

**Empathy in Healthcare: A Case Study on the Importance of  
Empathy in Athletic Training Students**

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## **Abstract**

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For my Plan II Senior Thesis, I plan to research and analyze the role empathy plays in healthcare. I am interested in how a healthcare providers use of empathy as a tool for connecting and communication in their relationships with patients will impact overall health and a doctor's relationship with the community through close reading and analysis. I plan to focus this research through a case study of the University of Texas's athletic trainers, athletic training students, and their patients, i.e. the athletes. By analyzing athletic trainer's self-rated empathy levels in interactions with their patients and students evaluated empathy levels from their preceptors, I will analyze the athletic training student's beliefs on clinical empathy, how self-rated versus evaluated empathy relate, how empathetic interactions fair across years of experience, and how this all affects the athletes care. I hope to gain insight into the importance of empathy in the unique athletic trainer and patient relationship. Overall, I will dissect how providers use empathy when interacting with patients and how that influences a patient's experience and path to health.

## Introduction

An aching back. A sprained wrist. A torn ACL. All of these various ailments may take you to see a physician. You seek a healthcare provider who will understand and pursue the best treatment course for you. But how does this care change if you don't connect with your provider? Or if you feel as if your doctor can't or won't understand both your physical state and care about other factors in your life? Do you need or wish your doctor to be empathetic to your situation? How does empathy in this doctor-patient relationship impact your needed care?

So what is empathy? Dating back to the 1800s, empathy became a term to define the projection of human emotion onto the natural world dates back to the late 1800s<sup>1</sup>. In modern times empathy has come to the conception of an understanding and ability to identify with another's feelings, thoughts and/or experiences.<sup>2</sup> Proven to be a basic human function that is innate to the human mind<sup>3</sup>, empathy is an important aspect of interpersonal relationships. But what does empathy look like for medical care?



Image 1

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<sup>1</sup> George W. Pigman, "Freud and the History of Empathy," *The International Journal of Psycho-Analysis; London* 76, no. 2 (April 1, 1995): 237–256.

<sup>2</sup> Helen Riess, "The Science of Empathy," *Journal of Patient Experience* 4, no. 2 (June 1, 2017): 74–77, <https://doi.org/10.1177/2374373517699267>.

<sup>3</sup> Riess.

In recent years, empathy has become a topic of debate in the world of healthcare, specifically in its role in the doctor-patient relationship. The notion of empathy in medicine is conceived as a complex entity that encompasses the recognition of not only a patient's health but the issues and situation that concern the patient's health as well as the communication of that understanding back to the patient, which has proven to be beneficial. Empathy's positive nature in healthcare is proven to not only improve the doctor-patient relationship but both mindsets of the patients and provider and improves the overall care provided and boosts the healing process as well.

But what does this mean for athletic trainers, a branch of healthcare that involves a high level of patient interaction due to its preventive and rehabilitative nature? Athletic training is care provided primarily to athletes that aim to guide injury prevention and treatment<sup>4</sup>. This type of provider care entails long and intimate interactions with the patient. It only seems logical that empathy is a vital aspect of this specific type of healthcare. Despite this deduction, little research has been done on this topic to provide answers to empathy's relevance, beneficial nature, or how certain descriptive factors, such as sex or years of experience, are portrayed in empathy for athletic training.

My thesis will aim to take steps to answer these questions on the role of how empathy looks in the field of athletic training. The analytical reading and analysis presented will critically evaluate the foundation and definition of empathy in society, the conception and relative importance of empathy in general medical care, seek to present a synopsis of the branch of athletic training, and the known research conducted on this field and on empathy. A subsequent

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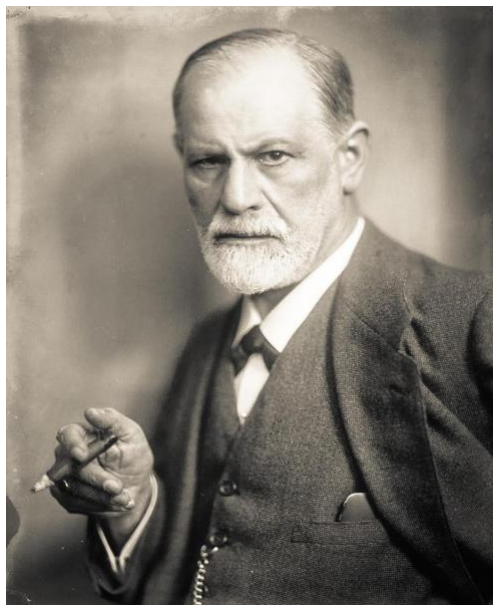
<sup>4</sup> Shannon David and Mary Larson, "Athletes' Perception of Athletic Trainer Empathy: How Important Is It?," *Journal of Sport Rehabilitation* 27, no. 1 (January 1, 2018): 8–15, <https://doi.org/10.1123/jsr.2016-0085>.

case study will be conducted with the athletic training students at the University of Texas at Austin to determine not only the importance and benefits of empathy in the field of athletic training, but how self-evaluated vs. perceived empathy compares and how certain descriptive factors influence the role of empathy in athletic trainer and athlete relationships. Through these methods, my thesis will explore the role and nature empathy plays in the medical field of athletic training to support credible research that empathy is a valuable and vital attribute in not only the overall patient-doctor relationship, but in providing care and healing for the patient.

## **Part One: Defining Empathy and Medical Procedures for Patient Relations**

### **I. The History and Foundation of Empathy**

The recognition of the concept of empathy dates back to over one hundred years ago. Its origination comes from the German term *Einfühlung* coined in 1873 to aesthetically define the



projection of human emotion onto the natural world<sup>5</sup>. In 1905, Sigmund Freud first utilized *Einfühlung*, literally translated to ‘feeling-in’, in his book Jokes and Their Relation To The Unconscious to illustrate the process that allows one to understand others by putting oneself in their shoes. Freud is one of the first scholars to establish empathy as the process that allows one to understand another, and more specifically as a medium for establishing rapport between a patient and a

physician from the foundation of *Einfühlung*<sup>6</sup>. Following Freud, a prominent psychologist,

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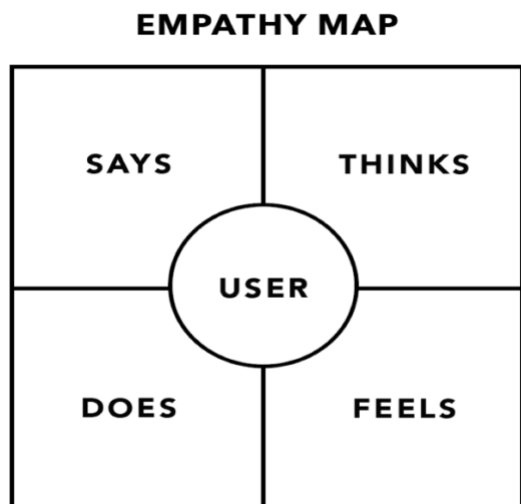
<sup>5</sup> Pigman, “Freud and the History of Empathy.”

<sup>6</sup> Pigman.

Rosalind Dymond Cartwright, began to test empathy as an interpersonal concept rather than its early meaning as an imaginative projection. By the mid-1900s, empathy shifted from an act of enlivening an inhuman object to a context of social science that is now most widely accepted as its context to this day<sup>7</sup>.

## II. Empathy Frameworks

Since its development, the notion of empathy has broadened in an application for both clinical and daily situations. Empathy has decisively grown into a critical interpersonal and societal role that enables the sharing of personal experiences, needs, and emotions between individuals<sup>8</sup>. The concept is not limited to just a societal and personal sensation, but one grounded as a neurobiological component of the brain. The act of inner imitation of another's feelings is supported by brain research to be a hardwired capacity of the human mind<sup>9</sup>. Empathy is not restricted to a select few or for certain situations but is innately an ability that each individual has the capacity to perform. Empathy is now recognized as a basic human component that is multifaceted in nature and foundation.



An acknowledged understanding from the Merriam-Webster Dictionary defines empathy as “the action of understanding, being aware of, being sensitive to, and vicariously experiencing the feelings, thoughts, and experience of another of either the past or present

<sup>7</sup> Susan Lanzoni, “A Short History of Empathy,” The Atlantic, October 15, 2015, <https://www.theatlantic.com/health/archive/2015/10/a-short-history-of-empathy/409912/>.

<sup>8</sup> Riess, “The Science of Empathy.”

<sup>9</sup> Riess.

without having the feelings, thoughts, and experience fully communicated in an objectively explicit manner”<sup>10</sup>. A medical dictionary depicts empathy similarly as the ability to identify with another’s feelings, thoughts and/or experiences, both emotionally and intellectually, and to communicate that understanding to the other party. Additionally, the acknowledged research tool known as the Jefferson Scale of Physician Empathy defines the sensation as a “predominantly cognitive, rather than emotional, attribute that involves an understanding, rather than feeling, of experiences, concerns, and perspectives of the patient, combined with a capacity to communicate this understanding.”<sup>11</sup> While there are a variety of published definitions that can be stated, these depictions allow for comprehension of how empathy is understood as a theme in society, life, and the healthcare field.

To further comprehend this ability and discern its nature of definition, researchers collectively interpret empathy in the frameworks of cognitive empathy and emotional empathy. A recognized neuroscience research paper defined cognitive empathy as “the ability to consciously put oneself into the mind of another person to understand what they are thinking or feeling” and emotional empathy as the “capacity to share or become effectively aroused by others emotional states at least in valence and intensity”<sup>12</sup>. These subsets of empathy can be perceived as understanding how someone else feels and feeling the way someone else feels. Empathy is a multidimensional facet that encompasses understanding and communication as presented by the structures of cognitive and emotional empathy. By breaking down the idea of

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<sup>10</sup> “Empathy | Definition of Empathy by Merriam-Webster,” accessed April 9, 2020, <https://www.merriam-webster.com/dictionary/empathy>.

<sup>11</sup> “Jefferson Scale of Empathy - Thomas Jefferson University,” accessed May 2, 2020, <https://www.jefferson.edu/university/skmc/research/research-medical-education/jefferson-scale-of-empathy.html>.

<sup>12</sup> Jean Decety and Keith J. Yoder, “Empathy and Motivation for Justice: Cognitive Empathy and Concern, but Not Emotional Empathy, Predict Sensitivity to Injustice for Others,” *Social Neuroscience* 11, no. 1 (February 2016): 1–14, <https://doi.org/10.1080/17470919.2015.1029593>.

empathy into cognitive and emotional frameworks, its complex essence and definition are revealed and easier to comprehend for its purpose in the health-care setting and for the purpose of this research.



Image 4

### III. Definition of Empathy in Medical Settings

The evolution and further developing knowledge of empathy have contributed to its critical nature of the patient-provider relationship and medical experience. The ability to listen and appreciate a patient's ailments and concerns, as well as communicate this appreciation and respond in a therapeutic manner is recognized to be a central aspect of healthcare and a positive attribute of doctors. Despite this accord of its importance, the understanding and definition of clinical empathy are still debated.

Some medical educators and providers conceive and believe empathy should be a form of detached cognition. This to be practiced by separating the idea of working with real people and



real feelings from the care they must provide. Detached cognition as a form of empathy is preached and practiced to protect the objectivity and mental state of doctors<sup>13</sup>.

In other clinical contexts, doctors may practice patient-centered medicine that finds providers can no longer be detached but should thoroughly heal with empathetic understanding<sup>14</sup>. The conception of empathy is practiced as recognizing another's experience or health issue with tools of concern and compassion, communicating and confirming that understanding with the patient, and providing the most helpful care; essentially connecting to the patient, the opposite of detached cognition.

These respective conceptions fall short of the complexities that encompass healthcare and the relationship between providers and patients; empathy itself is an intricate competency with various components<sup>15</sup>. These components range from empathetic understanding, the development of a mental representation of an emotional state of another, to empathetic regulation, which enables the control, drive, and motivation of empathizing with a patient's situation. A study found that the clinical empathy experience encompasses multiple components of understanding and relation for another, not just one general idea<sup>16</sup>. Most professionals in the medical field agree that empathy is a complex entity that encompasses both affective and emotional domains, that can comprise of objectivity, understanding, and effective communication<sup>17</sup>.

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<sup>13</sup> Anna Smajdor, Andrea Stöckl, and Charlotte Salter, "The Limits of Empathy: Problems in Medical Education and Practice," *Journal of Medical Ethics* 37, no. 6 (2011): 380–83.

<sup>14</sup> Smajdor, Stöckl, and Salter.

<sup>15</sup> Decety and Yoder, "Empathy and Motivation for Justice."

<sup>16</sup> Decety and Yoder.

<sup>17</sup> Mohammadreza Hojat et al., "The Jefferson Scale of Empathy: A Nationwide Study of Measurement Properties, Underlying Components, Latent Variable Structure, and National Norms in Medical Students," *Advances in Health Sciences Education* 23, no. 5 (December 1, 2018): 899–920, <https://doi.org/10.1007/s10459-018-9839-9>.

#### IV. My Definition of Empathy

Despite the discord of how empathy should be defined and its eclectic conceptions, for the purpose of this thesis, empathy will be conceived as a multidimensional feeling and action in a clinical setting. Empathy is a process that allows us to understand others. This process comprises the dimensions of cognitive, affective, emotional, and communicative subsets of empathy. All together these components compose the complex concept of both understanding and awareness of another individual. In medicine, empathy is considered between the parties of a provider and a patient with the goal of providing some type of healthcare. Drawing from these common threads and specific conditions, in this research, empathy will be defined as a cognitive ability that involves an understanding of a patient's experiences and problems as well as the capacity to communicate this attuned understanding with the intention to provide the best care for the patient.

#### V. Research of Empathy's Importance in Medicine

Logically, empathy is recognized as an important factor for any relationship between two or more people, specifically so in a patient-doctor relationship. This idea is not only based on intuition but research discoveries as well.

The role of empathy as the cornerstone for clinical relationships allows for the recognition of a patient's perspectives and experiences, and the ability to convey compassion and understanding back to the patient. This stance of the practice of clinical empathy is shown to lead to improved health data from patients<sup>18</sup>, lower levels of anxiety, depression, and hostility from

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<sup>18</sup> Daniel Chen et al., "A Cross-Sectional Measurement of Medical Student Empathy," *Journal of General Internal Medicine* 22, no. 10 (October 2007): 1434–38, <https://doi.org/10.1007/s11606-007-0298-x>.

patients and overall improved patient satisfaction<sup>19</sup>. When a provider displays empathy with a patient, the patients are more likely to adhere to treatment and are more compliant with suggestions and medical options from the provider<sup>20</sup>.

Clinical empathy is not only beneficial for patients, but for physicians as well. Physician diagnostic and prognosis ability improve<sup>21</sup>, improved competency in history taking<sup>22</sup> and lower accounts of medical errors and malpractice claims are reported<sup>23</sup>. Clinician empathy positively impacts clinical well-being by reducing distress, reporting lower levels of depression and burnout, and improves job satisfaction with a sense of meaningful work<sup>24</sup>. These results can be the result of an overall improved doctor-patient relationship due to the empathetic foundations of concern and communication.

An empathetic provider-patient engagement lowers the rates of miscommunication between parties<sup>25</sup>, results in mutual understanding between the two parties<sup>26</sup>, and provides a more humanistic relationship between the two parties. This, in turn, is linked to how a positive patient-physician relationship is a critical element in the practice of medicine and the art of healing; however, such relationships have been severely strained by economics, organization, and delivery of medical practice<sup>27</sup>. Despite this obvious importance and need for empathy in healthcare, it is no easy feat as the work of a provider is to deal with the most emotionally distressing situations, such as illness and death, daily.

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<sup>19</sup> Sylvia K. Fields et al., "Measuring Empathy in Healthcare Profession Students Using the Jefferson Scale of Physician Empathy: Health Provider--Student Version," *Journal of Interprofessional Care* 25, no. 4 (July 2011): 287–93, <https://doi.org/10.3109/13561820.2011.566648>.

<sup>20</sup> Decety and Yoder, "Empathy and Motivation for Justice."

<sup>21</sup> Decety and Yoder.

<sup>22</sup> Hojat et al., "The Jefferson Scale of Empathy."

<sup>23</sup> Riess, "The Science of Empathy."

<sup>24</sup> Riess.

<sup>25</sup> Chen et al., "A Cross-Sectional Measurement of Medical Student Empathy."

<sup>26</sup> Riess, "The Science of Empathy."

<sup>27</sup> Hojat et al., "The Jefferson Scale of Empathy."

Study findings concur that clinical empathy is difficult to engage in and maintain<sup>28</sup>. Historically, some doctors have believed that emotional resonance with their patients could be achieved while maintaining emotional detachment and objectivity, which can be essential for making life-altering medical decisions<sup>29</sup>. However, studies have found time and time again that clinical empathy is not only helpful but essential for doctor-patient relationships. The ability to engage in self-awareness and to regulate one's emotions is pivotal to the adaptive experience of empathy in clinical practice. A decline in empathy during a healthcare experience may be a result of a "clinician's heightened state of perception and high exposure to pain<sup>30</sup>."

Similarly, research has found that empathy and acts of empathy are hard to preserve with medical students. A cross-sectional survey discovered large amounts of distress and depleted levels of empathetic attitudes among medical students across the state<sup>31</sup>. An educational cohort survey of medical students revealed that empathetic scores declined across years of experience of schooling.

In response to these findings and those of the relative importance of empathic ability, medical schools have taken initiatives to instigate empathetic teachings and interventions. Association of American Colleges on the Medical School Objectives Project reported that medical schools are now expecting altruistic and empathetic behavior as a requirement for physicians and their education<sup>32</sup>. Such proposed interventions consisted of training of empathetic

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<sup>28</sup> Decety and Yoder, "Empathy and Motivation for Justice."

<sup>29</sup> Jodi Halpern, "What Is Clinical Empathy?," *Journal of General Internal Medicine* 18, no. 8 (2003): 670–74, <https://doi.org/10.1046/j.1525-1497.2003.21017.x>.

<sup>30</sup> Helen Riess, "The Science of Empathy," *Journal of Patient Experience* 4, no. 2 (June 1, 2017): 74–77, <https://doi.org/10.1177/2374373517699267>.

<sup>31</sup> Liselotte N. Dyrbye et al., "Relationship Between Burnout and Professional Conduct and Attitudes Among US Medical Students," *JAMA* 304, no. 11 (September 15, 2010): 1173–80, <https://doi.org/10.1001/jama.2010.1318>.

<sup>32</sup> Hojat et al., "The Jefferson Scale of Empathy."

skills, practice opportunities, and guidance on interactions with patients. Ultimately these interventions need to occur throughout a provider's experience, both in schooling and in clinical settings<sup>33</sup>. A systematic review and analysis of interventions with medical students found that despite the discrepancies in levels of empathy among varying factors such as age, gender, and ethnicity, interventions at the early stages of a medical career are effective<sup>34</sup>.

#### VI. Training on Empathy? What Does This "Empathy" Look Like?

As stated earlier, empathy is an attribute that is valuable for healthcare providers. The goal of empathetic behavior is to understand a patient's ailments to provide care and to develop a trusted alliance between the provider and patient. Listening to a patient's experiences and compassionately communicating an understanding of their situations with them are skills that can be taught through various methods throughout schooling and field experience as a provider. These methods include an early presentation of the benefits of empathy in the doctor-patient relationship during medical school, training skills of compassion and attentive listening, and constant guidance throughout one's career on how to build rapport for patients empathetically in clinical settings. Products of these practices can result in how empathy is practiced in clinical settings. Clinical empathy can be presented in a variety of ways such as intimate questioning and listening to concerns and situations of the patients, both health-related and other or consistent communication with the patient. Physician empathetic behavior does not imply losing a professional distance or the ability to be objective; it purely implies a more humanistic and patient-centered approach to the art of medical care.

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<sup>33</sup> Malcolm J. Boyle et al., "Levels of Empathy in Undergraduate Health Science Students," *The Internet Journal of Medical Education* 1, no. 1 (December 31, 2009), <http://ispub.com/IJME/1/1/9959#>.

<sup>34</sup> Konstantinos C. Fragkos and Paul E. S. Crampton, "The Effectiveness of Teaching Clinical Empathy to Medical Students: A Systematic Review and Meta-Analysis of Randomized Controlled Trials," *Academic Medicine* Publish Ahead of Print (April 8, 2020), <https://doi.org/10.1097/ACM.0000000000003058>.

## VII. The Athletic Trainer's Work and Responsibilities.

The art of medical care applies to all the various fields of healthcare. This includes that of physical therapy, specifically of athletic training, where long term relations are a major factor of care. Athletic Training is a stem of the healthcare profession that specializes in care for sports medicine<sup>35</sup>. These care providers are the “primary, front-line health professionals who guide injury prevention and treatment”<sup>36</sup>, specifically for athletes and those engaged in physical activity. Dating back to ancient Greek Civilization, athletic training encompasses the prevention, examination, and rehabilitation of immediate and chronic injuries and medical conditions. After obtaining a bachelor's degree with athletic training curriculum included and passing board certification and in some cases a master's degree, certified athletic trainers often work in high schools, clinics, or professional sports teams (Housh).

The nature of athletic training includes a high level of provider-patient interaction. These healthcare providers spend their days applying protective equipment on athletes, evaluating specific acute or chronic injuries, providing emergency care, and more. The responsibilities of an athletic trainer range from applying tape to a weak ankle on a high school volleyball player, helping a marathon runner with a torn acl through rehabilitation measures, or being the first responder to a fallen college football player on the field during a high stakes game. Because of these prevention and rehabilitation measures, athletic trainers have high levels of contact with their patients for the majority of their provided care.

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<sup>35</sup> “Athletic Training,” June 29, 2018, <https://education.utexas.edu/departments/kinesiology-health-education/undergraduate-programs/athletic-training>.

<sup>36</sup> David and Larson, “Athletes' Perception of Athletic Trainer Empathy.”



Image 4

#### VIII. Does Empathy matter between Athletic Trainers and Patients? Why?

Due to the healthcare field of athletic training being predominantly based on extensive amounts of patient interaction and relational interactions, there is a need for a high level of communication between the two parties; specifically an empathetic approach to this communication. As previous research indicates, clinical empathy is highly valued and important in the doctor-patient relationship. As one field of healthcare, and one that is heavy in continuous interactions with patients, athletic training is no exception to the proven benefits of applied empathy in clinical settings. As a major factor in the practice of athletic training is rehabilitation and preventative care, the practitioner needs to be able to understand the patient's situations and needs for improving their health over the long run. The provider is in constant contact with the patients at games, rehab situations, and pregame safety measures. This level of interaction requires the use of clinical empathy to not only provide needed short term care but the dynamic healing needed in long term care.



Image 5



Image 6

#### IX. Research/Report of Athletic Trainers and Empathy.

Although the research on empathy has not been focused specifically on athletic training, the limited studies are both beneficial and illuminating. In spite of the dearth of studies conducted on the cross between athletic training and empathy... Out of the few projects conducted on athletic trainer empathy, one particular research study stands out for its qualitative methodological focus on the athlete's perception of athletic trainer empathy and the resulting components found in empathy. The main researcher, David Shannon, conducted this research through a qualitative interview to understand the athlete's opinions, feelings, knowledge, and perceptions of their interactions with their specific athletic trainers to establish a concept of empathy<sup>37</sup>. Establishing the definition of empathy as a "skill that combines the healthcare professional's commitment to understanding the patient's experience followed by the ability to communicate the meaning of the patient's experience by listening attentively and reflecting it back to the patient", Shannon seeks to gain an understanding of athletes' perceptions of empathy

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<sup>37</sup> David and Larson.



in the patient-physician relationship and the importance of this relationship for the best treatment outcomes<sup>38</sup>.

Shannon recruited fifteen Division I athletes who have been treated by an athletic trainer, and conducted semi-structured interviews that inquired about their experiences. Questions such as: “What factors have you previously experienced that would impact empathy?” and “Is empathy important to you?” were asked to “distinguish between behaviors and experiences, opinions and values, feelings and emotions, knowledge and sensory, and background information<sup>39</sup>. The interviews were recorded, transcribed, coded, and analyzed for “themes and patterns using grounded-theory techniques”<sup>40</sup>

Following the semi-structured interviews of fifteen Division I athletes and analysis of the results and data, Shannon deducted five main themes characterizing athlete’s perception of athletic trainer’s empathy: advocacy, approachability, communication, competence, and access. Advocacy is depicted as the athletic trainer’s ability to represent the interests of the patient; Communication is the ability to listen in a reflective manner; Approachability is the personal connection and level of comfort the patient feels with the provider; Competence and Access are conceived as the tools necessary to develop empathy in the patient-clinician relationship. The results of this study supported not only empathy’s importance but its critical and necessary nature in the doctor-patient relationship, specifically that of athletic trainers and athletes. The study revealed that when athletic trainers displayed advocacy, communication, approachability, competence and access, patient satisfaction, compliance, treatment outcomes and overall relationship with the athletic trainer was greatly improved<sup>41</sup>. This study was a great influence

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<sup>38</sup> David and Larson.

<sup>39</sup> David and Larson.

<sup>40</sup> David and Larson.

<sup>41</sup> David and Larson.

and source of researched information in how provider empathy is perceived by the athlete/patient in the athletic trainer-athlete relationship.

## **Part Two: My Case Study: Research on Empathy in Athletic Training**

The essential nature of empathy in any healthcare profession and the doctor-patient relationship, especially that of athletic trainers and athletes, has been established through previous research. The practice of clinical empathy has been shown to result in improved care for both the patient and the providers. I aim to elaborate on these findings and gain a deeper understanding of the influence of empathy on the athletic trainer-athlete relationship. In addition to the critical analysis of literature and research on empathy and healthcare, I hope to further investigate how the athletic trainers themselves not only conceive of empathy as well as how they perceive the importance of empathy in the care they provide and how they display it and how it is conveyed to their patients. To reach these goals of understanding and analysis, I conducted a case study on the students in the athletic training program at the University of Texas at Austin. Administered with a short online survey, students were asked questions pertaining to their beliefs on empathy in healthcare and experience as an athletic training student. The student's direct supervisors, referred to as their preceptors, at their assigned clinical assignment also completed a separate survey rating the student's perceived empathy when interacting with the athletes.

The short online survey was created from a set of created demographic questions to understand the participant's circumstances and questions from the Jefferson Scale of Physician Empathy. The Jefferson Scale of Physician Empathy is an instrumental and respected tool used by researchers and healthcare professionals to "broadly measure empathy in the context of health

professions education and patient care”<sup>42</sup>. Used in over 85 countries, the scale is useful for not only practicing physicians but students wishing to enter a healthcare field to provide clinical care<sup>43</sup>. Created in response to the lacking “psychometrically sound” available scale for measuring empathy, the Jefferson Scale of Physician Empathy is useful for evaluating the efficacy of “educational interventions aimed at promoting empathy”<sup>44</sup>. The scale was constructed from review of literature and was initially tested with samples of providers and students until it was refined to create twenty questions that are rated from one to seven (one= “strongly disagree” seven= “strongly agree”) <sup>45</sup>. In one study focused on the effectiveness of the Jefferson Scale of Physician Empathy , the mean score ranged from 4.8 to 6.5, with women typically scoring higher than men participants<sup>46</sup>. The Jefferson Scale of Physician Empathy is a recognized, reliable and widely used empathy scale that I utilize to assist in my own research in physician empathetic behavior and beliefs <sup>47</sup>.

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<sup>42</sup> Hojat et al., “The Jefferson Scale of Empathy.”

<sup>43</sup> “Jefferson Scale of Empathy - Thomas Jefferson University,” accessed May 2, 2020, <https://www.jefferson.edu/university/skmc/research/research-medical-education/jefferson-scale-of-empathy.html>.

<sup>44</sup> Mohammadreza Hojat et al., “The Jefferson Scale of Physician Empathy: Further Psychometric Data and Differences by Gender and Specialty at Item Level,” *Academic Medicine* 77, no. 10 (October 2002): S58.

<sup>45</sup> Hojat et al.

<sup>46</sup> Hojat et al.

<sup>47</sup> Hojat et al.



Image 7

The athletic training program at the University of Texas at Austin was chosen for this case study due to its status as a prestigious teaching program, convenience of location, cooperation from the department, and its extensive opportunities for students to learn and work as student athletic trainers for sports teams at the university and around Austin. Students must be accepted into the university as a pre-athletic training major, where they spend their first year completing prerequisites and the directed observation program<sup>48</sup>. As a first year pre-athletic training student completing the directed observation program entails, rotating to a new sports team every two weeks cumulating to fifty hours of observation of the athletic trainers on the sports team and learn and be tested on basic athletic training skills<sup>49</sup>. As well, pre-athletic training students take four prerequisite courses in addition to the university core curriculum to apply for athletic training major.

After this first year of learning and observation students apply to enter the caATe accredited (commission of accreditation Athletic Training) athletic training major, although these first years may apply, they may not be accepted as “admission to this major is highly competitive

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<sup>48</sup> “Athletic Training.”

<sup>49</sup> “Directed Observation Program,” October 4, 2018, <https://education.utexas.edu/departments/kinesiology-health-education/undergraduate-programs/athletic-training-program/directed-observation-program>.

as enrollment is limited to sixty students”<sup>50</sup>. Once accepted to the program, in addition to taking the required major curriculum, year two to four students work as student athletic trainers for U.T. athletics, local high schools, and sport medicine clinics while developing skills and competencies for their future career paths<sup>51</sup>. These students learn and develop skills in a mixture of classroom, lab, and field experiences while working with credited physical therapists, professors, professional athletic trainers, and a variety of patients <sup>52</sup>. By the end of the four years in the program, students will be eligible to take the exam to become Certified Athletic Trainers (ATCs) and Licensed Athletic Trainers (LATs)<sup>53</sup>. These factors allowed for a population of student athletic trainers that could be questioned as a part of a case study to evaluate empathy and its importance and life-span during the students experiences.

As compared to the earlier and alternative research on athletic trainers mentioned previously, my thesis will focus on the athletic trainer’s individual beliefs and opinions on empathy and how it is perceived by their direct preceptors in their interactions with athletes. This case study will not only provide further research on the importance of empathy in athletic training but further analysis on its application in practice. I will utilize this survey on student athletic trainers at the University of Texas at Austin to analyze how empathetic levels translate across sex, year in school, year in the athletic training program, athletic experience, clinical assignment, and how self-evaluated empathy compares to evaluated empathy.

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<sup>50</sup> “Athletic Training.”

<sup>51</sup> “Athletic Training Program,” May 31, 2016, <https://education.utexas.edu/departments/kinesiology-health-education/undergraduate-programs/athletic-training-program>.

<sup>52</sup> “Athletic Training Program.”

<sup>53</sup> “Athletic Training Program.”



Image 8

## **Methodology**

### Design

This quantitative research-based case study utilizes the survey platform Qualtrics to gain an understanding of empathy from athletic training students and their preceptors. The goal of the quantitative survey-based case study is to gain conclusive numerical data responses to a series of questions drawn from the Jefferson Scale of Physician Empathy. Aside from the demographic questions seeking to understand the participant and their relative circumstances and information pertaining to their role as an athletic trainer, the survey aims to gain responses from each participant on their honest views and reactions to their views and experiences of empathy and how they might display any possible empathetic traits as they provide care. Athletic training students take one survey aimed at gaining responses on their beliefs of empathy in healthcare while their direct supervisors were given a separate short survey asking to rate the students possible empathetic behaviors with athletes.

### Participants

The sample for this survey-based case study is the fifty University of Texas at Austin students in the athletic training program and the fifty-eight preceptors listed at each of the possible rotations

for direct observation. Participants were recruited through email outreach and by researchers attending the athletic training specific courses for in-person recruiting. The athletic training students are all stationed at a specific rotation where they each work with athletes from the high school to Division 1 collegiate sports in the capacity as an athletic trainer. We recorded an eighty percent response rate from the students and a responses from four of the preceptors. Due to quarantine and social-distancing protocols because of the coronavirus epidemic, we received fewer responses than we hoped, especially from the supervisors.

### Procedures

This case study, conducted via electronic survey, was presented to the athletic trainer students and a separate survey was given to the preceptors of each student in the program. The surveys were distributed through an email link and from a QR code presented in person to some of the participants. The survey given to the athletic training students consisted of thirty questions total. The first nine questions confirmed consent and asked participant descriptor questions, such as gender, year in program, level of athletic experience, etc.. Questions ten to thirty are drawn from the Jefferson Scale of Physician Empathy and questioned participant's opinions and experiences on empathy in the athletic trainer setting. Questions ten through thirty were rated from zero to seven with zero indicating strongly disagree to seven indicating strongly agree. The questions from Jefferson Scale of Physician Empathy were sub-categorized into six total categories: 1) Provider's Belief of Empathy in Medicine 2) Provider Behavior with Patients 3) Empathetic Activities 4) Patient's Views of Provider Behavior 5) Provider Connection to Patients 6) Level of Patient Influence Provider Believes is Important in Medicine. The sub-categories were created from categorization from University of Texas graduate students and the primary researcher. "My understanding of how a patient and their families does not influence my medical or surgical

treatment” and “I try to think like my patients in order to provide better care” are examples of such questions from the survey provided to the athletic training students. These type of questions were asked to understand athletic trainer students honest beliefs and opinions on what empathy looks like in the healthcare settings and how important it is to the care they provide.

The preceptor survey consisted of seven questions. The first three questions consisted of consent confirmation and asking for identification and to identify which student they would be rating in the survey. The following four questions asked the preceptors to honestly rate their specific students empathetic behavior with the athletes they had observed. The questions were rated from zero to seven with zero indicating strongly disagree and seven indicating strongly agree. One example of the questions on survey for the preceptors is, “The student exhibits a positive attitude towards their clinical setting and towards the patient.” These type of questions were used to inquire observed empathetic behavior in athletic trainers. Student and preceptor’s information and responses were kept confidential throughout the research.

### Data Analysis

Following the completion of the surveys by the athletic training students and their direct supervisors, the results were compiled into confidential data to be analyzed from Qualtrics to excel. Each participant was given an ID to protect their confidentiality and their scores for the demographic and empathy based questions, rated from zero to seven were recorded as well. The main research took note of questions eleven, twelve, fourteen, fifteen, seventeen, nineteen, twenty-seven, twenty-eight, and twenty-nine were reverse scored. The averages and standard deviation were recorded for each questions for all athletic training students as well as the averages and standard deviation for the questions in each sub-category. The averages and



standard deviations for the sub-categories were then analyzed and compared for sex and clinical experience.

### Results

Following the collection of the data obtained from the survey, the athletic training student participant's results were analyzed across various descriptive factors and against the survey results from their respective supervising preceptors. The tables and figures below display these results and data to be analyzed and compared.

Table of Participant Descriptors	Table of Participant Descriptors	Table of Participant Descriptors	Table of Participant Descriptors	Table of Participant Descriptors
	MALE	FEMALE		
SEX	32.50%	67.50%		
	ATHLETIC TRAINING	OTHER		
MAJOR	100%	0%		
	YEAR 1	YEAR 2	YEAR 3	YEAR 4
YEAR IN SCHOOL	0%	25.00%	37.50%	37.50%
	YEAR 1	YEAR 2	YEAR 3 & 4	
YEARS OF CLINICAL EXPERIENCE	32.50%	37.50%	30.00%	
	U.T. SPORTS TEAM	U.T. INTRAMURALS	HIGH SCHOOL	
CURRENT CLINICAL ASSIGNMENT	75.00%	8.00%	17.50%	
	COLLEGIATE SPORTS	CLUB TEAMS	HIGH SCHOOL VARSITY	HIGH SCHOOL JV
LEVEL OF ATHLETIC EXPERIENCE	17.50%	30.00%	50.00%	2.50%

Table 1

The figure above represents the chosen participant descriptors tested in the case study and the respective percentages of each factor for the student participants. These descriptive factors were selected to better understand the population and how they might affect the participant's

responses on the survey. As the table shows, with a percentage of 67.60% student participants are primarily female, with males making up the remaining 32.50%. All participants are athletic training majors, as required to be in the program and work as a student athletic training major. A majority of participants are in their first or second year of clinical experience/year in the program, at 32.50% and 37.50% respectively and the remaining 30.00% of participants belonging in either the third or fourth year in the athletic training program. Over three-fourths of the students are assigned to observe and assist with the universities collegiate sports team and their respective athletic trainers. The remaining 25.50% students are assigned at either university level intramural sports teams or at local high schools. All participants reported to have some level of athletic experience, with the 80% of students having played sports at the high school varsity or club level. These descriptive factors and their respective percentages were utilized to better understand the athletic training department at the University of Texas at Austin and the targeted population of athletic training students. The descriptive factors were utilized in the study to gain an understanding into not only empathy's perceived importance in the healthcare field of athletic training, but also how empathy compares in gender, clinical years of experience, and more.

QUESTION NUMBER	QUESTIONS	AVG	S.D.
Q:9	An important component of the relationship with my patients is my understanding of their emotional status, as well as that of their families.	1.44	1.08
Q:10	My patients value my understanding of their feelings.	5.58	1.15
Q:11*	I do not enjoy reading non-medical literature or the arts.	4.2	2.26
Q:12*	I believe that emotion has no place in the treatment of medical illness	6.41	0.91
Q:13	My success in treatment is limited without the therapeutic skill of empathy.	4.9	1.41
Q:14*	Because people are different, it is difficult for me to see things from my patient's perspectives.	4.72	1.73
Q:15*	I do not allow myself to be influenced by strong personal bonds between my patients and their family members.	4.13	1.4
Q:16	I try to imagine myself in my patient's shoes when providing care to them.	5.23	1.8
Q:17*	It is difficult for me to view things from patient's perspectives.	5.28	1.36
Q:18	I try to understand what is going on in my patient's minds by paying attention to their non-verbal cues and body language.	5.83	1.26
Q:19*	Attentiveness to my patient's personal experiences does not influence treatment outcomes.	4.75	1.78
Q:20	My patients feel better when I understand both their physical and emotional feelings.	5.8	1.327
Q:21	I try to think like my patient's in order to provide better care.	4.85	1.77
Q:22	I have a good sense of humor that I think contributes to a better clinical outcome.	5.65	1.08
Q:23	I believe that empathy is an important therapeutic factor in medical or surgical treatment.	6.1	1.15
Q:24	I pay attention to my patient's emotions in history taking.	5.8	1.18
Q:25	Asking patients about what is happening in their personal lives is helpful in understanding their physical complaints.	5.3	1.31
Q:26	I consider understanding my patient's body language as important as verbal communication.	5.88	1.22
Q:27*	I believe patient's illnesses can be cured only by medical or surgical treatment.	5.18	1.22
Q:28*	I believe emotional ties to my patients do not have a significant influence on medical or surgical outcomes.	4.85	1.51
Q:29*	My understanding of how my patient and their families does not influence my medical or surgical treatment.	3.98	1.65
<b>TOTAL:</b>		<b>5.04</b>	<b>1.41</b>
* = reverse scored			

Table 2

This table displays the twenty-nine questions drawn from the Jefferson Scale of Physician Empathy used in the survey given to the athletic training students and the resulting averages and standard deviations for each question. As indicated by the asterisk, questions eleven, twelve, fourteen, fifteen, seventeen, nineteen, twenty-seven, twenty-eight, and twenty-nine are reversed scored. Question nine, belonging to Category Six: Level of Patient Influence Provider Believes is Important in Medicine, scored with the lowest average of 1.44. Question twelve, belonging to Category One: Provider's Belief of Empathy in Medicine, scored with the highest average of 6.41 and the lowest standard deviation, 0.91. Question eleven of Category Three: Empathetic Activities produced the largest standard deviation of 2.26. The standard deviation average for all twenty-nine questions is 1.41 and the average of the averages is 5.04, which is on the middle to higher end of the zero-seven scale. The average standard deviation for all questions displays that the participants responses were relatively standard and there was small deviation and variation from the mean. This score of average for all the questions indicates that the empathy is believed to be important in medicine, specifically in the field of athletic training by the athletic training student participants.

<b>Category 1: Provider's Belief of Empathy in Medicine</b>	<b>AVG.</b>	<b>S.D.</b>
Q12*: I believe that emotion has no place in the treatment of medical illness	6.41	0.91
Q13: My success in treatment is limited without the therapeutic skill of empathy.	4.90	1.41
Q23: I believe that empathy is an important therapeutic factor in medical or surgical treatment.	6.10	1.15
Q27*: I believe patient's illnesses can be cured only by medical or surgical treatment.	5.18	1.22
Q28*: I believe emotional ties to my patients do not have a significant influence on medical or surgical outcomes.	4.85	1.51
TOTAL AVG.	5.40	1.24

Table 3

Table 3 displays the average and standard deviation for the sub-category of Provider's Belief of Empathy in Medicine from the student survey. The questions in this category are aimed to discover how the participant considers acts and display of empathy should be utilized in medicine, specifically providing treatment. The total average of category one is 5.40 and the average standard deviation is 1.24. The standard deviation from the results reveal that for category one, small variation in resulting scores and from the mean occurred. On the scale of zero to seven (zero meaning strongly disagree, and seven meaning strongly agree), the total mean of 5.40 reveals that, with little to some variation in responses, participants agreed with the questions provided on empathy's role in healthcare. These results indicate that the participants tended to respond in believing that at least some level empathetic actions were influential in medical care.

<b>Category 2: Provider Behavior with Patients</b>	<b>AVG.</b>	<b>S.D.</b>
Q18: I try to understand what is going on in my patient's minds by paying attention to their non-verbal cues and body language.	5.83	1.26
Q19*: Attentiveness to my patient's personal experiences does not influence treatment outcomes.	4.75	1.78
Q24: I pay attention to my patient's emotions in history taking.	5.80	1.18
Q26: I consider understanding my patient's body language as important as verbal communication.	5.88	1.22
<b>TOTAL AVG.</b>	<b>5.56</b>	<b>1.36</b>

Table 4

The averages and standard deviations for questions in the sub-category of Provider Behavior with Patients is depicted in the table above. The questions in category two inquired about the participant's opinions on how they believed physicians should interact with their patients. The total average is 5.56 and the average standard deviation is 1.36. The standard deviation from the results reveal that for category two, small variation in resulting scores and from the mean

occurred. On the scale of zero to seven (zero meaning strongly disagree, and seven meaning strongly agree), the total mean of 5.56 reveals that, with little to some variation in responses, participants agreed with the questions provided on provider communication and action with patients. These overall results indicate that the participant's scores reflected that attention and communication are important in provider behavior with patients.

<b>Category 3: Empathetic Activities</b>	<b>AVG</b>	<b>S.D.</b>
<b>Q11*: I do not enjoy reading non-medical literature or the arts.</b>	<b>4.20</b>	<b>2.26</b>
<b>TOTAL AVG.</b>	<b>4.20</b>	<b>2.26</b>

Table 5

The reversed scored question eleven is categorized in its own category for Empathetic Activities.

The average of the results of this category is 4.20 with a standard deviation of 2.26. The standard deviation from the results reveal that for category three, average to large variation in resulting scores and from the mean occurred. On the scale of zero to seven (zero meaning strongly disagree, and seven meaning strongly agree), the total mean of 4.20 reveals that, with large variation in responses, participants were mixed divided on the question posed for empathetic activities. These results imply that the participants, while varied in opinion, did not strongly agree or strongly disagree in participating in possible empathetic activities.

<b>Category 4: Patient's Views of Provider Behavior</b>	<b>AVG.</b>	<b>S.D.</b>
<b>Q10: My patients value my understanding of their feelings.</b>	<b>5.58</b>	<b>1.15</b>
<b>Q20: My patients feel better when I understand both their physical and emotional feelings.</b>	<b>5.80</b>	<b>1.33</b>
<b>TOTAL AVG.</b>	<b>5.69</b>	<b>1.24</b>

Table 6

The participants were asked their opinions of a patient's views of provider behavior in questions in category four. Table 6 displays the results of these questions from the student athletic trainer survey. From the data analyzed for this category, the total average is 5.69 and the standard deviation is 1.24. The standard deviation of 1.24 from the results reveal that for category four, small variation in resulting scores and from the mean occurred. On the scale of zero to seven (zero meaning strongly disagree, and seven meaning strongly agree), the total mean of 5.69 reveals that, with little to some variation in responses, participants agreed with the questions provided on patient's feelings on provider empathy. The results indicate that the students believed that patients desire understanding physicians.

<b>Category 5: Provider Connection to Patients</b>	<b>AVG.</b>	<b>S.D.</b>
Q14*: Because people are different, it is difficult for me to see things from my patient's perspectives.	4.72	1.73
Q16: I try to imagine myself in my patient's shoes when providing care to them.	5.23	1.80
Q17*: It is difficult for me to view things from patient's perspectives.	5.28	1.36
Q21: I try to think like my patient's in order to provide better care.	4.85	1.78
<b>TOTAL AVG.</b>	<b>5.02</b>	<b>1.67</b>

Table 7

Table 7 displays the averages and standard deviations for questions in category five. Category Five is comprised of questions inquiring about a provider's connection to patients. In this category, questions fourteen and seventeen were reversed scored. The total average from the data is 5.02 and average standard deviation is 1.67. These standard deviation from the results reveal that for category five, small variation in resulting scores and from the mean occurred. On the scale of zero to seven (zero meaning strongly disagree, and seven meaning strongly agree), the total mean of 5.02 reveals that, with little to some variation in responses, participants agreed with the questions provided on how physicians might connect with their patients. The scores reflect a

middle to higher scoring from the participants indicating they tended to agree more with empathetic behaviors in provider connection to providers.

<b>Category 6: Level of Patient Influence Provider Believes is Important in Medicine</b>	<b>AVG.</b>	<b>S.D.</b>
Q9: An important component of the relationship with my patients is my understanding of their emotional status, as well as that of their families.	5.85	1.08
Q15*: I do not allow myself to be influenced by strong personal bonds between my patients and their family members.	4.13	1.40
Q22: I have a good sense of humor that I think contributes to a better clinical outcome.	5.65	1.08
Q25: Asking patients about what is happening in their personal lives is helpful in understanding their physical complaints.	5.30	1.31
Q29*: My understanding of how my patient and their families does not influence my medical or surgical treatment.	3.98	1.65
<b>TOTAL AVG.</b>	<b>4.98</b>	<b>1.30</b>
* = reverse scored		

Table 8

The averages and standard deviations for questions in sub-category of Level of Patient Influence Provider Believes is Important in Medicine is depicted in the table above. The questions in category six inquired about the participant's opinions on a patient's influence in treatment and care provided by the provider. The total average is 4.98 and the average standard deviation is 1.30. These standard deviation from the results reveal that for category six, small variation in resulting scores and from the mean occurred. On the scale of zero to seven (zero meaning strongly disagree, and seven meaning strongly agree), the total mean of 4.98 reveals that, with little to some variation in responses, participants were more divided on the questions posed for patient involvement and level of bonding needed in treatment. The total average is in the middle to higher range of the rating scale indicating the participants believed in some level of strong patient involvement in the overall treatment and care for medical purposes.



SEX (average)	MALE	FEMALE
Category 1: Provider's Belief of Empathy in Medicine	4.73	4.80
Category 2: Provider Behavior with Patients	5.44	5.64
Category 3: Empathetic Activities	2.77	4.31
Category 4: Patient's Views of Provider Behavior	5.33	5.84
Category 5: Provider Connection to Patients	3.46	3.57
Category 6: Level of Patient Influence Provider Believes is Important in Medicine	4.69	4.81
	4.40	4.83

Table 9

This table displays and compares the average results of the six categories for both male and female participant student athletic trainers. Across all six categories females scored higher averages than males for the survey on a scale of zero to seven. Category Three: Empathetic Activities resulted in the biggest differences in scores, with males scoring an average of 2.77 and females scoring an average of 4.31. Females were more inclined to partake in activities that encompassed empathetic traits than males. Category One: Provider's Belief of Empathy in Medicine resulted in the smallest difference in scores, with males scoring an average of 4.73 and females scoring an average of 4.80. While females still scored a higher average for this category, the results reveal that both males and females showed similar tendencies of beliefs for the role of empathy in medicine, specifically the treatment and care provided for patients. The total average for males across all six categories is 4.40 and the total average for females across six categories is 4.83. This result indicates that the female participants were more inclined to utilize empathetic skills and behaviors in medicine and view its importance in treatment.

<b>SEX (standard deviation)</b>	<b>MALE</b>	<b>FEMALE</b>
Category 1: Provider's Belief of Empathy in Medicine	1.90	2.18
Category 2: Provider Behavior with Patients	1.26	1.52
Category 3: Empathetic Activities	2.31	2.14
Category 4: Patient's Views of Provider Behavior	1.09	1.14
Category 5: Provider Connection to Patients	2.00	2.39
Category 6: Level of Patient Influence Provider Believes is Important in Medicine	1.67	1.77
	<b>1.71</b>	<b>1.86</b>

Table 10

This table displays and compares the standard deviation of the six categories for both males and female participant student athletic trainers. Male participants experienced the most variation in scores in Category Three: Empathetic Activities and the least in Category Four: Patient's Views of Provider Behavior. These results indicate that the male participants had varying responses to questions on activities that indicate or involve empathy and that there was smaller variation in answers to how what they believe patients want when interacting/communicating with their doctors. For the female participants, Category Five: Provider Connection to Patients concluded with the largest standard deviation in scores and Category Four: Patient's Views of Provider Behavior had the least variation in responses to these questions, just like the male participants. Except for Category Three: Empathetic Activities, females scored larger standard deviations than males on the athletic training student's survey. Females also scored a slightly higher average score of standard deviation for all six categories. This reflects that there was a slightly more variation in scores and deviation from the mean from female participants than male participants.

YEARS OF CLINICAL EXPERIENCE (average)	1 YEAR	2 YEARS	3 OR 4 YEARS
Category 1: Provider's Belief of Empathy in Medicine	4.72	4.84	4.54
Category 2: Provider Behavior with Patients	5.14	4.75	5.78
Category 3: Empathetic Activities	3.00	5.00	4.50
Category 4: Patient's Views of Provider Behavior	5.35	5.67	6.08
Category 5: Provider Connection to Patients	3.77	3.19	3.88
Category 6: Level of Patient Influence Provider Believes is Important in Medicine	4.93	4.56	4.75
	4.49	4.67	4.92

Table 11

This table displays and compares the average of the six categories for the years of clinical experience/year in the athletic training program (year 1, year 2, and year 3/year 4). This comparison and analysis does not result in any obvious or direct pattern for each individual category. While all the averages across Category One : Provider’s Belief of Empathy in Medicine are similar in range, participants in year 2 scored the highest average of 4.72, followed by year 1 participants, and lastly year 3/ 4 participants scored the lowest average with 4.54. In Category Two: Provider Behavior with Patients, year 3 or 4 scored the highest average of 5.78, followed by year 1, and year 2 scoring the lowest average of 4.75. Category Three: Empathetic Activities showed a greater variation in scores between the years of clinical experience than the previous categories. Year 1 participants displayed an average result of 3.00, year 2 displayed an average of 5.00, and year 3 or 4 displayed an average of 4.50. The average results for category 3 do not follow a linear trend nor are similar in average scores. Category Four: Patient’s Views of Provider Behavior is the only category with a linear trend across the years of clinical experience. Year 1 resulted in an average score of 5.35, year 2 resulted in an average of 5.67, and year 3 or 4 resulted in an average of 6.08. Despite the similar scores, the linear trend reveals that average score, the participant’s view that patients want desire empathetic providers, increases with years

in the program. Again, in Category Five: Provider Connection to Patients the average scores for years of clinical experience were similar in range. The highest average score belonged to year 3 of 3.88, followed by year 1, and with year 2 scoring the lowest average of 3.19. In Category 6: Level of patient influence Provider Believes is Important in Medicine, year 1 scored the highest average of 4.93, followed by year 3 or 4, and with year 2 scoring the lowest average score of 4.56. The total average for each year in the athletic training program reveals a positive linear trend; as the averages increased in score as years of clinical experience increased.

<b>YEARS OF CLINICAL EXPERIENCE (standard deviation)</b>	<b>1 YEAR</b>	<b>2 YEARS</b>	<b>3 OR 4 YEARS</b>
Category 1: Provider's Belief of Empathy in Medicine	1.81	2.27	2.28
Category 2: Provider Behavior with Patients	1.10	1.76	1.31
Category 3: Empathetic Activities	1.53	2.27	2.41
Category 4: Patient's Views of Provider Behavior	1.08	1.28	0.93
Category 5: Provider Connection to Patients	1.87	2.37	2.48
Category 6: Level of Patient Influence Provider Believes is Important in Medicine	1.64	1.77	1.73
	<b>1.51</b>	<b>1.95</b>	<b>1.86</b>

Table 12

This table displays and compares the standard deviations of the six categories for the years of clinical experience/year in the athletic training program (year 1, year 2, and year 3/ 4). Student participants in their first year of clinical experience had the most variation in scores in Category 1: Provider's Belief of Empathy in Medicine and the least variation in scores in Category 4: Patient's Views of Provider Behavior. These standard deviation scores reflect that most year 1 survey participants had varying responses to how empathy should be utilized in healthcare and there was smaller variation in answers to how what they believe patients want when interacting/communicating with their doctors. Student participants in year two of the athletic training program had the most variation in answers from Category 5: Provider Connection to

Patients and the least variation in Category 4: Patient's views of Provider Behavior. The standard deviation scores for year two participants reflect that most variation in responses to how physicians should connect to the patient's and their families and there was smaller variation in answers to how what they believe patients want when interacting/communicating with their doctors. Student participants in year three or four of the athletic training program had the most variation in scores from Category 5: Provider Connection to Patients and the smallest standard deviation in year 3 or 4 students is in Category 4: Patient's Views of Provider Behavior. These standard deviation score results for year 3 or 4 students in the athletic training program indicate that there was the most variation in responses to how physicians should connect to the patient's and their families and there was smaller variation in answers to how what they believe patients want when interacting/communicating with their doctors. For all three groups of clinical years of experience, Category 4: Patient's Views of Provider Behavior had the smallest standard deviation in responses. Category 4 scores displays that across all the participants, there was the smallest variation in beliefs or opinion on how patient's desire communication and a relationships with their physician as compared to other opinions for empathy in medicine. The total average of the standard deviations for the three groups of clinical year of experience does not display a clear trend. The average standard deviation for year 1 participants was 1.51, then increased for year 2 participants to an average of 1.95, and then decreased to 1.86 for year 3/4 participants. Simply, year 2 participants showed the greatest standard deviation and variations in responses and year 1 participants showed the least standard deviation and variation in responses. The results of average of standard deviation demonstrate that there is not a trend, positive or negative, for deviation from the mean or variation in answers as years in the program increase.

PARTICIPANT 5		PRECEPTOR RATING OF PARTICIPANT 5	
AVG	5.29	AVG	5.75
S.D.	1.45	S.D.	0.5

Table 13

Table 14

The figures above display the average and standard deviation for participant five as well as the average and standard deviation for the preceptor's rating of participant 5. As table 13 depicts, the average score for the student survey for participant five is 5.29 and the standard deviation is 1.45. On the scale of zero to seven, the average reflects an average of answers on the higher end of the scale indicating a more propensity to answer with agree to the empathy based questions provided in the survey. The standard deviation of 1.45 expresses a small to medium variation in scores for the survey and deviation from the average; implying that participant five was relatively consistent in his responses that yielded agreeance with positive association between empathy and its utilization in healthcare. Table 14 depicts participant five's direct supervisor's rating of the participant's observed empathetic traits and behaviors when interacting with patients. The average for the preceptor survey is 5.75 and the standard deviation is 0.5. On the scale of zero to seven, the average reflects an average of answers on the higher end of the scale indicating that the preceptor rated the participant to display empathetic behaviors with patients. The standard deviation of 0.5 expresses a very small variation in answers and deviation from the average score expressing that the preceptor rated the participant with similar higher scores on the scale when inquired about the participant's observed behaviors with patients. While the survey provided to the preceptors is only comprised of four questions, the results were still valuable and insightful in comparisons of the student self-evaluated empathy levels and preceptor observed

empathy levels. Comparing the two average results from both the student participants and their preceptors, the averages are very similar in score with the preceptors average being slightly higher in score. This outcome indicates that for participant five's empathetic traits and behaviors, the self-evaluated and perceived empathy levels relatively align.

<b>PARTICIPANT 9</b>	
<b>AVG</b>	<b>4.00</b>
<b>S.D.</b>	<b>1.38</b>

Table 15

<b>PRECEPTOR RATING OF PARTICIPANT 5</b>	
<b>AVG</b>	<b>5.00</b>
<b>S.D.</b>	<b>0.82</b>

Table 16

The figures above display the average and standard deviation for participant nine as well as the average and standard deviation for the preceptor's rating of participant nine. As table 15 depicts, the average score for the student survey for participant five is 4.00 and the standard deviation is 1.38. On the scale of zero to seven, the average reflects a mean of responses in the middle of the scale implying that there was not a strong agreeance or disagreement with the empathy based questions provided in the survey. The standard deviation of 1.38 expresses a small to medium variation in scores for the survey and deviation from the average; implying that participant nine was relatively consistent in his responses that yielded neither strong responses in agreement or discord to a positive association between empathy and its utilization in healthcare. Table 16 depicts participant nine's direct supervisor's rating of the participant's observed empathetic traits and behaviors when interacting with patients. The average for the preceptor survey is 5.00 and the standard deviation is 0.82. On the scale of zero to seven, the average reflects an average of answers on the higher end of the scale indicating that the preceptor rated the participant to

display empathetic behaviors with patients. The standard deviation of 0.82 expresses a very small variation in answers and deviation from the average score expressing that the preceptor rated the participant with similar higher scores on the scale when inquired about the participant's observed behaviors with patients. While the survey provided to the preceptors is only comprised of four questions, the results were still valuable and insightful in comparisons of the student self-evaluated empathy levels and preceptor observed empathy levels. Comparing the two average results from both the student participants and their preceptors, the averages are close in number but with the preceptors average being higher in score. Even though the preceptor rating average is higher than the student average, this outcome indicates that for participant nine's empathetic traits and behaviors, the self-evaluated and perceived empathy levels are similar.

<b>PARTICIPANT 16</b>		<b>PRECEPTOR RATING OF PARTICIPANT 5</b>	
<b>AVG</b>	<b>5.24</b>	<b>AVG</b>	<b>6.75</b>
<b>S.D.</b>	<b>1.76</b>	<b>S.D.</b>	<b>0.5</b>

Table 17

Table 18

The figures above display the average and standard deviation for participant sixteen as well as the average and standard deviation for the preceptor's rating of participant sixteen. As table 17 depicts, the average score for the student survey for participant five is 5.24 and the standard deviation is 1.76. On the scale of zero to seven, the average reflects an average of answers on the higher end of the scale indicating a propensity to answer with agree to the empathy based questions provided in the survey. The standard deviation of 1.76 expresses a small to medium variation in scores for the survey and deviation from the average; implying that participant



sixteen was relatively consistent in his responses that yielded agreeance with positive association between empathy and its utilization in healthcare. Table 18 depicts participant sixteen's direct supervisor's rating of the participant's observed empathetic traits and behaviors when interacting with patients. The average for the preceptor survey is 6.75 and the standard deviation is 0.5. On the scale of zero to seven, the average reflects an average of answers on the higher end of the scale indicating that the preceptor rated the participant to display strong empathetic behaviors with patients. The standard deviation of 0.5 expresses a very small variation in answers and deviation from the average score expressing that the preceptor rated the participant with similar higher scores on the scale when inquired about the participant's observed behaviors with patients. While the survey provided to the preceptors is only comprised of four questions, the results were still valuable and insightful in comparisons of the student self-evaluated empathy levels and preceptor observed empathy levels. Comparing the two average results from both the student participants and their preceptors, the averages are very close in number, with the preceptor's average scoring 1.51 higher on the scale. These results express that for participant sixteen's empathetic traits and behaviors, the self-evaluated and perceived empathy levels relatively align, with preceptor rating of observed empathetic behavior to be relatively high and strong.

<b>PARTICIPANT 35</b>	
<b>AVG</b>	<b>5.95</b>
<b>S.D.</b>	<b>1.72</b>

Table 19

<b>PRECEPTOR RATING OF PARTICIPANT 35</b>	
<b>AVG</b>	<b>6.00</b>
<b>S.D.</b>	<b>2.00</b>

Table 20

The figures above display the average and standard deviation for participant thirty-five as well as the average and standard deviation for the preceptor's rating of participant 35 . As table 19 depicts, the average score for the student survey for participant five is 5.95 and the standard deviation is 1.72. On the scale of zero to seven, the average reflects an average of answers on the higher end of the scale indicating a strong propensity to answer with agreement to the empathy based questions provided in the survey. The standard deviation of 1.72 expresses a small to medium variation in scores for the survey and deviation from the average; implying that participant thirty-five was relatively consistent in his responses that yielded agreeance with positive association between empathy and its utilization in healthcare. Table 20 depicts participant thirty-five's direct supervisor's rating of the participant's observed empathetic traits and behaviors when interacting with patients. The average for the preceptor survey is 6.00 and the standard deviation is 2.00. On the scale of zero to seven, the average reflects an average of answers on the higher end of the scale indicating that the preceptor rated the participant to display strong empathetic behaviors with patients. The standard deviation of 2.00 expresses a large variation in answers and deviation from the average score expressing that the preceptor rated the participant with various scores on the scale when inquired about the participant's observed behaviors with patients. While the survey provided to the preceptors is only comprised of four questions, the results were still valuable and insightful in comparisons of the student self-evaluated empathy levels and preceptor observed empathy levels. Comparing the two average results from both the student participants and their preceptors, the averages are very similar in score. This outcome indicates that for participant thirty-five's empathetic traits and behaviors, the self-evaluated and perceived empathy levels aligned.

### **Part Three: Discussion and Analysis of Case Study Results**

This case study on athletic training students and preceptors at the University of Texas at Austin was created to gain insight into beliefs of empathy as a tool and its importance in the healthcare field of athletic training. Before conducting the survey with the participants, I believed the results would reflect the prior research into empathy levels on healthcare professionals and medical students. I believed that the importance and benefits of empathy would be even more so for athletic trainers and athletic training students, empathy behaviors would be utilized due to the rehabilitative and treatment focused nature of this field.

The participants for this case study consisted of forty athletic training students and four preceptors in the athletic training program. The participants consisted of a niche but diverse group in terms of sex, major, years of clinical experience through the program, and level athletic experience. These factors allowed for a greater comprehension of the participants and how the factors influenced beliefs and tendencies towards empathic behaviors in a medical or treatment setting.

The first survey completed was presented to the athletic training students and consisted of not only the descriptive factor questions but twenty-nine inquisitive questions drawn from the Jefferson Scale of Physician Empathy. For all of the forty participants, the average for the twenty-nine questions on empathy was 5.04 and the standard deviation was 1.41. The total average for all the questions reflects a higher rating average on the scale of zero to seven (from strongly disagreeing to strongly agreeing). We can infer from this resulting mean that the student participants were inclined to agree to questions on supporting the benefit and importance of

empathy in medicine, which may indicate they also displayed greater empathetic behaviors themselves with athletes they treat and care for.

The survey questions were broken down into six categories based on similar question theme to further analyze the student participant's beliefs as mentioned and displayed in the tables above. Category 1: Provider's Belief of Empathy in Medicine scored an average of 5.40 and an standard deviation of 1.24. The total average for the questions in the first category reveal a higher score on the scale of zero to seven. This results demonstrates that, with small to medium variation in response, the forty participants agreed with statements on the physician's use of empathy in healthcare. Category 2: Provider Behavior with Patients scored on average of 5.56 and a standard deviation of 1.36. The average is on the higher end of the scale provided in the survey which indicates that the student participants agreed with questions on the practice of attention and communication in provider behavior with patients. Category 3: Empathetic Activities scored an average of 4.20 and an standard deviation of 2.26. As the results of category 3 reflect, the participants as a whole, with strong variation in response answers, neither agreed nor disagreed with their own personal adoption or indulgence in certain empathetic activities. Category 4: Patient's Views of Provider Behavior resulted in an average of 5.69 and a standard deviation of 1.24. The average is on the higher end of the scale of zero to seven which expresses that the student participants agreed with statements that patients desire understanding and empathetic physicians. Category 5: Provider Connection to Patients scored an average of 5.02 and standard deviation of 1.67. The total average for the questions in the first category reveal a higher score on the scale of zero to seven. These results demonstrates that, with small to medium variation in response, the forty participants agreed with statements on empathetic behaviors in provider connection to providers. Category 6: Level of Patient Influence Provider Believes is

Important in Medicine resulted in an average of 4.98 and a standard deviation is 1.30. The total average for the questions in Category 6 reveal a more medium to slightly higher score on the scale for the student survey. The scores reveal that, with small variation in response, participants only slightly agreed with strong patient involvement in the overall treatment and care for medical purposes. The resulting averages and standard deviations for the six categories from the student survey reveal that overall students agreed with procedures and communication that promoted empathy in the patient-physician relationship and have also experienced and executed these behaviors in their own experiences as athletic training students.

The resulting averages and standard deviations from the six categories were also employed to analyze and compare the influence of certain demographic factors on the opinion and practice of empathy in healthcare. In the comparison between male and female participants results, across all six categories females scored a higher average than males. The total average for females is 4.83 and males is 4.40. The total standard deviation for females is 1.86 and 1.71 for males. This comparison between male and female participant results indicate that females were more inclined to agree with statements supporting empathetic traits in medicine and had a slightly higher variation in scores than males. These results are similar to previous research on more general physicians, in that females were more inclined to practice empathetic behaviors and believe in its importance for the doctor-patient relationships.

In addition, the averages and standard deviations for the six categories were compared across year of clinical experiences (year 1, year 2, year 3/4). While the standard deviations did not follow any set trend, all three scores of standard deviation were in the range between 1.00 – 2.00. The averages for the years of clinical experience displayed a positive linear trend, in that as the year in the athletic training program increased, the average of the questions increased as well.

Year one participants scored an average of 4.49, year two participants scored an average of 4.67, and year 3/4 participants scored an average of 4.92. While the differences in the averages are very small, this result can still indicate that as the participants become more experienced, their empathetic levels or beliefs in the importance of empathy increased as well. These result from the survey were not expected. I believed that a negative trend would occur as years of experience increased, the averages would decrease as supported by previous research. The positive trend between years of experience and belief in the importance of empathy in medicine, the average score, could be the result of the high level of training and exposure that the students get as they advance throughout the years.

I initially chose this population of students and their direct supervisors as I was curious about how self-perceived versus observed empathy behaviors would correlate and compare. Although only four of the preceptors for four different participants could participant in the study, the data and results are still meaningful and helpful in analyzing perceived and self-evaluated empathy. Participant five scored an average of 5.29 on the questions for the student survey and their direct preceptor rated them with an average of 5.75 on a scale of zero to seven. The self-evaluated and observed scores of empathy are very similar with only a difference of 0.41. Participant five's score reveals an agreeance with statements on the utilization of empathetic behaviors. Their preceptors score reveals a positive observation of empathetic behaviors towards patients from the participant. The similar rating between participant five and their preceptor indicates that the self-evaluated and observed empathetic behavior aligned. Participant nine scored an average of 4.00 on the questions for the student survey and their direct preceptor rated them with an average of 5.00 on a scale of zero to seven. The self-evaluated and observed scores of empathy are close in number with a difference of 1.00. Participant nine's score reveals neither

a strong agreeance nor strong disagreement with statements on the utilization of empathetic behaviors but their preceptors score reveals a positive observation of empathetic behaviors towards patients from the participant. Even with a difference in average score, the close rating between participant nine and their preceptor indicates that the self-evaluated and observed empathetic behavior are comparable. Participant sixteen scored an average of 5.24 on the questions for the student survey and their direct preceptor rated them with a strong average of 6.75 on a scale of zero to seven. Again, the self-evaluated and observed scores of empathy are different but still close in number with a 1.00 difference. The close rating between participant sixteen and their preceptor indicates that the self-evaluated and observed empathetic behavior are proportionate. Participant thirty-five scored an average of 5.95 on the questions for the student survey and their direct preceptor rated them with a strong average of 6.00 on a scale of zero to seven. The self-evaluated and observed scores of empathy are very similar with only a difference of 0.05. Participant thirty-five's score reveals an agreeance with statements on the utilization of empathetic behaviors and their preceptors score reveals a strong positive observation of empathetic behaviors towards patients from the participant. The similar rating between participant thirty-five and their preceptor indicates that the self-evaluated and observed empathetic behavior aligned. I hypothesized that the student's rating would be slightly higher than the preceptors. This hypothesis was proven wrong given that the preceptors rated the students empathetic actions higher and comparable to the student participants own rating of their opinions and experiences with empathy in medicine. This analysis leads to a deduction that, for the students and preceptors from the University of Texas at Austin, self-evaluated and observed empathy behaviors concur.

Overall, the case study on athletic training student's beliefs and experiences with the importance of empathy revealed and supported research on empathy's necessity and beneficial nature in medicine. The survey the participants engaged in reveal that the athletic training students not only agreed with the necessity and beneficial nature of empathy in doctor-patients relationships but had experienced and employed its benefits in their treatment of patients. In addition, the self-evaluated levels of empathetic actions were comparable to the student's preceptors ratings of their empathetic behaviors with patients. While the outcome of this case study did not completely align with my original hypotheses for the survey, it did reinforce many results of the previous studies done on empathy's importance and benefits for not only the patient's the treatment, but for the provider themselves.



Image 9



Image 10



## Conclusion

Empathy, a multidimensional facet that encompasses the ability to identify with and understand another's feelings or experiences without having actually lived through them<sup>54</sup>, is utilized in various themes throughout society. One element of society is healthcare where empathy can be contrived as a cognitive ability that involves an understanding of patient's experiences and problems as well as the capacity to communicate this attuned understanding with the intention to provide the best care for the patient. The in the past decades, research on the utilization and importance of empathy has exponentially increased.

Through analytical reading and research, empathy has been proven to not only improve communication between patients and doctors but improve health data, adherence to treatment, and feelings of satisfaction from patients<sup>55</sup>. The practice of clinical empathy is also beneficial for the physician reporting to improve prognosis ability and lower accounts of medical errors and malpractice claims<sup>56</sup>. Empathy between a doctor and patient improves communication and the nature of treatment of medicine for both parties. Despite these reported benefits and necessity in the field, it is difficult to practice and maintain desired empathetic relationships with every patient the physician comes into contact with.

While dozens of research has been done on the use of clinical empathy has been conducted on general providers and medical students, almost nothing has been reported on the field of athletic training. Athletic trainers, who specialize in injury prevention and treatment in sports medicine, are providers who have long term relationships with their patients- the athletes-

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<sup>54</sup> "Empathy | Definition of Empathy by Merriam-Webster," accessed April 9, 2020, <https://www.merriam-webster.com/dictionary/empathy>.

<sup>55</sup> Daniel Chen et al., "A Cross-Sectional Measurement of Medical Student Empathy," *Journal of General Internal Medicine* 22, no. 10 (October 2007): 1434–38, <https://doi.org/10.1007/s11606-007-0298-x>.

<sup>56</sup> Riess, "The Science of Empathy."

to provide care. Due to the long-term and intimate nature of the athletic trainer- athlete relationship, clinical empathy is needed to improve communication, adherence to rehabilitation regimens, and overall health for both parties.

A case study was created to further investigate the effects and opinions of empathy in athletic trainers, specifically the athletic training students from the University of Texas at Austin. A short survey was completed by participants to inquire about their experiences and beliefs of the practice of clinical empathy as well as rating their own behaviors with patients on a scale of being empathetic. The student's direct supervisors participated in the study to rate the participants observed empathetic behaviors with patients to compare self-evaluate empathy levels with perceived empathy levels. The study revealed that the students agreed with the benefits, necessity and practice of empathy in their care of patients, i.e. the athletes, that females participants were more inclined to exercise empathetic behaviors than males, and the belief in the practice of clinical empathy increased with years of clinical experience. The observed empathetic actions were relatively similar in score to the student's own rating of their empathy, indicating that for this study the provider's empathy was experienced similarly by the provider themselves and the parties them.

Through close reading of literature and published research and conducting a case study on future healthcare providers, the necessity and beneficial nature of empathy for all types of healthcare workers is established. By engaging in certain behaviors and actions, doctors can improve their connection to their patient, patient's compliance to treatment procedures, burnout levels in the provider, and actual treatment and healing process. The importance of empathy is all the more prevalent for athletic trainers and their intimate and long-lasting relationships with patients to its preventative and rehabilitative nature of healthcare. As the case study displays,

young athletic training students believe in forms of empathetic behaviors, such as inquiring about a patient's family or current life outside of their health, and their self-perceived displays of empathetic care is felt and perceived well by other parties. Continued research on the population of athletic trainers in the context of practicing empathy is needed to support and reinforce this essential aspect of patient care.

As stronger research and proven benefits emerge in the study of empathy in the doctor-patient relationship, movements are being taken to move from shallow interactions with patients and detached practice to care more rooted in empathy. To prepare for a career in healthcare and to be a provider that practices clinical empathy, early training and teaching and a healthy support system are needed. Many education systems such as the athletic training program at the University of Texas at Austin and Dell Medical School incorporate humanities and practices rooted in patient care, such as clinical empathy, to prepare and teach future physicians to be a provider that not only cares for the health of a patient but the patient themselves. The practice of clinical empathy is needed moving forward for the future of medicine and in the doctor-patient relationship.

## **Annotated Bibliography**

**1. “Athletic Training.” Kinesiology & Health Education | UT Austin |, April 20, 2020. <https://education.utexas.edu/departments/kinesiology-health-education/undergraduate-programs/athletic-training>.**

This source details the skills and requirements of the healthcare field of athletic training. These descriptions were very insightful to what the athletic trainer job entails and to the skill requirements that are needed to provide care. The page describes the athletic trainer and athlete relationship; depicting an unique relationship due to the preventative and rehabilitative nature of athletic training.

**2. “Athletic Training Program.” Kinesiology & Health Education | UT Austin |, October 10, 2019. <https://education.utexas.edu/departments/kinesiology-health-education/undergraduate-programs/athletic-training-program>.**

This page reveals what the athletic training program at the University of Texas at Austin is and how it develops skills and experiences for students accepted. I found this source useful and necessary to understanding the population I am studying and their training to work with sports teams as athletic training students.

**3. Boyle, Malcolm J, Brett Williams, Ted Brown, Andrew Molloy, Lisa McKenna, Liz Molloy, and Belinda Lewis. “Levels of Empathy in Undergraduate Health Science Students.” The Internet Journal of Medical Education. Internet Scientific Publications, December 31, 2009. <http://ispub.com/IJME/1/1/9959#>.**

This article details a study on empathy levels in students wishing to pursue careers in healthcare. The results of this study showed a strong presence of empathy in future providers and compared empathy levels across gender and fields of desired career medical care.

**4. Chen, Daniel, Robert Lew, Warren Hershman, and Jay Orlander. “A Cross-Sectional Measurement of Medical Student Empathy.” Journal of general internal medicine. Springer-Verlag, October 2007.**

**<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2305857/>.**

This source aimed to study medical student’s empathy across years of experience. I found this source very useful for not only my research on the background of empathy, but for insight for my case study. This study also utilized the Jefferson Scale of Physician Empathy which helped me in creating my own survey and how to properly create a scale to measure empathy.

**5. David, Shannon, and Mary Larson. “Athletes' Perception of Athletic Trainer Empathy: How Important Is It?” Journal of sport rehabilitation. U.S. National Library of Medicine, January 1, 2018. <https://www.ncbi.nlm.nih.gov/pubmed/27992289>.**

This article describes a study performed to understand an athlete’s perception of empathy in the clinical-patient relationship. The article provides a structure and results of a question-based study utilized to understand how athletic trainers may display empathy through multiple methods. I found this study useful as it provides a similar study and framework done on the athletic trainer population of healthcare and their perceived empathy levels with their patients as my thesis question will attempt to do.

**6. Decety, Jean, and Keith J Yoder. “Empathy and Motivation for Justice: Cognitive Empathy and Concern, but Not Emotional Empathy, Predict Sensitivity to Injustice for Others.” Social neuroscience. U.S. National Library of Medicine, 2016.**

**<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4592359/>.**

This article discusses a study on cognitive empathy and an attempt to understand the underlying reasons that guide certain moral behavior. I utilized this study to gain a deeper comprehension of empathy and how it is conceived as in society.

**7. “Directed Observation Program.” Kinesiology & Health Education | UT Austin |, August 1, 2019. <https://education.utexas.edu/departments/kinesiology-health-education/undergraduate-programs/athletic-training-program/directed-observation-program>.**

This source provides descriptive details on the unique observation program of the athletic training program at the University of Texas at Austin. I found this source useful in understanding my population for my case study and how the students develop their skills and interactions with athletes.

**8. Dyrbye, Liselotte N. “Relationship Between Burnout and Professional Conduct and Attitudes Among US Medical Students.” JAMA. American Medical Association, September 15, 2010. <https://jamanetwork.com/journals/jama/fullarticle/186582>.**

This article discusses burnout rates in medical students. This theme in healthcare is not uncommon among providers but is also greatly understudied. This source aims to gain a deeper understanding in to why certain situations lead to burnout and how empathetic behaviors correlate to this sensation.

**9. “Empathy.” Merriam-Webster. Merriam-Webster. Accessed May 17, 2020. <https://www.merriam-webster.com/dictionary/empathy>.**

The source on the definition of empathy comes from the reputable Merriam-Webster Dictionary. This source provides a direct and a more universal understanding of empathy.

**10. Fields, Sylvia K, Pamela Mahan, Paula Tillman, Jeffrey Harris, Kaye Maxwell, and Mohammadreza Hojat. “Measuring Empathy in Healthcare Profession Students Using the Jefferson Scale of Physician Empathy: Health Provider--Student Version.” Journal of interprofessional care. U.S. National Library of Medicine, July 2011.**

**<https://www.ncbi.nlm.nih.gov/pubmed/21554061>.**

This article discusses a study performed on medical students to measure their empathy levels with patients measured with the Jefferson Scale of Physician Empathy. I found the data and methods of this study useful as it provides a scale of empathy-based questions to ask in my own study of athletic trainer students and athletes. The article enhances the reliability of the Jefferson Scale of Physician Empathy and how it is useful in studies on patient-physician relationships.

**11. Fragkos, K.C. “The Effectiveness of Teaching Clinical Empathy to Medical...: Academic Medicine.” LWW. Accessed April 10, 2020.**

**[https://journals.lww.com/academicmedicine/Abstract/publishahead/The\\_Effectiveness\\_of\\_Teaching\\_Clinical\\_Empathy\\_to.97397.aspx](https://journals.lww.com/academicmedicine/Abstract/publishahead/The_Effectiveness_of_Teaching_Clinical_Empathy_to.97397.aspx).**

Fragkos and Crampton argue for the importance of teaching clinical empathy to medical students to improve effective patient care. I found the systematic review and analysis helpful to my study of empathy in healthcare and approaches to improve levels of empathy and overall patient care.

**12. Gray, Lesley, Sue Pullon, Mark A. Huthwaite, and Bee Lim. “How Well Do Medical Students Rate and Communicate Clinical Empathy?” Taylor & Francis Online . Accessed April 10, 2020. <https://www-tandfonline-com.ezproxy.lib.utexas.edu>.**

The study presented in this scholarly paper considers how medical students perceive their empathy during their years of training at school versus their peers and superiors’ perception of their levels of empathy. This study is insightful to my research as it mirrors the methodology of

my study in athletic trainer's self-assessed empathy levels with their preceptor's assessment of their empathy. The research and data help to enhance my own study and its structure of analysis.

**13. Halpern, Jodi. "What Is Clinical Empathy?" Wiley Online Library. John Wiley & Sons, Ltd, August 11, 2003. <https://onlinelibrary.wiley.com/doi/full/10.1046/>**

Halpern discusses the importance of a provider's emotional attunement is essential in connecting to patients and understanding their emotions. The article not only considers clinical empathy and its role with patient-provider relationships but examines what clinical empathy should encompass to enhance provider emotion and care for their patients.

**14. Hojat, M., DeSantis, J., Shannon, S.C. *et al.* "The Jefferson Scale of Empathy: a nationwide study of measurement properties, underlying components, latent variable structure, and national norms in medical students." Springer Link. Accessed April 10, 2020. *Adv in Health Sci Educ* 23, 899–920 (2018).<https://doi.org/10.1007/s10459-018-9839-9>.**

Hojat analyzes the Jefferson Scale of Physician Empathy and its efficiency and reliability for scholarly research and studies. The article analyzes the properties, components, and overall structure of the scale. I found this consideration helpful as it reinforces the reliability and effectiveness of the Jefferson Scale that I use for my own study on athletic trainers at the University of Texas at Austin.

**15. "Jefferson Scale of Empathy." Jefferson Scale of Empathy - Thomas Jefferson University. Accessed May 17, 2020. <https://www.jefferson.edu/university/skmc/research/research-medical-education/jefferson-scale-of-empathy.html>.**



This source provides insight onto the Jefferson Scale of Physician Empathy and its uses throughout medical care. This source was useful to understand the conception and validity of the Jefferson Scale of Empathy and how it has been used in previous research. A comprehension of this scale was needed to create my own survey to measure empathy in athletic training students.

**16. Lanzoni, Susan. "A Short History of Empathy." The Atlantic. Atlantic Media Company, October 15, 2015. <https://www.theatlantic.com/health/archive/2015/10/a-short-history-of-empathy/409912/>.**

This article describes the history of empathy and its evolution in research in society. An understanding of how empathy has been conceived throughout time is necessary in order to study it in the context of medicine.

**17. Pigman, G. W. "Freud and the history of empathy." The International Journal of Psycho-Analysis (1995) .<https://search-proquest-com.ezproxy.lib.utexas.edu>.**

Pigman inspects Freud and his psychoanalysis work on the human mind, specifically on that of the history and development of empathy. The scholarly paper follows the trace of empathy from aesthetics to psychology through Freudian thought. Pigman's analysis of this topic is useful as it provides a historical analysis of empathy which will allow a deeper study of empathy and how I will define it for my own analysis and research.

**18. "The Psychology of Emotional and Cognitive Empathy." The Psychology of Emotional and Cognitive Empathy | Lesley University. Accessed April 5, 2020. <https://lesley.edu/article/the-psychology-of-emotional-and-cognitive-empathy>.**

Lesley University's journal article is insightful for my research on an understanding of empathy in medical care as it not only provides an analysis of emotional and cognitive empathy but discusses methods for cultivating empathy. This work is beneficial as it will help in developing a

definition of empathy for my project and how I will study its role and influence with athletic trainers.

**19. Riess, Helen. "The Science of Empathy - Helen Riess, 2017." SAGE Journals. Accessed April 5, 2020. <https://journals.sagepub.com/doi/full/10.1177/2374373517699267>.**

Riess analyzes the science of empathy in her article to provide a level of reasoning as to why its levels decrease during professional medical training and experience. The journal article offers various approaches to understanding the term "empathy" and how it is experienced in healthcare. It argues the importance of this human emotion and connection to a better society, specifically in the medical world.

**20. Smajdor, Anna, Andrea Stöckl, and Charlotte Salter. "The Limits of Empathy: Problems in Medical Education and Practice." *Journal of Medical Ethics* 37, no. 6 (2011): 380-83. Accessed April 10, 2020. [www.jstor.org/stable/23034748](http://www.jstor.org/stable/23034748).**

Smajdor and Salter analyze both the value and limits of empathy in clinical settings. The scholars recognize the importance of the attribute in physicians but observe the lack of a clear understanding of its definition and nature. I found this source necessary for my analysis of empathy and how it influences clinical practice.

**21. Wilkinson, Helen, Richard Whittington, Lorraine Perry, and Catrin Eames. "Examining the Relationship between Burnout and Empathy in Healthcare Professionals: A Systematic Review." *Burnout research*. Elsevier GmbH, September 2017. <https://www.ncbi.nlm.nih.gov/pubmed/28868237>.**

The literature review of this article on empathy and burnout in healthcare professions is insightful to certain aspects of my thesis question. The results of a negative association between

empathy and burnout provide an understanding of empathy levels and years of experience, which I will be researching in athletic trainers at the University of Texas.

**Image 1**

<https://lesley.edu/article/the-psychology-of-emotional-and-cognitive-empathy>

**Image 2**

<https://www.forbes.com/sites/phildemuth/2014/09/08/are-you-suffering-from-post-great-recession-stress-disorder/#7a8a4e732769>

**Image 3**

<https://www.nngroup.com/articles/empathy-mapping/>

**Image 4**

<https://www.lmtsd.org/Page/7962>

**Image 5**

<https://college.mayo.edu/academics/explore-health-care-careers/careers-a-z/athletic-trainer/>

**Image 6**

<https://www.nba.com/nuggets/nuggets-pay-final-tribute-longtime-athletic-trainer-jim-gillen>

**Image 7**

<https://incontext.education.utexas.edu/athletic-training-programs-board-exam-scores-soar/>

**Image 8**

[https://texassports.com/sports/2015/8/26/GEN\\_0826154259.aspx](https://texassports.com/sports/2015/8/26/GEN_0826154259.aspx)

**Image 9**

<https://incontext.education.utexas.edu/athletic-training-programs-board-exam-scores-soar/>

**Image 10**

<https://education.utexas.edu/departments/kinesiology-health-education/kinesiology-health-education-undergraduate-programs>

## Appendix

# U.T. Athletic Trainer Student Survey

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Q1 I understand that further participating in this survey indicates my consent.

☐ Yes (1)

☐ No (2)

---

Q2 Name:

---

Q3 Male/Female/Other:

☐ Male (1)

☐ Female (2)

☐ Other (3)

---

Q4 Major:

---

Q5 Year in school:

- ☐ Year 1 (1)
  - ☐ Year 2 (2)
  - ☐ Year 3 (3)
  - ☐ Year 4 (4)
- 

Q6 Years of clinical experience with A.T. Program:

- ☐ Year 1 (1)
  - ☐ Year 2 (2)
  - ☐ Year 3 (3)
  - ☐ Year 4 (4)
- 

Q29 Current Clinical Assignment/ Placement

- ☐ U.T. Sports Team (1)
  - ☐ U.T. intramurals (2)
  - ☐ High school (3)
  - ☐ Middle School (4)
-

Q7 Level of athletic experience:

☐ High School JV (1)

☐ High School Varsity (2)

☐ Club Teams (3)

☐ Collegiate Sports (4)

---

- ☐ High School JV (1)
- ☐ High School Varsity (2)
- ☐ Club Teams (3)
- ☐ Collegiate Sports (4)

Q28 When answering each question, rate with the options of 0-7. 0 indicating strongly disagree and 7 indicating strongly agree. There is no right or wrong answer; simply give your honest opinion.

Q8 An important component of the relationship with my patients is my understanding of their emotional status, as well as that of their families.









[illegible]









Q9 My patients value my understanding of their feelings.









[illegible]









[illegible][illegible][illegible][illegible][illegible]











	0 (1)	1 (8)	2 (9)	3 (10)	4 (11)	5 (12)	6 (13)	7 (14)
Rate 0-7. With 0 being strongly disagree and 7 being strongly agree. (1)								









	0 (1)	1 (8)	2 (9)	3 (10)	4 (11)	5 (12)	6 (13)	7 (14)
Rate 0-7. With 0 being strongly disagree and 7 being strongly agree. (1)								

	0 (1)	1 (8)	2 (9)	3 (10)	4 (11)	5 (12)	6 (13)	7 (14)
Rate 0-7. With 0 being strongly disagree and 7 being strongly agree. (1)								

	0 (1)	1 (8)	2 (9)	3 (10)	4 (11)	5 (12)	6 (13)	7 (14)
Rate 0-7. With 0 being strongly disagree and 7 being strongly agree. (1)								

[illegible][illegible]

	0 (1)	1 (8)	2 (9)	3 (13)	4 (14)	5 (15)	6 (16)	7 (17)
Rate 0-7. With 0 being strongly disagree and 7 being strongly agree. (1)								

	0 (1)	1 (8)	2 (9)	3 (10)	4 (11)	5 (12)	6 (13)	7 (14)
Rate 0-7. With 0 being strongly disagree and 7 being strongly agree. (1)								

[illegible]

Q22 I believe that empathy is an important therapeutic factor in medical or surgical treatment.

[illegible]

Q23 I pay attention to my patient's emotions in history taking.

[illegible]

Q24 Asking patients about what is happening in their personal lives is helpful in understanding their physical complaints.

[illegible]

Q25 I consider understanding my patient's body language as important as verbal communication.

[illegible]

Q26 I believe patient's illnesses can be cured only by medical or surgical treatment.

[illegible]

Q30 I believe emotional ties to my patients do not have a significant influence on medical or surgical outcomes.

[illegible]

Q27 My understanding of how my patient and their families does not influence my medical or surgical treatment.

	0 (1)	1 (8)	2 (9)	3 (10)	4 (11)	5 (12)	6 (13)	7 (14)
Rate 0-7. With 0 being strongly disagree and 7 being strongly agree. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## U.T. Athletic Trainer Preceptor Rating of Student

Q1 I understand that further participating in this survey indicates my consent.

☐ Yes (1)

☐ No (2)

Q2 Name:

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Q3 Student's Name:

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[illegible][illegible][illegible]

Q6 The student has an extroverted personality.

[illegible]