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Personal and Contextual Factors Related to Empathy in Medical Students

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Despite the fact that research has emphasized the importance of empathy in the establishment of the physician-patient relationship (Norfolk, Birdi, & Walsh, 2007), little empirical research has been undertaken to identify and measure the factors related to the development of empathy among medical students.

The present study explored both personal and contextual factors posited to influence levels of empathy in medical students. Personal factors included self-esteem, altruism, and personal experience with illness. Medical school year, chosen specialty, and participation in psycho-social curriculum were considered as contextual factors. It is hypothesized that controlling for age, gender and race, those medical students with higher levels of self-esteem and altruism, and those who have had personal experience with chronic/serious illness, will have higher levels of measured empathy than those medical students who do not. Additionally, medical students who are in their first year of study, those who have participated in psycho-social curricular electives, and those who have selected specialties other than orthopedics or anesthesiology, will have higher levels of measured empathy than students in later years, students who have not participated in psycho-social curricular electives, and students who have selected all other medical specialties.

Four reliable and valid instruments measuring self-esteem, altruism, and dimensions of empathy constituted the majority of the questions in the online survey. Descriptive statistics were conducted to describe the sample. Reliability statistics were run on all scales using Cronbach's Alpha, and multiple regression analysis was employed to test the hypotheses.

Significant findings indicate the following: 1) Medical students with higher levels of self-esteem and altruism, and those who have had personal experience with chronic/serious illness, have higher levels of measured empathy; 2) Students participating in the Mind/Body psycho-social curricular elective have greater levels of empathy than those not enrolled in this program; 3) Students selecting the specialty category of Orthopedics/Anesthesiology have lowered measured levels of empathy than students in other specialties; and, 4) Female students have greater empathy than male students.

This dissertation by Deborah Camalier Walker fulfills the dissertation requirement for the doctoral degree in Social Work approved by Joseph Shields, PhD, as Director and by James Zabora, Sc.D., Lynn Mayer, Ph.D., and Aviad Haramati, Ph.D., as Readers.

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DEDICATION

I dedicate this work to my family – Dick, Matthew, Brian, Jessica, Lauren, and Jee Nah. You have unconditionally supported, encouraged, and loved me throughout the past six years. I know it wasn't always easy, but you helped me to see that it is never too late.

This is also dedicated to my parents, Charles A. Camalier, Jr. and Anne Davis Camalier. As a child of the Depression, my father stressed the importance of education, for he knew it was the only thing that could never be taken away. My mother fostered the belief that with courage and tenacity, anything is possible.

Lastly, I dedicate this work to the truest friend I have ever known, Blair Richards, Jr. Despite experiencing medical care that often lacked humanism, his grace in dying led me to see the necessity and urgency of this research.

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Finally, my love and thanks are extended to all my friends and family – particularly Candace Johnson and Mimi Coolidge. You have remained by my side encouraging me to never, ever give up. All of you have helped me to find a way or make one!

Chapter One: Introduction to the Study

Despite the fact that research has validated and emphasized the importance of empathy in the establishment of the physician-patient relationship (Norfolk, Birdi, & Walsh, 2007), little empirical research has been undertaken to identify and measure the factors related to the development of empathy among medical students. The purpose of this study is to explore both personal and contextual factors posited to influence levels of empathy in medical students. It is postulated that the personal factors self-esteem, altruism, and personal exposure to a serious or chronic illness with self or loved one, will influence levels of empathy in medical students. Furthermore, it is proposed that the contextual factors of chosen medical specialty, participation in psycho-social curricular electives, and year in medical school influence levels of empathy in medical students.

Several studies have suggested that the quality of the doctor-patient relationship not only influences the patient's perception and attitudes toward disease (Lerman et al., 1993), but also precipitates positive, measurable results, including quality of life and improved health outcomes (Baile & Aaron, 2005; Barrier, Li, & Jensen, 2003; Stewart, 1995; Traveline, Ruchinskas, & D'Alonzo, 2005; Teutsch, 2003). Furthermore, the preponderance of the literature supports the premise that effective and empathic communication is an integral part of a strong patient-physician relationship (Baile & Aaron, 2005; Barrier, Li, & Jensen, 2003; Stewart, 1995; Teutsch, 2003).

The existence of the physician-patient dyadic relationship is reliant upon the physician's ability to comprehend the patient's cognitive and affective states (Hojat et al.,

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2001). Although the establishment and maturation of interpersonal adeptness has long

been considered a critical piece of physician education, little empirical research has been

undertaken to identify and measure the factors involved in such a relationship. Building

on previous research that found increased quality of empathic understanding precipitated

a therapeutic mutual understanding between physician and patient, Norfolk, Birdi, and

Walsh (2007) initiated a study to develop a new model for patient-centered consulting.

With the intention of validating and emphasizing the role of empathy and communication

skills in the establishment of physician-patient rapport, the authors concluded that such

concepts were not elusive nor mysterious, but, rather, skill sets that could be learned.

According to Nadelson (1993), empathic medicine is ethical medicine. Indeed, the

existence of this physician-patient dyadic relationship is reliant upon the physician's

ability to comprehend the "patient's cognitive and affective states" (Hojat et al., 2001).

In a specific medical context, Hojat et al. (2001) define empathy as a nonjudgmental

understanding of a patient's feelings and experiences as an individual being. There is an

important distinction to be made with sympathy, as empathy is described as a cognitive

rather than affective approach (Nightingale, Yarnold, & Greenberg, 1991). A physician's

inability to assess both verbal and nonverbal cues may interfere with accurate diagnoses

and appropriate treatments (Neuwirth, 1997). In fact, research has shown optimal clinical

outcomes depend on not only biomedical expertise, but also, in the physician's ability to

comprehend the psychosocial factors of illness (Spiro, 1992).

Empathy.

Similar to many words that are used to define constructs which describe social interactions and human emotions, the construct of empathy is often misunderstood (Gerdes, 2011). Empathy and sympathy are particular examples of the fusion and confusion generated by ineffective definition and understanding (Batson et al., 1997; Raines, 1990). In the social work profession, these terms are often theoretically and practically misunderstood with no guidelines to correctly identify or teach empathy and sympathy (Gerdes, Segal, Jackson, & Mullins, 2011).

Utilization of the word "empathy" did not materialize until the beginning of the 20th century (Lipps, 1903; Titchener, 1909), and the etiology of the term is well documented in recent social science and medical literature (Decety & Jackson, 2004; Gerdes, Segal, & Lietz, 2010; Misch & Peolquin, 2005; Pedersen, 2009). Misch and Peloquin (2005) describe empathy as an integrated combination gathered through "an iterative, mutually interactive relationship in which the behavioral, emotional, and cognitive signals of one participant are read and responded to by the other" (p. 42). Decety and Jackson (2004) suggest that empathy is an inductive reasoning process gleaned from observation, and is formed by the intellectual and emotional comprehension of the observer. De Waal (2009) explains the process of empathy as "the capacity to (a) be affected by and share the emotional state of another, (b) assess the reasons for the other's state, and (c) identify with the other, adopting his or her perspective" (p. 281).

It was not until the end of the 20th century that new technologies and advances in

neuroscience reshaped an understanding of human consciousness and the brain. One significant counterintuitive discovery was that the human ability to make decisions is not rooted in an ability to rationally calculate, but rather in our capability to experience emotion (Gerdes, 2011). Jonathan Haidt (2006) explains, "It is only because our emotional brains work so well that our reasoning can work at all" (p. 13). Human social interaction is the most developed of all animals because emotions precipitate an understanding of another's experience, and allows the individual to make choices that are socially practical rather than totally individualistic (Gerdes, 2011). To summarize prevalent 21st century usage, empathy is the physiological recognition of experiencing what another is feeling, and the cognitive understanding of the experience (Batson, 1987; Hoffman, 2000).

Factors Influencing Empathy.

In regard to the personal factors influencing empathy, research has documented a relationship between self-esteem and empathy (Davis, 1996). Self-esteem, or an individual's perception of self (Rosenberg, Schooler, Schoenbach, & Rosenberg, 1995), is a critical component for future physicians attempting to provide optimal care for patients. Studies suggest that medical education must promote the necessity of self-awareness and self- esteem to maximize future physicians' full potential for healing (Cast & Burke, 2002).

Additionally, previous research has offered evidence of reliable interrelationships between altruism and empathy-related constructs (Eisenberg & Miller, 1987; Underwood

& Moore, 1982). Batson and Shaw (1991) describe an altruism-empathy path, where adopting the viewpoint of an individual in need produces empathic concern in the observer.

Contextual factors influencing empathy will also be examined. Although the literature suggests that the construct of empathy, including self-esteem and altruism, is a necessary attribute for physicians, there is evidence that the level of empathy declines as students move from the first year through the fourth (Hojat et al., 2009; Newton et al., 2008). Additionally, certain specialties are linked to varying levels of empathy. Psychiatry, pediatrics, emergency, family and internal medicine tend to have physicians with the highest levels of measured empathy, while orthopedic surgery and anesthesiology have the lowest measured levels (Hojat et al., 2002). The exploration of contextual factors also suggests that medical school extra-curricular offerings in the psycho-social aspects of health care have demonstrated positive effects in the empathy levels of participating students (Newton, Barber, Clardy, Cleveland, & O'Sullivan, 2008; Hojat et al., 2009).

The Present Study.

This study will explore both personal and contextual factors posited to influence levels of empathy in medical students. The effects of the personal factors of self-esteem, altruism, and personal experience with serious illness and their influence on empathy will be examined. Additionally, contextual factors, such as year in medical school, chosen specialty, and participation in psycho-social curricular electives, will be analyzed for the

effects on empathy. Research has shown optimal clinical outcomes for patients depend not only on biomedical expertise, but also on the physician's ability to comprehend the psychosocial factors of illness (Spiro, 1992).

The overall research question considers the personal and contextual factors related to empathy in medical students. The specific hypotheses to be tested include:

H1: Controlling for age, gender and race, those medical students with higher levels of self-esteem and altruism, and those who have had personal experience with chronic/serious illness, will have higher levels of measured empathy than those medical students who do not.

H2: Controlling for age, gender and race, those medical students who are in their first year of study, who have participated in psycho-social curricular electives, and who have selected either psychiatry, pediatrics, emergency, family or internal medicine as a specialty, will have higher levels of measured empathy than students in the second, third or fourth year, those students who have not participated in psycho-social curricular electives, and those who have selected either orthopedic surgery or anesthesiology as specialties.

The online survey was sent to the entire student body of the Georgetown University Medical School, numbering 786. The invitation to participate in the study was sent from the email address of the Dean of the Medical School, Dr. Ray Mitchell, and was signed by Dr. Mitchell and Dr. Aviad Haramati, Professor and Co-Director of the CAM Graduate Program at Georgetown University School of Medicine. Two follow-up

requests were sent at approximately one-week intervals. Anonymity was assured, and the self-administered questionnaire was accessed and completed electronically over a two-month period.

Significance of the Research to Social Work.

This study will have implications for social work theory, as it will address the research problem through the application of symbolic interaction and role theories (Stryker & Statham, 1985). The concept of empathy, or the ability to take the role of the other, is central to both symbolic interaction (Mead, 1934) and role theory (Cooley, 1902). Symbolic interaction theorists would offer that professional socialization is critical to the understanding of the transformation of the medical student to physician (Becker, Geer, Hughes, & Strauss, 1961). Socialization, a construct central to this theoretical framework, is here defined as the incorporation of the newcomer into systematic patterns of interaction (Clausen, 1968). Role-taking, a concept in both theories, emphasizes the "need to analyze social phenomena from the perspectives of participants in social processes …, that is, the need for the external observer to bring into explanatory models the subjective experiences and performances of those being observed" (Stryker & Statham, 1985, p. 312).

With regard to implications for practice, this research adds to the body of knowledge that suggests the social worker's role in facilitating and strengthening the relationship between patient and physician is integral (Bulsara, C., Styles, Ward, & Bulsara, M., 2006; Dreher & Matz, 2001; Runfola, Levine, & Sherman, 2006). The

social work profession has demonstrated its pivotal and unique significance in health care by considering the whole person as a self-determining individual influenced by and influencing his or her environment (Reese & Raymer, 2004). The construct of illness holds myriad ramifications for patient, physician, and society advancing a unique and critical role for the social worker (Kerson, 1985).

The present study also suggests implications for medical education. With an understanding of the cognitive and affective dimensions of empathy gleaned through an exploration of both personal and contextual factors, social workers are in a unique position to shape curricular changes and to disseminate the information to students in medical school.

In terms of implications for future research, an examination of the factors influencing empathy will help broaden existing knowledge, while adding to the general area of expertise. As previously noted, despite the fact that research has validated and emphasized the importance of empathy in the establishment of the physician-patient relationship (Norfolk, Birdi, & Walsh, 2007), little empirical research has been undertaken to identify and measure the factors related to the development of empathy among medical students.

Lastly, this research is significant to social work ethics. The National Association of Social Workers Code of Ethics (1996) supports client self-determination and the importance of relationship as fundamental ethical standards (McMahon, 2003; Reamer, 1998). With a value system grounded in the concepts of empowerment, autonomy, self-

determination and informed consent, the social work profession is in a strong position to aid and assist - not only the patient, but also the physician (Runfola, Levine, & Sherman, 2006). As professionals, social workers emphasize the interrelatedness of the bio-psycho-social-spiritual self. The recognition of the power of the whole being frames an ethical paradigm of inquiry that distinguishes social work from other helping professions (Reamer, 1993).

Interest in the Problem.

My professional interest in this problem stems from a field placement as a medical social worker while earning my M.S.W. This experience precipitated an interest in the psycho-social aspects of illness, and in1983, I co-founded the Make-A-Wish Foundation® of the Mid-Atlantic, Inc. As one of the initial chapters in this now global organization, I had the opportunity and the privilege to witness the life-changing impact of empathic care - not only on the children with life-threatening medical conditions, but also on their families, their physicians, and their broader communities. With the understanding that medical intervention and expertise were crucial to a child's health, I also saw the power of the consideration of the child's psychological and social well-being to the eventual outcomes.

In my current research endeavors pursued as a doctoral candidate at The National Catholic School of Social Service at the Catholic University of America, I participate with the Center for Health and Mental Health Research. Additionally, I served as the coordinator for the "Partners in Survival" program – a service of the "Men Against Breast

Cancer" (MABC) project funded by the Centers for Disease Control. The MABC mission includes the education and empowerment of men who love and support women diagnosed with breast cancer. Additional goals include the mobilization of men as active participants in the fight to eradicate breast cancer as a life-threatening disease. Concrete data emanating from this study suggests the powerful influence of the psycho-social on cancer patients.

Summary.

The identification of personal and contextual factors related to empathy in medical students is of critical importance and germane to an understanding of physical and psychological well-being in patients. With the premise that a decline in empathy during medical school may jeopardize health care quality (Hojat et al., 2009, Neuman et al., 2011, Hojat et al., 2009, Newton et al., 2008), research in this area will provide a template to facilitate an improvement in empathic understanding in the physician/patient relationship.

The following chapter will introduce the overall theoretical framework for this study, and will provide a review of the literature on empathy and the variables proposed to influence it. This review will explain and differentiate the theoretical and empirical literature. Chapter three will elucidate the methodology offering information on the study design, sampling, and data collection methods, as well as the measurement instruments used in the measurement of variables. Chapter four will proffer the findings of this study, including limitations and future areas of research to be considered.

Chapter Two: Theoretical Foundations and Literature Review

Introduction and Overview

This chapter presents the literature review on the personal and contextual factors related to empathy in medical students. The overall theoretical framework for this study is outlined and establishes the conceptual groundwork for the proposed model. Specifically, the theoretical perspective offers an explanation of the significance and consequence of empathy. The chapter concludes with a rationale for the study, concentrating on the importance of examining the factors influencing empathy.

Theoretical Model and Framework

This study will address the issue of empathy development in medical students through the application of symbolic interaction and role theories (Stryker & Statham, 1985). The concept of empathy, or the ability to take the role of the other, is central to both symbolic interaction (Mead, 1934) and role theory (Cooley, 1902).

An understanding of the ability to take on the role of another is critical in the formulation of a physician empathy model. In the consideration of a multi-dimensional concept such as physician empathy, it is particularly important to consider role-taking when dissecting the concept into several dimensions. In an assessment of a physician's ability to empathize, one must consider whether or not the cognitive, or beliefs dimension, can be assimilated. In an affect dimension, an observer might look for the physician's ability to experientially assume the role of the patient. In the third dimension

of the concept of physician empathy, actual behavior demonstrating the ability to operationalize the construct is imperative.

An interaction model is utilized in this research, and posits that both personal and contextual factors influence empathy. Furthermore, there is a loop effect in that both personal and contextual factors impact each other, as well as empathy. Influenced by Schramm's (1954) early models of communication, this study's model considers the interchange of the transmission of information (Holmes & Hundley, 1997; Shoemaker, Tankard, & Lasorsa, 2004). Figure 1 offers a schematic representation of the fluid interplay and reciprocal influences of personal and contextual factors on empathy.

Figure 1. Model of Factors Influencing Empathy
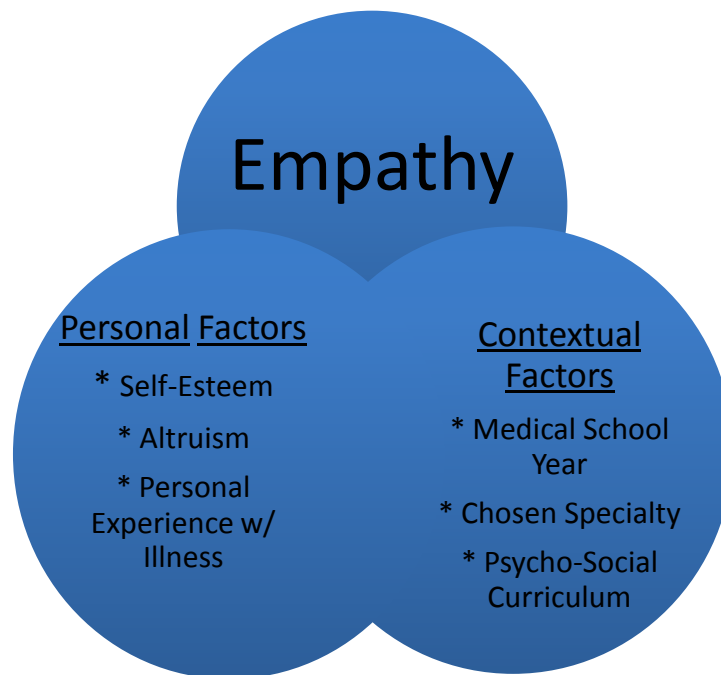
Socialization, a construct central to this theoretical framework, is here defined as the incorporation of the newcomer into systematic patterns of interaction (Clausen, 1968). Role-taking, a concept in both symbolic interaction and role theories, emphasizes the "need to analyze social phenomena from the perspectives of participants in social processes … " (Stryker & Statham, 1985, p. 312). Symbolic interaction theorists, in particular, would offer that professional socialization is critical to the understanding of the transformation of the medical student to physician (Becker, Geer, Hughes, & Strauss, 1961).

A principal social science tenet postulates that social life is structured, and it is this structure that is integral to the development of the social person and his or her social behavior (Stryker & Statham, 1985). In an integration of Symbolic Interaction Theory and Role Theory, these authors suggest that the concept of role is a shared and pivotal focus for both perspectives. Specifically, both theoretical perspectives "emphasize the need to analyze social phenomena from the perspectives of participants in social processes …, that is, the need for the external observer to bring into explanatory models the subjective experiences and performances of those being observed" (Stryker & Statham, 1985, p. 312).

Symbolic interaction theorists George Herbert Mead and Charles Horton Cooley regarded the self as a product of social interaction, in that it is the interaction with others that defines the self (Hogg, Terry, & White, 1995). The ability to assume the role of another is a concept defined as the means by which one anticipates the responses of others (Stryker & Statham). Mead (1930; 1934) used the term *generalized other* in an

explanation of role-taking. It is in the assumption of the role of the generalized other that one understands one's behavior as occurring in the context of a defined structure of related roles (Mead, 1930; 1934).

George Herbert Mead's theory of symbolic interaction is grounded in overtly observable human behavior, while at the same time concentrating on the "subjective and intersubjective interpretation and significance of individual impulses and stimuli and the actions of other persons" (Hurrelmann, 1988, p. 28). Mead proposes that human behavior is distinguished from animal behavior as it is intentional and goal-directed. This tenet is the foundation of social interaction theory, where action is described as a series of acts that are governed by the relationship between individuals. The action, or interaction, materializes in social situations, and is regulated by norms and individual motivations.

In his seminal work, *Mind, Self and Society* (1934), Mead focuses on the etiology and development of human character. He suggests the foundation for this process is "human interaction with the natural and social environment" (Hurrelmann, 1988, p. 29). Individual and societal influences are believed to be interlaced, and it is their reciprocal interaction that forms the individual personality.

Mead stresses the significance of symbols, such as language, as pivotal identifiers of the actions of another, and initiates relations between the interacting collaborators. This ability to act mutually and agreeably is dependent on the ability to evoke empathy (Hurrelmann, 1988). It is this capacity to "role take" or see through the eyes of another that is initiated from the interaction as a precursor for all individual action. Mead's work encompasses the elemental notion that every individual processes and exchanges internal

and external realities (Blumer, 1969). Mead's theoretical approach is particularly applicable to social research as it embodies facets of both interaction theory and social structure theory combined "in a theory of the communicative relationships among persons (Hurrelmann, 1988, p. 31).

In *Boys in White* (Becker, Geer, Hughes, & Strauss, 1961), a groundbreaking study to examine medical students, the researchers drew on the social psychological theory of symbolic interaction, previously articulated by Dewey (1930), Mead (1934), and Cooley (1956). The theory was of particular interest to the authors as it proffered that human behavior is a process in which the individual forms and reins his or her conduct and actions by considering the expectations of others utilizing the technique of role-taking (Becker, Geer, Hughes, & Strauss, 1961). Although dated and restricted to men, the study was instrumental in examining the role of medical student in the quest to properly occupy the role of physician.

Beauchamp and Childress (2001) bridge the concept of communication to the concept of empathy by articulating a theory of "ethics of care", where caring is defined as an "emotional commitment to, and willingness to act on behalf of persons with whom one has a significant relationship" (p. 369). This moral theory is particularly pertinent in an examination of patient/physician relationship for it examines not only what the physician does, but also, how he or she does it. Beauchamp and Childress (2001) suggest that the theory of ethics of care challenges the professional to review how he/she performs his/her duties, what motives lie behind the actions, and whether or not such actions "promote or thwart positive relationships" (p. 370).

Beauchamp and Childress (2001) continue by explaining that two elemental constructs of the ethics of care include reciprocally interdependent relationships and a recognition of the role of emotions. Critics of this particular moral theory state that it moves too far from the cognitive approach to ethical theory that has pervaded the literature since the late eighteenth century. From Plato to Kant, many great thinkers have viewed theory and moral judgment through the lens of reason – not emotion (Beauchamp & Childress, 2001). The counter-argument proposes that the ethics of care actually corrects this bias toward the cognitive by suggesting that the insight required to assess the needs of others and their circumstances often emanates from emotions rather than reason (Nussbaum, 1990; Sherman, 1989).

Review of the Literature

Empathy.

The term empathy was ostensibly conceived by Titchener in 1909 to translate the German word *Einfuhlung*, or the process of using one's intuition to observe an object or occurrence from the inside (Wispe, 1986). By the mid-twentieth century, empathy had acquired a more cognitive definition in clinical usage, and referenced the accurate and objective understanding of another's point of view concerning his or her unique situation (Dymond, 1949; Hogan, 1969). With this interpretation, empathy is interpreted as role taking or perspective taking (Krebs & Russell, 1981; Underwood & Moore, 1982).

By 1960, social and developmental psychologists categorized empathy with a less intellectual and more emotional definition (Batson & Shaw, 1991). During this time period, the emotional interpretations of empathy included three general denotations: 1)

the ability to feel any vicarious emotion, 2) the capacity to experience the identical emotion that another is feeling, or 3) the capability to discern a vicarious emotion that is consistent with but not necessarily synonymous with the feeling of another (Batson & Coke, 1981; Eisenberg & Strayer, 1987; Krebs, 1975; Stotland, 1969). When empathy is utilized in one of these ways, then adopting the perspective of the person in need is often considered a precondition for feeling empathy, but is not equivalent to empathy (Coke et al., 1978).

Within the last thirty years, empathy has been defined in a more detailed emotional sense. Empathy references compatible vicarious emotions that focus more on others than on self (Batson et al., 1981; Coke, Batson, & McDavis (1978); Toi & Batson, 1982). Coulehan et al. (2001) explain that there are three dimensions of empathy: the cognitive, the emotional, and the action. The cognitive element represents the physician's ability to comprehend the patient's perspective. The emotional facet deals with the clinician's attempt to take on the role of the patient. Lastly, the action component of empathy requires the physician to communicate understanding to the patient.

Although the literature supports the assumption that effective patient-physician communication impacts levels of distress in the patient (Stiefel, Rousselle, Guex, & Bernard, 2007; Kutner, Steiner, Corbett, Jahnigen, & Barton, 1999), psychological distress is often unrecognized and untreated (Ryan et al., 2005). Studies have provided documentation that a substantial percentage of patients report communication difficulties with their medical team (Lerman et al., 1993).

For the patient in this dyad, poor communication has been associated with increased anxiety, depression, anger, and confusion (Lerman et al., 1993). Medical diagnoses, particularly life-threatening ones, may upset a patient's bio-psycho-social-spiritual equilibrium and necessitate physician support surpassing the strictly biomedical (Stiefel, Rousselle, Guex, & Bernard, 2007, p. 841). Due to the increased vulnerability of the patient to the content of this type of communication, as well as its delivery, physician sensitivity is imperative (Coyle & Sculco, 2003). Harmful consequences of ineffectual communication to the patient include feelings of hopelessness, abandonment, and diminished dignity (Coyle & Sculco, 2003). Conversely, interventions that lower psychological distress may enhance communication (Lerman et al., 1993). It must be noted, however, that patients are sometimes responsible for this blocked discourse, as they believe emotional concerns lie outside the realm of the physician's role (Ryan et al., 2005).

Although the significance of factors other than the physiological in health care have been detailed in the bio-psycho-social medical paradigm used throughout three centuries (Engel, 1990; Hojat, Samuel, & Thompson, 1995), a significant pitfall to the success of the empathic relationship rests in the medical-model system (Potter & McKinlay, 2005). With a medical education emphasizing the curative and the corporal, many physicians psychologically struggle with the fact that they can no longer cure a patient (Baker, 2003). Often, this physician sense of failure precipitates a distancing from patients to self-protect (Gibson & Penson, 2007). With limited time to nurture the

necessary bond, the doctor-patient relationship is constrained by pressures and limitations of the organizational construct (Potter & McKinlay, 2005).

What one might consider to be a failing on the part of the physician may be more of a large-scale problem of the medical education system – rather than a personal shortcoming of the doctor (Teutsch, 2003). And although progress has been made, and many medical schools include courses on patient-physician communication, actual rotations and experiential training are lacking (Baile, Glober, Lenzi, Beale, & Kudelka, 1999; Baile, Lenzi, et al., 1997). Despite efforts by medical educators to teach medical students the importance of "patient-centered care", a recent study of 673 students using the Patient-Practitioner Orientation Scale (PPOS) provided data which suggests "students in later years of medical school have attitudes that are more doctor-centered or paternalistic compared to students in earlier years" (Haidet et al., 2002). Haidet et al. (2002) suggest further research of medical school education would be beneficial in the identification of the dynamics influencing student attitudes towards patients.

Some argue that the current emphasis on the technological advances in disease treatment has overshadowed the importance of the art of healing (Hojat et al., 2001). Although the treatment of physical pathology may not require empathic communication, the overall caring of the patient necessitates a humanistic approach (Novack, 1987; Novack, Epstein, & Paulsen, 1999). Hojat et al. (2001) suggest that the merging of the "science of medicine (biomedical aspect of disease) and the art of medicine (psychosocial aspect of illness) into a single discipline" (p. 350) precipitates the best outcome for the patient.

In a seminal work of the era, Parson's (1951) postulated the necessity of the "institutionalized asymmetry" of the physician-patient relationship. And although there have been many revisions of this dated model, experts suggest that the inherent inequality of the relationship remains intact (West, 1984). Teutsch (2003) describes a historically paternalistic approach in medicine where the physician's word was accepted by the patient with little question. The current trend, however, underscores the importance of the concept of consumerism and patient self-education (Teutsch, 2003). Potter & McKinlay (2005) argue that while patients need to be educated on more efficacious use of their time with physicians, and physicians need to improve their communication skills with patients, the real pitfall to the success of the relationship rests in the system. There simply is not enough time allotted to nurture the bond. The doctor/patient relationship is constrained by pressures and limitations of the organizational construct (Potter & McKinlay, 2005).

Whether or not the relationship is an equitable one, the preponderance of the literature supports the premise that effective communication is an integral part of a strong patient-physician relationship (Baile & Aaron, 2005; Barrier, Li, & Jensen, 2003; Stewart, 1995; Teutsch, 2003). In fact, studies have found a correlation between the physician's ability to communicate and the patient's satisfaction with medical treatment (Buller & Buller, 1987). In an effort to define the construct of communication, medical anthropologists speak of "the role of discourse in systems of medical authority" (Kuipers, 1989). Kuipers (1989) cautions that the analysis of the communication between patient and physician cannot be reduced to an either/or - right/wrong approach. Medical

discourse is complex. It would be myopic to define it at its extremes – either the patient's unquestioning compliance to the dictates of the doctor's orders or the physician's acceptance of a framework focused solely on the patient's directives (Kuipers, 1989; Trostle, 1988).

In a study to discover whether the caliber of physician-patient dialogue could affect the actual health outcomes of the patient, Stewart (1995) found a "correlation between effective physician-patient communication and improved patient health outcomes" (p. 1430). The affected patient health outcomes included "emotional health," "symptom resolution," "function," "physiologic measures" (for example, blood sugar levels and blood pressure), and "pain control" (Stewart, 1995). Subsequent studies suggested that observations could be measured using tools such as the Roter Interaction Analysis System (Ong, Visser, Lammes, & de Haes, 2000). With the use of the RIAS instrument, Ong et al. (2000) empirically showed that the "affective quality of the consultation" between patient and physician is the most significant predictor of the patient's quality of life. Sequence analysis based on RIAS coding is a methodology with great promise as future researchers attempt the study and analysis of patient-physician communication (Eide, Wuera, Graugaard, & Finset, 2004).

In an effort to demonstrate the link between a caring patient-physician relationship and physiologic changes, Adler (2002) states:

> People in an empathic relationship exhibit a correlation of indicators of
> autonomic activity. … Furthermore, the experience of feeling cared about
> in a relationship reduces the secretion of stress hormones and shifts the

neuroendocrine system toward homeostasis. Because the social

engagement of emotions is simultaneously the social engagement of the

physiologic substrate of those emotions, the process has been labeled

sociophysiology. This process can influence the health of both parties in the

doctor-patient relationship, and may be relevant to third parties (p. 883).

Although researchers agree that empathy positively affects both clinical outcomes

and improved interpersonal relationships (Spiro, Mccrea Curren, Peschel, & James, 1993;

Nightingale, Yarnold, & Greenberg, 1991; Olsen, 1996), they disagree on its components

and definition (Hojat et al., 2002). With health care as a frame of reference, empathy is

defined as a cognitive, rather than affective, characteristic that encompasses the ability to

comprehend the inner perspectives of the patient, and the capacity to communicate this

awareness to the patient. In this definition, the critical component is the physician's

ability to understand and communicate without becoming affectively involved in the

patient's experiences (Hojat et al, 2002).

With a specific elucidation of physician empathy, Mercer and Reynolds (2002)

define the construct as the physician's ability to interpret the patient's circumstances and

viewpoint. The physician must then be able to communicate that understanding to the

patient, while taking steps to utilize this comprehension in a therapeutic manner. The

colloquial definition of empathy has been expanded in clinical terms to include emotive,

moral, cognitive, and behavioral dimensions. The emotive refers to the physician's

ability to comprehend the patient's emotions and viewpoints. Moral, in this context,

references the physician's personal motivation to empathize. The cognitive aspect of

empathy encompasses the cerebral ability to recognize and comprehend the patient's emotions and position. The behavioral facet includes the physician's capacity to relay to the patient that his or her emotions are understood (Morse, Anderson, Bottorff, et al., 1992; Mercer & Reynolds, 2002; Halpern, 2001; Benbassat & Baumal, 2004).

It is important to note that even those versed in clinical empathy often confuse the construct with sympathy. Sympathy is differentiated from empathy as it refers to actually experiencing another's emotions. Empathy, however, refers to the ability to conceptualize another's perceptions without taking on the emotions (Stepien & Baernstein, 2006). Some researchers draw a distinct line between sympathy and empathy (Mercer & Reynolds, 2002; Halpern, 2001; Hojat, Mangione, Nasca, et al., 2001). These authors maintain that physicians who sympathize with their patients take on their distress, which may lead to the physician's psychological distress and a lack of objectivity. In contrast, an empathic physician-patient relationship positively and mutually impacts the interactions in this dyad.

Personal Factors.

Self-Esteem.

The construct of self-esteem is one of the most widely researched concepts in the social sciences (Baumeister, 1993; Mruk, 1995; Wells & Marwell, 1976; Wylie, 1979). It has received this concentrated attention due to the reported correlation between high self-esteem and numerous positive consequences for individual and society (Baumeister, 1993; Smelser, 1989).

Although there are many elucidations, self-esteem generally references an individual's positive assessment of self (Gecas, 1982; Rosenberg, Schooler, Schoenbach & Rosenberg 1995). Cast and Burke (2002) offer a theory of self-esteem that consolidates several conceptualizations within the framework of symbolic interaction theory. The authors' synthesis of the varying views on self-esteem focuses on the integral part that self-esteem plays in the process of verifying self within groups. According to symbolic interaction theory, the self is comprised of numerous identities that mirror the varied social positions that an individual inhabits in the grander social structure (Stryker, 1980).

In reviewing the general body of research on self-esteem, much of the literature references global self-esteem, or an individual's positive or negative attitude toward self as a whole (Rosenberg, et al., 1995). In the research provided in this dissertation, it is important to recognize that crucial, and often neglected, facets in the provision of physician care are the growth in personal development and well-being of the physician (Novack, Epstein, & Paulsen 1999). Self-awareness aids the physician in identifying the unspoken facts involved in patient care through the ability of the physician to access his or her personal feelings, experiences and perceptions (Novack et. al., 1997). When a physician is unable to consciously recognize his or her personal biases, attitudes, defenses, and feelings, he or she is less able to diagnose, treat, and heal the patient (Todd, Samaroo, & Hoffman, 1993; Epstein et al., 1998; Franks, Culpepper, & Dickinson, 1982; Geller, Tambor, Chase, & Holtzman, 1993; Yarnold, Greenberg, & Nightingale, 1991; Hornblow, Kidson, & Ironside, 1988).

With the intention of identifying and optimizing traits needed in physician-healers, several instruments are utilized to measure empathy (Tangney, 1991; Mehrabian & Epstein, 1972), self-esteem (Carmel & Glick, 1993; Carmel, 1997), and humanistic behaviors (Woolliscroft, et al., 1994; Linn, Matteo, Cope, & Robbins, 1987). In researching the construction of the Professional Self-esteem of Physicians Scale, for example, Carmel (1997) grounded her work in the theoretical antecedents of global self-esteem. Research has consistently upheld the psychological theories of Cooley (1912) and Mead (1934) stipulating that self-esteem evolves from the feedback one obtains from the reactions of others, particularly significant others (Carmel, 1997). Goffman (1959) and Blumer (1969) attest that feelings of self are based in social situations that continue to maintain these attitudes.

The various interactions between self and other are central elements in social situations. In a professional work context, a definition of the situation and an identification of significant others, influence the individual's evaluation of self (Suls & Mullen, 1982; Rosenberg, et al., 1995). In medicine, an evaluation of the qualities prescribed by the profession help to shape the individual's worth and competence. Proficiency in medicine requires not only the scientific and technical, but also competence in the psycho-social needs of patients (Carmel, 1997). Both of these dimensions are necessary in what both the lay population and physicians consider a good doctor (Carmel & Glick, 1996), but are based on divergent skill sets (Kupfer, Drew, Curtis, & Rubinstein, 1978). While the scientific acumen relies on technical and intellectual skills, the psycho-social adeptness is reliant upon attitudes, empathy, and the

ability to communicate. Although an individual's sense of self is comprised of both

positive and negative components (Rosenberg et al., 1995), an accurate and strong sense

of self is imperative (Carmel, 1997).

Optimally, a physician who heals, in the full bio-psycho-social sense of the word,

must possess regard for self (Novack, Epstein, & Paulsen, 1999). Physicians who are

unaware or distracted by self-doubts are less accessible to their patients. One of the

objectives of medical education should be the transmission of the importance of self-

awareness, self-esteem and growth in the student. When clinical educators link self-

awareness and self-esteem to the clinical practice of medicine, they impart the value of

the balance between the technical science and the humanistic art of healing (Novack,

Epstein, & Paulsen, 1999).

Altruism.

The concept of altruism has been fundamental in Western thinking for hundreds

of years, from Aristotle (384-322 B.C.) and St. Thomas Aquinas (1225-1274), to

Friedrich Nietzsche (1844-1900) and Sigmund Freud (1856-1939). The predominant

perspective since the era of the Renaissance philosophers, and currently among

psychologists and biologists, is that human beings are egoistic. In other words, the

impetus for all deliberate action, including acts intended to be advantageous to others, is

egoistic (Batson & Shaw, 1991). This perspective proposes that individuals help others

because in so doing, they benefit themselves.

However, based on studies that offer evidence of reliable interrelationships

between altruism and empathy-related constructs (Eisenberg & Miller, 1987; Underwood

& Moore, 1982), Batson and Shaw (1991) describe an altruism-empathy path, where adopting the viewpoint of an individual in need produces empathic concern in the observer. Consequently, the empathic emotion elicits altruistic motivation that benefits the individual for whom the empathy is felt.

To further comprehend this premise, a distinction must be made between altruism and egoism. Batson and Shaw (1991) follow the position held by Auguste Comte (1875), who is recognized as the originator of the term altruism. While both refer to motivational states, egoism is goal-driven to benefit self, while altruism has as its objective the betterment of another's welfare. Prior to Comte, altruism was considered under various classifications, ranging from benevolence, charity, compassion, and friendship. Comte believed that altruism and egoism were two distinctive motivating forces within each individual. While not denying the reality of self-serving incentives, Comte believed that some social behavior was unselfishly motivated with the end goal to benefit others (Batson & Shaw, 1991).

Batson (1987) proposes the empathy-altruism hypothesis suggesting that empathy stimulates altruistic motivation. Building on the research of Hoffman (1975), Krebs (1975), and Stotland (1969), this distinct emotional response to the perceived need of another is the result of one's ability to take on the viewpoint of the person in need. It is important to note that this adoption of the other's perspective involves conceptualizing how the individual in need is affected by his or her circumstances (Stotland, 1969). Shott (1979) suggests, "Empathy links people's emotional states with those of others, thereby motivating altruistic behavior toward those with whom they empathize"(p. 1331).

An increasing body of research has provided evidence that empathic emotion elicits altruistic motivation (Bastson & Shaw, 1991). Assuming this premise, one must recognize the extensive theoretical implications. Universal egoism, or the supposition that self-benefit governs human behavior, has been the predominant tenet in many of the social and behavioral sciences (Bolles, 1975; Campbell, 1975; Hoffman, 1981; Margolis, 1982; Wallach & Wallach, 1983). However, if one is to believe that, in certain specific circumstances, an individual has the ability to act with the elemental goal of benefitting another, "then the assumption of universal egoism must be replaced by a more complex view of prosocial motivation that allows for altruism as well as egoism" (Batson & Shaw, 1991, p. 119).

Eisenberg (1991, p. 129) cautions against broad acceptance of the definition of altruism proffered by Batson and Shaw (1991). She segregates "the cognitive process of understanding the other person's situation from emotional reactions to that situation". In her opinion, perspective taking is the cognitive part of comprehending another's situation, where empathy is the emotional response that requires, at the least, a distinction between self and other. The author asserts that by making a distinction between perspective taking and empathy, one can understand the difference between solely cognitive approaches, and those processes entailing cognition and affect.

Rushton, Chrisjohn, and Fekken (1981) propose that there is more uniformity to altruistic behavior across circumstances than previously believed. The authors state there is an actual trait of altruism that can be measured. At the time of their study, there was minimal research of the individual differences in altruistic behavior. Although many

scholars in the social sciences lacked belief in the existence of the altruistic personality, the author's investigation into recent research of the time found several studies revealing positive relationships between behavioral altruism and ratings from peers and teachers (Dlugokinski & Firestone, 1973, 1974; Krebs & Sturrup, 1974; Rushton & Wheelwright, 1980).

The study of the relationship between altruism and empathy is critical to a greater understanding of the link between emotion and motivation. First, such research allows the documentation of the motivational ramifications of emotional response. Second, it focuses attention on empathy as a social emotion, as it stems from reciprocal social interaction (Batson & Shaw, 1991). This last point is particularly germane as most scholarly examinations pre-dating the late 20th century paid scant attention to this type of social emotion (Darwin, 1872; McDougall, 1908).

In articulating a mandate for the need for empathy, the Association of American Medical College's Medical School Objectives Project (MSOP) includes the construct among its educational objectives by stressing that medical schools should endeavor to educate altruistic physicians (Association of American Medical Colleges, 1998). The guidelines delineated in this project expand and define this point by stating that physicians "must seek to understand the meaning of the patients' stories in the context of the patients' beliefs, and family and cultural values (MSOP, p. 13). This statement was a significant declaration of the importance of educating altruistic physicians with the capacity to compassionately and empathetically care for patients.

Personal Experience with Serious/Chronic Illness.

Crimlisk & McManus (1987) propose that many medical students have had personal experience with illness, either personally, or with family and friends. It is suggested that such experience may help students comprehend patient responses to serious illness. In a report on the Experience of Illness Module at Mount Sinai School of Medicine, Parkin & Stein (2001) describe the purpose of the course as a vehicle for students to utilize personal experience with illness in the creation of their professional role. In addition to considering personal knowledge, students are taught to observe and listen to patients' experiences, and offered an opportunity to take on the role of a person with a serious illness or disability. Mount Sinai believes that such exercises increase student awareness, and offers the opportunity for self-evaluation in terms of values and beliefs. This experiential educational technique is grounded in the theoretical framework of role theory, in that students learn by seeing situations from the patient's perspective.

Although the practice of medicine is committed to the examination, diagnosis, and treatment of the corporeal self, the relationship of physicians to their own bodies is antagonistic (DasGupta & Charon, 2004). Medical education creates a polarity where patients are distinguished by their bodies while physicians' are identified by their minds. Consequently, physicians have few opportunities to reflect upon their own personal illness experiences, or those of loved ones.

DasGupta and Charon (2004) describe a study conducted in a second-year medical student humanities seminar where a personal illness exercise was utilized in training. It was hypothesized that the discussion and sharing of personal illness

experiences might counteract the customary distancing of the physicians' minds from their bodies, and precipitate greater self-awareness and empathic practice. Scholars in the field of narrative medicine have posited the mutually beneficial effects between personal reflection and empathic care – for the patient and the physician. Comprehensive recognition of feelings and past experiences increases a physician's ability to empathically relate to patients (Charon, 2001; Hatem & Ferrara, 2001).

Although research has shown that clinical practice necessitates self-examination (Atkins & Murphy, 1993; Charon, 2001; Novack, Epstein, & Paulsen, 1999; Novack, et al., 1997), very few medical educators indicate the power a physician's identity – including personal and family history with illness – may have upon his or her capacity to hear and interpret the patients' stories (DasGupta & Charon, 2004). One may argue that traditional medical training instructs students to disregard their bodies in favor of their minds. For physicians who are dealing with their own illness, the contrast and conflict of being both doctor and patient may threaten the ideas of physicianhood they have been taught. To many in the medical profession, being ill is equivalent to disloyalty (Rabin, Rabin, & Rabin, 1982). However, other literature points to the metamorphosis of the physician through personal illness (Sacks, 1998; Rosenbaum, 1988). These transformations resulted not only from the physical actuality of illness, but also from the reversal of roles that forced the intellect-defined physicians into the reality of their bodies.

DasGupta and Charon (2004) explain that in the writing of the personal illness narrative, medical students are allowed to consider subjective experiences of illness

rather than retaining a clinician's perspective, or even the viewpoint of "other." In this study, the process of writing the narratives enabled several of the medical students to acknowledge and experience the affective element of their personal illness experiences, and even the recognition of a prior perception of emotional detachment.

Contextual Factors.

Year in Medical School.

The American Association of Medical Colleges cites empathy as a critical learning objective, as it impacts patient satisfaction, compliance with medical directives, clinical outcomes, and the physician's satisfaction as a professional (Stepien & Baernstein, 2006). And although medical educators acknowledge that empathy is an integral facet in patient care that must be cultivated in medical school (Kupler, Drew, Curtis, & Runinstein, 1978), research indicates a significant decline in measured levels of empathy as the student progresses through medical school (Hojat et al., 2009). In fact, studies have demonstrated that medical school often has a damaging effect on some facets of the student's professional growth. Increased cynicism and stunted ethical and behavioral development has been documented (Testerman, Morton, Loo, & Worthley, 1996; Branch, 2000).

Past research has shown that most students begin medical school with enthusiasm, idealism, and a sincere intent to help the sick (Kay, 1990; Silver & Glicken, 1990). Despite these initial intentions and medical school faculty's endeavors to cultivate humanistic qualities, a cynicism progressively evolves throughout training (Kay, 1990; Silver & Glicken, 1990; Sheehan, Sheehan, White, Leibowitz, & Bladwin, 1990; Wolf,

Balson, Faucett, & Randall, 1989). In fact, the increase of cynicism and decline of idealism has long been identified as a ramification of the medical student's socialization and acclimatization to the role of professional (Becker et al., 1961).

Newton, Barber, Clardy, Cleveland, and O'Sullivan (2008) suggest that medical education effects student empathy. This study supports the conclusions drawn by Coulehan & Williams (2001) who recount the damaging changes in humanist values as medical students progress through their training and become immune to many core beliefs they possessed prior to matriculation.

In a longitudinal study at Jefferson Medical College, Hojat et al. (2009) found that although empathy scores did not significantly waiver during the first two years of study, there was a significant decline by the end of the third year. This is ironic and notable, as medical students in most institutions commence clinical contact with patients for the first time during this period. Similarly, research conducted by Chen, Lew, Hershman, and Orlander (2007) demonstrated a marked decline in empathy scores in third-year medical students as compared with second-year students. Similar longitudinal studies have also reported significant declines in empathy throughout medical school (Newton, Barber, Clardy, & Cleveland, 2008; Hojat et al., 2004). Although these studies demonstrate a progressive erosion of empathy occurring during medical school, it is imperative to examine the timing and circumstances of this erosion (Hojat et al., 2009).

Bennett (2001) raises grave concerns about not only waning empathy, but also the overall decline in the physician-patient relationship. Reasons cited include a United States medical educational system that stresses a biomedical model as opposed to the

more inclusive bio-psycho-social template of illness and health (Hojat, Samuel, &

Thompson, 1995). Many contend that cultivating empathy in medical students bolsters

and strengthens the relationship between patient and physician (Roter, 1989; Spiro,

Curnen, Peschel, & St. James, 1993). Consequently, empathic interactions between

patient and physician have the potential to facilitate humanistic care (Matthews,

Suchman, & Branch, 1993, Neuwirth, 1997; Stewart, 1995), improve patients'

satisfaction (Beckman & Frankel, 1984), precipitate increased treatment compliance

(Falvo & Tippy, 1988; Squire, 1990), and prompt more accurate diagnoses (Barsky,

1988).

Chosen Specialty.

Studies have demonstrated that physicians in the traditionally patient-oriented

specialties score higher on empathy measures than those in more technically-oriented

specialties (Hojat et al., 2001). Patient-oriented specialties, sometimes referred to as core

specialties, include those with greater patient contact (i.e. internal medicine, obstetrics-

gynecology, pediatrics, and psychiatry), while technology-oriented specialties, or noncore

specialties, require less patient contact (i.e., radiology, surgery, and anesthesiology)

(Newton et al., 2008). In another study, Hojat et al. (2002) report that psychiatrists

obtained the highest mean empathy scores, with anesthesiologists, radiologists,

neurosurgeons, and orthopedists receiving the lowest. Research suggests that certain

characteristics of empathy may be related to specialty. One explanation may be that

empathic care is a more required skill set in physicians who are people-oriented, as

opposed to those whose care is reliant upon technology.

In a recent study, Hojat et al. (2009) report an overall and significant decline in empathy scores in the third year of medical school. In other words, comparable models of decline were seen for people-oriented and technology-oriented specialties. Yet even in the third year, people-oriented specialties had more elevated empathy scores than those choosing technically-based specialties (Hojat et al., 2002). In an attempt to ascertain whether or not there was a decrease in empathy in medical school, and whether students opting for specialties with more patient contact had higher empathy scores, Newton et al. (2008) suggest the decline occurs in all specialties. Due to the fact that this erosion of empathy negatively affects patient care (Rosenfield & Jones, 2004), empathy education must be continually reinforced throughout a student's medical training.

Participation in Psycho-Social Curriculum.

In a holistic sense, healing a patient involves not only the curative and biological, but also the psychological, social, and spiritual. Humanism in medicine requires the physician to be respectful, empathic, and communicative (Novack, Epstein, & Paulsen, 1999). An understanding of the patient and his or her illness in a bio-psycho-social context is imperative (Engel, 1977) and necessitates the use of psycho-social therapeutic strategies (Novack, 1987).

Research by Newton et al. (2008) proposes that student empathy is affected by medical education. However, studies report negative changes in the student's humanistic qualities as he or she progresses progress through medical school (Coulehan & Williams, 2001; Newton et al., 2008). Although many medical schools are attempting a reform in their curriculum to integrate more humanistic techniques (Makoul, Curry, & Novack,

1998), impediments to the process remain. The so-called "soft" courses in the behavioral and social sciences are allotted less time and access in the curriculum (Novack, Epstein, & Paulesn, 1999). Yet, research has shown that expanded medical school curricula in psychosomatic medicine (Dimsdale, 1995), the psycho-social and behavioral sciences (Sahler, 1995), and communication competence (Novack, Dube, & Goldstein, 1992; Novack, Volk, Drossman, & Lipkin, 1993; Lipkin, Quill, & Napodano, 1984; Lipkin, Lazare, & Putnam, 1995) may assist in the restoration of humanism in medical care.

Psycho-social curricular offerings enhancing a student's empathic skills, self-esteem and humanistic behaviors are limited by the fact that most medical students are within a chronological age range that falls in the early period of identity formation. However, medical educators have a responsibility to the present student and his or her future process of self-awareness skills (Novack et al., 1999). And although there is a formally endorsed curriculum, it often fails to measure up to student suppositions due to "informal" and "hidden" curricula (Arnold, 2007, p. 646).

According to Hafferty (1998), the informal curriculum refers to the unwritten, interpersonal learning between students and faculty occurring outside the classroom. The hidden curriculum is comprised of varying influences functioning at the organizational and cultural level. Von Gunten (2007) suggests that medical education in the United States is guided by the basic tenet that increased biomedical training produces better physicians. According to von Gunten (2007), physicians are compelled to learn three things to practice medicine: (1) an intricate set of specialized knowledge, (2) technical procedures, and (3) protocol of behavior (Starr, 1982). While the lay community believes

medical education is conducted in classrooms and labs, others maintain that the three

fundamentals detailed above are learned watching other physicians in actual practice (von

Gunten, 2007). In fact, Arnold (2007) postulates that this hidden curriculum is actually

the real curriculum.

Although medical education in the United States supports a commitment to the

established values of empathy and altruism, there is an implicit obligation to detachment

and dispassion (Coulehan & Williams, 2001). The hospital setting has been faulted for

the decline in empathy where ethical principles, such as compassion and conscience, can

be stifled by opposing environments and expectations. Research conducted by Collier,

McCue, Markus, and Smith (2002) found that 23% of residents in the United States

reported a decline in values grounded in humanism during their medical training, and

61% indicated their cynicism had increased. This erosion in empathy concerns medical

educators (Spiro, 1992), and research has shown that both the attitudinal and theoretical

elements of empathy should be included in the curriculum (Benbassat & Baumal, 2004).

According to Flowers (2005), medical students lack the emotional proficiency

integral to medical practice. While adequately preparing students in psychopathology,

medical education fails to emphasize training in normal psychodynamics, or

"psychonormality" (Flowers, 2005, p. 1280). Psychonormality encompasses the broad

range of socially acceptable, average ordinary responses to daily events. Normal adult

responses include both the internal (i.e. feelings and reason) and the external (i.e.

behavior and actions). Therefore, psychonormality is a practical facet of daily life,

including the training and practice of medicine. Competence in psychonormality skills

includes management of one's emotions, relationship with others, and an understanding of external circumstances.

Research suggests that adroitness in psychonormality skills facilitates patient satisfaction and enhances healthcare outcomes (Haq, Steele, & Marchand, 2004), while simultaneously facilitating improved mental health for the physician (Flowers, 2005). However, medical education has failed to teach students the structured techniques to access and utilize this knowledge (Fins et al., 2003).

Summary

This chapter has provided the overall theoretical framework for the study, and has established the conceptual groundwork for the proposed model. Specifically, the theoretical perspective has offered an explanation of the significance and consequence of empathy. A thorough review of the literature has assessed the personal and contextual factors related to empathy in medical students.

The following chapter will detail the study design, the research questions, and the hypotheses. The research design will be fully articulated, including descriptions of the data collection and data analysis processes. All variables will be conceptually and operationally defined, and study scales will be explained with the inclusion of information on reliability and validity. The chapter will conclude with a discussion of human subjects concerns.

Chapter Three: Methodology

Introduction

Despite the fact that research has validated and emphasized the importance of empathy in the establishment of the physician-patient relationship (Norfolk, Birdi, & Walsh, 2007), little empirical research has been undertaken to identify and measure the factors related to the development of empathy among medical students. The purpose of this study is to explore both personal and contextual factors posited to influence levels of empathy in medical students. It is postulated that the personal factors of self-esteem, altruism, and personal experience with a serious or chronic illness, with self or loved one, will influence levels of empathy in medical students. Furthermore, it is proposed that the contextual factors of chosen medical specialty, participation in psycho-social curricular electives, and year in medical school influence levels of empathy in medical students.

The ensuing chapter succinctly states the study design, the research questions, and the hypotheses. The research design is fully articulated, including descriptions of the data collection and data analysis processes. All variables are conceptually and operationally defined, and study scales are explained with the inclusion of information on reliability and validity. The chapter concludes with a discussion of human subjects concerns.

Study Design

A non-experimental, exploratory, cross-sectional survey design was used in this study to facilitate the exploration of the research questions. Survey research was deemed to be the most appropriate methodology, as it is a type of quantitative design that attempts to reveal relationships between sociological and psychological variables (Kerlinger & Lee, 2000). With a focus on people and their beliefs, opinions, attitudes and behaviors, survey research attempts an accurate assessment of the characteristics of entire populations of people (Kerlinger & Lee, 2000). Of course, entire populations are almost always impossible to study, so studies use samples drawn from a population. By its nature, survey research is capable of obtaining a broad range of information, though that information lacks depth (Kerlinger & Lee, 2000). In other words, it is more extensive than some research designs, but it is less intensive.

Because the design was non-experimental, manipulation of variables was not possible, and cause and effect could not be established. This particular survey research design utilized a self-administered questionnaire that was accessed and completed electronically. Population sampling was used to collect the data from the entire student body of the medical school over a period of two months.

Research Questions and Hypotheses

The overall research question guiding the study was: What are the personal and contextual factors related to empathy in medical students? The hypotheses include:

H1 – Controlling for age, gender and race, those medical students with higher levels of self-esteem and altruism, and those who have had personal experience with

chronic/serious illness, will have higher levels of measured empathy than those medical

students who do not.

H2 – Controlling for age, gender and race, those medical students who are in their first

year of study, who have participated in psycho-social curricular electives, and who have

selected either psychiatry, pediatrics, emergency, family or internal medicine as a

specialty, will have higher levels of measured empathy than students in the second, third

or fourth year, those students who have not participated in psycho-social curricular

electives, and those who have selected either orthopedic surgery or anesthesiology as

specialties.

Sampling Plan and Data Collection

The population of the study included all 786 medical students enrolled in the

spring semester of 2011 at Georgetown University School of Medicine. The invitation to

participate was sent from the office of the Dean of Medicine, and current Georgetown

email addresses were used. Anonymity was ensured, as all responses were sent to a web

address of an online survey site unable to identify or trace participants. Of the 786

medical students asked to participate in the study, 191 submitted completed surveys for a

response rate of approximately 25%.

The initial invitation to participate in the study was followed by two similar

appeals from the Dean of Medicine, and were spaced at roughly one-week intervals. The

students were told that the study would contribute important information to the

university, and the research could have implications for medical study far beyond a single

institution. Participants were also told that the study was voluntary, and that there would

be no penalty for declining participation. A hyperlink was included in the appeal, where students could easily access the questionnaire and point of submission.

Dependent Variable

    Empathy.

Empathy is one of the most-researched professional attributes in physicians, and it is often used as a measure of humanist beliefs and behaviors (Spiro, 1992). Although researchers agree that empathy positively affects both clinical outcomes and improved interpersonal relationships (Spiro, Mccrea Curren, Peschel, & James, 1993; Nightingale, Yarnold, & Greenberg, 1991; Olsen, 1996), they disagree on its components and definition (Hojat et al., 2002). With health care as a frame of reference, empathy is conceptually defined as a cognitive, rather than affective, characteristic that encompasses the ability to comprehend the inner perspectives of the patient, and the capacity to communicate this awareness to the patient. In this definition, the critical component is the physician's ability to understand and communicate without becoming affectively involved in the patient's experiences (Hojat et al, 2002).

Within the bounds of medical education, emotional intelligence (EI) is considered to be a valued noncognitive element in future physicians (Elam, 2000), and one medical school admissions study posited that EI is a predictor of an applicant's qualities most closely aligned with the value system of social science and the humanities (Carrothers, Gregory, & Gallagher, 2000). The concept of emotional intelligence (EI) is rooted in Gardner's (1983) theory of multiple intelligences, and refers to the individual's ability to detect his or her own emotions and those of others while simultaneously differentiating

between them. The gathered information directs both thinking and actions (Salovey et al., 1995). Modeled upon Gardner's (1983) principle of numerous intelligences, particularly those related to interpersonal and intrapersonal relationships, the TMMS and IRI were used in a study to measure several dimensions of emotional intelligence (EI) and empathy in medical students (Stratton et al., 2005).

One way to compensate for the lack of a comprehensive measure of empathy is to use multiple scales. Operationally, empathy is measured in the present study utilizing the Trait Meta-Mood Scale (TMMS) (Salovey, Mayer, Goldman, Turvey, & Palfai, 1995) and the Interpersonal Reactivity Index (IRI) (Davis, 1980). Using these two instruments, the construct of empathy will be divided into seven subsets through the use of these two instruments. The Trait Meta-Mood Scale (TMMS) is comprised of three subscales, including *Attention, Clarity*, and *Repair*. The Interpersonal Reactivity Index (IRI) examines four domains, which include *Perspective Taking, Empathic Concern, Personal Distress*, and *Fantasy*.

Prior to the development of the Trait Meta-Mood Scale (TMMS), the conventional beliefs of the early psychologists studying human intelligence held that there was a disconnect between rational thinking and emotional knowledge (Schaffer, Gilmer, & Schoen, 1940; Woodworth, 1940; Young, 1936). In their opinion, an individual had to constrain emotions in order to think and act with clarity.

Toward the end of the 20th century, even empirical researchers were acknowledging that emotions offered reputable information, and that individuals varied in their ability to process this kind of information (Schwarz, 1990). With the belief that

individuals differ in their ability to discern their own feelings, as well as those of others, Salovey, Mayer, Goldman, Turvey, and Palfai (1995) set out to construct the TMMS. In addition to recognizing the importance of the identification of feelings, the authors also believed that the regulation of emotions and the information they provided, could impel and modify social behavior. Proficiency in this area is termed emotional intelligence (Mayer & Salovey, 1993; Salovey & Mayer, 1990; Salovey, Hsee, & Mayer, 1993), and it has been proposed that emotional intelligence (EI) is a functional construct in evaluating cognitive and noncognitive abilities in medical professionals (Elam, Stratton, & Andrykowski, 2001; Carrothers, Gregory, & Gallagher, 2000).

The Trait Meta-Mood Scale (TMMS) itemizes the level of attention one affords his or her feelings, the experiential clarity of those feelings, and the ability to repair negative dispositions and prolong positive ones (Salovey et al., 1995). This instrument asks respondents to rate their level of agreement or disagreement to statements related to attention to emotions, mood repair, and clarity of feelings on a five-point Likert scale. The 48-item scale is composed of three subscales referencing distinct domains, and half the items in each subscale are worded positively, and half are worded negatively. It is important to note that the TMMS is not intended to yield an all-encompassing score, but rather a distinct look at three individual factors (Perez, Petrides, & Furnham, (2005). Therefore, in this study's statistical analysis and interpretation, the three subscales are scored and considered individually. The three domains of the TMMS include *Attention, Clarity*, and *Repair.*

The *Attention* subscale consists of twenty-one questions, and seeks to ascertain a

respondent's attention to emotions, and the level of notice and perception allotted to these feelings. Sample questions include: "I pay a lot of attention to how I feel" and "I think about my mood constantly."

The *Clarity* subscale consists of fifteen items, and attempts to identify the capability to comprehend one's mood. Examples include: "Sometimes I can't tell what my feelings are" and "My belief and opinions always seem to change depending on how I feel."

The *Repair* subscale contains twelve items, and seeks to discover the strategies employed to regulate and moderate the individual's mood. Questions such as "Although I am sometimes sad, I have a mostly optimistic outlook" and "When I am upset I realize that the 'good things in life' are illusions" are included.

Previous research has demonstrated successful use of the TMMS in medical student samples (Elam, Stratton, & Andrykowski, 2001; Stratton, Elam, Murphy-Spencer, & Quinlivan, 2005), and the scales based on these factors have been shown to be reliable and valid (Salovey et al, 1995). In a review of prominent measures of emotional intelligence (Perez, Petrides, & Furnham, 2005), the authors found a .70 - .85 alpha, and a predictive validity with depression, mood recovery, and goal orientation. In a shortened 24-item version of the TMMS, Fernandez-Berrocal, Extremera, and Ramos (2004) found an internal consistency of .90 for *Attention*, .90 for *Clarity*, and .86 for *Repair*. These findings demonstrate an improvement in the psychometric values of the original 48-item scale developed by Salovey et al. (1995), which reported values of .86, .87, and .82 for *Attention, Clarity*, and *Repair*. A subsequent study of university students

used the Spanish modified version, and obtained alphas for each of the three TMMS domains of .88, .89, and .86 for *Attention, Clarity*, and *Repair*, respectively (Extremera & Fernandez-Berrocal, 2006).

The construct of empathy is also measured in this study by one of the most widely used empathy scales. It is a self-report scale created by Davis (1980, 1996) called the Interpersonal Reactivity Index, or IRI (Butters, 2010). Davis' 28-item IRI asks participants to rate their level of agreement or disagreement on a five-point Likert scale to four seven-item dimensions of empathy (Davis, 1983). These four facets of empathy include: (1) *Perspective Taking* - the ability to comprehend another's viewpoint; (2) *Empathic Concern* - the sympathetic recognition of another's feelings; (3) *Personal Distress* – the reaction to another's burdensome communications and/or relationships with others; and (4) *Fantasy* – the utilization of imagination to experientially comprehend the emotions and behaviors of characters in creative works (Stratton et al., 2005).

Examples of questions examining *Perspective Taking* include: "Before criticizing somebody, I try to imagine how I would feel if I were in their place" and " If I'm sure I'm right about something, I don't waste much time listening to other people's arguments." The *Empathic Concern* subscale includes items such as, "I often have tender, concerned feelings for people less fortunate than me" and "Other people's misfortunes do not usually disturb me a great deal." Questions ascertaining levels of *Personal Distress* include "In emergency situations, I feel apprehensive and ill-at-ease" and "When I see someone get hurt, I tend to remain calm." The *Fantasy* subscale includes questions such as, "When I watch a good movie, I can very easily put myself in the place of a leading

character" and "I am usually objective when I watch a movie or play, and I don't often get completely caught up in it." Each subscale includes positively and negatively worded questions.

The Interpersonal Reactivity Index has been utilized in medical student populations (Elam et al., 2001; Coman, Evans, & Stanley, 1988), and correlational analyses have demonstrated good convergent and discriminant validity (Yarnold, Bryant, Nightingale, & Martin, 1996). Research has suggested that this measure of empathy reliably evaluates the four separate, and primarily independent, attributes of the individual (Davis, 1980). The revelation of the identical four factors between both women in men in two independent samples, suggests convincing stability of the factor structure.

Pulos, Elison, and Lennon (2004) investigated the hierarchical factor structure of the Interpersonal Reactivity Index utilizing the Schmid-Leiman orthogonalization procedure (Schmid & Leiman, 1957), and found the reliability of the scales corresponding to the factors quite similar to those published by Davis (1980): *Fantasy*, alpha = .82; *Empathic Concern*, alpha = .80; *Personal Distress*, alpha = .75; and *Perspective Taking*, alpha = .79.

Independent Variables

Personal Factors.

Self-Esteem.

In regard to the personal factors influencing empathy, research has documented a relationship between self-esteem and empathy (Davis, 1996). Self-esteem, or an

individual's perception of self (Rosenberg, Schooler, Schoenbach, & Rosenberg, 1995), is a critical component for future physicians attempting to provide optimal care for patients. Studies suggest that medical education must promote the necessity of self-awareness and self- esteem to maximize future physicians' full potential for healing (Cast & Burke, 2002).

Although there are many elucidations, self-esteem is conceptually defined as an individual's positive assessment of self (Gecas, 1982; Rosenberg, Schooler, Schoenbach & Rosenberg 1995). In reviewing the general body of research on self-esteem, much of the literature references global self-esteem, or an individual's positive or negative attitude toward self as a whole (Rosenberg, et al., 1995). Similar to other attitudes and perspectives, an individual's opinion of self is comprised of both positive and negative elements. Consequently, both factors must be assessed in any evaluation of self-esteem (Rosenberg, Schooler, Schoenbach, & Rosenberg, 1995).

Self-esteem will be operationally measured using the Rosenberg Self-Esteem Scale (RSE) (Rosenberg, 1979). In keeping with the supposition that both negative and positive attributes of the individual must be assessed, Kohn and Schooler (1969) conducted orthogonal principal component factor analyses on the Rosenberg Self-Esteem Scale. They found that the instrument was comprised of two components – self-confidence and self-deprecation. Although originally designed to measure self-esteem in high school students, the scale has subsequently been used with diverse groups, including adults. Items include both positively and negatively worded questions, for example "On the whole, I am satisfied with myself" and "At times I think I am no good at all."

Internal consistency is excellent with a Guttman scale coefficient of reproducibility of .92. Furthermore, test-retest reliability over a two-week period revealed correlations of .85 and .88, suggesting excellent stability. The instrument also indicates concurrent, predictive and construct validity utilizing known groups. There is significant correlation between the RSE and other measures of self-esteem, including the Coopersmith Self-Esteem Inventory. Lastly, the Rosenberg Self-Esteem Scale correlates in the predicted direction with measurements of anxiety and depression (Rosenberg, 1979).

Altruism.

Previous research has offered evidence of reliable interrelationships between altruism and empathy-related constructs (Eisenberg & Miller, 1987; Underwood & Moore, 1982). Batson and Shaw (1991) describe an altruism-empathy path, where adopting the viewpoint of an individual in need produces empathic concern in the observer. Altruism is conceptually defined as the ability to act with the objective of the betterment of another's welfare (Batson & Shaw, 1991).

Rushton, Chrisjohn, and Fekken (1981) propose that there is more uniformity to altruistic behavior across circumstances than previously believed. The authors state there is an actual trait of altruism that can be measured. The Self-Report Altruism Scale (SRA) (Rushton, Chrisjohn, & Fekken, 1981) is used in the present research to operationally define altruism. The instrument is a self-report format and consists of twenty items. Participants are asked to rate the frequency with which they have partaken in altruistic behaviors using the classifications of "Never," "Once," "More than once," "Often," and

"Very often." Examples of scale questions include, "I have given directions to a stranger" and "I have helped a classmate I did not know well with a homework assignment when my knowledge was greater than his or hers."

Data analyses from two separate samples of students at the University of Western Ontario demonstrated the psychometric stability of the SRA. Both samples produced comparable means and standard deviations, as well as high internal consistency. In an assessment and examination between the SRA and a personality inventory measuring twenty distinct personality traits (Jackson, 1974), the discriminant validity of the scale was discovered to be good (Rushton, et al., 1981). The correlation between the SRA and a social desirability measure ($r = 0.005$) suggests that the SRA goes beyond a mere measure of the propensity to respond in a socially desirable manner.

Personal Experience with Chronic and/or Serious Illness.

Personal experience with chronic and/or serious illness is selected as a factor because research has shown that a comprehensive recognition of feelings and past experiences increases a physician's ability to empathically relate to patients (Charon, 2001; Hatem & Ferrara, 2001). Crimlisk and McManus (1987) propose that many medical students have had personal experience with illness, either personally, or with family and friends. It is suggested that such experience may help students comprehend patient responses to serious illness. Students were asked to answer the question, "Have you had personal experience, either with self or loved one, with a serious or chronic illness such as cancer, heart disease, hypertension, lung disease, diabetes, or stroke?"

Options to respond were labeled as either yes or no. Dummy variables were used to code

responses, where "Yes" = 0 and "Else" = 2.

Contextual Factors.

Year in Medical School.

Although medical educators acknowledge that empathy is an integral facet in

patient care that must be cultivated in medical school (Kupler, Drew, Curtis, &

Runinstein, 1978), research indicates a significant decline in measured levels of empathy

as the student progresses through medical school (Hojat et al., 2009). In fact, studies

have demonstrated that medical school often has a damaging effect on some facets of the

student's professional growth. Increased cynicism and stunted ethical and behavioral

development has been documented (Testerman, Morton, Loo, & Worthley, 1996; Branch,

2000).

The self-report question included in the present study's questionnaire simply asks

the participant's year in medical school, with choices of 1st, 2nd, 3rd, or 4th.

Medical Specialty.

Studies have demonstrated that physicians in the traditionally patient-oriented

specialties score higher on empathy measures than those in more technically-oriented

specialties (Hojat et al., 2001). Patient-oriented specialties, sometimes referred to as core

specialties, include those with greater patient contact (i.e. internal medicine, obstetrics-

gynecology, pediatrics, and psychiatry), while technology-oriented specialties, or noncore

specialties, require less patient contact (i.e., radiology, surgery, and anesthesiology)

(Newton et al., 2008). In another study, Hojat et al. (2002) report that psychiatrists

obtained the highest mean empathy scores, with anesthesiologists, radiologists, neurosurgeons, and orthopedists receiving the lowest. Research suggests that certain characteristics of empathy may be related to specialty.

Students in the present study were asked, "At present, what is your intended or chosen specialty?" By self-report, respondents chose one of the following:

- Psychiatry

- Pediatrics

- Emergency Medicine

- Family Medicine

- Internal Medicine

- Orthopedic Surgery

- Anesthesiology

- Don't know

- Other (please specify)

Students were then asked, "If you selected other, please specify." For purposes of this study, the statistical analysis examined the following groupings:

- Family Medicine vs. all others

- Internal Medicine vs. all others

- Pediatrics vs. all others

- Orthopedic Surgery and Anesthesiology vs. all others

Although the pairing of orthopedic surgery and anesthesiology may first appear to be unrelated, they are grouped together in this study because previous research has demonstrated that physicians specializing in orthopedic surgery and anesthesiology have the lowest measured levels of empathy (Hojat et al., 2002).

Participation in Psycho-Social Curricular Electives.

Research by Newton et al. (2008) proposes that student empathy is affected by medical education. However, studies report negative changes in the student's humanistic qualities as they progress through medical school (Coulehan & Williams, 2001; Newton et al., 2008). Although many medical schools are attempting a reform in their curriculum to integrate more humanistic techniques (Makoul, Curry, & Novack, 1998), impediments to the process remain. The so-called "soft" courses in the behavioral and social sciences are allotted less time and access in the curriculum (Novack, Epstein, & Paulesn, 1999). Yet, research has shown that expanded medical school curricula in psychosomatic medicine (Dimsdale, 1995), the psycho-social and behavioral sciences (Sahler, 1995), and communication competence (Novack, Dube, & Goldstein, 1992; Novack, Volk, Drossman, & Lipkin, 1993; Lipkin, Quill, & Napodano, 1984; Lipkin, Lazare, & Putnam, 1995) may assist in the restoration of humanism in medical care.

Two questions included in the present study's questionnaire pertain to participation in two specific electives offered at the Georgetown University School of Medicine. Answers were self-report, with the choice of either yes or no. The questions included:

- Have you participated in Georgetown's Mind-Body Medicine program?

- Have you participated in Georgetown's Health Justice Scholar Track?

Responses were coded, "Yes" = 1 and "No" = 0.

Data Analysis Plan

Descriptive statistics were conducted to describe the sample. Reliability statistics were run on all scales using Cronbach's Alpha, and multiple regression analysis was employed to test the hypotheses.

Human Subjects Concerns

All participants received information concerning the general purpose of the study, its voluntary nature, and guarantees of anonymity. This study was eligible for human subjects exemption under the category of 45 CFR 46.101: section 2. (b) (2). Every effort was made to ensure the research was ethically conducted with no deception or harm to the participants. The researcher has pledged veracity in the analysis and reporting of the results of this study.

Summary

The ensuing chapter will present data to describe and formally test the hypotheses.

Chapter Four: Findings

Introduction.

The current chapter presents a description of the study's sample, and provides the results of the descriptive and multivariate analyses.

The demographic variables of age, gender, and race are discussed first, as well as detailed in Table 4.1. This information is followed by an explanation and breakdown of the various dimensions of the dependent variable, empathy. The dimensions of empathy include *Fantasy, Perspective Taking, Empathic Concern*, and *Personal Distress* - all subscales of the Interpersonal Reactivity Index (IRI) (Davis, 1980). Additional dimensions of empathy include *Repair, Attention*, and *Clarity*. These represent the three subscales that comprise the Trait Meta-Mood Scale (TMMS) (Salovey, Mayer, Goldman, Turvey, & Palfai, 1995). The personal factors posited to influence empathy include personal exposure to serious or chronic illness with self or a loved one, measured by self-report; self-esteem, measured by the Rosenberg Short Form Self-Esteem Scale (Rosenberg & Simmons, 1971); and altruism, measured by the Self-Report Altruism Scale (Rushton, Chrisjohn, & Fekken, 1981). The contextual factors postulated to influence empathy include medical specialty, participation in the Mind-Body Medicine and/or Health Justice Scholar programs at Georgetown University Medical School, and year in medical school. These contextual variables are all measured by self-report.

Descriptive Findings.

Table 4.1. displays the demographic information of age, gender, and race for the sample population. Online surveys were distributed to 786 students at Georgetown

University Medical School enrolled for the 2010 – 2011 academic year. Of those, 191

medical students completed and submitted the questionnaire, representing a response rate

of approximately 25% of the student population.

Ages ranged from 22 to 37 years, with the vast majority (77%) between the ages

of 22 and 26. 20.9% of the population was between 27 and 31, while only 2.1% were

between the ages of 32 and 37. Of the students participating in the study, 56% were

women and 44% were men. The population was overwhelming white at 85.2%. The

Asian population was a distant second at 7.9%, with Blacks at 3.7%, and Hispanics at

1.6%. The category of "other" represented 1.6% of the total population of the sample.

Table 4.1. *Characteristics of the Sample (n = 191)*

Variable	Category	N	%
Age	22 – 26	147	77.0
	27 – 31	40	20.9
	32 – 37	4	2.1
Gender	Female	107	56.0
	Male	84	44.0
Race	Asian	15	7.9
	Black	7	3.7
	Hispanic	3	1.6
	White	161	85.2
	Other	3	1.6
	Missing	2	1.0

Dimensions of Empathy.

The dependent variable, empathy, encompasses many facets, and is, therefore, often difficult to define and quantify. Seven domains are differentiated through the use of subscales from two reliable and valid instruments, the Trait Meta-Mood Scale (TMMS) (Salovey, Mayer, Goldman, Turvey, & Palfai, 1995), and the Interpersonal Reactivity Index (IRI) (Davis, 1980). Table 4.2 provides the mean, standardized mean, standard deviation, and alpha for each of the seven variables measuring empathy.

Table 4.2. *Dimensions of Empathy*

Variable	Mean	Std. Mean	S.D.	Alpha
IRI				
Fantasy	24.92	3.56	4.66	.836
Perspective Taking	25.94	3.70	4.04	.787
Empathic Concern	27.13	3.88	3.83	.782
Personal Distress	16.24	2.32	4.03	.801
TMMS				
Repair	23.29	1.94	3.82	.799
Attention	48.30	2.30	7.28	.890
Clarity	39.68	2.65	6.18	.871

Standardized means are computed by dividing the mean by the number of items in the scale. Upon review of the standardized means in Column 2 for the four sub-scales of the IRI, it is noted that *Fantasy, Perspective Taking*, and *Empathic Concern* have means that are quite similar, 3.56, 3.70, and 3.88, respectively. These calculations suggest moderate strength. Only the variable *Personal Distress* appears to be markedly different from the clustered numbers of the first three variables comprising the IRI, having a standardized mean of 2.32.

Standardized means for the subscales of the TMMS include Repair, Attention, and Clarity, with standardized means of 1.94, 2.30, and 2.65, respectively. The gap between these means is greater than those observed with the first three subscales of the IRI, and reflects weaker strength.

The alphas for the four IRI subscales range between .782 and .836, indicating high reliability of the scale. Alphas for the three TMMS subscales range from .799 to .890, again revealing that the scale is highly reliable.

Personal Factors.

Table 4.3 presents descriptive statistics collected on the personal factor variables of self-esteem, altruism, and personal experience with illness. Research has documented a relationship between self-esteem and empathy (Davis, 1996). Self-esteem, or an individual's perception of self (Rosenberg, Schooler, Schoenbach, & Rosenberg, 1995), is considered to be a critical character component for future physicians attempting to provide optimal care for patients. Research indicates that medical education is compelled

to promote self-awareness and self-esteem in medical students to maximize future physicians' full potential for healing (Cast & Burke, 2002).

Additionally, previous studies have offered evidence of reliable interrelationships between altruism and empathy-related constructs (Eisenberg & Miller, 1987; Underwood & Moore, 1982). Batson and Shaw (1991) describe an altruism-empathy path, where adopting the viewpoint of an individual in need produces empathic concern in the observer.

The final personal factor is the medical student's personal experience with illness. Research has indicated that such experience may vitally influence the essence of students' professional care to patients (DasGupta & Charon, 2004). A resounding 78% of the medical students in the present study answered yes when asked if they had "personal experience, either with self or loved one, with a serious or chronic illness such as cancer, heart disease, hypertension, lung disease, diabetes, or stroke."

Table 4.3. *Personal Factors*

Variable	Mean	Std. Mean	S.D.	Alpha
Self-Esteem	39.10	3.91	6.22	.885
Altruism	39.48	2.97	9.91	.841

Variable	Category	N	%
Experience w/ Illness	Yes	149	78.0
	No	42	22.0

Upon review of the standardized means, it is noted that self-esteem is stronger than altruism. Alphas suggest excellent reliabilities for both the self-esteem scale and the altruism scale.

Contextual Factors.

Table 4.4. provides frequencies and percentages for the three variables considered contextual factors. The literature has demonstrated that the choice of medical specialty is germane, as certain medical concentrations are linked to varying levels of empathy. Psychiatry, pediatrics, emergency, family and internal medicine tend to have physicians with the highest levels of measured empathy, while orthopedic surgery and anesthesiology have the lowest measured levels (Hojat et al., 2002). In this study, nearly a quarter of the students (22%) indicated that they do not yet know their chosen specialty. 16.8 % chose specialties other than those listed on the questionnaire. Internal medicine (15.2%) and Family medicine (10.5%) represented the two most popular specialty choices in this survey. For purposes of this study, additional analysis considers the following groupings:

- Family medicine vs. all others

- Internal medicine vs. all others

- Pediatrics vs. all others

- Orthopedic surgery and all others

The two factors concerning participation in medical school curricular offerings in the psycho-social aspects of health care are included as contextual variables because research has demonstrated positive effects in the empathy levels of participating students

(Newton, Barber, Clardy, Cleveland, & O'Sullivan, 2008; Hojat et al., 2009). Nearly half

of the participants in this study (46.1%) have participated in the extracurricular course in

Mind-Body Medicine. Far fewer (27.2%) have participated in the medical school's

Health Justice Scholar Track.

Lastly, the variable "medical school year" is considered, for there is evidence that

level of empathy declines as students move from the first year through the fourth (Hojat

et al., 2009; Newton et al., 2008). This study indicates a relatively even participation rate

across the four years, with first year at 29.3%, second year at 29.3%, third year at 22.5%,

and fourth year at 18.8%.

Table 4.4. *Contextual Factors*

Variable	Category	N	%
Medical Specialty	Psychiatry	3	1.6
	Pediatrics	18	9.4
	Emergency Medicine	11	5.9
	Family Medicine	20	10.5
	Internal Medicine	29	15.2
	Orthopedic Surgery	19	9.9
	Anesthesiology	13	6.8
	Other	32	16.8
	Don't know	42	22.0
	Missing	4	2.1
Participation in Mind/Body Course	Yes	88	46.1
	No	102	53.4
	Missing	1	.5
Participation in Justice Course	Yes	52	27.2
	No	139	72.8
Medical School Year	1st	56	29.3
	2nd	56	29.3
	3rd	43	22.5
	4th	36	18.8

Bivariate Analysis.

Table 4.5. includes the results of the Pearson's correlation coefficient analyses used to test for linear relationships between variables. All independent variables, including controls, personal factors, and contextual factors, were analyzed. No multi-collinearity was observed.

Table 4.5. *Pearson's r Correlation Analysis Results*

	1	2	3	4	5	6	7	8	9	10	11	12	13
<u>Control Variable</u>													
1. Age	1												
2. Gender	-.05	1											
3. Race	.05	-.01	1										
<u>Personal Factors</u>													
4. Self- Esteem	-.12	-.06	-.05	1									
5. Altruism	.14	.06	.03	.11	1								
6. Personal Experience w/ Illness	.03	-.01	-.06	.01	.16*	1							
<u>Contextual Factors</u>													
7. Year in School	.48**	.11	.04	-.21**	.15*	.11	1						
8. Family Medicine	.06	.20**	.05	-.15*	.16*	.10	.06	1					
9. Internal Medicine	.14	-.01	-.02	.15*	-.03	.05	.27**	-.15*	1				
10. Ortho/ Anesthes.	-.04	-.22**	-.12	.03	.01	.14	.01	-.15*	-.20**	1			
11. Pediatrics	-.09	.25**	-.01	.04	.07	-.13	-.08	-.11	-.14	-.15*	1		
12. Mind/Body	-.04	.18*	.11	.03	.11	.06	-.18*	.13	-.07	-.16*	.03	1	
13. Health/Justice	.11	-.03	.04	.04	.05	.04	-.03	.06	-.10	-.05	.00	.19**	1

** Correlation is significant at the 0.01 level (2-tailed)

* Correlation is significant at the 0.05 level (2-tailed)

Among the control variables of age, gender, and race, no statistically significant relationships were observed. Among the personal factors of self-esteem, altruism, and personal experience with illness, the sole significant finding demonstrates a positive linear relationship between personal experience with illness and altruism. Those with experience with serious and/or chronic illness, either personally or with family and friends, have higher measured levels of altruism.

In correlation analyses among the seven contextual factors listed in Table 4.5, several significant relationships were identified. Regarding year in medical school, there is an obvious and expected positive relationship with age. Those further along in medical school are chronologically older. Interestingly, there is a negative relationship between medical school year and self-esteem. Students in earlier years of medical school have higher measured levels of self-esteem. Lastly, there is a positive linear relationship between medical school year and altruism. Students in later years of medical school have higher levels of measured altruism.

For those students choosing Family Medicine as an intended or declared specialty, there is a positive linear relationship with gender. In other words, those students selecting Family Medicine are more often women. A negative linear relationship is observed between Family Medicine and self-esteem. Those students with this selected specialty have lower levels of measured self-esteem. However, students in this specialty have higher levels of altruism. There is a positive linear relationship between Family Medicine and altruism.

There is a positive linear relationship between the specialty of Internal Medicine and self-esteem. Students opting for this specialty have higher levels of measured self-esteem. There is also a positive linear relationship between Internal Medicine and medical school year. The more advanced the year, the more likely it is for the student to choose Internal Medicine. There is a negative linear relationship between Internal Medicine and Family Medicine.

Students identifying Orthopedics or Anesthesiology as intended specialties are more likely to be men. There is a negative linear relationship between these specialties and gender. Negative linear relationships are observed for the specialties of Orthopedics and Anesthesiology with both Family Medicine and Internal Medicine.

There is a positive linear relationship between the specialty of Pediatrics and gender. Women chose Pediatrics more often than men. There is a negative linear relationship between Pediatrics and Orthopedics/Anesthesiology.

In regard to participation in the psycho-social curricular electives, students opting to participate in the Mind/Body course are more likely to be women. There is a positive linear relationship between Mind/Body and gender. There is a negative linear relationship between Mind/Body and medical school year. Students in earlier years are more likely to participate in this extra-curricular elective. There is a negative linear relationship between Mind/Body and Orthopedics/Anesthesiology. Students opting for this specialty participate less in the Mind/Body course. Lastly, a positive linear relationship is identified between the Health/Justice course and the Mind/body course.

Those students participating in Health/Justice are more likely to participate in Mind/Body.

Table 4.6. presents Pearson's correlation coefficient analyses for all independent variables with the seven dimensions of empathy. Two valid and reliable instruments are utilized to measure the dependent variable, empathy. They are the Interpersonal Reactivity Index (IRI) (Davis, 1980) and the Trait Meta-Mood Scale (TMMS) (Salovey, Mayer, Goldman, Turvey, & Palfai, 1995).

The Interpersonal Reactivity Index (IRI) (Davis, 1980) includes the four sub-scales of *Fantasy, Perspective Taking, Empathic Concern*, and *Personal Distress*. The *Fantasy* scale measures a respondent's use of imagination to personally experience the emotions and behaviors of characters in fictional or creative works. Stotland er al. (1978) suggest that individuals with higher scores on the *Fantasy* scale have a greater propensity to help another person.

The *Perspective Taking* subscale measures an individual's inclination to adopt another's point of view. Davis (1983) proposes that higher scores in this subscale are associated with increased social functioning. The theoretical grounding for this conjecture stems from research conducted by Mead (1934), which underscores the importance of perspective-taking, allowing the individual the ability to anticipate the actions and reactions of others.

Empathic Concern measures an individual's ability to consider another's feelings. Scores on this subscale are presumed to be associated with global measures of emotion

(Davis, 1983). High scores are related to other sensitivity measures indicating a concern for others.

Personal Distress is defined as an individual's response to the onerous interpersonal situations of another. Unlike the previous three subscales, *Personal Distress* scores are expected to be negatively related to measures of social functioning (Davis, 1983). Rationale for this prediction emanates from the tenet that people susceptible to anxious and uncomfortable feelings are less likely to initiate and nurture healthy social relationships.

The Trait Meta-Mood Scale (TMMS) (Salovey, Mayer, Goldman, Turvey, & Palfai, 1995) itemizes the level of attention one affords his or her feelings, the experiential clarity of those feelings, and the ability to repair negative dispositions and prolong positive ones (Salovey et al., 1995). It is important to note that the TMMS is not intended to yield an all-encompassing score, but rather a distinct look at three individual factors (Perez, Petrides, & Furnham, (2005). Therefore, in this study's statistical analysis and interpretation, the three subscales are scored and considered individually.   The three domains of the TMMS include *Attention, Clarity*, and *Repair.*

The *Attention* subscale seeks to ascertain a respondent's attention to emotions, and the level of notice and perception allotted to these feelings. Constant attention to one's moods is often unproductive, particularly when this attention is not accompanied by and understanding of motivations and consequences (Thayer, Rossy, Ruiz-Padial, & Johnsen, 2003). Excessive attention to emotions without sufficient *Clarity* and *Mood*

Repair may precipitate an overly contemplative process that could maintain, rather than alleviate, a negative mood (Extremera & Fernandez-Berrocal, 2006).

The *Clarity* subscale attempts to identify the capability to comprehend one's mood. High scores in *Clarity* have been associated with greater life satisfaction (Palmer, Donaldson, & Stough, 2002; Extremera & Fernandez-Berrocal, 2005). Individuals who are cognizant of their feelings are more adept at coping with emotional problems.

Lastly, the *Repair* subscale seeks to discover the strategies employed to regulate and moderate the individual's mood. Higher scores in Mood Repair are linked to positive results in life, as this ability involves a greater capacity to abbreviate negative moods and sustain the positive ones (Williams, Fernandez-Berrocal, Extremera, Ramos, & Joiner, 2004).

The following table details the Pearson's correlation coefficient analyses for the independent variables and the dimensions of empathy. Only significant linear relationships will be discussed.

Table 4.6. *Pearson's r Correlation Analysis Results for Independent Variables and Dimensions of Empathy*

	Fantasy	Perspective Taking	Empathic Concern	Personal Distress	Repair	Attention	Clarity
Age	-.02	-.05	-.04	-.01	-.01	.13	.04
Gender	.22**	.05	.31**	.25**	.16*	.25**	-.09
Race	.11	.03	.02	-.03	.14	.08	.03
Self-Esteem	.12	.11	.11	-.39**	.54**	.06	.36**
Altruism	.18*	.17*	.30**	-.17*	.28**	.15*	.09
Personal Experience w/ Illness	.11	.19**	.08	-.05	.09	.13	.04
Year in School	-.05	-.02	-.03	.10	-.09	.09	.04
Family Medicine	.09	.11	.17*	.22**	.02	.26**	-.13
Internal Medicine	.02	-.00	.03	-.00	.11	-.01	.05
Ortho/Anesthes.	-.12	-.09	-.32**	-.08	-.16*	-.22**	-.08
Pediatrics	.08	-.02	.22**	.07	.06	.03	-.11
Mind/Body	.21**	.20**	.25**	.06	.22**	.35**	.02
Health/Justice	.07	.06	.12	-.00	.09	.07	.12

   * $p \leq .05$
 ** $p \leq .01$

As shown in Table 4.6, there are several significant relationships between the independent variables and the seven dimensions of empathy. There are positive linear relationships between gender and *Fantasy, Empathic Concern, Personal Distress, Repair* and *Attention*. In other words, women have higher scores in *Fantasy, Empathic Concern, and Repair* - all suggesting higher measured levels of empathy than men. However, the positive linear relationships between gender and *Personal Distress* and gender and *Attention* suggest women have more distress and pay more constant attention to their moods.

With regard to self-esteem, analysis reveals a negative linear relationship with *Personal Distress*. Those with higher self-esteem have less *Personal Distress*. There are positive linear relationships between self-esteem and *Repair* and self-esteem and *Clarity*. Those with higher self-esteem have higher scores in *Repair* and *Clarity*, suggesting those with greater self-esteem have higher measured empathy in these dimensions.

Correlation analysis of altruism reveals significant linear relationships with six of the seven dimensions of empathy. A positive linear relationship between altruism and *Fantasy* suggests individuals with higher altruism have greater ability to utilize imagination to experience the feelings of others. A positive linear relationship also exists between altruism and *Perspective Taking*. Those scoring higher in measures of altruism have a tendency to comprehend another's point of view. The positive linear relationship between altruism and *Empathic Concern* indicates individuals with greater altruism also exhibit a comprehension of another's feelings. The negative linear relationship between altruism and *Personal Distress* suggests those with greater altruism have less distress.

There is a positive linear relationship between altruism and *Repair*. The greater the altruism, the greater the ability to identify and repair negative mood states. Although the relationships with the first five dimensions of empathy suggest those with greater altruism score higher on measures of empathy, the positive linear relationship between altruism and *Attention* indicates those with greater altruism tend to pay constant attention to the state and causes of their moods.

Individuals with personal experience with serious and/or chronic illness, either with self or family and loved ones, have a greater ability to comprehend and to embrace another's point of view. There is a positive linear relationship between personal experience with illness and *Perspective Taking*. There is a negative linear relationship between personal experience with illness and *Personal Distress*. Those who have had personal experience with illness are less likely to experience distress.

The positive linear relationship between Family Medicine, as a chosen specialty, and *Empathic Concern* suggests students opting for this specialty have more regard for another's feelings. However, the positive linear relationship between Family Medicine and *Personal Distress* suggests those choosing this specialty feel more distress. Similarly, the positive linear relationship between Family Medicine and *Attention* implies those selecting Family Medicine pay persistent attention to their own feelings.

Analyses of the combined medical specialty category of Orthopedics and Anesthesiology with dimensions of empathy support the hypothesis that individuals choosing these specialties are less empathic. The negative linear relationship between this specialty category and *Empathic Concern* suggests individuals in this group have less

recognition and understanding of another's point of view. Analysis also indicates that students in these specialties have a lower capacity to interrupt negative moods, and less ability to prolong positive mood states. However, the negative linear relationship between Orthopedics/Anesthesiology and *Attention* suggests individuals in these specialties do not constantly attend to their emotions.

Analyses of the specialty of Pediatrics with the seven dimensions of empathy provide a singular significant correlation. Students opting for this specialty have greater levels of *Empathic Concern*. There is a positive linear relationship between Pediatrics and *Empathic Concern*.

The variable of participation in the Mind/Body course demonstrates significant linear relationships with five of the dimensions of empathy. Those students enrolled in this course have an increased ability to use their imaginations to experientially comprehend the emotions and behaviors of characters in fictional works. There is a positive linear relationship between Mind/Body and Fantasy. Similarly, course participants demonstrate a greater ability to embrace another's point of view. There is a positive linear relationship between Mind/Body and Perspective Taking. The positive linear relationship between Mind/Body and *Empathic Concern* indicates that students opting for this psycho-social extracurricular offering have an increased capacity to identify and comprehend the feelings of others. These student participants also score highly in the ability to identify and rectify their moods. There is a positive linear relationship between participation in the Mind/Body course and *Repair*. Although all of the relationships for this variable identified above support the hypothesis that students

opting for this type of psycho-social extracurricular offering tend to be more empathic, the positive linear relationship between Mind/Body and *Attention* suggests these students score higher in the category of attention to emotion. As mentioned in the brief definition of *Attention* offered earlier, excessive contemplation of one's emotions without sufficient *Clarity* and *Mood Repair* may precipitate an overly-contemplative process that could maintain, rather than alleviate, a negative mood (Extremera & Fernandez-Berrocal, 2006).

Multivariate Analysis.
Table 4.7   *Multiple Regression Analysis of Fantasy on Control & Independent Variables*

	Model 1[a]		Model 2[b]		Model 3[c]		Final Model[d]	
	B	**Beta**	**B**	**Beta**	**B**	**Beta**	**B**	**Beta**
Age	-.023	-.011	-.041	-.020	.014	.007		
Gender	2.040	.218*	2.037	.218*	1.729	.185*	1.939	.207*
Race	1.386	.109	1.488	.117	1.240	.097		
Self-Esteem			.093	.124	.078	.104		
Altruism			.066	.140*	.063	.133**	.080	.170*
Pers. Exp. w/ Illness			1.118	.100	1.171	.104		
Year in School					-.296	-.069		
Family Medicine					.267	.018		
Internal Medicine					.385	.030		
Ortho/Anesthes.					-.674	-.054		
Pediatrics					.319	.020		
Mind/Body					1.072	.115		
Health/Justice					.357	.034		
Intercept	23.182		16.479		16.212		20.667	
R^2	.059		.112		.140		.076	

*$p \le .05$; **$p \le .10$

[a] $= F = 3.924$; df 3/187; $p \le .05$

[c] $= F = 2.213$; df 13/177; $p \le .05$

[b] $= F = 3.874$; df 6/184; $p \le .05$

[d] $= F = 7.771$; df 2/188; $p \le .05$

The multiple regression analyses will now be discussed, and the data are presented in table format. Table 4.7 presents the multiple regression analysis of *Fantasy* on the control and independent variables. The first model was run entering only the control variables of age, gender and race with the dependent variable, *Fantasy*. Only gender proved to be significant with a positive linear relationship indicating that women scored higher in this empathy domain. The model is significant, and six percent of the variance in Fantasy is explained by gender.

In the second model, the personal factors of self-esteem, altruism, and personal experience with illness were added to the three control variables. In this run, two significant relationships are identified. There is a positive linear relationship between gender and *Fantasy*. Women score higher than men. Additionally, a positive linear relationship exists between altruism and *Fantasy*. Those who are more altruistic possess greater ability to utilize fantasy to experience emotions. The model is significant, and eleven percent of the variance in *Fantasy* is explained by gender and altruism.

The third model includes all thirteen independent variables, with the addition of the contextual variables of the specialty categories of Family Medicine, Internal Medicine, Orthopedics/Anesthesiology, and Pediatrics, and the extra-curricular psycho-social course offerings of Mind/Body and Health/Justice. Once again, there is a positive linear relationship between gender and *Fantasy*, with women demonstrating higher scores than men. There is also a positive linear relationship between altruism and *Fantasy*, again suggesting that those with higher scores in altruism have higher scores in *Fantasy*.

The model is significant, and fourteen percent of the variance in *Fantasy* is explained by gender and altruism.

The final model was run selecting only those variables in model three that were significant at either $p \leq .05$ or $p \leq .10$. As seen in models two and three, there is a positive linear relationship between both gender and altruism with *Fantasy*. The model is significant, and 8 percent of the variance in *Fantasy* is explained by gender and altruism.

Table 4.8. *Multiple Regression Analysis of Perspective Taking on Control & Independent Variables*

	Model 1[a]		Model 2[b]		Model 3[c]		Final Model[d]	
	B	**Beta**	**B**	**Beta**	**B**	**Beta**	**B**	**Beta**
Age	-.095	-.052	-.121	-.067	-.154	-.085		
Gender	.366	.045	.355	.044	-.102	-.013		
Race	.358	.032	.479	.043	.123	.011		
Self-Esteem			.060	.092	.070	.108		
Altruism			.055	.135	.046	.112		
Pers. Exp. w/ Illness			1.716	.176*	1.650	.169*	1.772	.182*
Year in School					.165	.044		
Fam. Med.					.710	.054		
Intern. Med.					-.297	-.026		
Ortho/ Anesthes.					-1.073	-.099		
Pediatrics					-.405	-.029		
Mind/Body					1.202	.149**	1.494	.185*
Health/Just.					.138	.015		
Intercept	27.855		22.577		23.204		23.87	
R^2	.006		.074		.113		.071	

*$p \leq .05$; **$p \leq .10$ [a] = F = .369; df 3/187; *NS*   [b] = F = 2.438; df 6/184; $p \leq .05$ [c] = F = 1.726; df 13/177; *NS*   [d] = F = 7.210; df 2/188; $p \leq .05$

Table 4.8 illustrates the multiple regression analysis of *Perspective Taking* on the control and independent variables. Model 1 is not significant, and none of the control variables proved to be significant. With the addition of the personal factors to the control variables in Model 2, there is a positive linear relationship between personal experience with illness and *Perspective Taking*. Those who have had experience with a serious and/or chronic illness, either with self or loved ones, have increased ability to adopt another's viewpoint. The model is significant, and seven percent of the variance in *Perspective Taking* is explained by personal experience with illness.

Model 3 displays result from the statistical run of *Perspective Taking* on all thirteen independent variables. As seen in Model 2, individuals with personal experience with illness are more adept at embracing another's point of view. There is a positive linear relationship between personal experience with illness and *Perspective Taking*. The positive linear relationship between Mind/Body and *Perspective Taking* indicates that students participating in the Mind/Body course have greater perspective-taking capabilities. The model is not significant, and eleven percent of the variance in *Perspective Taking* is explained by personal experience with illness and participation in the Mind/Body course.

The final model, run with only significant variables from Model 3, supports the findings of the third model. There are positive linear relationships between both personal experience with illness and Mind/Body with *Perspective Taking*. The model is significant, and seven percent of the variance in *Perspective Taking* is explained by personal illness experience and participation in the Mind/Body course.

Table 4.9 details the multiple regression analysis of *Empathic Concern* on the control and independent variables. Model 1 indicates a positive linear relationship between gender and *Empathic Concern*. Women display regard for another's emotions more often than men. This model is significant, and ten percent of the variance in *Empathic Concern* is explained by gender.

In Model 2, with the inclusion of the personal factors, there are positive linear relationships with both gender and altruism in regard to *Empathic Concern*. Women, and individuals demonstrating more altruistic behavior, are more aware of the feelings of others. This model is significant, and nineteen percent of the variance in *Empathic Concern* is explained by gender and altruism.

Table 4.9. *Multiple Regression Analysis of Empathic Concern on Control & Independent Variables*

	Model 1[a]		Model 2[b]		Model 3[c]		Final Model[d]	
	B	Beta	B	Beta	B	Beta	B	Beta
Age	-.039	-.023	-.089	-.052	-.091	-.053		
Gender	2.384	.310*	2.291	.298*	1.407	.183*	1.424	.185*
Race	.218	.021	.217	.021	-.228	-.022		
Self-Esteem			.060	.097	.053	.087		
Altruism			.105	.272*	.095	.246*	.103	.267*
Pers. Exp. w/ Illness			.371	.040	.693	.075		
Year in School					-.068	-.019		
Fam. Med.					.801	.064		
Int. Med.					.285	.027		
Ortho/ Anesthes.					-2.466	-.241*	-2.454	-.240*
Pediatrics					1.679	.129**	1.512	.116**
Mind/Body					.883	.115**	1.097	.143*
Health/Just.					.602	.070		
Intercept	26.602		21.146		22.191		22.020	
R²	.098		.191		.302		.275	

*$p \le .05$; **$p \le .10$ [a] = F = 6.745; df 3/187; $p \le .05$ [b] = F = 7.227; df 6/184; $p \le .05$ [c] = F = 5.887; df 13/177; $p \le .05$ [d] = F = 14.061; df 5/185; $p \le .05$

In Model 2, with the inclusion of the personal factors, there are positive linear relationships with both gender and altruism in regard to *Empathic Concern*. Women, and individuals demonstrating more altruistic behavior, are more aware of the feelings of others. This model is significant, and nineteen percent of the variance in *Empathic Concern* is explained by gender and altruism.

With the inclusion of all independent variables in Model 3, findings indicate positive linear relationships between both gender and altruism, also seen in Model 1. Two medical specialties were significant. Individuals choosing either Orthopedics or Anesthesiology as a future specialty have lower scores in *Empathic Concern*, thereby indicating a negative linear relationship. Conversely, students opting for Pediatrics have higher levels of *Empathic Concern*. There is a positive linear relationship between Pediatrics and *Empathic Concern.* Lastly, the positive linear relationship between Mind/Body and *Empathic Concern* demonstrates that students participating in the psycho-social extra-curricular course have higher scores in *Empathic Concern*. This model is also significant, and thirty percent of the variance in *Empathic Concern* is explained by gender, altruism, Orthopedics/Anesthesiology, Pediatrics and Mind/Body.

The final model presents significant relationships in the same five variables detailed in Model 3. There are positive linear relationships between gender, altruism, Pediatrics, and Mind/Body with *Empathic Concern*. A negative linear relationship is observed between Orthopedics/Anesthesiology and *Empathic Concern*, suggesting individuals choosing this specialty have lower scores in Empathic Concern. This final model is significant, and twenty-eight percent of the variance in *Empathic Concern* is

explained by gender, altruism, Orthopedics/Anesthesiology, Pediatrics, and Mind/Body.

Table 4.10 details the multiple regression analysis of *Personal Distress* on the control and independent variables. Model 1 illustrates a positive linear relationship between gender and *Personal Distress*. Women experience more distress than men. This model is significant, and indicates that six percent of the variance in *Personal Distress* is explained by gender.

Table 4.10. *Multiple Regression Analysis of Personal Distress on Control & Independent Variables*

	Model 1[a]		Model 2[b]			Model 3[c]			Final Model[d]	
	B	Beta	B	Beta	B	Beta	B	Beta	B	Beta
Age	2.944E-S	.000	-.044	-.024	-.097	-.053				
Gender	1.992	.246*	1.859	.229*	1.376	.170*			1.661	.205*
Race	-.259	-.023	-.433	-.039	-.543	-.049				
Self-Esteem			-.237	-.366*	-.230	-.354*			-.217	-.335*
Altruism			-.052	-.127	-.066	-.162*			-.066	-.162*
Pers. Exp. w/ Illness			-.256	-.026	-.453	-.047				
Year in School					.142	.038				
Family Med.					2.417	.184*			1.996	.152*
Internal Med.					1.084	.097				
Ortho/Anesthes.					.386	.036				
Pediatrics					1.093	.079				
Mind/Body					.418	.052				
Health/Justice					.215	.024				
Intercept	15.337		28.175		29.159				26.188	
R^2	.061		.221		.259				.240	

*$p \leq .05$; **$p \leq .10$ [a] = F = 4.055; df 3/187; $p \leq .05$ [b] = F = 8.713; df 6/184; $p \leq .05$ [c] = F = 4.751; df 13/177; $p \leq .05$ [d] = F = 14.651; df 4/186; $p \leq .05$.

Model 2 offers that, once again, there is a positive linear relationship between gender and *Personal Distress,* where women score higher on distress measures. There is a negative linear relationship between self-esteem and *Personal Distress*. Individuals with greater self-esteem have less distress. The model is significant, and twenty-two percent of the variance in *Personal Distress* is explained by gender and self-esteem.

With the inclusion of all independent variables in Model 3, four significant relationships are noted. There is a positive linear relationship between gender and *Personal Distress*, suggesting women have more distress. There are negative linear relationships between both self-esteem and altruism with *Personal Distress*. Individuals with higher self-esteem and altruistic traits have less distress. The specialty of Family Medicine indicates a positive linear relationship with the dependent variable. Students opting for this specialty have higher measured levels of *Personal Distress*. The model is significant, and twenty-six percent of the variance in *Personal Distress* is explained by gender, self-esteem, altruism, and Family Medicine.

Similar to the findings detailed in Model 3, the final model illustrates positive linear relationships for both gender and the specialty of Family Medicine with *Personal Distress*. Conversely, the negative linear relationships for both self-esteem and altruism suggest that individuals possessing those traits have less distress. This model is significant, and twenty-four percent of the variance in *Personal Distress* is explained by gender, self-esteem, altruism, and Family Medicine.

Table 4.11 depicts findings from the multiple regression analysis of *Repair* on the control and independent variables. In Model 1 where only control variables are included,

there is a positive linear relationship between gender and *Repair*. Women have an

increased capacity to interrupt their negative moods, and prolong the positive ones. The

model is significant, and five percent of the variance in *Repair* is explained by gender.

Table 4.11. *Multiple Regression Analysis of Repair on Control & Independent Variables*

	Model 1[a]		Model 2[b]		Model 3[c]		Final Model[d]	
	B	Beta	B	Beta	B	Beta	B	Beta
Age	-.018	-.011	.041	.024	.052	.030		
Gender	1.248	.163*	1.433	.187*	1.154	.151*	1.039	.136*
Race	1.430	.137	1.688	.161*	1.421	.136*	1.372	.131*
Self-Esteem			.331	.540*	.321	.524*	.326	.532*
Altruism			.074	.192*	.073	.190*	.076	.197*
Pers. Exp. w/ Illness			.582	.063	.635	.069		
Year in School					-.118	-.034		
Family Medicine					-.093	-.007		
Internal Medicine					.301	.028		
Ortho/Anesthes.					-1.140	-.112**	-1.109	-.109**
Pediatrics					-.262	-.020		
Mind/Body					.899	.118**	.997	.131*
Health/Justice					.218	.025		
Intercept	21.851		3.707		4.166		5.544	
R^2	.045		.401		.435		.427	

$*p \leq .05$; $**p \leq .10$ [a] $= F = 2.944$; df 3/187; $p \leq .05$ [b] $= F = 20.568$; df 6/184; $p \leq .05$ [c] $= F = 10.475$; df 13/177; $p \leq .05$ [d] $= F = 22.882$; df 6/184; $p \leq .05$

Model 2, which contains control variables and personal factors, suggests positive linear relationships for gender, race, self-esteem and altruism. Women, whites, and individuals with higher scores in self-esteem and altruism possess greater ability to identify and repair their mood states. The model is significant, and forty percent of the variance in *Repair* is explained by gender, race, self-esteem, and altruism.

With the inclusion of all the independent variables in Model 3, findings suggest positive linear relationships for gender, race, self-esteem and altruism. Women, whites, and individuals with higher scores in self-esteem and altruism possess greater ability to identify and repair their mood states. The negative linear relationship between Orthopedics/Anesthesiology and *Repair* suggests students selecting this specialty have lower skills in *Repair*. There is a positive linear relationship between Mind/Body and *Repair*. Participants in this course have increased capacity to manage their mood states. Model 3 is significant, and forty-four percent of the variance in *Repair* is explained by gender, race, self-esteem, altruism, Orthopedics/Anesthesiology, and Mind/Body.

The final model replicates the findings of Model 3. Women, whites, individuals with higher scores in self-esteem and altruism, and participants in the Mind/Body course possess greater ability to identify and repair their mood states. Conversely, students identifying Orthopedics/Anesthesiology as a specialty have lesser ability in mood state repair. The model is significant, and forty-three percent of the variance in *Repair* is explained by gender, race, self-esteem, altruism, Orthopedics/Anesthesiology, and Mind/Body.

Table 4.12 summarizes the multiple regression analysis of *Attention* on control and independent variables. In the run of control variables in Model 1, there are positive linear

relationships between both age and gender with *Attention*. Students who are older and white, are

more likely to pay an inordinate amount of attention to their moods than those who are younger

and non-white. This model is significant, and nine percent of the variance in *Attention* is

explained by age and gender.

Table 4.12. *Multiple Regression Analysis of Attention on Control & Independent Variables*

	Model 1[a]		Model 2[b]		Model 3[c]		Final Model[d]	
	B	Beta	B	Beta	B	Beta	B	Beta
Age	.465	.143*	.444	.136	.370	.113		
Gender	3.798	.260*	3.815	.261*	2.063	.141*	2.119	.145*
Race	1.440	.072	1.621	.081	.493	.025		
Self-Esteem			.103	.088	.152	.130**	.108	.092
Altruism			.064	.087	.023	.031		
Pers. Exp. w/ Illness			2.177	.124	1.948	.111**	2.136	.122**
Year in School					.600	.090		
Family Medicine					3.592	.151*	4.131	.174*
Internal Med.					-1.336	-.066		
Ortho/Anesthes.					-2.851	-.147*	-2.654	-.137*
Pediatrics					-.151	-.006		
Mind/Body					4.120	.283*	3.879	.266*
Health/Justice					-.401	-.025		
Intercept	33.118		25.247		26.135		39.468	
R^2	.090		.126		.257		.226	

*$p \leq .05$; **$p \leq .10$ [a] = F = 6.167; df 3/187; $p \leq .05$ [b] = F = 4.416; df 6/184; $p \leq .05$ [c] = F = 4.702; df 13/177; $p \leq .05$ [d] = F = 8.951; df 6/184; $p \leq .05$

With the inclusion of the personal factors of self-esteem, altruism, and personal experience with illness in Model 2, analysis reveals a positive linear relationship between gender and *Attention*. Women have higher scores in *Attention* than do men. The model is significant, and thirteen percent of the variance in *Attention* is explained by gender.

In Model 3, where all independent variables are included, several significant linear relationships are evident. There is a positive linear relationship between gender and *Attention*. Women are more likely than men to focus attention on their mood states. In a somewhat surprising finding, there is a positive linear relationship between self-esteem and *Attention,* suggesting individuals with higher self-esteem are more likely to pay constant attention to their moods than those with lower self-esteem. There is also a positive linear relationship between personal experience with illness and *Attention.* Therefore, those with personal experience are more likely to focus on their moods than those who have not personally experienced a serious illness. Those students selecting Family Medicine as a specialty are more likely to focus on their moods than those not choosing this specialty. There is a positive linear relationship between Family Medicine and *Attention.* In contrast, individuals opting for the specialties of Orthopedics or Anesthesiology are less likely to pay constant attention to their moods than those in other specialties. There is a negative linear relationship between Orthopedics/Anesthesiology and *Attention*. Lastly, students participating in the Mind/Body course are more likely to focus on their mood states than those not participating in this extra-curricular elective. There is a positive linear relationship between Mind/Body and *Attention.* The model is significant, and twenty-six

percent of the variance in *Attention* is explained by gender, self-esteem, personal experience with illness, Family Medicine, Orthopedics/Anesthesiology and Mind/Body.

In the final model, findings reveal duplications of all the significant linear relationships found in Model 3. This model is also significant, and twenty-three percent of the variance in *Attention* is explained by gender, self-esteem, personal experience with illness, Family Medicine, Orthopedics/Anesthesiology and Mind/Body.

Table 4.13 offers the findings of the multiple regression analysis of *Clarity* on control and independent variables. In the run of the control variables in Model 1, no significant relationships are identified, and the model is not significant.

Table 4.13. *Multiple Regression Analysis of Clarity on Control & Independent Variables*

	Model 1[a]		Model 2[b]		Model 3[c]		Final Model[d]	
	B	Beta	B	Beta	B	Beta	B	Beta
Age	.089	.032	.187	.067	-.031	-.011		
Gender	-1.101	-.089	.830	-.067	-.654	-.053		
Race	.457	.027	.760	.045	.410	.024		
Self-Esteem			.357	.359*	.381	.383*	.373	.375*
Altruism			.028	.045	.037	.059		
Pers. Experience w/ Illness			.471	.032	.487	.033		
Year in School					.870	.153**	.671	.118**
Family Medicine					-2.946	-.146*	-2.275	-.113**
Internal Medicine					-1.973	-.115		
Ortho/Anesthes.					-2.823	-.171*	-2.189	-.133*
Pediatrics					-3.457	-.164*	-3.236	-.153*
Mind/Body					-.017	-.001		
Health/ Justice					1.355	.098		
Intercept		37.648		19.341		22.797		224.463
R^2		.010		.144		.213		.182

$*p \leq .05$; $**p \leq .10$

[a] $= F = .629$; df 3/187; *NS*   [b] $= F = 5.148$; df 6/184; $p \leq .05$ [c] $= F = 3.679$; df 13/177; $p \leq .05$ [d] $= F = 8.214$; df 5/185; $p \leq .05$

Model 2 shows the inclusion of the three personal factors. The only significant linear relationship is a positive one between self-esteem and *Clarity*. Individuals with higher self-esteem are more likely to recognize and comprehend their emotional states than those with lower self-esteem. The model is significant, and fourteen percent of the variance in *Clarity* is explained by self-esteem.

With the inclusion of all thirteen independent variables in Model 3, five significant linear relationships are identified. There is a positive linear relationship between self-esteem and *Clarity*. Those with higher self-esteem are more likely to clearly identify their moods. There is also a positive linear relationship between year in medical school and *Clarity*. The more advanced the year, the greater the *Clarity*. Students selecting Family Medicine as a specialty are less likely to have a clear understanding of their moods than students in other specialties. There is a negative linear relationship between Family Medicine and *Clarity*. Similarly, students identifying Orthopedics/Anesthesiology as a specialty are less likely to be able to clearly recognize their moods than students in other specialties. There is a negative linear relationship between Orthopedics/Anesthesiology and *Clarity*. Lastly, a negative linear relationship also exists between Pediatrics and *Clarity*. Students selecting this specialty are less likely to have clarity of emotional thought than students in other specialties. This model is significant, and twenty-one percent of the variance in *Clarity* is explained by self-esteem, year in medical school, Family Medicine, Orthopedics/Anesthesiology and Pediatrics.

In an effort to summarize significant findings, Table 4.14 offers a synopsis of the significant variables explaining the seven dimensions of empathy in all models. Unless

identified as a negative relationship, all variables have positive linear relationships with the

dimensions of empathy. The discussion will focus on the final model, and expanded

explanations will be offered for the five variables demonstrating the most significance. Only

Internal Medicine and Health/Justice demonstrated no significant relationships with the

dimensions of empathy.

Table 4.14. ***Significant Variables Explaining the Dimensions of Empathy***

	Model 1	Model 2	Model 3	Final Model
Age	Attention			
Gender	Fantasy Empathic Concern Personal Distress Repair Attention	Fantasy Empathic Concern Personal Distress Repair Attention	Fantasy Empathic Concern Personal Distress Repair Attention	Fantasy Empathic Concern Personal Distress Repair Attention
Race		Repair	Repair	Repair

Self-Esteem		Personal Distress
		  (negative relat.)
		Repair
		Clarity
			Personal Distress
			  (negative relat.)
			Repair
			Attention
			Clarity
				Personal Distress
				  (negative relat.)
				Repair
				Attention
				Clarity

Altruism		Fantasy Empathic Concern Repair	Fantasy Empathic Concern Personal Distress (negative relat.) Repair	Fantasy Empathic Concern Personal Distress (negative relat.) Repair
Personal Exp. w/ Illness School Year		Perspective Taking	Perspective Taking Attention Clarity	Perspective Taking Attention Clarity
Fam. Med.			Personal Distress Attention Clarity (neg. relat.)	Personal Distress Attention Clarity (neg. relat.)
Inter. Med.				
Ortho/Anes.			Empathic Concern (neg. relat.) Repair (neg. relat.) Attention (neg. relat) Clarity (neg. relat.)	Empathic Concern (neg. relat.) Repair (neg. relat.) Attention (neg. relat) Clarity (neg. realt.)
Pediatrics			Empathic Concern Clarity (neg. relat.)	Empathic Concern Clarity (neg. relat.)
Mind/Body			Perspective Taking Empathic Concern Repair Attention	Perspective Taking Empathic Concern Repair Attention
Health/Justice				

The Importance of Gender.

One of the most surprising findings in this study is the significance of the control variable, gender, across five of the seven dimensions of empathy. As seen in Table 4.10, women have higher measures than men on *Fantasy, Empathic Concern, Personal Distress, Repair,* and *Attention*. As described earlier in this chapter, higher scores in *Fantasy, Empathic Concern*, and *Repair* correlate with greater empathy. However, a positive linear relationship between Personal Distress and gender suggests women have more distress than men. Similarly, the positive linear relationship between *Attention* and gender proposes women pay constant attention to their mood states.

The Importance of Self-Esteem.

In support of the hypothesis that posits medical students with higher levels of self-esteem have greater empathy, Table 4.10 reflects this fact. To summarize, individuals with greater self-esteem have less personal distress, an increased capacity to interrupt their negative moods, and prolong the positive ones, and more clarity in the identification of their emotional states. The positive linear relationship between *Attention* and self-esteem indicates that those with greater self-esteem have a tendency to pay constant attention to their moods.

The Importance of Altruism.

The four significant linear relationships identified with altruism support the study's hypothesis that students with higher measured levels of altruistic traits are more empathic than those students with lower scores on an altruism scale. Specifically, the data suggests that those who are more altruistic possess a greater ability to utilize fantasy

to experience emotions. Additionally, the more altruistic the individual, the greater the ability to interrupt negative mood states and to prolong positive ones. The data also reflects the fact that altruistic individuals demonstrate more empathic concern, and suffer less personal distress.

The Importance of the Mind/Body Curricular Offering.

In concurrence with the hypothesis postulating that students participating in psycho-social extra-curricular electives will have higher levels of measured empathy, the data reflects this tenet. Specifically, those students enrolled in the Mind/Body curriculum at Georgetown University School of Medicine have higher levels of empathy across several dimensions. With elevated measure in the *Perspective Taking* dimension of empathy, students enrolled in this program are more likely to embrace another's point of view. Scores in *Empathic Concern* are higher for these students than for those not enrolled in this course, indicating a regard for another's feelings. The higher scores in *Repair* in this group of students suggest a greater capacity to recognize, manage, and repair mood states. In fact, "a high score in the mood repair factor has been associated with better general results in life" (Extremera & Fernandez-Berocal, 2006, p.46). Although a high score in *Attention* may signal an overly zealous contemplation of one's moods, it is also an indication of one's capacity to consider emotional states, which is an important component in empathy.

Significant Findings for Orthopedics/Anesthesiology.

The medical specialty category of Orthopedics/Anesthesiology is one of the four most significant variables. As opposed to gender, self-esteem, and altruism – all mainly

positively correlating with empathy - the negative linear relationship between Orthopedics/Anesthesiology and four dimensions of empathy support the hypothesis that those who have selected either orthopedic surgery or anesthesiology as specialties have lower measured levels of empathy. Results of this study indicate that these students have less empathic concern, less ability to manage and repair their mood states, and less emotional clarity. The negative linear relationship between this specialty category and *Attention* implies that this group of students is less contemplative when it comes to their own emotional states.

Summary.

This chapter has delineated the descriptive findings, as well as the bivariate and multivariate analyses related to the hypotheses. The ensuing chapter will present an all-encompassing summary. In addition, limitations of the study will be discussed, as well as the implications for social work practice, research, and involvement in medical education. Implications for Georgetown University School of Medicine will also be explored.

Chapter Five: Summary and Conclusions

This chapter provides a summary of the previous chapters. Additionally, the study's limitations, contributions and recommendations will be articulated.

Introduction and Background of the Problem.

Despite the fact that research has validated and emphasized the importance of empathy in the establishment of the physician-patient relationship (Norfolk, Birdi, & Walsh, 2007), little empirical research has been undertaken to identify and measure the factors related to the development of empathy among medical students. Several studies have suggested that the quality of the doctor-patient relationship not only influences the patient's perception and attitudes toward disease (Lerman et al., 1993), but also precipitates positive, measurable results, including quality of life and improved health outcomes (Baile & Aaron, 2005; Barrier, Li, & Jensen, 2003; Stewart, 1995; Traveline, Ruchinskas, & D'Alonzo, 2005; Teutsch, 2003). Furthermore, the preponderance of the literature supports the premise that effective and empathic communication is an integral part of a strong patient-physician relationship (Baile & Aaron, 2005; Barrier, Li, & Jensen, 2003; Stewart, 1995; Teutsch, 2003).

According to Nadelson (1993), empathic medicine is ethical medicine. Indeed, the existence of this physician-patient dyadic relationship is reliant upon the physician's ability to comprehend the "patient's cognitive and affective states" (Hojat et al., 2001). In a specific medical context, Hojat et al. (2001) define empathy as a nonjudgmental understanding of a patient's feelings and experiences as an individual being. There is an

important distinction to be made with sympathy, as empathy is described as a cognitive rather than affective approach (Nightingale, Yarnold, & Greenberg, 1991). A physician's inability to assess both verbal and nonverbal cues may interfere with accurate diagnoses and appropriate treatments (Neuwirth, 1997). In fact, research has shown optimal clinical outcomes depend on not only biomedical expertise, but also, in the physician's ability to comprehend the psychosocial factors of illness (Spiro, 1992).

Purpose of the Study.

The purpose of this study was to explore both personal and contextual factors posited to influence levels of empathy in medical students. It was hypothesized that the personal factors of self-esteem, altruism, and personal exposure to a serious or chronic illness with self or loved one, influence levels of empathy in medical students. It was also postulated that the contextual factors of medical school year, chosen medical specialty, and participation in psycho-social extra-curricular electives, influence levels of empathy in medical students. Research has shown optimal clinical outcomes for patients depend on not only biomedical expertise, but also on the physician's ability to comprehend the psychosocial factors of illness (Spiro, 1992).

Review of the Literature.

Theory.

This study addresses the issue of empathy development in medical students through the application of symbolic interaction and role theories (Stryker & Statham, 1985). The concept of empathy, or the ability to take the role of the other, is central to both symbolic interaction (Mead, 1934) and role theory (Cooley, 1902).

An understanding of the ability to take on the role of another is critical in the formulation of a physician empathy model. In the consideration of a multi-dimensional concept such as physician empathy, it is particularly important to consider role-taking when dissecting the concept into several dimensions. In an assessment of a physician's ability to empathize, one must consider whether or not the cognitive, or beliefs dimension, can be assimilated. In an affect dimension, an observer might look for the physician's ability to experientially assume the role of the patient. In a third dimension of the concept of physician empathy, actual behavior demonstrating the ability to operationalize the construct is imperative.

Socialization, a construct central to this theoretical framework, is here defined as the incorporation of the newcomer into systematic patterns of interaction (Clausen, 1968). Role-taking, a concept in both symbolic interaction and role theories, emphasizes the "need to analyze social phenomena from the perspectives of participants in social processes … " (Stryker & Statham, 1985, p. 312). Symbolic interaction theorists, in particular, would offer that professional socialization is critical to the understanding of

the transformation of the medical student to physician (Becker, Geer, Hughes, & Strauss, 1961).

Empathy.

The term empathy was ostensibly conceived by Titchener in 1909 to translate the German word *Einfuhlung*, or the process of using one's intuition to observe an object or occurrence from the inside (Wispe, 1986). By the mid-twentieth century, empathy had acquired a more cognitive definition in clinical usage, and referenced the accurate and objective understanding of another's point of view concerning his or her unique situation (Dymond, 1949; Hogan, 1969). With this interpretation, empathy is interpreted as role taking or perspective taking (Krebs & Russell, 1981; Underwood & Moore, 1982).

Within the last thirty years, empathy has been defined in a more detailed emotional sense. Empathy references compatible vicarious emotions that focus more on others than on self (Batson et al., 1981; Coke, Batson, & McDavis (1978); Toi & Batson, 1982). Coulehan et al. (2001) explain that there are three dimensions of empathy: cognitive, emotional, and action. The cognitive element represents the physician's ability to comprehend the patient's perspective. The emotional facet deals with the clinician's attempt to take on the role of the patient. Lastly, the action component of empathy requires the physician to communicate understanding to the patient.

Some argue that the current emphasis on the technological advances in disease treatment has overshadowed the importance of the art of healing (Hojat et al., 2001). Although the treatment of physical pathology may not require empathic communication, the overall caring of the patient necessitates a humanistic approach (Novack, 1987;

Novack, Epstein, & Paulsen, 1999). Hojat et al. (2001, p. 350) suggest that the merging

of the "science of medicine (biomedical aspect of disease) and the art of medicine

(psychosocial aspect of illness) into a single discipline" precipitates the best outcome for

the patient.

Although researchers agree that empathy positively affects both clinical outcomes

and improved interpersonal relationships (Spiro, Mccrea Curren, Peschel, & James, 1993;

Nightingale, Yarnold, & Greenberg, 1991; Olsen, 1996), they disagree on its components

and definition (Hojat et al., 2002). With health care as a frame of reference, empathy is

defined as a cognitive, rather than affective, characteristic that encompasses the ability to

comprehend the inner perspectives of the patient, and the capacity to communicate this

awareness to the patient. In this definition, the critical component is the physician's

ability to understand and communicate without becoming affectively involved in the

patient's experiences (Hojat et al, 2002).

With a specific elucidation of physician empathy, Mercer and Reynolds (2002)

define the construct as the physician's ability to interpret the patient's circumstances and

viewpoint. The physician must then be able to communicate that understanding to the

patient, while taking steps to utilize this comprehension in a therapeutic manner. The

colloquial definition of empathy has been expanded in clinical terms to include emotive,

moral, cognitive, and behavioral dimensions. The emotive refers to the physician's

ability to comprehend the patient's emotions and viewpoints. The moral, in this context,

references the physician's personal motivation to empathize. The cognitive aspect of

empathy encompasses the cerebral ability to recognize and comprehend the patient's

emotions and position. The behavioral facet includes the physician's capacity to relay to the patient that their emotions are understood (Morse, Anderson, Bottorff, et al., 1992; Mercer & Reynolds, 2002; Halpern, 2001; Benbassat & Baumal, 2004).

Self-Esteem.

The construct of self-esteem is one of the most widely researched concepts in the social sciences (Baumeister, 1993; Mruk, 1995; Wells & Marwell, 1976; Wylie, 1979). It has received this concentrated attention due to the reported correlation between high self-esteem and numerous positive consequences for individual and society (Baumeister, 1993; Smelser, 1989).

Although there are many elucidations, self-esteem generally references an individual's positive assessment of self (Gecas, 1982; Rosenberg, Schooler, Schoenbach & Rosenberg 1995). Cast and Burke (2002) offer a theory of self-esteem that consolidates several conceptualizations within the framework of symbolic interaction theory. The authors' synthesis of the varying views on self-esteem focuses on the integral part that self-esteem plays in the process of verifying self within groups. According to symbolic interaction theory, the self is comprised of numerous identities that mirror the varied social positions that an individual inhabits in the grander social structure (Stryker, 1980).

In reviewing the general body of research on self-esteem, much of the literature references global self-esteem, or an individual's positive or negative attitude toward self as a whole (Rosenberg, et al., 1995). In the research provided in this dissertation, it is important to recognize that crucial, and often neglected, facets in the provision of

physician care are the growth in personal development and well-being of the physician (Novack, Epstein, & Paulsen 1999). Self-awareness aids the physician in identifying the unspoken facts involved in patient care through the ability of the physician to access his or her personal feelings, experiences and perceptions (Novack et. al., 1997). When a physician is unable to consciously recognize his or her personal biases, attitudes, defenses, and feelings, he or she is less able to diagnose, treat, and heal the patient (Todd, Samaroo, & Hoffman, 1993; Epstein et al., 1998; Franks, Culpepper, & Dickinson, 1982; Geller, Tambor, Chase, & Holtzman, 1993; Yarnold, Greenberg, & Nightingale, 1991; Hornblow, Kidson, & Ironside, 1988).

Optimally, a physician who heals, in the full bio-psycho-social sense of the word, must possess regard for self (Novack, Epstein, & Paulsen, 1999). Physicians who are unaware or distracted by self-doubts are less accessible to their patients. One of the objectives of medical education should be the transmission of the importance of self-awareness, self-esteem and growth in the student. When clinical educators link self-awareness and self-esteem to the clinical practice of medicine, they impart the value of the balance between the technical science and the humanistic art of healing (Novack, Epstein, & Paulsen, 1999).

Altruism.

The concept of altruism has been fundamental in Western thinking for hundreds of years, from Aristotle (384-322 B.C.) and St. Thomas Aquinas (1225-1274), to Friedrich Nietzsche (1844-1900) and Sigmund Freud (1856-1939). The predominant perspective since the era of the Renaissance philosophers, and currently among

psychologists and biologists, is that human beings are egoistic. In other words, the impetus for all deliberate action, including acts intended to be advantageous to others, is egoistic (Batson & Shaw, 1991). This perspective proposes that individuals help others because in so doing, they benefit themselves.

However, based on studies that offer evidence of reliable interrelationships between altruism and empathy-related constructs (Eisenberg & Miller, 1987; Underwood & Moore, 1982), Batson and Shaw (1991) describe an altruism-empathy path, where adopting the viewpoint of an individual in need produces empathic concern in the observer. Consequently, the empathic emotion elicits altruistic motivation that benefits the individual for whom the empathy is felt.

Batson (1987) proposes the empathy-altruism hypothesis suggesting that empathy stimulates altruistic motivation. Building on the research of Hoffman (1975), Krebs (1975), and Stotland (1969), this distinct emotional response to the perceived need of another is the result of one's ability to take on the viewpoint of the person in need. It is important to note that this adoption of the other's perspective involves conceptualizing how the individual in need is affected by his or her circumstances (Stotland, 1969). Shott (1979) suggests, "Empathy links people's emotional states with those of others, thereby motivating altruistic behavior toward those with whom they empathize" (p. 1331).

Personal Experience with Serious/Chronic Illness.

Although the practice of medicine is committed to the examination, diagnosis, and treatment of the corporeal self, the relationship of physicians to their own bodies is antagonistic (DasGupta & Charon, 2004). Medical education creates a polarity where

patients are distinguished by their bodies while physicians' are identified by their minds. Consequently, physicians have few opportunities to reflect upon their own personal illness experiences, or those of loved ones.

Research has shown that clinical practice necessitates self-examination (Atkins & Murphy, 1993; Charon, 2001; Novack, Epstein, & Paulsen, 1999; Novack, et al., 1997). However, very few medical educators indicate the power a physician's identity – including personal and family history with illness – may have upon his or her capacity to hear and interpret the patients' stories (DasGupta & Charon, 2004). One may argue that traditional medical training instructs students to disregard their bodies in favor of their minds. For physicians who are dealing with their own illness, the contrast and conflict of being both doctor and patient may threaten the ideas of physicianhood they have been taught. To many in the medical profession, being ill is equivalent to disloyalty (Rabin, Rabin, & Rabin, 1982). However, other literature points to the metamorphosis of the physician through personal illness (Sacks, 1998; Rosenbaum, 1988). These transformations resulted not only from the physical actuality of illness, but also from the reversal of roles that forced the intellect-defined physicians into the reality of their bodies.

Year in Medical School.

Although medical educators acknowledge that empathy is an integral facet in patient care that must be cultivated in medical school (Kupler, Drew, Curtis, & Runinstein, 1978), research indicates a significant decline in measured levels of empathy as the student progresses through medical school (Hojat et al., 2009). In fact, studies

have demonstrated that medical school often has a damaging effect on some facets of the student's professional growth. Increased cynicism and stunted ethical and behavioral development has been documented (Testerman, Morton, Loo, & Worthley, 1996; Branch, 2000).

Past research has shown that most students begin medical school with enthusiasm, idealism, and a sincere intent to help the sick (Kay, 1990; Silver & Glicken, 1990). Despite these initial intentions and medical school faculty's endeavors to cultivate humanistic qualities, a cynicism progressively evolves throughout training (Kay, 1990; Silver & Glicken, 1990; Sheehan, Sheehan, White, Leibowitz, & Bladwin, 1990; Wolf, Balson, Faucett, & Randall, 1989). In fact, the increase of cynicism and decline of idealism has long been identified as a ramification of the medical student's socialization and acclimatization to the role of professional (Becker et al., 1961).

Newton, Barber, Clardy, Cleveland, and O'Sullivan (2008) suggest that medical education affects student empathy. This study supports the conclusions drawn by Coulehan and Williams (2001) who recount the damaging changes in humanist values as medical students progress through their training and become immune to many core beliefs they possessed prior to matriculation.

Chosen Specialty.

Studies have demonstrated that physicians in the traditionally patient-oriented specialties score higher on empathy measures than those in more technically-oriented specialties (Hojat et al., 2001). Patient-oriented specialties, sometimes referred to as core specialties, include those with greater patient contact (i.e. internal medicine, obstetrics-

gynecology, pediatrics, and psychiatry), while technology-oriented specialties, or noncore specialties, require less patient contact (i.e., radiology, surgery, and anesthesiology) (Newton et al., 2008). In another study, Hojat et al. (2002) report that psychiatrists obtained the highest mean empathy scores, with anesthesiologists, radiologists, neurosurgeons, and orthopedists receiving the lowest. Research suggests that certain characteristics of empathy may be related to specialty. One explanation may be that empathic care is a more required skill set in physicians who are people-oriented, as opposed to those whose care is reliant upon technology.

Participation in Psycho-Social Curriculum.

In a holistic sense, healing a patient involves not only the curative and biological, but also the psychological, social, and spiritual. Humanism in medicine requires the physician to be respectful, empathic, and communicative (Novack, Epstein, & Paulsen, 1999). An understanding of the patient and his or her illness in a bio-psycho-social context is imperative (Engel, 1977), and necessitates the use of psycho-social therapeutic strategies (Novack, 1987).

Research by Newton et al. (2008) proposes that student empathy is affected by medical education. However, studies report negative changes in the student's humanistic qualities as they progress through medical school (Coulehan & Williams, 2001; Newton et al., 2008). Although many medical schools are attempting a reform in their curriculum to integrate more humanistic techniques (Makoul, Curry, & Novack, 1998), impediments to the process remain. The so-called "soft" courses in the behavioral and social sciences are allotted less time and access in the curriculum (Novack, Epstein, & Paulesn, 1999).

Yet, research has shown that expanded medical school curricula in psychosomatic

medicine (Dimsdale, 1995), the psycho-social and behavioral sciences (Sahler, 1995),

and communication competence (Novack, Dube, & Goldstein, 1992; Novack, Volk,

Drossman, & Lipkin, 1993; Lipkin, Quill, & Napodano, 1984; Lipkin, Lazare, & Putnam,

1995) may assist in the restoration of humanism in medical care.

Methodology.

A non-experimental, exploratory, cross-sectional survey design was used in this

study to facilitate the exploration of the research questions. Survey research was deemed

to be the most appropriate, as it is a type of quantitative design that attempts to reveal

relationships between sociological and psychological variables (Kerlinger & Lee, 2000).

With a focus on people and their beliefs, opinions, attitudes and behaviors, survey

research attempts an accurate assessment of the characteristics of entire populations of

people (Kerlinger & Lee, 2000).

The overall research question guiding the study is: What are the personal and

contextual factors related to empathy in medical students? The hypotheses include:

H1 – Controlling for age, gender and race, those medical students with higher levels of

self-esteem and altruism, and those who have had personal experience with

chronic/serious illness, will have higher levels of measured empathy than those medical

students who do not.

H2 – Controlling for age, gender and race, those medical students who are in their first

year of study, who have participated in psycho-social curricular electives, and who have

selected either psychiatry, pediatrics, emergency, family or internal medicine as a

specialty, will have higher levels of measured empathy than students in the second, third or fourth year, those students who have not participated in psycho-social curricular electives, and those who have selected either orthopedic surgery or anesthesiology as specialties.

Descriptive statistics were conducted to describe the sample. Reliability statistics were run on all scales using Cronbach's Alpha, and multiple regression analysis was employed to test the hypotheses.

Findings.

Although eleven of the thirteen independent variables demonstrate significant linear relationships with the seven dimensions of the dependent variable, empathy, five proved to be particularly influential. Although hypothesized to be a control variable, gender is worthy of attention in this study. Data suggests that female students possess a greater ability to utilize fantasy to experience emotions, demonstrate more empathic concern, and are better able to manage their moods than male students. However, women have higher levels of personal distress, and tend to pay constant attention to their moods.

This research suggests strong correlations between self-esteem and empathy. Individuals with greater self-esteem have less personal distress, an increased capacity to interrupt their negative moods, and prolong the positive ones, and more clarity in the identification of their emotional states. However, those with greater self-esteem have a tendency to pay constant attention to their moods.

The four significant linear relationships identified between altruism and empathy support the study's hypothesis that students with higher measured levels of altruistic traits are more empathic than those students with lower scores on an altruism scale. Specifically, the data suggests that those who are more altruistic possess a greater ability to utilize fantasy to experience emotions. Additionally, the more altruistic the individual, the greater the ability to interrupt negative mood states and to prolong positive ones. The data also reflects the fact that altruistic individuals demonstrate more empathic concern, and suffer less personal distress.

The data collected in this research supports the hypothesis postulating that students participating in psycho-social extra-curricular electives have higher levels of measured empathy. Specifically, those students enrolled in the Mind/Body curriculum at Georgetown University School of Medicine have higher levels of empathy across several dimensions than those students not participating in this course of study. With elevated measures in the *Perspective Taking* dimension of empathy, students enrolled in this program are more likely to embrace another's point of view. Scores in *Empathic Concern* are higher for these students than for those not enrolled in this course, indicating a regard for another's feelings. The higher scores in *Repair* in this group of students suggest a greater capacity to recognize, manage, and repair mood states. Although a high score in *Attention* may signal an overly zealous contemplation of one's moods, it is also an indication of one's capacity to consider emotional states, which is an important component in empathy.

Lastly, the combined medical specialty category of Orthopedics/Anesthesiology is one of the five most significant variables. As opposed to gender, self-esteem, and altruism – all mainly positively correlating with empathy - the negative linear relationships between Orthopedics/Anesthesiology and four dimensions of empathy support the hypothesis that those who have selected either orthopedic surgery or anesthesiology as specialties have lower measured levels of empathy. Results of this study indicate that these students have less empathic concern, less ability to manage and repair their mood states, and less emotional clarity. The negative linear relationship

between this specialty category and *Attention* implies that this group of students is less contemplative when it comes to their own emotional states.

In summary, considering the three personal factors of self-esteem, altruism, and personal experience with illness, the data strongly supports the hypotheses that students with higher levels of self-esteem and altruism have greater levels of measured empathy than those students with less self-esteem and fewer altruistic traits. And although demonstrating positive correlations with only two dimensions of empathy, the research suggests that those who have had personal experience with chronic and/or serious illness, have greater levels of *Perspective Taking* than those medical students who do not have this experience.

The hypothesis postulating that those students selecting either orthopedic surgery or anesthesiology will have lower levels of measured empathy in comparison to those students in other specialties, is also supported by the data.

In the analysis of the influence of psycho-social curricular electives, the research upholds the hypothesis. Those students enrolled in the Mind/Body course have higher levels of empathy across several dimensions.

An unsuspected finding is the lack of influence of the medical school year. Although past research has indicated a significant decline in measured levels of empathy as the student progresses through medical school, this hypothesis was not supported by the data. In fact, for the students at Georgetown University Medical School, the more advanced the year in medical school, the greater the ability to identify and clarify emotional states.

Conclusions.

Limitations.

A response rate of 25% percent may be construed as a limitation to this study. Though it is considered to be acceptable, a greater response rate would have been desirable. It must also be noted that the correlational design used in this research assesses the degree of relationship between the predictor and criterion variables, but does not explain cause and effect.

Based on the nature of this cross-sectional survey design, threats to internal validity are not applicable. The internal validity cannot be controlled because the researcher cannot manipulate the variables. In terms of external validity, or generalizability to a larger population, this study is limited by the fact that there is no random sampling. Additionally, surveys rely on reports of behavior, rather than observations of behavior. And although this type of research design offers a wide range of information, it lacks depth. The research is, therefore, more extensive than intensive.

Implications.

This study has implications for social work practice, as research has demonstrated the social worker's critical role in facilitating and strengthening the relationship between patient and physician (Bulsara, C., Styles, Ward, & Bulsara, M., 2006; Dreher & Matz, 2001; Runfola, Levine, & Sherman, 2006). The social work profession is uniquely important in health care, as it considers the whole person as a self-determining individual influenced and influencing his or her environment (Reese & Raymer, 2004).

The present study also suggests implications for education. With an understanding of the cognitive and affective dimensions of empathy gleaned through an exploration of both personal and contextual factors, social workers are in a unique position to shape curricular changes and to disseminate the information to students in medical school. In fact, the Mind/Body course at Georgetown University School of Medicine is directed and taught by a social worker, Nancy Harazduk.

In terms of implications for future research, an examination of the factors influencing empathy help to broaden existing knowledge, while adding to the general area of expertise. As previously noted, despite the fact that research has validated and emphasized the importance of empathy in the establishment of the physician-patient relationship (Norfolk, Birdi, & Walsh, 2007), little empirical research has been undertaken to identify and measure the factors related to the development of empathy among medical students.

Lastly, this research is significant to social work ethics. The National Association of Social Workers Code of Ethics (1996) supports client self-determination and the importance of relationship as fundamental ethical standards (McMahon, 2003; Reamer, 1998). With a value system grounded in the concepts of empowerment, autonomy, self-determination and informed consent, the social work profession is in a strong position to aid and assist - not only the patient, but also the physician (Runfola, Levine, & Sherman, 2006). As professionals, social workers emphasize the interrelatedness of the bio-psycho-social-spiritual self. The recognition of the power of the whole being frames an

ethical paradigm of inquiry that distinguishes social work from other helping professions

(Reamer, 1993).

Georgetown University School of Medicine.

This research would not have been possible without the support and full

cooperation of Georgetown University School of Medicine. This study suggests many

positive findings for the institution, not the least of which is the lack of decline in

empathy as students progress through the program. The significant strength and positive

influence on empathy suggested by the statistical analysis of the Mind/Body program is

to be lauded and emulated.

<u>Georgetown University School of Medicine Student Questionnaire</u>

You have been selected to participate in this survey because you are a student at Georgetown University School of Medicine. The study is being conducted by Deborah Camalier-Walker, M.S.W., a PhD candidate in social work at The Catholic University of America. The data gathered as part of this study will be used to partially fulfill the requirements for the PhD degree. The completion of this questionnaire should take approximately 20 minutes. Although you are encouraged to participate, you are free to decline participation at any time.

Thank you for your consideration of this request.

Sincerely,

Deborah Camalier-Walker, M.S.W.

<u>Part I: Medical Education Experiences</u>

1) What is your year in medical school? (Please check one)

__ 1st   __ 2nd   __ 3rd   __ 4th

2) What is your intended or chosen specialty? Please specify, if applicable.

_____.

3) Have you participated in Georgetown's Mind-Body Medicine program?

___ Yes   ___ No

4) Do you plan to participate in Georgetown's Mind-Body Medicine program?

___ Yes ___ No

5) Have you participated in Georgetown's Health Justice Scholar Track?

___ Yes   ___ No

6) Do you plan to participate in Georgetown's Health Justice Scholar Track?

___ Yes ___ No

7) Have you had consistent patient care experience for at least three months?

___ Yes   ___ No

Part II: Attitudes, Beliefs, and Behaviors

The statements in this section refer to basic behaviors. There are no right or wrong answers. Please read each statement carefully and use the following scale to select the response that best describes you. Record your numerical answer to each statement in the space provided preceding the statement.

1 = Never
2 = Once
3 = More than once
4 = Often
5 = Very often

_____ 1) I have helped push a stranger's car out of the snow.

_____ 2) I have given directions to a stranger.

_____ 3) I have made change for a stranger.

_____ 4) I have given money to a charity.

_____ 5) I have given money to a stranger who needed it (or asked me for it).

_____ 6) I have donated goods or clothes to a charity.

_____ 7) I have done volunteer work for a charity.

_____ 8) I have donated blood.

_____ 9) I have helped carry a stranger's belongings (books, parcels, etc.).

_____ 10) I have delayed an elevator and held the door open for a stranger.

_____ 11) I have allowed someone to go ahead of me in a lineup (at Xerox machine, in the supermarket.

_____ 12) I have given a stranger a lift in my car.

_____ 13) I have pointed out a clerk's error (in a bank, at the supermarket) in undercharging me for an item.

_____ 14) I have let a neighbor whom I didn't know too well borrow an item of some value to me (e.g., a dish, tools, etc.).

_____ 15) I have bought 'charity' Christmas cards deliberately because I knew it was a good cause.

_____ 16) I have helped a classmate I did not know that well with a homework assignment when my knowledge was greater than his or hers.

_____ 17) I have, before being asked, voluntarily looked after a neighbor's pets or children without being paid for it.

_____ 18) I have offered to help a handicapped or elderly stranger across a street.

_____ 19) I have offered my seat on a bus or train to a stranger who was standing.

_____ 20) I have helped an acquaintance to move households.

The following statements refer to basic attitudes toward self. Again, there are no right or wrong answers. Please use the following scale to indicate the degree of your agreement or disagreement with each of the statements below. Record your numerical answer to each statement in the space provided preceding the statement.

1 = Strongly agree
2 = Agree
3 = Neither agree nor disagree
4 = Disagree
5 = Strongly disagree

_____ 1) On the whole, I am satisfied with myself.

_____ 2) I daydream and fantasize, with some regularity, about things that might happen to me.

_____ 3) I often have tender, concerned feelings for people less fortunate than me.

_____ 4) I sometimes find it difficult to see things from the "other guy's" point of view.

_____ 5) Sometimes I don't feel sorry for other people when they are having problems.

_____ 6) I really get involved with the feelings of the characters in a novel.

_____ 7) At times I think I am no good at all.

_____ 8) In emergency situations, I feel apprehensive and ill-at-ease.

_____ 9) I am usually objective when I watch a movie or play, and I don't often get completely caught up in it.

_____ 10) I try to look at everybody's side of a disagreement before I make a decision.

_____ 11) I feel that I have a number of good qualities.

_____ 12) When I see someone being taken advantage of, I feel kind of protective toward them.

_____ 13) I sometimes feel helpless when I am in the middle of a very emotional situation.

_____ 14) I wish I could have more respect for myself.

_____ 15) I sometimes try to understand my friends better by imagining how things look from their perspective.

_____ 16) Becoming extremely involved in a good book or movie is somewhat rare for me.

_____ 17) I certainly feel useless at times.

_____ 18) When I see someone get hurt, I tend to remain calm.

_____ 19) Other people's misfortunes do not usually disturb me a great deal.

_____ 20) If I'm sure I'm right about something, I don't waste much time listening to other people's arguments.

_____ 21) I feel that I'm a person of worth.

_____ 22) After seeing a play or movie, I have felt as though I were one of the characters.

_____ 23) Being in a tense emotional situation scares me.

_____ 24) When I see someone being treated unfairly, I sometimes don't feel very much pity for them.

_____ 25) I am usually pretty effective in dealing with emergencies.

_____ 26) I am able to do things as well as most other people.

_____ 27) I am often quite touched by things that I see happen.

_____ 28) I believe that there are two sides to every question and try to look at them both.

_____ 29) I would describe myself as a pretty soft-hearted person.

____ 30) When I watch a good movie, I can very easily put myself in the place of a leading character.

____ 31) I tend to lose control during emergencies.

____ 32) I feel I do not have much to be proud of.

____ 33) When I'm upset at someone, I usually try to "put myself in his shoes" for a while.

____ 34) When I am reading an interesting story or novel, I imagine how I would feel if the events in the story were happening to me.

____ 35) All in all, I am inclined to think that I am a failure.

____ 36) Before criticizing somebody, I try to imagine how I would feel if I were in their place.

____ 37) I take a positive attitude toward myself.

____ 38) When I see someone who badly needs help in an emergency, I go to pieces.

In the following section, once again please use the following scale to indicate the degree of your agreement or disagreement with each of the statements below. Record your numerical answer to each statement in the space provided preceding the statement.

5 = Strongly agree
4 = Somewhat agree
3 = Neither agree nor disagree
2 = Somewhat disagree
1 = Strongly disagree

____ 1) The variety of human feelings makes life more interesting.

____ 2) I try to think good thoughts no matter how badly I feel.

____ 3) I don't have much energy when I am happy.

____ 4) People would be better off if they felt less and thought more.

____ 5) I usually don't have much energy when I'm sad.

____ 6) When I'm angry, I usually let myself feel that way.

____ 7) I don't think it's worth paying attention to your emotions or moods.

_____ 8) I don't usually care much about what I'm feeling.

_____ 9) Sometimes I can't tell what my feelings are.

_____ 10) If I find myself getting mad, I try to calm myself down.

_____ 11) I have lots of energy when I feel sad.

_____ 12) I am rarely confused about how I feel.

_____ 13) I think about my mood constantly.

_____ 14) I don't let my feelings interfere with what I am thinking.

_____ 15) Feelings give direction to life.

_____ 16) Although I am sometimes sad, I have a mostly optimistic outlook.

_____ 17) When I am upset I realize that the "good things in life" are illusions.

_____ 18) I believe in acting from the heart.

_____ 19) I can never tell how I feel.

_____ 20) When I am happy I realize how foolish most of my worries are.

_____ 21) I believe it's healthy to feel whatever emotion you feel.

_____ 22) The best way for me to handle my feelings is to experience them to the fullest.

_____ 23) When I become upset I remind myself of all the pleasures in life.

_____ 24) My belief and opinions always seem to change depending on how I feel.

_____ 25) I usually have lots of energy when I'm happy.

_____ 26) I am often aware of my feelings on a matter.

_____ 27) When I'm depressed, I can't help but think of bad thoughts.

_____ 28) I am usually confused about how I feel.

_____ 29) One should never be guided by emotions.

_____ 30) If I'm in too good a mood, I remind myself of reality to bring myself down.

_____ 31) I never give into my emotions.

_____ 32) Although I am sometimes happy, I have a mostly pessimistic outlook.

_____ 33) I feel at ease about my emotions.

_____ 34) It's important to block out some feelings in order to preserve your sanity.

_____ 35) I pay a lot of attention to how I feel.

_____ 36) When I'm in a good mood, I'm optimistic about the future.

_____ 37) I can't make sense out of my feelings.

_____ 38) I don't pay much attention to my feelings.

_____ 39) Whenever I'm in a bad mood, I'm pessimistic about the future.

_____ 40) I never worry about being in too good a mood.

_____ 41) I often think about my feelings.

_____ 42) I am usually very clear about my feelings.

_____ 43) No matter how badly I feel, I try to think about pleasant things.

_____ 44) Feelings are a weakness humans have.

_____ 45) I usually know my feelings about a matter.

_____ 46) It is usually a waste of time to think about your emotions.

_____ 47) When I am happy I sometimes remind myself of everything that could go wrong.

_____ 48) I almost always know exactly how I am feeling.

Please use the following scale to indicate the degree of your agreement or disagreement with each of the statements below. Record your numerical answer to each statement in the space provided preceding the statement. Try to describe yourself accurately and in terms of how you are generally (that is, <u>the average of the way you are in most situations</u> – not the way you are in specific situations or the way you would hope to be).

+4 = very strong agreement
+3 = strong agreement
+2 = moderate agreement
+1 = slight agreement
  0 = neither agreement nor disagreement
 -1 = slight disagreement
 -2 = moderate disagreement
 -3 = strong disagreement
 -4 = very strong disagreement

_____ 1) I very much enjoy and feel uplifted by happy endings.

_____ 2) I cannot feel much sorrow for those who are responsible for their own misery.

_____ 3) I am moved deeply when I observe strangers who are struggling to survive.

_____ 4) I hardly ever cry when watching a very sad movie.

_____ 5) I can almost feel the pain of elderly people who are weak and must struggle to move about.

_____ 6) I cannot relate to the crying and sniffling at weddings.

_____ 7) It would be extremely painful for me to have to convey very bad news to another.

_____ 8) I cannot easily empathize with the hopes and aspirations of strangers.

_____ 9) I don't get caught up easily in the emotions generated by a crowd.

_____ 10) Unhappy movie endings haunt me for hours afterward.

_____ 11) It pains me to see young people in wheelchairs.

_____ 12) It is very exciting for me to watch children open presents.

_____ 13) Helpless old people don't have much of an emotional effect on me.

_____ 14) The sadness of a close one easily rubs off on me.

_____ 15) I don't get overly involved with friends' problems.

_____ 16) It is difficult for me to experience strongly the feelings of characters in a book or movie.

_____ 17) It upsets me to see someone being mistreated.

_____ 18) I easily get carried away by the lyrics of love songs.

_____ 19) I am not affected easily by the strong emotions of people around me.

_____ 20) I have difficulty knowing what babies and children feel.

_____ 21) It really hurts me to watch someone who is suffering from a terminal illness.

_____ 22) A crying child does not necessarily get my attention.

_____ 23) Another's happiness can be very uplifting for me.

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_____ 24) I have difficulty feeling and reacting to the emotional expressions of foreigners.

_____ 25) I get a strong urge to help when I see someone in distress.

_____ 26) I am rarely moved to tears while reading a book or watching a movie.

_____ 27) I have little sympathy for people who cause their own serious illnesses (e.g., heart disease, diabetes, lung cancer).

_____ 28) I would not watch an execution.

_____ 29) I easily get excited when those around me are lively and happy.

_____ 30) The unhappiness or distress of a stranger are not especially moving for me.

Part III: Background Information

1) What is your age as of your last birthday? _____

2) What is your gender? _____ Male   _____ Female

3) How would you describe your race? _____ Asian, _____ Black, _____ Hispanic,
_____White, or _____ Other (please specify).

4) Have you had personal experience, either with self or significant other, with a serious or chronic illness such as cancer, heart disease, hypertension, lung disease, diabetes, or stroke? _____ Yes _____ No

Thank you so much for participating in this study. Your valuable time and input are greatly appreciated.

Deborah Camalier-Walker, M.S.W.

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