically significant higher empathy scores than this studies sample.

Further data comparison with other medical schools is limited by the availability of published results. Although researchers at the CRMEDHC reported that numerous researcher are using the JSPE, published results have not been available (Hojat, M., personal communication, February 9, 2005).

Gender and empathy

Mean JSPE empathy scores for female and male study participants were presented earlier along with statistically significant differences observed between the two groups on the JSPE empathy scores as well as individual item scores. A one-way ANOVA was conducted to further explore the relationship of student gender and empathy levels. Results of the ANOVA confirmed a significant difference between the JSPE sum score ($F_{(1,104)} = 11.859$, $p < .001$) as well as individual item scores.

Item correlations discussed previously were compared with results of a published study of practicing physicians ($n = 704$). The effect-size estimates were also calculated for each of the mean differences to detect the practical (clinical) importance of the statistical significant results (Hojat et al., 2002a) (Table 20).

Table 20. Comparison of item correlations and effect sizes by gender at the item level

N	Des Moines University [†]		Jefferson Medical Center [‡]	
	106 second year medical students		704 practicing physicians	
Item	<i>r</i>	Effect size [§]	<i>r</i>	Effect size
1	.04	-.08	.30	.03
2	.25	-.48**	.39	.25*
3	.10	-.20	.32	.08
4	.08	-.16	.35	.21*
5	-.08	.17	.37	-.14
6	.09	-.17	.40	.18*
7	.06	-.12	.34	.15
8	.18	-.35*	.39	-.08
9	.26	-.51**	.60	-.07
10	.24	-.48**	.60	.17*
11	.24	-.47**	.46	.18*
12	.26	-.50**	.34	.06
13	.18	-.36*	.54	.03
14	.25	-.49**	.42	.03
15	.02	-.04	.48	.09
16	.13	-.25	.59	.11
17	.06	-.12	.53	-.16
18	.14	-.27	.44	.16
19	.20	-.40*	.30	.16
20	.15	-.30	.51	.21*

*Significant at $p < .05$

**Significant at $p < .01$

[†]Wilk's lambda = .80, related multivariate $F_{(20,83)} = 1.87, p = .026$

[‡]Wilk's lambda = .94, related multivariate $F_{(20,664)} = 2.25, p < .01$

[§]Effect size calculated $(\text{Mean}_{(\text{men})} - \text{Mean}_{(\text{women})}) / \text{pooled standard deviation}$

A follow-up MANOVA was conducted using all items of the JSPE as the dependent variable and gender as the independent variable. Overall, results of this analysis indicated a high, statistically significant difference between this study's student participants' gender and empathy levels as measured by the JSPE (Wilk's lambda = .69, related multivariate $F_{(20,83)} = 1.87, p = .026$); even at a higher level than a large sample of practicing physicians reported in the literature (Wilk's lambda = .94, related multivariate $F_{(20,664)} = 2.25, p < .01$). These

strong, statistically significant results enabled additional analysis to determine the interaction effect of student gender on mean empathy score differences between the experimental and control groups. A additional MANOVA was conducted using gender and group assignment (experiment or control) as the independent variables and select items (item no. 2, 9, 10, 11, 12, 13 and 19) and sum JSPE empathy scores as dependent variables. No significant interaction was observed.

As indicated by the results of these two studies, female students and practicing physicians tended to have statistically significant higher empathy scores than their male counterparts. However, a comparison of results from a study of third-year allopathic medical students at Jefferson Medical College, revealed that this study's sample of second-year osteopathic student participants scored statistically significantly lower in mean empathy scores by gender group (Table 21).

Table 21. Comparison of mean empathy levels by gender between study sample and Jefferson Medical College students

	Des Moines University		Jefferson Medical College*		Mean comparison	
	M	SD	M	SD	t	p
Gender						
Female	120.37	7.58	122	10	-5.55	< .001
Male	114.64	9.49	119	11	-13.41	< .001

*Samples consist of two academic years: 1999-2000 and 2000-2001.

Specialty choice and empathy

The aforementioned analysis did not indicate a statistically significant relationship between student empathy scores and anticipated specialty selection (people- versus technology-oriented). Further analysis, therefore, was limited to a comparison of JSPE mean

scores for this sample and scores of practicing physicians by specialization available in the literature (Hojat et al., 2002b).

Descriptive statistics for both samples are provided in Table 22. The two samples revealed high empathy scores within the field of Psychiatry ($R = 127 - 128$), followed by specialties falling within people-oriented specialties, while low scores were observed in technology-oriented specialties. This sample of medical student's empathy scores were consistent with empathy scores observed in a large sample of practicing physicians, although the results of statistical analysis were not statistically significant.

Table 22. Study comparison of empathy levels by anticipated or actual medical specialization

N Year Specialty:	Des Moines University 106 Second-year medical students		Jefferson Medical College 704 Practicing physicians	
	M	SD	M	SD
Anesthesiology	121	11.7	116.1	12.0
Emergency Medicine	115.9	8.4	121.0	10.7
Family Medicine	119.4	7.0	120.5	12.6
Internal Medicine	116.7	10.7	121.7	10.6
Neurology	124	-	-	-
OB/GYN	122.7	7.9	119.2	10.4
Pediatrics	117.9	8.0	121.5	12.2
Psychiatry	128	-	127.0	5.5
Radiology	115	-	117.9	13.1
Surgery ^b	114.1	11.2	117.9	-
Undecided	118.5	.71	-	-
Other	112.7	10.7	-	-
Total ^a	117.6		120.4	

^a Representing one academic year: 2004.

^b Combined all surgery specialties for comparison (general, cardiovascular, neurosurgery, and orthopedic surgery).

Hypothesis 5: There are significant MBTI® type characteristic differences among experimental group participants and JSPE empathy scores, gender, and anticipated specialty selection.

In total, 19 (35.8%) participants reported best-fit types that varied from their reported type. Best-fit types that were entered into the database supported the data analysis for this hypothesis. Analysis of the experimental groups MBTI results took place on two levels. First, results were analyzed to ascertain student results on the four preference domains (E/I, S/N, T/F, and J/P). Next, results were analyzed to ascertain student functional types (ST, SF, NF, and NT). Each of these analyses (preference domains and functional type) were compared with student sum empathy scores, gender, and anticipated specialty selection. The sample size was reduced by one ($n = 52$) for the anticipated specialty selection analysis after one student reporting being undecided. Descriptions of the preference dichotomies and functional type are provided in Chapter 2. Finally, frequencies on the 16 whole (four-letter) types are provided although no analysis was performed due to an insignificant sample size.

Preference domains

Student MBTI® results were first compared using the four preference dichotomies (E/I, S/N, T/F, and J/P) and JSPE sum empathy scores. Further analysis was conducted to determine the relationship between student gender and anticipated specialty selection by preference dichotomy results.

Empathy

Although the experimental group was randomly assigned, near equal representation was provided in each of the four domains (Table 23). There were slightly more participants with a Judging preference than Perceiving.

Table 23. One-way ANOVA of MBTI® preference domains and JSPE empathy scores

Domain Preference	N	Percent	M	SD	F	<i>p</i>
Extraversion (E)	25	47	120.20	8.18	8.28	.006
Introversion (I)	28	53	112.68	10.54		
Sensing (S) Intuition	28	53	112.82	10.17	7.53	.008
(N)	25	47	120.04	8.82		
Thinking (T) Feeling	24	45	112.63	10.21	6.07	.017
(F)	29	55	119.21	9.23		
Judging (J)	32	60	116.22	11.26	.000	.995
Perceiving (P)	21	40	116.24	8.43		

Four independent one-way analysis of variance (ANOVA) were conducted with each of the preference domains, using sum JSPE empathy scores as the independent variable. Results are displayed in Table 1 above. Three of the four preference domains observed statistically significant differences in JSPE sum empathy scores, allowing for the rejection of the null hypothesis on three dichotomies. Significantly higher empathy scores were identified for students with a preference for Extraversion, Intuition, and Feeling. No statistical significance was detected between empathy scores and the Judging and Perceiving preference.

Gender

As noted earlier, stratifying the sample prior to randomly assigning resulted in a near equal split between the number of males ($n = 25$) and females ($n = 28$) represented in the study sample (47.2% and 52.8%, respectfully). Crosstabulations were conducted comparing student gender with each of the four preference domains to further understand the relationship between these two variables.

Extraversion – Introversion (E – I). Results from comparison of student E – I preferences and gender resulted in a higher than expected representation of females with a preference for Extraversion (64%) and males with a preference for Introversion (57.1%) (Table 24). No statistical significance was observed ($X^2 = 2.369$, $df = 1$, $p = .124$). Low adjusted residual values of -1.5 and 1.5 supported this observance. This result did not enable the rejection of the null hypothesis indicating that, within this sample, student gender and preference on the E – I dichotomy, were independent.

Table 24. Comparison of the E – I preference dichotomy and gender

Preference dichotomy		Gender	
		Male	Female
Extraversion (E)	Actual	9	16
	Expected	11.8	13.2
	Percentage	36.0%	64.0%
	Percent of Total	17.0%	30.2%
	Adj. Residual	-1.5	1.5
Introversion (I)	Actual	16	12
	Expected	13.2	14.8
	Percentage	57.1%	42.9%
	Percent of Total	30.2%	22.6%
	Adj. Residual	1.5	-1.5

Sensing – Intuition (S – N). A comparison of student preferences on the S – N dichotomy and gender indicated that there was nearly equal representation on all levels as represented by low adjusted residual values of -1.0 and 1.0 (Table 25). Therefore, no statistically significant difference was observed ($X^2 = .976$, $df = 1$, $p = .323$). This result did not enable the rejection of the null hypothesis; therefore, these two variables were independent and there appeared to be no statistically significant relationship within this data set.

Table 25. Comparison of the S – N preference dichotomy and gender

Preference dichotomy		Gender	
		Male	Female
Sensing (S)	Actual	15	13
	Expected	13.2	14.8
	Percentage	53.6%	46.4%
	Percent of Total	18.9%	28.3%
	Adj. Residual	1.0	-1.0
Intuition (N)	Actual	10	15
	Expected	11.8	13.2
	Percentage	40.0%	60.0%
	Percent of Total	28.3%	24.5%
	Adj. Residual	-1.0	1.0

Thinking – Feeling (T – F). Results of the crosstabulation indicated that there is a strong over-representation of Thinking preferences with male participants (70.8%) as well as an equally strong over representation of Feeling preferences within female participants (72.4%) (Table 26 and Figure 6). This difference was statistically significant ($X^2 = 9.856$, $df = 1$, $p = .002$) while also observing a medium to large effect size ($\phi = -.431$, $p = .002$) and large adjusted residuals of -3.1 and 3.1. This statistically significant result enabled the rejection of the null hypothesis, indicating that there was a fairly strong, dependent relationship observed in this sample between student gender and their preference on the T – F dichotomy (Abrami, Cholmsky, & Gordon, 2001, p. 522).

Table 26. Comparison of the T – F preference dichotomy and gender

Preference dichotomy		Gender	
		Male	Female
Thinking (T)	Actual	17	7
	Expected	11.3	12.7
	Percentage	70.8%	29.2%
	Percent of Total	32.1%	13.2%
	Adj. Residual	3.1	-3.1
Feeling (F)	Actual	8	21
	Expected	13.7	15.3
	Percentage	27.6%	72.4%
	Percent of Total	15.1%	39.6%
	Adj. Residual	-3.1	3.1

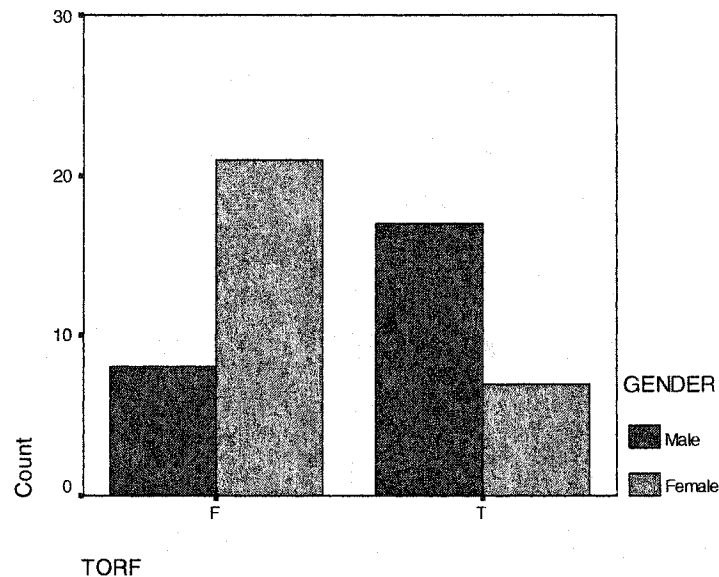


Figure 6. Comparison of the T – F preference dichotomy and gender

This difference did reach a high level of statistical significance ($X^2 = 9.856$, $df = 1$, $p = .002$) while also observing a medium to large effect size ($\phi = -.431$, $p = .002$) and large adjusted residuals of -3.1 and 3.1. This statistically significant result allows for the rejection of the null hypothesis, indicating that there was a fairly strong, dependent relationship observed in this sample between student gender and their preference on the T – F dichotomy (Abrami, Cholmsky & Gordon, 2001, p. 522).

Judging – Perceiving (J – P). Student gender was compared with preferences on the J – P dichotomy. As indicated previously, there was an increase representation of the Judging preference in the experimental group data. A crosstabulation further indicated that the comparison did not reveal statistically significant differences ($X^2 = 1.388$, $df = 1$, $p = .239$), which was also supported by low adjusted residual values of 1.2 and -1.2 (Table 27).

Table 27. Comparison of the J – P preference dichotomy and gender

Preference dichotomy		Gender	
		Male	Female
Judging (J)	Actual	13	19
	Expected	15.1	16.9
	Percentage	40.6%	59.4%
	Percent of Total	24.5%	35.8%
	Adj. Residual	-1.2	1.2
Perceiving (P)	Actual	12	9
	Expected	9.9	11.1
	Percentage	57.1%	42.9%
	Percent of Total	22.6%	17.0%
	Adj. Residual	1.2	-1.2

There was a slight overrepresentation of the Judging preference in females (59.4%), while males displayed a similar pattern with the Perceiving preference (57.1%). This result, therefore, did not enable rejection of the null hypothesis supporting the independence of the variables.

Specialization

Crosstabulations also were conducted on the four preference domains and the student anticipated specialization categories: people- or technology-oriented. Hojat et al. (2000b) revealed a commonly used categorization of medical specialties. People-oriented specialties included emergency medicine, family medicine, internal medicine, OB/GYN, Pediatrics, and Psychiatry; while technology-oriented specializations included anesthesiology, neurology, radiology, and surgery. Even though the majority of students within this sample selected areas of specialization within the people-oriented category (76.9%), the validity of the results were still trustworthy. Chi-squared statistics indicated skewed distributions and dramatic variability within samples (Abrami et al., 2001). All assumptions have been met for each test

with a sample that was randomly assigned. The observations were independent, and no one test exhibited low frequency counts (< 5) for more than 25% of the cells. Results of these analyses follow.

Extraversion – Introversion (E – I). A higher representation of students indicated anticipated specialization in people-oriented practices and preferences for Extraversion (84%), while there was also a high representation of Introversion (70.4%) preferences in people-oriented specialties (Table 28). The relationship, however, did not reach statistical significance ($X^2 = 1.358$, $df = 1$, $p = .244$), while low adjust residual values (-1.2, 1.2) supported this result; therefore, the null hypothesis was not rejected.

Table 28. Comparison of the E – I preference dichotomy and student anticipated specialization categories

Preference dichotomy		Specialization	
		People-oriented	Technology-oriented
Extraversion (E)	Actual	21	4
	Expected	19.2	5.8
	Percentage	84.0%	16.0%
	Percent of Total	40.4%	7.7%
	Adj. Residual	1.2	-1.2
Introversion (I)	Actual	19	8
	Expected	20.8	6.2
	Percentage	70.4	29.6%
	Percent of Total	36.5%	15.4%
	Adj. Residual	-1.2	1.2

Although observed frequencies of students within this study were almost evenly split between Extraversion ($n = 25$) and Introversion ($n = 28$) preferences, both preferences indicated more interest (although not at a level of statistical significance) in people-oriented specialties.

Sensing – Intuition (S – N). Sample data demonstrated a high representation of students with both Sensing (81.5%) and Intuition (72%) preferences within the people-oriented category versus those with similar preferences selecting technology-oriented specialties (See Table 29). No statistically significant relationship was observed ($X^2 = .657$, $df = 1$, $p = .417$); therefore, the null hypothesis was not rejected. Low adjusted residuals (-.8, .8) supported the lack of statistical significance.

Table 29. Comparison of the S – N preference dichotomy and student anticipated specialization categories

Preference dichotomy		Specialization	
		People-oriented	Technology-oriented
Sensing (S)	Actual	22	5
	Expected	20.8	6.2
	Percentage	81.5%	18.5%
	Percent of Total	42.3%	9.6%
	Adj. Residual	.8	-.8
Intuition (N)	Actual	18	7
	Expected	19.2	5.8
	Percentage	72.0%	28.0%
	Percent of Total	34.6%	13.5%
	Adj. Residual	-.8	.8

Thinking – Feeling (T – F). A higher than expected number of students demonstrating a preference for Feeling (96.4%) also selected careers within people-oriented specialties. Similarly, this analysis revealed a higher representation of students with a Thinking preference (45.8%) within technology-oriented specialties. The relationship was significant ($X^2 = 13.003$, $df = 1$, $p < .001$), with a large effect size ($\phi = .50$, $p < .001$). Large adjusted residual values (-3.6, 3.6) also supported the rejection of the null hypothesis which indicated that a statistically significant, dependent relationship existed between the T – F dimension and student specialty selection (Table 30 and Figure 7).

Table 30. Comparison of the T – F preference dichotomy and student anticipated specialization categories

Preference dichotomy		Specialization	
		People-oriented	Technology-oriented
Thinking (T)	Actual	13	11
	Expected	18.5	5.5
	Percentage	54.2%	45.8%
	Percent of Total	25.0%	21.2%
	Adj. Residual	-3.6	3.6
Feeling (F)	Actual	27	1
	Expected	21.5	6.5
	Percentage	96.4%	3.6%
	Percent of Total	51.9%	1.9%
	Adj. Residual	3.6	-3.6

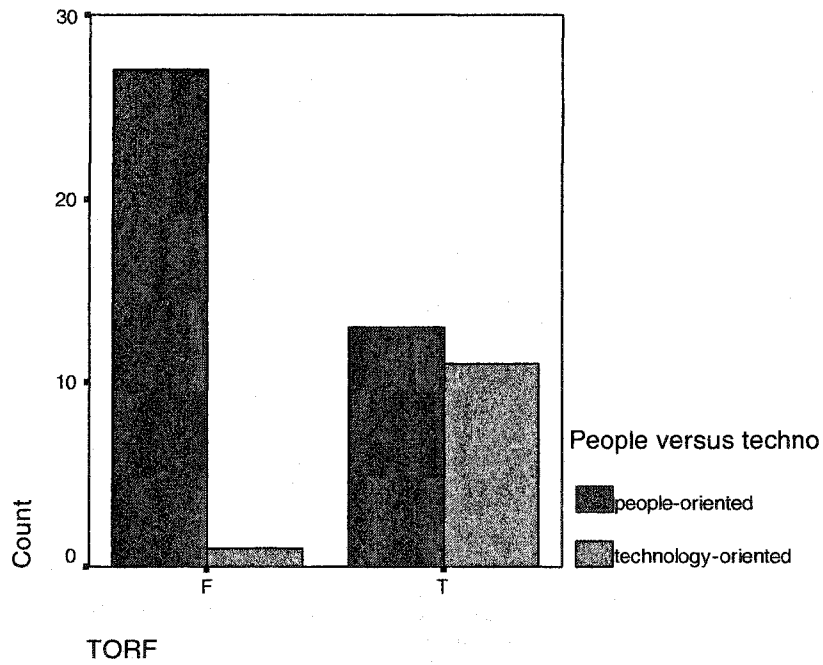


Figure 7. Comparison of the T – F preference dichotomy and student anticipated specialization categories

Results demonstrate that students with a preference for Feeling are more likely to select a specialty within the people-oriented category, while students with a preference for Thinking are almost equally split between specialties within people- (54.2%) and technology-oriented (45.8%) categories.

Judging – Perceiving (J – P). No statistically significant relationship was observed ($X^2 = .068$, $df = 1$, $p = .795$) between Judging and Perceiving preferences and the selection of medical specialties, therefore, the null hypothesis was not rejected. Very low adjusted residual values (-.3, .3) supported this result (Table 31). Crosstabulation results demonstrated a high representation of students with both Judging (78.1%) and Perceiving (75%) preferences within the people-oriented category versus those with similar preferences selecting technology-oriented specialties.

Table 31. Comparison of the J – P preference dichotomy and student anticipated specialization categories: people- or technology-oriented

Preference dichotomy		Specialization	
		People-oriented	Technology-oriented
Judging (J)	Actual	25	7
	Expected	24.6	7.4
	Percentage	78.1%	21.9%
	Percent of Total	48.1%	13.5%
	Adj. Residual	.4	-.4
Perceiving (P)	Actual	15	5
	Expected	15.4	4.6
	Percentage	75.0%	25.0%
	Percent of Total	28.8%	9.6%
	Adj. Residual	-.4	.4

Four functional types

Student MBTI® results were then compared using the four combinations of perception and judgment, or what is commonly referred to as the functional types (ST, SF, NF and NT), and sum empathy scores. There was a nearly equal representation of students within three (ST, SF, NF) of the four functional types ($R = 25 - 30\%$), while NTs were underrepresented (17%) (Table 32). Almost one-third of this sample was represented by students with NF preferences (30.2%), with less than one-fifth (20%) of students reporting a preference for the functional type NT.

Table 32. Comparison of JSPE empathy scores by functional type

Functional types	N	Percent	M	SD
Sensing with Thinking (ST)	15	28.3	110.33	9.14
Sensing with Feeling (SF)	13	24.5	115.69	10.90
Intuition with Feeling (NF)	16	30.2	122.06	6.69
Intuition with Thinking (NT)	9	17.0	116.44	11.27

Empathy. A one-way analysis of variance (ANOVA) was conducted with the four functional types, using the sum the JSPE empathy scores as the independent variable. A statistically significant difference was observed ($F = 4.082, p = .012$). Post hoc comparisons using Scheffé test indicated that the functional type ST had statistically significant ($p = .012$) lower empathy scores ($M = 110.33$) than the functional type NF ($M = 122.06$). No other statistically significant relationship was identified. Figure 8 provides a graph of the mean empathy scores by functional type.

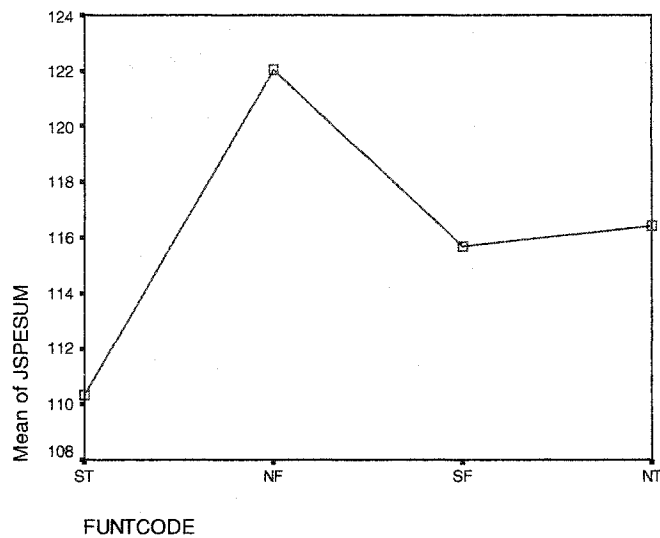


Figure 8. Mean empathy scores by functional types

Gender. Students' stated functional types were compared with their reported gender using a crosstabulation (Table 33 and Figure 9). Two cells (25%) had actual counts that were less than five. Since the result was equal to, but did not exceed, the maximum allowed low cell count (25%), the results were valid (Abrami et al., 2001). There was a larger than expected representation of females who also reported NF (81.3%) and SF (61.5%) functional type preferences, while males were under represented in both categories. High adjusted residual values also revealed the NF – female observation (2.7) while statistically significant lower adjusted residual values supported the SF – female results (.7). Additionally, a higher than expected number of males also reported ST (66.7%) or NT functional type preference (77.8%), while females were underrepresented in both preference areas. High residuals supported both results (± 1.8 and ± 2.0 , respectfully).

Table. 33. Comparison of four functional types and gender

Functional type	Gender		
	Male	Female	
ST	Actual	10	5
	Expected	7.1	7.9
	Percentage	66.7%	33.3%
	Percent of Total	18.9%	9.4%
SF	Actual	5	8
	Expected	6.1	6.9
	Percentage	38.5%	61.5%
	Percent of Total	9.4%	15.1%
NF	Actual	3	13
	Expected	7.5	8.5
	Percentage	18.8%	81.3%
	Percent of Total	5.7%	24.5%
NT	Actual	7	2
	Expected	4.2	4.8
	Percentage	77.8%	22.2%
	Percent of Total	13.2%	3.8%
	Adj. Residual	2.0	-2.0

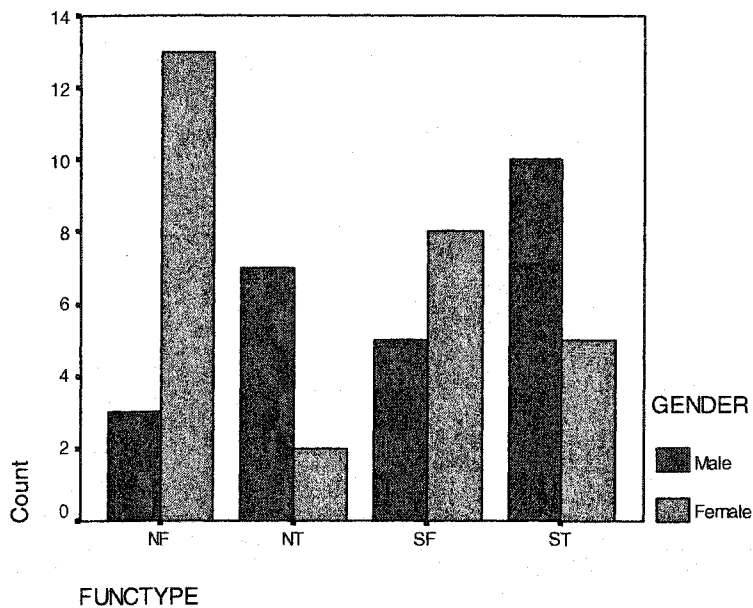


Figure 9. Comparison of four functional types and gender

The relationship did reach statistical significance ($X^2 = 11.253$, $df = 3$, $p = .01$), with a medium to large effect size (Cramer's $V = .461$, $p = .01$). Results indicated that females were more likely to report NF or SF functional type preferences, while males were more likely to report ST or NT functional type preferences.

Specialization. Student functional preferences were compared to the reported anticipated specialty, which were sorted into people- and technology-oriented categories. Four cells (50%) had expected counts less than five, which violates the expected cell count validity check for crosstabulations; therefore, this analysis is not recommended.

High adjusted residual values indicated that students anticipating a career within a technology-oriented specialty were more likely to report NT (3.4) preferences, and were less likely to report SF (-2.2) or NF (-1.9) functional type preferences (Table 34 and Figure 10). Similarly, high adjusted residual values indicated that students anticipating a career within a people-oriented specialty were more likely to report NF (1.9) or SF (2.2) functional preferences, and less likely to report NT (-3.4) preferences.

The relationship was statistically significant ($X^2 = 16.674$, $df = 3$, $p = .001$), with a large effect size (Cramer's $V = .556$, $p = .001$), signifying rejection of the null hypothesis and acceptance of the alternate hypothesis. Results suggested that students with Intuition with Thinking (NT) preferences were more likely to select specialties with more limited interaction with people, while students with Intuition with Feeling (NF) or Sensing with Feeling (SF) preferences were more likely to select specialties with an emphasis on interactions with people.

Table 34. Comparison of four functional types and students' anticipated specialization category

Functional type		Specialization	
		People-oriented	Technology-oriented
ST	Actual	10	5
	Expected	11.5	3.5
	Percentage	66.7%	33.3%
	Percent of Total	19.2	9.6%
SF	Actual	12	0
	Expected	9.2	2.8
	Percentage	100%	.0%
	Percent of Total	23.1%	.0%
NF	Actual	15	1
	Expected	12.3	3.7
	Percentage	93.8%	6.3%
	Percent of Total	28.8%	1.9%
NT	Actual	3	6
	Expected	6.9	2.1
	Percentage	33.3%	66.7%
	Percent of Total	5.8%	11.5%
	Adj. Residual	-3.4	3.4

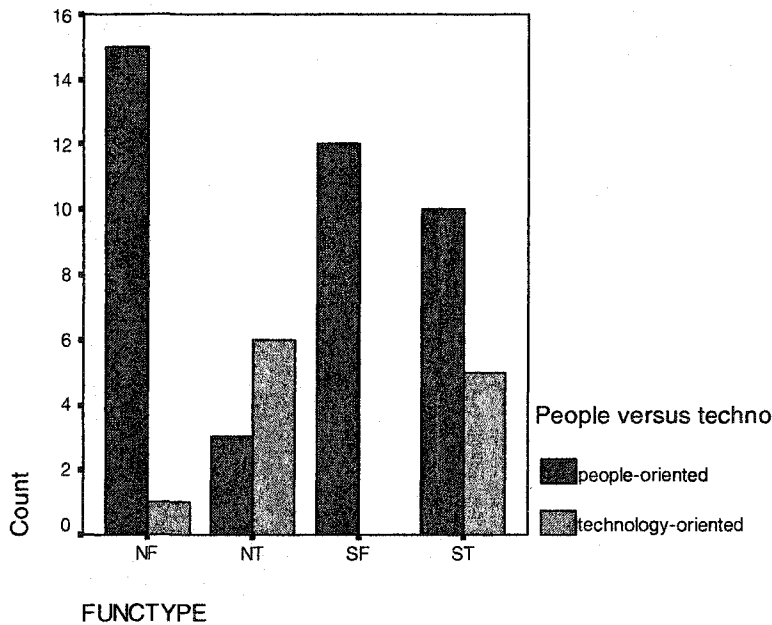


Figure 10. Comparison of four functional types and students' anticipated specialization category

One additional crosstabulation was conducted to ascertain the relationship of the gender and specialty categorization variables (Table 35 and Figure 11). The analysis did not produce a statistically significant result ($X^2 = 2.641$, $df = 1$, $p = .104$), which is also supported by low adjusted residuals (-1.6, 1.6).

Table 35. Student anticipated specialty selection (by category) and gender

		Specialization	
		People-oriented	Technology-oriented
Male	Actual	16	8
	Expected	18.5	5.5
	Percentage	66.7%	33.3%
	Percent of Total	30.8%	15.4%
	Adj. Residual	-1.6	1.6
Female	Actual	24	4
	Expected	21.5	6.5
	Percentage	85.7%	14.3%
	Percent of Total	46.2%	7.7%
	Adj. Residual	1.6	-1.6

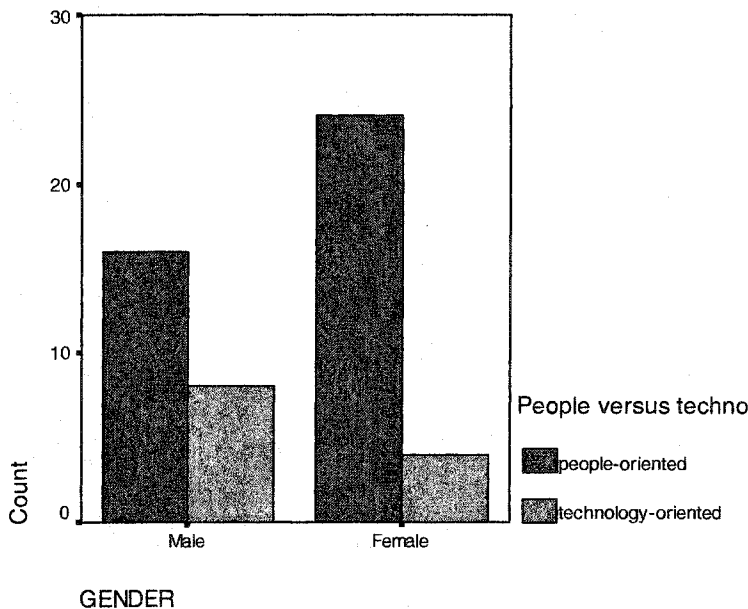


Figure 11. Student anticipated specialty selection (by category) and gender

Although analysis on the experimental group did not take place on the level of whole (four-letter) type due to the limited sample size, a type table was produced to demonstrate the overall representation of whole type within the experimental group (Table 36). The largest representation was for students reporting ISTJ preferences (nine students), followed by ESFJ and ENFJ preferences (six students in each). All but one whole type was represented in this sample, reinforcing an early observation made by Isabel Briggs Myers that, because medicine is a remarkably diverse field, “it has appeal for—and gains strength from—all psychological types” (cited in Stilwell et al., 2001, p. 15).

Table 36. Percent distribution of sample whole types on MBTI® Type Table ($n = 53$)

ISTJ 9 (17.0%)	ISFJ 4 (7.5%)	INFJ 3 (5.7%)	INTJ 3 (5.7%)
ISTP 3 (5.7%)	ISFP 2 (3.8%)	INFP 2 (3.8%)	INTP 2 (3.8%)
ESTP 3 (5.7%)	ESFP 1 (1.9%)	ENFP 5 (9.4%)	ENTP 3 (5.7%)
ESTJ 0 (0.0%)	ESFJ 6 (11.3%)	ENFJ 6 (11.3%)	ENTJ 1 (1.9%)

Summary

The five hypotheses introduced in Chapter 1 guided the analysis of data for this study.

In summary, Table 37 lists each hypothesis statement and result, whether or not the null hypothesis was supported by the analysis of the data.

Table 37. Summary of the hypotheses tests

Null hypothesis	Supported	Unsupported
1. There are significant differences in empathy scores between the experiment and control groups using the Jefferson Scale of Physician Empathy (student version).		X
2. There are significant differences in evaluation scores between the experiment and control groups using the Standardized Patient Feedback Form – Part II.		X
3. There are significant relationships between participant empathy scores and students'		
i. prior experience with the MBTI®,		X
ii. dual program enrollment,		X
iii. prior direct patient care experience,		X
iv. participant involvement in additional curricular interventions designed to enhance empathy,	X	
v. gender, or	X	
vi. anticipated specialty selection.		X
4. There are significant differences between study participant's Jefferson Physician Empathy scores and other medical students mean scores.	Conflicting results	
5. There are significant MBTI® type characteristic differences among experimental group participants and		
i. Four preference dichotomys:		
-JSPE empathy scores,	X	
-gender, and	X	
-anticipated specialty selection.	X	
ii. Functional type:		
-JSPE empathy scores,	X	
-gender, and	X	
-anticipated specialty selection.	X	

CHAPTER 5. SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

This chapter provides a brief summary of the study while addressing the implications of the findings and proposed changes for the College of Osteopathic Medicine at Des Moines University. Suggestions for further study are also provided.

Summary

Researchers agree that empathy has a significant effect on both clinical outcomes and in improving interpersonal relationships of physicians and their patients (Allen & Brock, 2000; Hojat et al., 2003; Ong et al., 1995). Benefits available to empathic physicians include a more successful practice, an increased ability to manage stress and stressful situations inherent with the physician-patient relationship, as well as, an improved level of satisfaction with their career choice (Allen & Brock, 2000; Fine & Therrien, 1977; Fishbein, 1999; Hausman, 2004; Halpern, 2001; Kim et al., 2004; Platt & Keller, 1994; Rogers, 1980). Medical educators agree that empathy and effective communication skills must be cultivated during medical education (Haidet et al., 2002; Halpern, 2001; Hojat et al., 2002a). However, numerous studies suggest that medical students' empathy declines as they progress in their didactic and clinical curriculum along with an increase in doctor-centered attitudes and an increase in moodiness, anger, and depression (Aswani, 2001; Benbassat & Baumal, 2004; Diseker & Michielutte, 1981; Feighny et al., 1998; Fine & Therrien, 1977; Haidet et al., 2002; Hojat et al., 2004; Kramer et al., 1987; Swansn-Fisher & Poole, 1978; Winefield & Chur-Hansen, 2000).

Despite some attempts to reverse the trend of depleting levels of empathy within the medical school population, there remains a need for a broad-based curricular program. Such

a program should be designed to enhance medical students' empathy on multiple levels (cognitive, affective, and behavioral), while enabling educators to assess the long-term effects and offering additional opportunities to enhance, refine, and reinforce the concepts delivered throughout the educational experience of students.

In addition, an opportunity to focus specifically on interpersonal communication skills also should be provided. Although viewed as separate yet integral skills in the demonstration of empathy, students must be provided opportunities to augment their interpersonal communication skills. The training method used, however, must provide a framework that enables practitioners to alter their approach based on the needs of the patient and the situation at hand—in other words, a highly prescriptive model does not enable enough flexibility to make its use practical in a health care setting. Finally, all interventions used to enhance the empathic skill of medical students should be cost-effective yet efficient, to fit within the compact schedules of today's medical students.

Purpose

The purpose of this true experimental, posttest-only control-group pilot study was to test the effect of FLEX Care™, an interpersonal communication training program designed specifically for direct patient care professionals with a group of second-year medical students, on its ability to enhance empathy. Further exploration of the relationship of select demographic characteristic and background experiences of students were also tested to determine their relationship with student empathy scores and standardized patients' assessment of student communication skill. Finally, the experimental group's psychological type preferences (using the four preference type dichotomies and functional type) were

analyzed to determine the relationship of empathy and student psychological type preferences. Results of the analysis will provide direction to decision-makers regarding curriculum development as the College of Osteopathic Medicine strives to prepare students for success in practice. Furthermore, results will add to the empirical knowledge related to enhancing empathy of future generations of physicians that will serve to support the changing health care system's needs.

Theoretical framework

The studies theoretical framework was based on the Center for Research in Medical Education and Health Care's (CRMEHC) operational definition of physician or clinical empathy:

A cognitive (as oppose to affective) attribute that involves an understanding of the inner experiences and perspectives of the patient, combined with a capability to communicate this understanding to the patient. (Hojat et al., 2003, p. 28)

The CRMEHC researcher's conceptualization of empathy in patient care situations serves as a basis for their instrument, the Jefferson Scale of Physician Empathy (JSPE). The definition emphasizes two key concepts that CRMEHC perceive to be the most significant in the construct of empathy in patient care situations: cognitive understanding and communication.

The experimental group's treatment was exposure to a new interpersonal communication training program researched and developed by Judy Allen and Susan Brock (2000). The FLEX Care™ program is an application of Carl Jung, Isabel Briggs, and Katherine Myers' theory of psychological type and the Myers-Briggs Type Indicator®. Allen and Brock (2000) combined their knowledge of type theory and their experience in delivering communication training to business and industry, higher education, and health

care setting, in the development of the FLEX Care™ health care communication model and training workshop for specific use with health care providers.

Major research questions

This study was designed to investigate whether FLEX care™ training would produce a significant, positive effect on the JSPE empathy scores of the experimental group participants when compared with the control group participants. A second posttest was added to measure the impact of the training on standardized patients' assessment of student communication skills. Several control variables were also collected and tested to determine if demographic or extra curricular experiences might influence the validity of the posttest results. Experimental group results were used to compare psychological type preferences with student empathy levels, gender and medical specialization. Finally, study results were then compared against medical school samples available in the literature in an effort to identify consistencies with this medical school population in regards to levels of empathy and type preferences.

Procedures

Study participants completed an application and questionnaire shortly after the close of participant recruitment, which enabled the collection of the demographic and control variables. Additionally, experimental group participants completed the MBTI® and then attended an eight-contact-hour interactive workshop on the Health Care Communication in FLEX Care™ model. Student participant empathy levels were measured using the student version of the Jefferson Scale of Physician Empathy (JSPE) that measures the orientation or attitudes of medical students toward physician empathy in patient-care situations. An

evaluation form (Standardized Patient Evaluation Form-Part II) completed by each student's standardized patient, was also used to measure a simulated patient's perception of the student's communication skills.

Data analysis

Independent samples t-tests and Pearson's product moment correlations were conducted to determine the relationship between the control variables and two posttest measures: empathy and communication skills assessment scores. Follow-up one-way analysis of variance (ANOVA) were used to compare item-level empathy scores when statistically significant differences were identified. Text analysis was performed on the workshop evaluation forms as well as an open-ended question added to the JSPE asking students to comment on the topic of the study. Finally, the experimental group's MBTI® type preferences were compared with student empathy scores using one-way ANOVAs and gender and anticipated medical specialization were compared using crosstabulations and chi-square analysis.

Summary of findings

Several significant findings were identified following the analysis of data. First, although the study treatment did not observe an increase in overall (sum total) empathy scores among experimental group members (as compared to the control group), results from the text analysis of the training program evaluation form and the open-ended question added to the JSPE, consistently supports that student participants improved their:

- ability to appreciate differences in others;
- need to accommodate these differences through “flexing” their communication style; and

- understanding of their own preferences and preferred style of communication.

Although statistically significant differences were observed on select items of the JSPE, no statistical significance was detected on most of the control variables (prior experience with the MBTI®, dual degree program enrollment, direct patient care experience, participant enrollment in medical school electives) and study participants total empathy scores. However, a couple of exceptions were noted: First, despite efforts to control for gender by stratifying the sample, a very strong statistically significant effect was observed. Female study participants appeared to consistently score higher than their male counterparts in their total, as well as several item-level, empathy scores. Second, the Standardized Patient Feedback Form – (Part II) posttest observed statistically significant interactions between sum and item scores and two control variables: student gender and the COM elective, *The Geriatric Experience*. Results suggested that female students are more likely than male students to perceive the importance of empathy in the physician-patient relationship as well as receive higher communication assessment scores from their standardized patients during their Standardized Patient Assessment Lab (SPAL). Additionally, student participants who also enrolled in *The Geriatric Experience* COM elective appeared to have received higher assessment scores from their SPAL patients than non participants.

A comparison of participants' mean empathy scores with the results of two other published studies produced what appeared to be conflicting results. A large longitudinal sample mean score comparison highlighted statistically significant higher empathy scores within this study's sample, while a comparison with a smaller sample of third-year students, produced the opposite result. Similar conflicting results were also uncovered in a comparison of empathy scores by gender with a very large sample of practicing physicians and the same

sample of third-year medical students reported previously. Overall, this group of second-year osteopathic medical students' mean empathy scores appeared to be similar to or higher (at a statistically significant level) than the mean empathy scores of a larger sample.

Finally, a comparison of the experimental group's MBTI® type preferences (using the four preference dichotomies and functional type) with empathy scores, gender, and medical specialization produced several statistically significant findings:

The four preference domains

- Three of the four preference domains indicated significant differences in JSPE sum empathy scores. Overall, student participants reporting a preference for Extraversion, Intuition, and Feeling appeared to have higher empathy scores. No statistical significance was detected between empathy scores and the Judging and Perceiving preference.
- It was found that male medical students more often demonstrated a preference for Thinking, while female medical students more often demonstrated a preference for Feeling.
- Another observation was noted between the T-F domain and student's anticipated area of medical specialization. Students with a preference for Feeling were more likely to select a specialty within the people-oriented category, while students with a preference for Thinking were almost equally split between specialties in either the people- or technology-oriented categories.

Functional type

- A comparison of student's functional types and JSPE sum empathy scores revealed that students with a preference for Sensing with Thinking (ST) were likely to have lower empathy scores than students reporting a preference for Intuition with Feeling (NF).
- Study results also showed a significant relationship between functional type and gender. Female medical students, within this sample, were more likely to report Intuition with Feeling (NF) or Sensing with Feeling (SF) functional preferences, while males were more likely to report functional preferences of Sensing with Thinking (ST) or Intuition with Thinking (NT).
- Finally, although an assumption of analysis was violated, a significant result was observed between anticipated area of specialization and functional type. Medical students with an Intuition with Thinking (NT) preference were more likely to select specialties within the technology-oriented category, while students with a

preference for Intuition with Feeling (NF) or Sensing with Feeling were more likely to select specialties within the people-oriented category.

Conclusions

This study began with five questions that required an understanding of the concept of empathy and the role empathy plays in the success of a physician. An exploration of the literature surrounding empathy within the context of the physician-patient relationship enabled the development of a more thorough understanding of what is currently referred to as “physician” or “clinical” empathy. A reference of physician or clinical empathy draws attention to a conceptualization that embraces the unique and highly desired relationship that exists between empathic physicians and their patients.

Understanding physician empathy

Empathy, despite its somewhat casual reference in the medical community, is a difficult concept to understand and, therefore, influence medical curricula. This difficulty, in part, stems from the synonymous use of the term with a number of individual characteristics or abilities an empathic physician may display, as well as, an overall shift in the conceptualization of the term and the skills that it embraces, and its growing significance in the practice of medicine today. Similarly, researchers have had a difficult time reaching consensus on an operational definition of empathy within the medical environment, limiting the advancement of proven curricular interventions or even the accurate measurement of student empathy levels.

There is unanimous support from medical school oversight groups, medical school administrators and faculty, and from patients and patient advocate groups, for the

development of physicians who can and will demonstrate empathy in their clinical encounters (Accreditation Council for Graduate Medical Education, 2005; American Osteopathic Association [AOA], 2004; Association of American Medical Colleges [AAMC], 2004; Duffy et al., 2004). This support has allowed researchers to arrive at a consensus that physician empathy is a complex, multidimensional skill incorporating the cognitive, affective, and behavioral domains of an individual's psychological make-up. However, there appears to be continued disagreement surrounding the role of *affective empathy* and inconsistencies in the role *self awareness* plays in limiting the risks associated to affective empathy [emphasis added]. A more contemporary conceptualization of this illusive yet highly desired skill in physicians was developed by this researcher from a review of the literature:

Empathic physicians strive to understand and accept the inner experiences of another person; through an interpretive process of imagining how it feels to experience their reality; while also maintaining their own separate "staying aware," "as if," or "de-centering" posture; striving to help, not just listen; and finally, to engage in a safe and open process of discovery through effective communication that is based on the needs (or preferences) of the patient.

While this new definition does embrace all three domains of empathy, it does not address the critical role of self-awareness. Throughout the literature, many authors briefly introduce, yet few emphasize, the underlying foundational characteristic within all truly empathic physicians—their ability and their discipline to first know-self (Allen & Brock, 2001; Fishbein, 1999; Rogers, 1980; Shapiro, 2002; Spiro, 1992). A healthy awareness of self, serves the physician (as well as the student physician) in three ways. First, self awareness (i.e., one's individual strengths, weaknesses, biases, etc.) serves as a baseline for a physician's ability to understand and effectively interactive with others whose perspectives

vary or differ from their own (Allen & Brock, 2001). In other words, one cannot embrace the uniqueness or individuality of another person, if one does not know to whom one is comparing another. Second, a healthy awareness of self protects the physician from over identification with the patient's condition or reality (Halpern, 2001; Rogers, 1980). Or, an awareness of self provides the "as if" or "staying aware" protection as an empathic physician attempts to leave his or her own frame of reference and enter the world of the patient. Finally, an awareness of self is the prerequisite for any meaningful effort to develop self (Allen & Brock, 2001; Myers et al., 1998; Rogers, 1980). The development of empathy requires an accurate assessment of the skills required of empathic physicians along with the genuine desire and commitment to improve those skills.

Study participation

Despite limited incentives to participate, this volunteer sample experienced no attrition once the treatment or training program began. Combined with the enthusiastically supportive comments from the workshop evaluations, it appeared that the FLEX Care™ training fulfilled a need or sparked an interest in the training group participants. This group of second-year medical students demonstrated their interest in and overall desire to be effective communicators by their continued participation and engagement in the workshop material despite many competing demands on their schedule.

Empathy enhancement

The primary research question of this study was to determine if the FLEX Care™ training produced a statistically significant difference between the experimental and control groups on overall (total) student empathy scores. Hojat et al. (2002b) examined the

underlying factors (components) of the JSPE instrument using an exploratory factor analysis. Three meaningful factors were produced categorizing the 20 items of the JSPE. First, the grand factor of “perspective taking” was represented by 10 items; the second factor was labeled “compassionate care;” and finally, the third factor was labeled “ability to stand in the patient’s shoes” (Table 38).

Table 38. Components of JSPE and representative empathy domain

Empathy domain	Component	Item
<i>Cognitive</i>	1. “Perspective taking”	No. 2, 4, 5, 9, 10, 13, 15, 16, 17, and 20
<i>Affective</i>	2. “Compassionate care”	No. 1, 7, 8, 11, 12, 14, 18, and 19
<i>Behavioral</i>	3. “Ability to stand in the patient’s shoes”	No. 3 and 6

Findings by Hojat et al. (2002b) reinforce the multi-dimensional nature of empathy. The review of the literature provided in Chapter 2 further indicated that to be perceived as empathic involves the integration of cognitive, affective, and behavioral skills. This researcher assigned components by Hojat et al. to each of the three domains of empathy based on the following [emphasis added]:

- “Perspective taking” is the ability to understand the reality of another person, therefore representing *cognitive* empathy.
- “Compassionate care,” represents the “emotions in patient care” (Hojat et al., 2002b, p. 1565), therefore supporting the *affective* domain of physician empathy.
- And finally, the “ability to stand in the patient’s shoes” embraces the action of the physician to move beyond understanding and toward the needs of the patient or the *behavioral* domain of empathy.

In further review of the item analysis results of this study, one of the items of the JSPE reached statistical significance ($p < .05$) with the experimental group scoring higher than the control group. This item (question 6) fell within the third factor of the JSPE scale.

Although a statistically significant effect was not observed on overall empathy scores, as originally hypothesized, a statistically significant higher score was observed within one of the two items comprising the “ability to stand in the patient’s shoes” component of the JSPE. This substantive finding suggested that the training intervention successfully produced a difference within the behavioral domain of empathy. Students participating in the FLEX Care™ workshop appeared to have developed a higher perception or better attitude regarding the importance of physicians demonstrating empathy through effective communication with their patients.

This particular finding, although limited in its overall scope, should not be overlooked. Behavioral empathy, after all, encompasses the physician’s *ability or effort to move* [emphasis added] past understanding or feeling the patient’s situation (cognitive and affective empathy)—towards the individual needs of the patient. FLEX Care™ training seems to have provided a framework to recognize and understand differences (Four Part Framework®) while providing a mechanism (FLEX Care™ communication in health care model) to help participants move past their understanding of, towards meeting the needs of, the patient.

Further analysis of the results of the training evaluation and JSPE open-ended question highlighted the prior findings (understanding differences and a desire to effectively communicate with patients), while more than half of the training group participants further emphasized the value they associated with the opportunity to learn more about themselves.

Prior attempts to enhance empathy using communication or interpersonal communication training were reviewed in chapter two. As mentioned, these studies employed a variety of research methods as well as a variety of training programs with

differing theoretical foundations. Comparatively, this study used more senior students (second year); the sample size fell in the higher end of the range of reported studies; a posttest-only design using an new empathy assessment measure designed specifically for use with medical students (JSPE); a total of eight contact hours—one-third to almost one-half less than the reported studies; a variety of teaching methods (instruction, video, small group discussion) but no formal student assessment; and a flexible communication model for practical use in a health care setting (FLEX Care™). The differences noted could have impacted the treatment program's ability to produce measurable differences between participant and non-participants.

Other influences on empathy development

Significant observations made between several control variables and posttest results further highlighted the development or decline of empathy and communication skills in medical students.

Direct patient care experience. Interestingly, the results signified that there was a negative relationship between student participants' direct patient care experience and their empathy and SPAL assessment scores, although no significant effect was observed on the total scores of either instrument. In other words, students reporting direct patient care experience demonstrated lower empathy and SPAL communication performance scores on the several items as noted in Chapter 4. This finding suggests that prior direct-patient experience may negatively impact student empathy development or performance with the SPAL assessments versus the original belief that this experience would give these students an advantage within the Flex Care™ training workshop and perhaps signify higher pre-existing

levels of empathy. Instead, it is likely that students within this study who had direct patient care experience may have started the training program with empathy and overall communication skills lower than those without this experience. This finding is consistent with that of Mangione et al. (2002), who observed that JSPE empathy scores declined as medical residents progressed in their clinical training, although not at a statistically significant level. Hojat et al. (2004) reported statistically significant declines among medical students during their clinical education, while a study by Haidet et al. (2002) concluded that attitudes of students in their later years of medical school were more doctor-centered versus patient-centered. It is possible, therefore, that an increase in exposure to patients results in declining levels of empathy. Reasons for this decline are beyond the scope of this particular study; however, when combined with the findings presented on a contemporary understanding of physician empathy and the impact of the treatment workshop on behavior empathy, student encounters with patients (even prior to medical school) without an appreciation of differences, the availability of a model to interact with others based on their preferences, and a healthy awareness of self, may negatively impact their levels of empathy. Further research is needed, as previously mentioned, to test this hypothesis although findings in the current study have added insight into the possible effect of direct patient care prior to medical school on student empathy levels.

Another interesting observation was that the two posttest instruments, JSPE and the Standardized Patient Feedback Form (Part II), did not indicate a statistically significant correlation when compared with each other. This finding contradicts findings reported by Colliver et al. (1998), who concluded that empathy scores can predict clinical competence

ratings to a significant degree (Hojat et al., 2003), yet supported the previous conclusion that interpersonal communication skills likely impact empathy instead of the reverse.

COM Electives. Another control variable was student participation in elective courses offered through the College of Osteopathic Medicine (COM). Although topics, length of the experience, and assessment vary, all courses are extensions of the current curricula. These courses are electives, and medical students are encouraged but not required to participate or enroll, although successfully completed electives are recorded (not for credit) on the student's transcript. Elective courses are a recent addition to the medical school curricula and were initiated by the dean and administration to broaden the experience or exposure of the medical student to other aspects of medicine (Hills, personal communication, February 7, 2005). The most popular elective within this sample was the *Chronic Care/Community Osteopathic Professional Education (C.O.P.E.)* Program. The C.O.P.E. Program is an elective program that is relatively new (initiated in February 2004) and specifically added to help students develop an understanding of illness through the eyes of a chronically ill patient and their family, which was introduced in chapter two as a method to enhance student empathy. Surprisingly, a statistical significance was not observed between the total sum scores of either the JSPE or Standardized Patient Feedback Form (Part II) and student participation in this program. Although the newness and limited exposure of students to the program objectives may explain the lack of evidence to support the effects of this new program, this finding also supports the critical role of interpersonal communication skill in the development of behavioral empathy and the foundational role self awareness serves in the enhancement of empathy in medical students. Although outside the scope of this study, further research is needed to determine the long-term effect of the C.O.P.E. program on

student empathy; however, control group JSPE scores will serve as a baseline for future research.

A strong, positive, statistically significant relationship was detected between students' participation in *The Geriatric Experience* elective and their performance on the SPAL communication skill assessment. Potential reasons for this are not known and are beyond the scope of this study; however, further investigation indicated that the average age of the standardized patients used to support the SPAL data collected was 60 (R = 27-78) (Gordley, personal communication, February 16, 2005). It is, therefore, likely that this elective experience sensitizes students in their interactions with an older patient population thereby resulting in higher patient assessment scores. Findings will be shared with the course faculty and medical school administration for further analysis.

Gender. Perhaps the most significant finding within the control variables was the strong relationship between student participant gender, and empathy scores (JSPE) and assessed communications skills (Standardized Patient Feedback Form-Part II). Female students consistently outscored male students on both posttest measures at the item and total score level. Consistent with findings reported in the reported literature, female medical students and practicing physicians time and again reported higher empathy scores than males (Haidet et al., 2002; Hojat et al., 2002a; Hojat et al., 2003). This study's sample was not able to support an earlier conclusion by Hojat et al. (2003) that differences were observed in favor of women on items comprising the "perspective taking" component of the JSPE.

Female students also received statistically significant higher scores on their Standardized Patient Feedback Form (Part II) when compared to their male counterparts. It is important to acknowledge the importance of this particular finding since the scores recorded

from this instrument are not the student's assessment of their performance or their attitude of the importance of communication with their "patient" (as is the JSPE score), but this score is the "patient's" assessment of the student's actual performance during a simulated physician-patient encounter. Mangione et al. (2002) referred to this type of assessment as the "gold standard" (p. 372); after all, the patient's perspective is the final judge of whether the patient views the physician or medical student as empathic or a skilled communicator (Hojat et al., 2003), not medical educators or the students themselves.

Although the findings of this study were very consistent with conclusions drawn throughout the literature, research has yet to suggest why there are gender differences in empathy (Hojat et al., 2003). Further research is needed to learn more about the gender gap in medical student empathy development. Findings could play a significant role in curricular developments undertaken to encourage the development of male and female empathic physicians.

Specialty selection. Although researchers at the CRMEHC have repeatedly identified statistically significant differences between empathy total and item scores and student (and practicing physician) specialty, this study was unable to replicate their findings. The likely cause for this finding is the lack of power available for this statistical test or the positively skewed distribution of the dichotomous variable: "student anticipated specialty selection."

Comparison of empathy scores across medical schools

Comparing the results of this study with results available in the literature can offer insight into how this group of second-year osteopathic medical students' empathy scores

compare with those of other medical students. These differences can highlight deficits or surpluses among groups of students, academic curricula, geographic region, etc.

Descriptive statistics provided by the CRMEHC of a large-longitudinal sample highlighted statistically higher mean empathy scores of this study's sample while further comparison with one other reported study produced conflicting results. Similar findings resulted from a comparison of empathy scores by gender between medical students at two separate institutions. Finally, this sample's medical students' empathy scores by area of anticipated specialization were consistent with a large sample of practicing physicians, although the results did not reach statistical significance. Overall, few opportunities to compare sample scores exist at this time due to the limited availability of the JSPE (the first publication of the JSPE was in 2001) to researchers of empathy; however, this group of second year osteopathic medical student's empathy scores appear to be similar to or higher than (at a statistically significant-level) larger samples available in the literature.

Medical students and psychological type

The final research question of this study explored the relationship of the experimental group's type characteristics to empathy levels, gender, and medical specialty selection while also providing an opportunity to compare the characteristics of this sample with other samples available in the literature.

Empathy. Three of the four preference domains observed statistically significant differences in JSPE empathy scores. Overall, students with a preference for Extraversion, Intuition, and Feeling were more likely to have higher total empathy scores than students demonstrating a preference for Introversion, Sensing, and Thinking. Furthermore, students

reporting the functional type Sensing with Thinking (ST) were more likely to report lower empathy scores while students with a preference for Intuition with Feeling (NF) generally reported higher empathy scores.

While determining why these preferences may have higher or lower empathy levels is beyond the scope of this study, this finding has profound implications to medical educators. If a goal of medical education is to produce empathic students, should admissions committees aim to admit students with a preference for Extraversion, Intuition, and Feeling? As discussed in chapter two, this practice (whether implicit or explicit) would violate the ethical use of the MBTI®. Furthermore, Isabel Myers emphasized that any complex task needs the expertise of all kinds of people; therefore, no type should be ruled out of an occupation, based on type alone (McCaulley, 1978). Myers' conclusion reminds medical educators that, "medicine is a remarkably diverse field—it has appeal for—and gains strength from—*all* psychological types" [emphasis added] (cited in Stilwell et al., 2001).

Direction on the practical use of this study finding was first introduced in Chapter 3 with Jung's theory of psychological type. This theory stressed that individuals use all four processes (E-I, S-N, T-F, J-P), but that an individual's preference is reflected by the emphasis and order in which the processes are used (Allen & Brock, 2001). In other words, an individual's four-letter type indicates their *preference* not their *ability* to use all the process. Furthermore, type preferences are not static but, instead, are dynamic. The best development of self involves first discovering one's natural preferences and then further developing the preferred functions through meeting challenges with a personal determination to grow. Continued growth and development throughout life, comes from a greater appreciation of, and command over, all functions (McCaulley, 1978). In essence, psychological type theory

includes a model of lifelong development that is guided by honest self assessment (Myers et al., 1998).

Therefore, medical educators should strive to recruit students with a healthy sense of self who are willing to embark on a journey of self-development along with the development of their technical knowledge and skill. Once admitted, they need to provide their students an opportunity first to learn and practice their preferred functions, and then to provide follow-up opportunities for students to develop a greater appreciation and use of all functions. After all, Myers' goal in using the MBTI® in medical education was to find ways for students of all types to improve their command of perception (Sensing or Intuition) and judgment (Thinking or Feeling) as part of their *formal* professional training [emphasis added] (McCaulley, 1978).

The first and foremost objective of the FLEX Care™ program is to promote self-discovery. Participants learn more about themselves, their preference for communication, how their preference might vary from the needs and wants of others, and what they can do to enhance the quality of communication and interactions with others in a nonjudgmental way. The introduction of type development theory or the theory of natural hierarchy of functional types provides participants direction on managing the stress and potential extreme stress of not only their patients (breaking bad news) but within their own lives. In addition, they learn that they can develop their least developed functions, through focused effort. These program objectives coincide with the challenges outlined for medical educators for the continued use of psychological type theory within medical school curricula. In addition, the results from the training program evaluation support to the students achievement of these objectives.

The FLEX Care™ workshop combines two of the methods published in the literature that medical educators have used to enhance empathy: self-exploration and interpersonal

skills training. No other training or treatment was identified that combined these two methods. In addition, a search for comparative data within the literature was unsuccessful, emphasizing the need for additional research on medical student psychological type and empathy levels.

Gender. The resulting gender make-up of this sample mirrored current trends exhibited in the overall medical school population. Stilwell et al. (2001) reported an increase of female representation from 6% in the 1950s to 40% in their 1980s – 1990s sample. Clack et al. (2004) reported even higher rates of women graduates in their study sample (51%). Overall, this study's findings support the trend that females are increasingly entering and completing medical school in both the U.S. and U.K. (see Table 1 for a summary of gender trends and psychological type characteristics within medical school populations available in the literature).

Comparison of the four preference domains and student participant gender (for the experimental group only) highlighted only one statistically significant difference between student type and gender. Results suggest that male medical students more often demonstrate a preference for Thinking, while female medical students almost three out of every four times will demonstrate a preference for Feeling. Similar results were found by Stilwell et al. (2001), who observed males more likely demonstrating a preference for Thinking and females more likely demonstrating a preference for Feeling within their 1980s – 1990s data set. Stilwell et al. also noted that this pattern of gender differences and the T – F dichotomy is typical within the general population. Stilwell et al. offered the following conclusion:

It is likely that women who entered medicine earlier had to be more like men on this dimension (more tough-minded thinking types) to feel comfortable and accepted in what was, at the time, a very male dominated

field...Perhaps a critical mass has been reached so that all types of women feel comfortable entering medicine. (p. 19)

Not surprisingly, a comparison of functional type preferences and student gender, observed significant differences between functional types on their judging (basing decisions) preference. Findings indicated that females are more likely to report Intuition with Feeling (NF) or Sensing with Feeling (SF) functional type preferences, while males are more likely to report Sensing with Thinking (ST) or Intuition with Thinking (NT) functional type preferences.

As suggested previously, further exploration into why females report higher preferences for Feeling or why there is a dramatic shift in the overall representation of women within medical profession was beyond the scope of this study. Further research, however, into this phenomenon might provide insight on the apparent gap in empathy levels between genders and what can be done to narrow the gap.

Anticipated medical specialization. Statistically significant observations were limited to the T – F dimension when comparing student anticipated medical specialization with people- or technology-oriented specializations. This study's finding highlights that students with a preference for Feeling were more likely to select careers within people-oriented specialties, while students with a preference for Thinking were more likely to select careers within technology-oriented specialties. Similar findings were reported by Stilwell et al. (2001) who concluded that medical students selecting specialties within primary care (equivalent to people-oriented) are more likely to report preferences for Feeling; however, students reporting preferences for Thinking selected specialties within primary and non-

primary care (equivalent to technology-oriented) at about the same rate. Stilwell et al. also reported a significant difference on the E – I dichotomy that was not supported by this study.

A comparison of medical specialty with student function type highlighted one additional finding. Results suggest that students with an Intuition with Thinking (NT) preferences are more likely to select specialties with more limited interaction with people (technology-oriented), while students with Intuition with Feeling (NF) or Sensing with Feeling (SF) preferences are more likely to select specialties with an emphasis on interactions with people (people-oriented). This finding is not a surprise, in that people-oriented specialties offer relationships between physician and patient that are not as readily available in technology-oriented specializations. Stilwell et al. (2001) offered, “the continuity with patients and the nurturing role of the family physician [people-oriented] would be appealing to those with a feeling preference” (p. 19).

Interestingly, Stilwell et al. (2001) did not report student specialization (primary versus non-primary) by functional types, but commented, “No interactive combination of the four dimensions was either necessary or useful in predicting [specialization] choices” (p. 19). Instead, Stilwell et al. remarked, “a key finding is that gender was the strongest predictor in the model” (p. 16). This study, however, was unable to support the findings of Stilwell et al..

Psychological type theory can, therefore, provide students insight into whether their type “fits” their choice of specialization. Again, Stilwell et al. (2001) warned:

Although type should never be the determining factor in specialty selection, it may be used to ascertain if the students’ type will be representative of, or underrepresented in, their chosen specialty... It is important to note that all types and both genders are represented in all specialties. (pp. 20 and 17)

Type trends in medical education

The use of the MBTI® within medical schools has a long and rich history as it offers educators and students themselves practical insight into how normal preferences influence the process and outcome of educational endeavors. Four important processes that can be monitored by medical educators can be greatly influenced by student type preference (McCaulley, 1978, p. 5-7):

1. *Selection* (What aspects of medicine attract each type? What are the effects of type on selection criteria? What is the effect of type on those admitted or rejected?);
2. *Training* (What requisite skills are already acquired versus those that need additional training to develop? What are the implications of type and success with various instructional or assessment methods? What is the relationship between type and readiness to learn specific tasks, information and professional attitudes?);
3. *Career planning* (How do types differ in the timing, manner and outcome of career decision making?); and,
4. *Professional practice* (How do types differ in the manner of practice, choice of work setting, and satisfaction and competence in their field?).

A review of student psychological type trends can provide insight into the status of the medical educator's ability to attract all MBTI types, and highlight further implications on the selection and training of students admitted while preparing students for success in their career planning and professional practice of students admitted. Table 39 offers a comparison of the type data available from Isabel Myers original study of medical graduates prior to the 1950s; Myers and McCaulley's (1978) study of sample of medical students from the 1960s – 1970s; samples of medical students from the 1980s – 1990s (Clack et al., 2004; Stilwell et al., 2001); and the results of this study. Further discussion follows.

Table 39. Comparison of sample type characteristics and those of other studies of medical students

Years	Researcher	Sample (N)	All medical student type characteristics	Type characteristics by gender	
				Men	Women
Up to 1950s	Meyers	5,355 from 45 medical schools	<ul style="list-style-type: none"> ■ Dominant: <ul style="list-style-type: none"> ▪ "E" (51%) ▪ "N" (53%) ▪ "T" (54%) ▪ "P" (53%) 	<ul style="list-style-type: none"> ■ 94% of total ■ Dominant: <ul style="list-style-type: none"> ▪ "E" (51%) ▪ "N" (52%) ▪ "T" (55%) ▪ "P" (54%) 	<ul style="list-style-type: none"> ■ 6% of total ■ Dominant: <ul style="list-style-type: none"> ▪ "E" (52%) ▪ "N" (67%) ▪ "F" (58%) ▪ "J" (60%)
1960s-1970s	Myers & McCaulley	5,982 all students 3,024 for gender characteristics	<ul style="list-style-type: none"> ■ Dominant: <ul style="list-style-type: none"> ▪ "I" (52%) ▪ "N" (61%) ▪ "F" (57%) ▪ "J" (58%) 	<ul style="list-style-type: none"> ■ 81% of total ■ Dominant: <ul style="list-style-type: none"> ▪ "I" (54%) ▪ "N" (61%) ▪ "F" (55%) ▪ "J" (58%) 	<ul style="list-style-type: none"> ■ 19% of total ■ Dominant: <ul style="list-style-type: none"> ▪ "I" (51%) ▪ "N" (66%) ▪ "F" (61%) ▪ "J" (58%)
1980s-1990s	<ul style="list-style-type: none"> ■ Stilwell et al., 2001 ■ Clack et al., 2004 	3,987 students in U.S. 313 graduates in U.K.	<ul style="list-style-type: none"> ■ Dominant: <ul style="list-style-type: none"> ▪ n/a ▪ n/a ▪ "T" (55%) ▪ "J" (59%) ■ Dominant: <ul style="list-style-type: none"> ▪ "I" (53%) ▪ "N" (51%) ▪ "T" (64%) ▪ "J" (68%) 	<ul style="list-style-type: none"> ■ 60% of total ■ Dominant: <ul style="list-style-type: none"> ▪ n/a ▪ n/a ▪ "T" (62%) ▪ n/a ■ 48% of total ■ Dominant: <ul style="list-style-type: none"> ▪ "I" (61%) ▪ "N" (55%) ▪ "T" (81%) ▪ "J" (64%) 	<ul style="list-style-type: none"> ■ 40% of total ■ Dominant: <ul style="list-style-type: none"> ▪ n/a ▪ n/a ▪ "F" (57%) ▪ n/a ■ 52% of total ■ Dominant: <ul style="list-style-type: none"> ▪ "E" (54%) ▪ "S" (54%) ▪ "F" (53%) ▪ "J" (72%)
2004	■ DMU sample	53 second year medical students in U.S.	<ul style="list-style-type: none"> ■ Dominant: <ul style="list-style-type: none"> ▪ "I" (53%) ▪ "S" (53%) ▪ "F" (55%) ▪ "J" (60%) 	<ul style="list-style-type: none"> ■ 47% of total ■ Dominant: <ul style="list-style-type: none"> ▪ "I" (64%) ▪ "S" (60%) ▪ "T" (68%) ▪ "J" (52%) 	<ul style="list-style-type: none"> ■ 53% of total ■ Dominant: <ul style="list-style-type: none"> ▪ "E" (64%) ▪ "N" (54%) ▪ "F" (75%) ▪ "J" (68%)

n/a = data not available

Findings identified in this study are shared in light of general trends available in the literature regarding the type characteristics of medical school populations. Trends that have reached a level of statistical significance have been limited to the T – F and J – P dichotomies. The discussion begins with the preference domains followed by functional types.

The Four Preference Domains. There were slightly more student participants in this sample with a Judging preference than Perceiving, which is consistent with trends observed in medical school populations since the 1960s – 1970s (Clack et al., 2004; Stilwell et al., 2001; McCaulley, 1978). Higher representation of Judging preferences (versus Perceiving) may reflect the increased use of objective performance measures (i.e., GPA, MCAT, etc.) for admissions criteria (McCaulley, 1978) and the increase use of technology and information in the practice of medicine. Physicians in the 1950s used more perceiving skills to examine and diagnose, whereas today's physicians order tests and then interpret results rather than relying on more inductive processes. The amount of bureaucracy, paperwork and organizational involvement necessary to practice medicine today may also be associated with an increase in the Judging preference (Stilwell et al., 2001).

Interestingly, slightly over half of this student sample had a preference for Feeling, which is contrary to the current trend provided in two of the most recent studies. Both Stilwell et al. (2001) and Clack et al. (2004) observed a higher representation of students with a Thinking preference. The increase in Feeling preferences within this sample may reflect the presence of more females who are more likely to have a preference for Feeling (McCaulley, 1978; Stilwell et al., 2001). Stilwell et al. concluded that “the increase in feeling types in the 1960s – 70s sample may reflect the culture of the period, which was, perhaps,

more idealistic and service-oriented than either the earliest [1950s – 1960s] or present [1980s – 1990s] cultures” (p. 19).

Functional type. Representation of the functional types within medical students were reported by Clack et al. (2004) who observed a near even split between students with ST and NT functional preferences with less representation of students with NF and SF functional types. Similarities exist between the two samples and the representation of the ST and SF functional types; however, differences are apparent between the functional types NF and NT (Figure 12). Almost one-third of this sample was represented by students with NF preferences with less than one-fifth of students reporting a preference for the functional type NT. Similarly, almost one-third of Clack et al.’s sample was represented by students with NT preferences with less than one-fifth of students report preferences for the NF functional type.

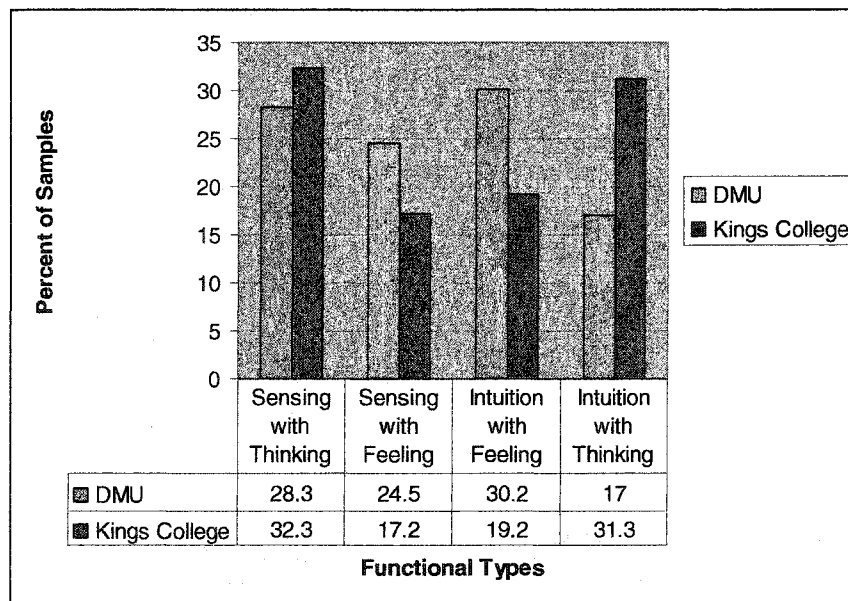


Figure 12. Comparison of functional types between this sample (N= 106) and Kings College (N = 313)

Overall, the sample in this study seemed to have a higher representation of students reporting a preference for Feeling when compared with the findings of Clack et al. (2004) and Stilwell et al. (2001). Since both samples had a similar representation of males and females, this observation could possibly reflect a difference in student selection processes (selecting students with a preference for Feeling over Thinking) between this medical school and others. Further study of this potential practice should be conducted noting Myers' earlier warnings.

The findings of this study demonstrated the usefulness of psychological type theory and the MBTI® to medical educators. Medical schools interested in preparing students for success in their education and chosen careers, can benefit greatly from the tracking of student type preferences and determining the effect of these preferences on the measures outlined previously (selection, training, career planning, and professional practice). Insight on the psychological make-up of incoming classes of students, while recognizing longitudinal trends, can prepare administrators and faculty to best train their students for professional success in practice and personal success in life. Furthermore, McCaulley (1978) reminded medical schools of their vital role in training future health care providers:

Myers' research with medical and nursing students stemmed from her belief that the life-and-death decisions in the health professions require the best use of perception and judgment, both for the sake of the patient, and for the sense of adequacy in the professional. (pp. 14-15)

Limitations

Several limitations to interpretation of the findings in this study are noted as follows:

- The sample used to support this study consisted of 106 second-year medical students, approximately 13% less than the desired sample size of 130. It is possible that the

shortfall in the number of sample participants resulted in the lack of statistical power needed to generate further findings.

- The FLEX Care™ training program was designed for use with experienced health care practitioners or with student participants who have had significant exposure to patients (clinical curriculum). This study used second-year students with limited access to direct patient contact. It is possible that the use of this training program with this group of medical students could have limited the treatment effect.
- The FLEX Care™ training program was designed to be delivered in four, 3-hour modules delivered in a two-day course or as four half-days. This study's training program was reduced to four, 2-hour sessions. The reduced number of contact hours, when compared with the intended design and previously used communication programs documented in the literature, could have influenced study findings.
- The empathy assessment tool used as a posttest measure was designed to measure the orientation or attitudes of medical students toward physician empathy in patient-care situations. Despite the significance or lack of significance observed, the results were limited to the *student's perspective*, not the *patient's assessment* of empathy [emphasis added]. The practical relevance of this study's findings therefore, are limited by the orientation of the measurement tool used.
- Although the success of interpersonal communication training on its ability to raise student empathy levels is well documented in the literature, it is possible that the training program and posttest instrument's operational definitions varied enough to not enable the posttest to actually measure the treatment effect.

- Finally, there is an absence of research available on the long-term effects of treatments to enhance student empathy. There is evidence to support the FLEX Care™ program's ability to raise student empathy within the behavioral domain; however, it is unknown if this effect will be maintained over time.

Recommendations

Based on the findings of this study, several recommendations are proposed for the College of Osteopathic Medicine at Des Moines University, as well as other medical educators. Suggestions for future research are also provided.

Recommendations for practice

Medical schools with the objective to develop competent physicians who embrace the skills of empathic physicians should consider implementation of the following recommendations:

- Admission committees need to be trained on psychological type theory and its relationship to empathy. Further training should be provided on the relationship of empathy and the standard objective measures (MCAT, GPA, etc.) used to support selection decisions and the relationship of empathy and student gender. Focus should be placed on identifying students with a healthy awareness of self, who show potential not only in the current medical curriculum, but also in new curricular efforts aimed to develop or protect the student identification of self from the rigors and socialization process of medical training and to facilitate the continued development of empathic skills within the physician-patient relationship. In addition, specific aim should be placed on admitting a *distinct* class of students who can support the *diverse*

and complex needs of the medical profession. Admission committees should be cognizant of any practice that gives special status to either gender or any psychological type over another.

- Formal curricula in medical schools should introduce students to psychological type theory through the administration of the MBTI® followed by interpretation training. Medical schools should further support and reinforce psychological type theory applications to encourage further self awareness and personal development as well as the continued enhancement of the skills needed to support students' progress through their training: study skills (learning styles), stress management, team building, leadership, and interpersonal communication skills. A suggested schedule follows:
 - Orientation: MBTI® administration and interpretation training
 - First year: Success Types training on the use of type to enhance study skills and managing stress.
 - Second year: Teambuilding and leadership
 - Third year (clinical): FLEX Care™ interpersonal communication training
 - Fourth year (clinical): Type and medical specialization
- The formal curriculum of the medical school should also encompass a planned program, with interval interventions throughout the four years of medical school, designed to facilitate student development or enhancement of empathy skills. This program should consider all successful methods currently used by medical schools with an emphasis on developing a diverse – multi dimensional approach:

1. *Study of literature, narratives, and art.* An infusion of the humanities through study of literature, narratives and art to expand the minds and views of students and to encourage curiosity or interest in mankind;
 2. *Exposure to the patient's perspective* through real or simulated patient experiences with illness;
 3. *Self-exploration* through process of reflection;
 4. *Communication and interpersonal communication training* through a variety of focused interactive workshops.
- Recruit and provide training to faculty and key staff who serve in influencing positions for student development. Prepare these faculty and staff to assume mentor and role model relationships with students; the ultimate goal to develop an academic culture that demonstrates empathy to all stakeholders. Faculty and staff should establish a safe environment that encourages non-defensive and highly participative students who are encouraged to learn from their mistakes and the challenges of medical school training. Students should learn first hand from their faculty (and staff) the practice of equality, respect, and empathic understanding. All faculty, staff, and administrators should be encouraged to participate in the formal program developed for empathy enhancement, to include all psychological type theory training. Faculty should be reminded that students will embrace (emulate) behaviors their roles models demonstrate. There must be congruency between the behaviors demonstrated and behaviors expected.
 - Student communication and interpersonal communication skills should be continuously assessed, throughout their training, based on clearly understood

performance criteria. Effort should be placed on developing an assessment process that encompasses not only faculty evaluators but the patients (real or simulated) assessment of the students skill.

- The leadership of the medical school should commit to track student psychological type and measuring student empathy levels (scores) at multiple points throughout the curriculum. A suggested schedule would include:
 1. Incoming first-year students,
 2. End of second-year students before clinical experience, and
 3. End of fourth-year students prior to graduation.

These measures should be monitored to determine which intervention, or combination of interventions, are able to enhance student empathy and support their continued success throughout their medical training.

Recommendations for further study

The following recommendations are made for researchers of physician empathy:

- Further investigate the FLEX Care™ programs effect on student behavioral empathy scores (using JSPE) to obtain an appropriate sample size to influence statistical power. The results of the pilot study will serve as a baseline comparison of future results.
- Develop and test the validity and reliability of assessment processes to measure student achievement in the demonstration of empathy. Consider using trained raters to evaluate student SPAL encounters (video sessions), a patient empathy assessment tool, and a process of self-assessment to encourage students to monitor their own

performance and skill improvement. Study of physician empathy must (eventually) move beyond the student's assessment of the importance of empathy in physician-patient relationship to include the patient's assessment of demonstrated empathy and the student's ability to monitor their own behavior and its effect on the patient.

- Continued study must be conducted on measuring the effect of (all) treatment interventions designed to enhance student empathy by administering the Jefferson Scale of Physician Empathy (student versions) to determine which are positively and significantly influencing student development and to insure that all of the domains of empathy are influenced. Additionally, longitudinal tracking of the student's retention of empathy (as developed by these interventions) must also be studied. Findings must be disseminated to inform the medical education community of the availability of successful programs.
- Continue to track student MBTI® type preferences and compare with available type data within the literature. Acknowledge changes or trends and the implications of these changes on student selection, training, career planning, and professional practice. Report changes or trends to increase empirical evidence and therefore reinforce the importance of the use of psychological type within medical school curricula.

Final Comments

The goal of physicians in their encounters with patients is to help patients regain their health or facilitate the achievement of their wellness goals. The research is clear that the most effective means to achieve these goals is the development of a therapeutic relationship

between the health professional and the patient (Diseker & Michielutte, 1981; Hojat et al., 2003; Halpen, 2001; Mangione et al., 2002; Rogers, 1980; Rosenfield & Jones, 2004; Shapiro, 2002). A therapeutic relationship, as described in Chapter 2, facilitates a “growth promoting” climate that supports the constructive development or (behavioral) change of patients, enabling them to *own* their health and related medical decisions [emphasis added] (Rogers, 1980). The creation of a therapeutic relationship is dependent on the physician’s ability to establish three core conditions, of which the most important is an empathic understanding of the patient’s feelings and the personal meaning that the patient is experiencing and to communicate this understanding to the patient. Physicians who employ empathy or empathic understanding in their interactions with their patients, achieve improved clinical outcomes (Allen & Brock, 2000; Fine & Therrien, 1977; Hausman, 2004; Levinson et al., 2000; Ong et al., 1995) and higher patient satisfaction (Hausman, 2004; Kim et al., 2004; Ong et al., 1995), while also providing themselves a mechanism to protect themselves from interactions with difficult patients or within difficult situations (Halpern, 2001; Rogers, 1980; Schattner et al., 2004) thereby improving their professional satisfaction and reducing the occurrence of stress and burnout (Novack et al., 1997; Platt & Keller, 1994; Scales & Miller, 2003).

Medical schools have been charged with the development and training of competent physicians to support the health and well being of their patients. The practice of medicine has changed dramatically over the years. Physicians, as well as medical educators today, face the enormous challenge of monitoring and integrating a continuous flood of biomedical discoveries into their practices while confronting the escalating costs of delivering medical care. However, of all the problems facing medicine today, the decline or absence of the

physician-patient relationship is the one most often mentioned by the patient (Kirsner, 2000). Researchers of patient compliance and satisfaction report that the physician-patient relationship is the single most important indicator of physician success (Allen & Brock, 2000; Hausman, 2004; Kim et al., 2004; Ong et al., 1995). Furthermore, physicians are reporting burnout and dissatisfaction with their career choice at an alarming rate—indicating that a disconnect exists between training received and the expectation of practice (Novack et al., 1977). The ability to establish and maintain therapeutic relationships within the physician-patient relationship appears to be the key.

For patients to achieve health and wellness requires the services of a competent practitioner; however, the definition of competent is no longer limited to the technical knowledge of the biological process of the human body. The practice of successful medicine requires the artful delivery of technical skill through the development of therapeutic relationships between physician and patient built on empathic understanding and exemplary interpersonal communication skill. Medical schools, therefore, must expand their traditional formal curricula to enthusiastically embrace a new curriculum that prepares students for competency in practice.

Unfortunately, there is no one “silver bullet”—no single quick fix to reverse the plummeting trend of decreased empathy in medical school populations. Instead, medical schools must embrace within their formal curriculum student exposure to the behavioral and social aspects of disease and illness. They must also equip students with the ability to manage their stress, the rigors of medical training, and their emotional encounters with death, pain, and suffering. A formal curriculum must be developed to counteract the powerful effect of the medical education and medical socialization process. Medical educators must provide

their students a process of self-discovery to balance their intense focus on the science of disease.

Recommendations that have resulted from the findings of this study have provided significant direction to the College of Osteopathic Medicine at Des Moines University as well as the larger medical education community. The hope is that the recommended additions to the formal medical school curriculum will strengthen the preparation of medical students to respond to the changing needs of the health care system and increase their personal success and satisfaction with their career choice.

APPENDIX A. DATA MEASUREMENT FORMS

(A-1) JSPE FLEX Care™ Study Posttest

Student DxR No. _____

Instructions: Please indicate the extent of your agreement or disagreement with *each* of the following statements by writing the appropriate rating number on the underlined space provided before each statement. Please use the following 7-point scale (*a higher number on the scale indicates more agreement*):

1-----2-----3-----4-----5-----6-----7

Strongly Disagree**Strongly Agree**

1. ___ Physicians' 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 physicians understand their feelings.
3. ___ It is difficult for a physician to view things from patients' perspectives.
4. ___ Understanding body language is as important as verbal communication in physician-patient relationships.
5. ___ A physician's sense of humor 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. ___ Physicians should try to stand in their patients' shoes when providing care to them.
10. ___ Patients value a physician'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, physicians' 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. ___ Physicians 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 physician's success is limited.
16. ___ Physicians' understanding of the emotional status of their patients, as well as that of their families is one important component of the physician-patient relationship.
17. ___ Physicians should try to think like their patients in order to render better care.
18. ___ Physicians 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.

OVER

Page 2

In the space provided below, what do you believe this study was about (i.e., what was being investigated)?

Thank you!

(A-2) Standardized Patient Feedback Form—Part II

Please evaluate the student by checking the appropriate box for the following statements.

	The student:	Very well done 4	Satisfactory 3	Marginal 2	Unsatisfactory 1
1.	<i>Asked questions in an organized manner.</i>				
2.	<i>Asked direct, unambiguous questions.</i>				
3.	<i>Used vocabulary I could understand.</i>				
4.	<i>Spoke clearly, with appropriate volume and speed.</i>				
5.	<i>Listened carefully and did not interrupt me.</i>				
6.	<i>Demonstrated courteous behavior.</i>				
7.	<i>Demonstrated professional behavior.</i>				
8.	<i>Was respectful; avoided criticism and judgment.</i>				
9.	<i>Conveyed a sensitive and caring attitude regarding my physical and emotional needs.</i>				
10.	<i>Maintained comfortable eye contact with me.</i>				
11.	<i>Opened and closed our encounter in a friendly yet professional manner.</i>				
12.	<i>Dressed professionally, with good grooming.</i>				
13.	<i>Respected my modesty and made sure I did not feel over-exposed.</i>				
14.	<i>Conducted the physical examination with a confident but gentle touch.</i>				
15.	<i>Demonstrated an organized approach to his/her examination of me.</i>				

Please write additional comments or suggestions below:

(A-3) WITHDRAWAL FORM

Participation in this study is voluntary. Participants that wish to withdraw are asked to provide the information below. Please return this form to Carla Stebbins, University Clinic, 2nd Floor, Room 219, Phone: 271-1497, Email: Carla.Stebbins@dmu.edu.

DxR No. _____
Please list

Please select from the following options:

- I wish to withdraw from the Flex Care Communication Training.
- I have a concern regarding my participation the Flex Care Communication Training I would like addressed prior to my continuation.

If possible, in the space below can you provide the researcher and other stakeholders of this study any insight as to why you have considered, or have chosen, to withdraw?

Thank you!

(A-4) PARTICIPANT INFORMATION QUESTIONNAIRE

Please answer the following questions and return to Carla Stebbins, University Clinic, 2nd Floor, Room 219, Phone: 271-1497, Email: Carla.Stebbins@dmu.edu.

DxR No. _____

Please list

Please answer the all of the questions that follow:

- **Age:** _____ (years)
- **Race/Ethnicity** (please select one from the list below):
 - African-American
 - American Indian /Alaskan Native
 - Asian / Pacific Islander
 - Caucasian/White
 - Hispanic
 - Other: _____

Please specify
- **Have you completed the Myers Briggs Type Indicator (MBTI®) before?**
 - Yes (please respond to questions below)
 - No (continue to next question)
- **If yes, approximately how long ago?**

Please specify
- **Do you know your 4-letter type?**
 - Yes
 - No
- **Anticipated specialty selection.** To the best of your knowledge, which one specialty from the list below, are you most interested in pursuing upon graduation from DMU? Please select only one from the list provided:
 - Anesthesiology
 - Emergency medicine
 - Family medicine
 - Internal medicine
 - Neurology
 - Obstetrics/Gynecology
 - Pathology
 - Pediatrics
 - Psychiatry
 - Radiology
 - Surgery
 - Other: _____

Please specify
- **Are you a dual-degree (pursing a MHA or MPH degree through the Division of Health Management at DMU) student?**

Next page →

- Yes (please respond to questions below)
- No (continue to next question)

→ **If yes, which program?**

- Master of Health Care Administration (MHA)
- Master of Public Health (MPH)

▪ **Are you currently enrolled or have you completed any COM elective courses?**

- Yes (please respond to questions below)
- No (continue to next question)

→ **If yes, please check those that you are currently enrolled or have completed:**

- Special Topics: Neuroscience
- The Geriatrics Experience
- Mental Illness and the Cinema
- The Cranial Nerves Elective
- Research Methods and Ethics
- Medicine and the Humanities
- Advanced Dissections in Anatomy
- Historical Approaches to Embryology
- Physician Leadership
- Global Health Issues
- Chronic Care/C.O.P.E. Program
- Exploring the Human Condition: Views from Literature, Sociology, Medicine & Public Health
- Death and Dying: A Medical Elective on End-of-Life Care
- Gross Anatomy Lecture/Laboratory
- Pain and Pain Management
- Medical Anthropology

▪ **Do you have prior direct patient care experience?**

- Yes. Please respond to questions below.
- No. You are done!

Next page →

→ **If yes, do you hold a direct patient care credential (i.e., PA, RN, CMA, EMT, etc.)?**

Yes. Please list: _____

No

○ **How many years did you work in a direct patient care position?** _____
of years

○ **How many years ago has it been since you've worked in a direct patient care role?**

Please specify

→ **If yes, to whom did you provide care? (please select below)**

Family member

Spouse or partner

Hired to provide care to someone with disabilities or unable to care for themselves.

Other: (Please specify) _____

Thank you!

APPENDIX B. APPROVAL FORMS

(B-1)



Center for Applications of Psychological Type
 2815 N.W. 13th Street, Suite 401
 Gainesville, Florida 32609
 E-mail: capt@capt.org

January 3, 2005

Tel. (352) 375-0160
 Fax (352) 378-0503

Carla A. Stebbins
 Division of Health Management
 Des Moines University
 3200 Grand Avenue
 Des Moines, IA 50312

Dear Ms. Stebbins,

Subject to the following conditions, you are granted permission to reproduce and/or adapt the following material from the book *FLEX Care™: Building Customer Relations Using Personality Type—Participant Workbook* by Judy Allen and published by the Center for Applications of Psychological Type:

- Four-Part Framework (p. 20)
- Behavior Cues (p. 26)
- The Four-Part Framework and Health Care Communication (p. 31)
- To Do's for Type (p. 32)
- What Can We Do About It? (p. 53)

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 Psychological Type, Gainesville, FL

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Please sign and return one copy of this letter as acceptance of these terms of agreement. Our receipt #258717 for the permission processing fee is enclosed.

If we can be of any further assistance with your MBTI endeavors, please let us know. We will be happy to help you in any way we can.

Sincerely yours,

A handwritten signature in black ink, appearing to read "Jamelyn R. Johnson".

Jamelyn R. Johnson
 Copyrights & Permissions Manager

A handwritten signature in black ink, appearing to read "Carla A. Stebbins".

Carla A. Stebbins

Date

1/11/05

Enclosures:
 Reply envelope
 Extra copy of this letter
 Paid Invoice #258717

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 Myers-Briggs Type Indicator, Myers-Briggs, and MBTI are trademarks or registered trademarks of the
 Myers-Briggs Type Indicator Trust in the United States and other countries.

(B-2)

IOWA STATE UNIVERSITY
OF SCIENCE AND TECHNOLOGY

Institutional Review Board
Office of Research Compliance
Vice Provost for Research and
Advanced Studies
2810 Beardsbear Hall
Ames, Iowa 50011-2036
515 294-4566
FAX 515 294-7288

DATE: October 18, 2004**TO:** Carla Stebbins**FROM:** Ginny Eason, IRB Administrator**RE: IRB ID # 04-486****STUDY REVIEW DATE:** October 18, 2004

The Institutional Review Board has reviewed the project, "*Enhancing Empathy in Medical Students Using Flex Care Communication Training*" requirements of the human subject protections regulations as described in 45 CFR 46.101(b) 2. The applicable exemption category is provided below for your information. Please note that you must submit all research involving human participants for review by the IRB. Only the IRB may make the determination of exemption, even if you conduct a study in the future that is exactly like this study.

The IRB determination of exemption means that this project does not need to meet the requirements from the Department of Health and Human Service (DHHS) regulations for the protection of human subjects, unless required by the IRB. We do, however, urge you to protect the rights of your participants in the same ways that you would if your project was required to follow the regulations. This includes providing relevant information about the research to the participants.

Because your project is exempt, you do not need to submit an application for continuing review. However, you must carry out the research as proposed in the IRB application, including obtaining and documenting (signed) informed consent if you have stated in your application that you will do so or required by the IRB.

Any modification of this research must be submitted to the IRB on a Continuation and/or Modification form, prior to making any changes, to determine if the project still meets the Federal criteria for exemption. If it is determined that exemption is no longer warranted, then an IRB proposal will need to be submitted and approved before proceeding with data collection.

cc: Daniel Robinson

(B-3)

DES MOINES UNIVERSITY-OSTEOPATHIC MEDICAL CENTER

Institutional Review Board



Date: September 22, 2004

To: Carla Stebbins, MS

From: S. Juanita Robel, PT, Chairperson

Re: "Enhancing Empathy in Medical Students Using FLEX Care Communication Training"

Thank you for submitting an IRB Application for your above project. An administrative review of the proposal has determined that it meets the qualifications for exemption. This decision will be reviewed at the next committee meeting.

If there are any significant changes in your protocol, please inform the Institutional Review Board prior to initiating the changes.

Thank you for the opportunity to review your project. Best wishes for its success!

(B-4)



September 13, 2004

To: Carla Stebbins, Assistant Professor

From: Alice Breemer, Director, Sponsored Programs *Alice Breemer*

Re: Enhancing Empathy in Medical Students Using FLEX Care® Training

I am pleased to tell you that the IOER-Fund Advisory Committee (FAC) and the Board of Trustees has voted to partially approve the above named proposal. The FAC Committee and Board members expressed the view that your project is important and voted to grant you \$1,500 to purchase the supplies necessary to the project. They felt, however, that the Dean and the administration of COM can capitalize on the spirit of volunteerism that exists among the osteopathic student body to identify participants. If they are unable to do accomplish this, the FAC will reconsider your student incentive request.

The dates for your project are from October 1, 2004 through May 31, 2005. I will work with the University's Accounting Office to set up your grant account. The Accounting Office will notify you directly when this is accomplished.

As the grant guidelines specify, you will be asked to provide brief, semi-annual progress report and a final report to the IOER-FAC. I will notify you when such reports are due.

Congratulations on receiving this award. The IOER-FAC wishes you every success with this project.

cc: Dr. Robert Yoho

3200 Grand Avenue
Des Moines, Iowa 50312-4198

515.271.1400
www.dmu.edu

(B-5)

From: Mohammadreza Hojat [Mohammadreza.Hojat@jefferson.edu]
 Sent: Tuesday, July 06, 2004 9:23 AM
 To: Stebbins, Carla
 Subject: Re: Physician Empathy Scale

Hi Carla!

In response to your request, I am sending you electronic copies of the Jefferson Scale of Physician Empathy (JSPE) in the attached files. As you may be aware, there are two versions of the JSPE. One version was developed for administration to medical (and other health profession) students (Student or S-Version). The other version is for administration to physicians and other practicing health professionals (Health Professional or HP-Version). Both are similar in the content with minor modifications in wording to reflect empathic orientation (in the S-Version) and empathic behavior (in the HP-Version). Both versions are attached for your information. You need to use the S-Version according to the description of your project.

In scoring of the scale, please notice that in both versions, items 1, 3, 6, 7, 8, 11, 12, 14, 18, and 19 are reverse scored items (i.e., Strongly Agree=1, Strongly Disagree=7), other items are directly scored based on their Likert weights (i.e., Strongly Agree=7, Strongly Disagree=1).

The total score is the sum of all item scores. The higher the score, the more empathic behavioral orientation.

You have our permission to use the JSPE in your non-for-profit research. The Jefferson copyright sign printed at the bottom of the scale should appear in any copy that you will be using in your project.

We have developed a computer scannable form of the JSPE that can be electronically scored in our Center to minimize data-entry and scoring errors. We can also provide scoring services for the scale. For more information visit our website: www.tju.edu/jmc/crmehc click on "Empathy in Medicine" link, then click on "Jefferson Scale of Physician Empathy."

We wish you good luck with your research project, and please inform us of your research progress.

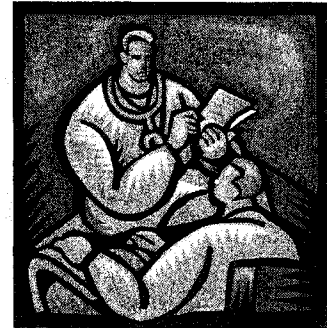
Hojat

 * Mohammadreza Hojat, Ph.D.
 * Research Professor of Psychiatry and Human Behavior
 * Director of Jefferson Longitudinal Study
 * Center for Research in Medical Education and Health Care
 * Jefferson Medical College
 * 1025 Walnut Street
 * Philadelphia, PA 19107, USA
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 * Fax: (215) 923-6939
 * E-mail: Mohammadreza.Hojat@Jefferson.edu
 * Website: www.tju.edu/jmc/crmehc

APPENDIX C. PARTICIPANT RECRUITMENT FORMS

(C-1) Did you know ...**Poor communication!**

- ⊗ 80% of malpractice law suits are caused by...
- ⊗ 86% of patients leave their physician because of



Consider participating in a research study that will measure the effect of a new communication skills program developed specifically to make you a more effective communicator with your patients!

Who can participate? Any Class of 2007 COM student.

What is in it for you?

- All participant volunteers will receive **ELECTIVE CREDIT** if they complete the workshop training and posttest.
- All experimental group participants will be provided a **MEAL/BEVERAGE** at each of the four training sessions.
- All participants will receive a **\$10 GIFT CERTIFICATE** to DMU cafeteria at the close of the study.

What is your commitment? (See schedule dates/times on attached consent form)

1. All study participants will be randomly sorted into one of two participant groups.
2. Each participant/volunteer will need to attend a one-hour participant meeting where they will complete an additional form, be informed of their group assignment (see below) and receive training materials.
 - **Group A.** If you are selected to participate in Group A you will attend one of two schedule communication skills workshops. Each workshop is scheduled for one day a week for approximately two hours for a total of four weeks.
 - **Group B.** If you are selected to participate in Group B you will not participate in the initial set or workshops but will be provided a special optional workshop series after the Winter break.
3. All study participants will complete a posttest questionnaire (15 minutes) scheduled to follow the Medical Ethics II course.

How do you sign up?

Complete the participant application and consent form and return to: Carla Stebbins, Division of Health Management, Room 219, University Clinic or email to carla.stebbins@dmu.edu. If you have questions or concerns please contact the individuals provided below. Forms must be received by October 27, at 5:00 p.m.

Carla Stebbins, M.S.
Principal Investigator
DMU phone: 271-1497
Email: Carla.Stebbins@dmu.edu

Daniel C. Robinson, Ph.D.
Major Professor, ELPS
Iowa State University
515-294-8182 or dcr@iastate.edu

(C-2) PARTICIPANT APPLICATION

Please provide the follow information and return to researcher: Carla Stebbins, University Clinic, 2nd Floor, Room 219, Phone: 271-1497, Email Carla.Stebbins@dmu.edu. Completed forms must be received by October 27, 2004, at 5:00 p.m.

Name: _____

Address:

Phone: _____

Home

Cell

Preferred Email: _____

Please provide the following:

- Your Gender: Male
 Female
- I am enrolled as a member of the COM, Class of _____.
- My DRX No. is: _____.

Group assignment: _____

(C-3) CONSENT FORM

Research: Communication training using Flex Care

Researcher: Carla Stebbins, Assistant Professor Work (515) 271-1497
 Division of Health Management email: Carla.Stebbins@dmu.edu
 Des Moines University Office: Room 220, University Clinic

Thank you for agreeing to participate in this case study. The purpose of this project is:

1. To gain an understanding of the impact of Flex Care communication training.
2. To satisfy the researchers doctoral degree requirements at Iowa State University.

As a participant, you will be assigned to one of two groups. Please review the duties of each group below. You will be notified of your group assignment at the participant meeting on October 29.

	Group A	Group B
Activities	Flex Care Training program, evaluation of the program, and posttest	Posttest
Schedule	<ul style="list-style-type: none"> ▪ Participant meeting- October 29, 5:00 p.m., in the MEC ▪ Group A.1. Wednesdays, 5:00 – 7:00 p.m., November 3, 10, 17, and December 1 ▪ Group A. 2. Fridays, 5:00-7:00 p.m., November 5, 12, 19, and December 3 ▪ Both groups—Posttest December 13, 3:00 p.m. 	<ul style="list-style-type: none"> ▪ Participant meeting-October 29, 5:00 p.m., in the MEC ▪ Posttest- December 13, 3:00 p.m.
Total time	10-12 hours	1 hour
Materials	Flex Care training materials	None

The following are the terms required for participation in this research study:

1. The information obtained during this project will support the researcher's dissertation.
2. All participants will receive a copy of their signed consent form.
3. Participant identities will be held in confidence. No identifying information will be included in any written report to any group or organization. Only aggregate results will be reported.
4. The participant has the right to withdraw from the study at any time. Participants that withdraw will be asked to complete the training program evaluation form and a withdrawal form.
5. Participants must complete all duties outlined for either of the two groups designated above to complete the study.
6. Participants in this study must release their MBTI 4-letter type, posttest, SPAL (part-2) standardized patient checklist, and training program evaluation (if applicable) to the researcher.
7. Following the study, all records will be turned over to COM administration for possible trend studies.
8. If you have any questions about the rights of research subjects or research-related injury please contact:

Ms. Juanita Robel, Chair
 DMU Internal Review Board
 Phone: 271-1730
 Juanita.Robel@dmu.edu)

Daniel C. Robinson, Ph.D.
 Major Professor
 Iowa State University
 515-294-8182 or dcr@iastate.edu

Ginny Eason
ISU Internal Review Board
Human Subjects Research Office
515-294-4566 or austingr@iastate.edu

Diane Ament
Research Compliance Officer
515-294-3115 or dament@iastate.edu

If you agree to participate in this study, according to the terms outlined above, please sign below:

Researcher: _____

Participant: _____

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