Empathic Instruction through Literary Narratives: A Quasi-Experimental Study of an Occupational Therapy Course

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EMPATHIC INSTRUCTION THROUGH LITERARY NARRATIVES: A QUASI-EXPERIMENTAL STUDY OF AN OCCUPATIONAL THERAPY COURSE

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A DISSERTATION

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Dissertation Advisor: Dr. Elizabeth DePoy

An Abstract of the Dissertation Presented in Partial Fulfillment of the Requirements for the Degree of Doctor of Philosophy (Interdisciplinary Studies)

May 2021

This study examines concerns within the field of occupational therapy on the growing disconnect between the profession’s roots and espoused beliefs in empathic-centered care, and the modern realities of health care. In particular, the study examined whether the empathy levels of occupational therapy students would change after a course involving the close reading of literary narratives. Close reading of literary narratives has correlated with improved levels of empathy. Empathy is defined as a four-step dynamic process involving Theory of Mind (ToM), emotional resonance, emotional regulation, and empathy as a willful act. Initial study of the proposed curriculum found improved scores on the Jefferson Scale of Empathy (JSE) between pre and post-test class surveys, and no difference between pre and post-test surveys of the Reading the Mind in the Eyes Test (RMET). The JSE and RMET measures aspects of ToM, emotional resonance and empathic regulation. The outside factors of gender, education, GPA, and novels did not play a consequential role in the findings. Limitations in the study included mid-course changes in the curriculum design due to the COVID-19 pandemic. In particular, the change from in person to a strictly online recorded format. Another limitation was the potential influence of social desirability on student self-reported levels of empathy. Implications of the
study are a call for an ongoing dialogue and proposed curriculum to meet occupational therapy’s espoused values within the modern demands of healthcare.
ACKNOWLEDGEMENTS

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CHAPTER ONE
INTRODUCTION

Empathy and client-centered care are espoused values of occupational therapy that have become, in part, incongruent with modern health care’s emphasis on productivity and health outcomes (Abreu, 2011; Starr, 2017; Van Osh, et al., 2014). Empathy is defined as a four-step dynamic process involving neurology, Theory of Mind (ToM), emotional resonance, emotional regulation, and empathy as a willful act (Gerdes & Segal, 2009). A demonstrated effective model of care for increasing health outcomes in a timely manner is empathic-centered care (Hojat, 2016; Trzeciak & Mazzarelli, 2019). Given the importance of empathy to the values of occupational therapy and its demonstrated application to modern healthcare, this study was done to develop a curriculum to teach empathy to occupational therapy students.

The curriculum is based on Narrative Medicine at Columbia University (Charon, et al., 2017). Narrative Medicine at Columbia involves the close reading of literary narratives (Charon, et al., 2017). Close reading is defined as the critical analysis and reflection on literary narratives through writing and group discussion (Charon, 2006). Literary narratives are defined as text with qualities of literature that have been shown to increase levels of empathy (Kidd & Castano, 2013). Narrative Medicine has been the subject of limited qualitative study demonstrating increased student empathy levels (Miller, 2015) and has not been part of an occupational therapy curriculum. Given the importance of empathy and the potential of Narrative Medicine to facilitate empathy, a quasi-experimental study was done on an occupational therapy class based on Narrative Medicine. In particular, the study attempted to answer the following question: would student levels of empathy change after a course involving the close reading of literary narratives?
Initial study of the proposed curriculum found improved scores on the *Jefferson Scale of Empathy* (JSE) between pre and post-test class surveys, and no difference between pre and post-test surveys of the *Reading the Mind in the Eyes Test* (RMET). The JSE and RMET measures aspects of ToM, emotional resonance and empathic regulation. The outside factors of gender, education, GPA, and novels did not play a consequential role in the findings. Limitations in the study included mid-course changes in the curriculum design due to the COVID-19 pandemic. In particular, the change from in person to a strictly online recorded format. Another limitation was the potential influence of social desirability on student self-reported levels of empathy.
CHAPTER TWO

LITERATURE REVIEW

The following chapter reviews the literature on the role of empathy in occupational therapy theory and practice. Empathy is defined through the modern perspective of theorists and neurology, and a theoretical approach to teaching empathy is developed through the principles of literary theory, narrative theory, and educational theory.

2.1 Empathy as an Espoused Value

A cornerstone belief of occupational therapy is the view of human beings as complex occupational beings (Myer, 1922). This belief involves the need to perceive a client’s subjective internal, external, emotional, social, and cultural influences on occupation (American Occupational Therapy Association, 2017; American Occupational Therapy Association, 2014; Yerxa, 2009). Occupational therapy scholars have historically and recently articulated a professional ethos that emphasizes the need to gain such a full understanding through empathic-centered care (Abreu, 2011; Peloquin, 2005; Yerxa, 1980). Abreu (2011) called empathy a guiding belief in occupational therapy, stating it involves a “willingness to enter the other person’s emotional state,” and the ability to, “feel, detect, imitate, and express emotions and to communicate verbal and nonverbal signals to understand each other” (p. 624).

Rogers (1951) has described empathic understanding of another as a foundation of client-centered therapy. Rogers (1980, 1951), through Rogerian theory, articulated the need for a clinician to actively engage a client through unconditional positive regard, in an effort to understand a client’s perspective and facilitate client empowerment and self-actualization.
Rogers stated the pursuit of self-actualization through active client-centered therapy is dependent upon the therapist’s ability to immerse himself or herself in the empathic process (1951).

It is the counselor’s function to assume, in so far as he is able, the internal frame of reference of the client, to perceive the world as the client sees it, to perceive the client himself as he is seen by himself...and to communicate something of this empathic understanding to the client (Rogers, 1951, p. 19).

Client-centered care, with its Rogerian underpinnings in active empathic understanding, is a guiding principle of occupational therapy through its emphasis on understanding the needs of another through an egalitarian process (American Occupational Therapy Association, 2014; Canadian Association of Occupational Therapists, 1991; World Federation of Occupational Therapists, 2010). The *Occupational Therapy Practice Framework: Domain and Process* (2014) defines client-centered care as the ability to accurately perceive a client’s “wants” and “needs” and “honor (those) desires and priorities in designing and implementing interventions” (p. 670). Occupational therapy scholars have stated pursuit of a client’s wants and desires, as seen in client-centered practice, should be done collaboratively in a joint-meaning making process, which empowers and enables client goal setting (Mroz, 2015; Restall, Ripat & Stern, 2003).

### 2.2 Incongruence of Values

Occupational therapy’s belief in empathic and client-centered practice has conflicted, at times, with occupational therapy’s need to remain viable in the current, market-driven health care system (Starr, 2017). In particular, studies from the perspective of patients have shown that occupational therapy has emphasized the demands of productivity, norm-based assessment, standardized evidenced based protocols, and the institution over the needs of the individual (Cruz, Howie, and Lentin’s, 2015; Gupta and Taff, 2015; Oladottir & Palmadottir, 2017).
For example, Hamel (2007) completed a meta-synthesis of qualitative research based on the experiences of individuals who received occupational therapy in a spinal cord rehabilitation setting. In seven studies that met her criteria, patient themes included the need for therapists to see rehabilitation participants more as “unique people” versus “rehabilitation clients,” and for rehabilitation residents to be treated more “like an average person rather than physically different” (p. 262). Other themes were the need for therapy interventions to be individualized versus “standardized,” and for therapists to help participants envision a future beyond the meeting of basic needs (p. 263).

Kennedy and Fortune’s (2013) interview of five women receiving occupational therapy in a psychiatric unit found a lack of “empathic communication” with staff, loss of autonomy, a need for more individualized care, and a need to be acknowledged as important versus a “lesser person,” “insignificant,” “degraded,” and “invisible” (p. 299). Being seen as a “person versus a client” by occupational therapy was also a leading theme of Cruz, Howie, and Lentin’s (2015) interview of six adults with moderate traumatic brain injuries (p. 33). Study participants emphasized occupational therapists needed to be better at listening, collaboration, making a positive connection, and not putting participants down as “inferior” or “deciding for us” (Cruz, Howie & Lentin, 2015, p. 34).

Lack of individualized care was also the subject of an autobiography by an occupational therapist who later became an occupational therapy client (McCorquodale & Kinsella, 2015). The therapist said the experience changed her prior belief that occupational therapy provided emphatic, client-centered care. She said as a client she was treated with “distance, discomfort and rejection of my story” by her occupational therapists (p. 313). The occupational therapist said after her accident, she became more aware of the profession’s objectification of clients as
“other” through the binary labeling of “good” and “bad patients,” and the emphasis on evidence-based practice over individual perceptions of meaning, emotion, and understanding.

Increased awareness of the difference between the practice and principles of the profession was also discovered in Cameron and McColl’s (2015) study of six occupational therapy students after they did a series of interviews with clients outside of treatment. The students reported going from regarding the individuals as “broken” and in need of “fixing” after clinical experiences, to viewing them post interview as “whole people.” They also began to question the use of “deficit focused” medically-based therapy assessments, which they believed degraded and disempowered clients.

Furthermore, a qualitative study by Oladottir & Palmadottir (2017) on 30 individuals receiving occupational therapy in a public hospital, found a lack of patient involvement in goal setting, “exclusive” emphasis in caregiver education on health conditions and medications over individual client needs, and a hospital “structure” and “culture that was more tuned to the needs of professionals than clients” (p. 55). This lack of participant involvement in treatment planning and unmet psychosocial needs were recurring themes from individuals who received occupational therapy services in other settings as well (Doig et al., 2011; Knecht-Sabres, Clair, Wenzel, & Zgoda, 2020; Levack et al., 2011; Lindberg, 2013; Rosewilliam, Pandyan, & Roskell, 2011).

Gupta and Taff (2015) critically analyzed the literature and occupational therapy billing trends in the United States (U.S.) to find a further emphasis on systemic versus individual needs. Their review concluded occupational therapy is currently, “incongruent with the professions’ espoused philosophy and values of client-centered practice” (p. 244). In specific Gupta and Taff (2015) discovered occupational therapists predominantly use norm-based upper extremity
exercises and activities of daily living (ADL) as interventions, with the goal of rapid discharge. This emphasis, they said, is done with disregard of individual dignity, choice, and strengths, in a system that is more focused on immediate “sickness” and financial reimbursement than occupational health (Gupta & Taff, 2015, p. 246).

It has been stated, consequently, that occupational therapy has compromised its foundational beliefs to comply with the demands of modern medicine (Brown, Bannigan & Gill, 2009; Hamel, 2015; Yerxa, 2009). Yerxa (2009) has been critical of the influence of modern medicine’s separation of the physical body from individual consciousness, and the need for a quick cure through statically norm-based objective measures. Yerxa believes such a medicalized view limits an occupational therapist’s choices for intervention, and impacts a client’s autonomy and dignity. The predominance of medicalization in occupational therapy, Yerxa continued, can lead to thinking of clients as a defective body in need of “fixing,” that is “acted on” by an all knowing health care provider (p. 490). Yerxa embraces a view of human beings that involves an integration of the “hard” (empirical, deductive, quantitative) and “soft” sciences (social, anthropological, psychological) (p. 494). She believes the client must not become a passive, objectified means of norm-based ADL measure for purposes of reimbursement, but seen as a full narrative of internal consciousness, social influences and need for meaning, within the external influences of context, culture, and the pursuit of purpose (Yerxa, 2009; Yerxa 2000).

While Yerxa and others have been critical of this conflict from a theoretical perspective, the profession’s need to survive within the context of the current medical environment’s emphasis on cost and quality is an ongoing reality (Miller, 2018). More simply, can client-centered practice, as espoused by the profession, provide quality care in a cost effective manner?
Have some of the foundational beliefs of occupational therapy become obsolete to today’s medical stakeholders?

Njelesani, Teachman, Durocher, Hamdani and Phelan, (2015) found this adherence to current medical values has actually led to an “unintentional narrowing of occupational possibilities” for clients, resulting in a potential negative impact on patient-centered health outcomes (p. 254). In addition, a qualitative study by Wressle & Samuelsson, (2014) found productivity demands were a leading cause of stress with modern occupational therapy because it forced therapists to “work at a superficial level” (p.422). Wressle & Samuelsson (2014) found this “gap” between what the occupational therapists wanted to do and could do, within given time constrains, led to reduced job satisfaction and with it, client dissatisfaction.

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<th>Table 1.1: Lost Values of Occupational Therapy</th>
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<td>Lack of Egalitarian Care</td>
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<td>Reduced Quality of Care</td>
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<td>More Medically Based Care</td>
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<td>- Emphasis on norm-based assessment</td>
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The connection between the workload demands of modern practice, provider burnout, and patient dissatisfaction has also been made with physicians. In a profession with a reported 50% burnout rate due to similar productivity demands (Shanafelt, Drybe et al., 2014), extensive studies have connected physician overwork and burnout, to poor patient satisfaction and reduced patient health outcomes (Dewa et al., 2017; Habesleben, & Rathert, 2008; Hall et al., 2016; Welp, Meir, & Manser, 2016). More specifically, burnout has led to care indifference, increased staff turnover, medical errors, longer patient recovery times, and lower patient quality of care (West, Drybe, & Shanafelt, 2018).

2.3 Solutions to Modern Healthcare

While all of the factors impacting the quality of modern healthcare are complex, multi-layered, and beyond the scope of this review, there are solutions to some aspects of modern care they have shown relevance and potential. Surveyed occupational therapists on barriers to improved client-centered practice, did not cite the demands of reimbursement and the institution, but communication skills (Taylor et al., 2009). In specific, Taylor et al.’s (2009) random sample survey of over 500 occupational therapists found a need for more education on how to conduct a therapeutic relationship with clients, calling prior education “inadequate” in forging the gap between the theory and actual practice of occupational therapy (p. 198). Therapeutic relationship was defined as the “emotional exchange, collaboration, and partnership between therapists and clients” (p. 198). In conclusion, survey study authors suggested that, “higher levels of training in therapeutic use of self may enable therapists to identify interpersonal difficulties with clients” (p. 205). A similar survey of occupational therapists cited a comparable need for case-based skill
training on how to improve interpersonal skills, involve clients more in goal setting, and practice with more client-centered principles (Sumison et al., 2000).

Dugdale, Epstein & Pontilat (1999) stated it may not be a lack of time that causes clinician disengagement and patient dissatisfaction, but care provider inefficiency and poor communication skills, stating, “It is not actual time spent with the physician that effects (patient) out comes, but rather what happens during that time” (p. 35). Dugdale et al. (1999) called for more of a “patient-centered approach” in communication, to improve diagnostic accuracy and patient compliance (p. 37). They stated this approach will not only save physician’s time, but improve client satisfaction and outcomes. In particular, Dugdale et al. (1999) stated physicians should do more of the following when communicating with clients: allow patients to fully and accurately express their needs before responding; use more active listening; embrace the emotions of both the patient and themselves; use more empathic gestures; and foster greater patient-physician agreement on goals.

Furthermore, repeated studies have shown it does not take extensive time to engage fully and compassionately with clients. A John Hopkins randomized patient study found compassion-based communication between oncology clinicians and clients can take as little as 38 seconds and results in greater client satisfaction and reduced levels of patient anxiety (Fogarty, Curbow, Wineard, McDonnell & Somerfeld, 1999). This was found in two other studies as well: it can take as little as 40 seconds for clinicians to engage fully with clients, resulting in reduced patient anxiety (Van Osh, et al., 2014; Sep, et al., 2014). A further study (Byland, Carma, and Makoul, 2005) of real world clinician-patient interactions in a general internal medicine practice, found it took only 31 seconds for clinicians to respond to opportunities for empathic gestures.
Communication skill training, as advocated by Dugdale et al. (1999) and surveyed occupational therapists (Taylor et al., 2009), has been shown to reduce burnout, increase physician engagement, and increase client satisfaction. Boissy et al. (2015), in a study involving over 3,000 physicians, found improved levels of patient satisfaction, greater physician efficacy and reduced levels of burnout with physicians who had received communications skills training versus controls who had not. Training was based on the Foundation in Healthcare Community (FHCD) based approach, which “emphasizes genuine relationships as a vital therapeutic agent” (p. 757). Extensive further study has also drawn a connection between improved communication skills and improved patient health outcomes (Abraham, Naik, & Street, 2012; Kelley et al., 2014; Robinson et al., 2013).

The connection between more engaged providers and healthier clients has also been the focus of attempts to reduce the cost of high utilizers of health services due to a medically defined mental illness and or complex co-morbidity, such as diabetes, chronic obstructive pulmonary disease, and advanced heart and kidney disease (Johnson et al., 2015; Lynch et al., 2016). Five to ten percent of these individuals who receive Medicare and Medicaid take up to 50% of the total combined cost of Medicare and Medicaid (Johnson et al., 2015).

One attempt to meet the needs of this population has been the Camden Coalition, based in Camden, New Jersey. The Coalition, founded in 2002, has established a model of care that has been duplicated throughout the United States (Nicholson, 2013; Sevak, 2018). The Coalition model attempts to improve outcomes and reduce cost by focusing on a client-centered approach involving care team coordination, in-home visits, follow up phone calls, text messages, and strong client relationships (Gawande, 2011; Miller & Cunningham, 2011). The Coalition advocates strong patient relationships and increased patient contact to improve patient
compliance and the accuracy and timeliness of the health response (Miller & Cunningham,
2011).

Studies of the Coalition’s program for individuals with diabetes suggest improved health
measures (lower blood pressure, improved control of blood sugar levels) and reduced care
utilization (Lewis et al., 2014; Burton et al., 2017). In a qualitative study, Coalition clients stated
strong relationships with providers, as advocated by the Coalition model, was a leading factor in
their improved health (Mautner et al., 2013). This connection between improved communication
skills, clinician engagement, and better health for high users of medical services has been found
in other studies as well (Alexander et al., 2012; Elton et al., 2017; Schwartz et al, 2017).

Furthermore, two large quantitative studies found a strong correlation between physician
empathy and improved outcomes (Del Canale et al., 2012; Hojat et al., 2011). In both studies the
physicians perceived as more empathic by their patients, had statistically significantly better
outcomes with their clients (Del Canale et al., 2012; Hojat et al., 2011). Empathy in both studies
was measured with the Jefferson Scale of Physician Empathy (Hojat and Veloski, 2001; Hojat,
2016). In a retrospective correlational study by Canale et al. (2012) involving over 20,000
individuals with diabetes and 301 physicians, researchers found that physicians with high
empathy levels had a statistically significant lower rate of patient acute metabolic complications
compared to the patients of physicians who scored in moderate and low empathy categories. A
second study by Hojat et al. (2011) followed 891 individuals with diabetes over a three-year
period, and found statically significant higher patient level of A1C and LDL-C (indicators of
diabetes control), compared to the patients of physicians with moderate and low levels of
empathy.
A similar study of 38 occupational therapists treating 110 clients over a 20-month period in an inpatient/outpatient hospital setting, found a correlation between therapist levels of empathy and patient outcomes (Fan & Taylor, 2020). In particular, Fan & Taylor (2020) found that therapist attempts to understand client feelings through close listening and nonjudgmental validation positively correlated (r = .387) with increased client motivation and occupation-centered care. The more understanding the clinicians were, the more clients choose client-centered interventions, and the more understanding the clinicians were, the harder clients’ worked and participated in goal setting. The authors concluded their study suggests practicing with empathy can build “therapeutic relationships” and “improve” a client’s level of engagement in therapy (Fan & Taylor, 2020).

Along with therapeutic use of self, occupational therapists have used narratives to more closely understand patient needs and practice empathically. Historically and recently occupational therapists have used patient narratives to assess language skills, analyze the accuracy of clinical assessment, and qualitative study (May-Benson & Friel, 2017; Pizzi, 2015; Golden et al., 2016). The study of authentic voices, or narratives from the perspective of individuals receiving occupational therapy, has been linked to the profession’s core beliefs (Clark, 1996; Denshire & Lee, 2013; Kielhofner& Forsyth, 1997). The reading of narratives has also been suggested as a means to increase patient understanding and foster improved communication (Abreu, 2011; Frantis, 2005).

In addition, Mattingly, an anthropologist, and occupational therapist Fleming (1994, 1998), in their landmark participant-observation study of the practice of occupational therapy, observed that client-centered occupational therapists relied on narrative reasoning. Mattingly & Fleming (1994) have described narrative reasoning as a form of clinical reasoning which
involves seeing the client as a, “short story within the longer life story a client is living,” and as a way to, “structure therapy in a narrative way – as an unfolding story” (p. 19). In later study, Mattingly and Fleming (1998) observed “expert” therapists used stories to collaboratively reason with clients, imagine client’s lives, and to feel and give shape to emotions. Specifically, the expert occupational therapists appeared to be more effective if they saw their patients as an unfolding, dynamic story involving past, present, and future narratives, versus a one-dimensional medical problem in need of fixing.

More recently, Mattingly’s (2010) ethnographic study, of minority families with children with complex medical conditions, again articulated this need for therapists to forge the communication divide through narrative reasoning. Mattingly’s (2010) study showed how therapists need to grasp a client’s “rich and particular” point of view to fully understand, connect with, and truly help patients. To Mattingly (2010) effective therapists do not view clients through medical detachment, but as individuals with a highly personal narrative of the past, present, and future (Bruner, 2002; Mattingly, 2010, 1998).

Reasoning through narratives, accordingly to Mattingly, involves moving from viewing health as a list of empirical facts, to an embodied feeling that involves both the felt experience and the attempt to make sense of that experience through story making (Bruner, 2002; Mattingly, 2010). For clients this is the “restorying” attempt to make sense of life-altering trauma and to find a path forward (Mattingly, 2010). For the therapist every patient encounter is a chance to understand a client’s story and find “moments of possibility and community (that) are cultivated and cherished across formidable divides (Mattingly, 2010, p. 39).” It is through that found story, across that formidable divide, that the therapist and client together discover a new story of hope and perception of health (Mattingly, 2010).
More recently, within the constraints of modern healthcare, narrative reasoning has been shown as an effective tool in varied settings. Bishop (2019) used narrative reasoning in podiatry in order to center her practice more on client needs. Bishop (2019) stated such a client-centered approach through narrative reasoning moved her practice beyond the restraints of evidenced-based protocols to attain a more positive health outcome. Nesbit, Randall, and Hamilton (2016) determined value in a physical therapy program which focused on student use of reflective stories and patient interviews to establish patient-therapist relationships and drive decision making, concluding that the “empathic perspective” and established “therapeutic alliance” through narrative reasoning, can play a pivotal role in impactful clinical reasoning.

Zafran (2019) has also recently called for an embracing of Matting’s narrative-based approach to address the challenges of modern occupational therapy, citing a need for an increased “critical reflection” that challenges existing frames of references and leads to an embracing of alternative worldviews. In particular, Zafran (2019) called for the use of art to help occupational therapists “experience the ambiguity” of multiple perspectives, in an attempt to challenge assumptions and “tolerate uncertainty.”

At the heart of the client-centered care through narrative reasoning (Fleming, 1994) and other forms of client engagement (Canale et al., 2012; Boissy et al., 2015; Fan & Taylor; 2020; Hojat, 2016), is its foundation in empathy. More importantly, from the perspective of today’s medical stakeholders, studies have shown empathic-centered care can reduce cost and improve outcomes. A systematic Chochrane review of over 1,500 articles by Trzeciak and Mazzarelli (2019) found strong quantitative evidence that a clinician’s emotional response to a patient, or compassion, can reduce patient stress, lower blood pressure, promote healing, improve quality of
life, reduce pain, improve diabetic management, build trust, improve function, heals wounds faster, improve lung function, reduce depression, and reduce clinician burnout.

“Compassion matters in not only meaningful ways, but also in measurable ways. Compassionate care is more effective than health care without compassion... Compassionate care belongs in the domain of evidence-based medicine” (Trzeciak and Mazzarelli, 2019, pg. 322).

While practicing with compassion and empathy may lead to more client-centered care and better health outcomes, questions remain. Foremost, if empathy is so beneficial clinically, can it be taught in the classroom to healthcare providers? Specifically, to what extent can a particular educational pedagogy result in improved student levels of empathy? Second, if such a pedagogy is proven effective, to what extent does it carry over into the modern practice of occupational therapy? At their essence, such questions ask if empathy is something that can be clearly and narrowly defined, observed, and measured quantitatively?

2.4 Defining Empathy

Our understanding of the construct of empathy is diverse, multi-dimensional, and evolving (Dohrenwend, 2018). Empathy can be been influenced by viewing another’s body language, verbal communication, reading, watching a movie (Keen, 2006), gender (Van De Graaf et al., 2014), culture, (Atkins, Uskul, & Cooper, 2016), level of education, and intelligence (Schwenk et al., 2014; Yaghoubi et al., 2018). Attempts to define empathy in the literature are consequently inconsistent and diffuse (Dohrenwend, 2018). Therefore, when attempting to teach and assess empathy, the construct will not be defined through a narrow definition, but rather a connected framework involving cognition, emotional resonance, emotional regulation, neurology, communication, and motivation (Basil, Ridgeway, Basil, 2008; Chi-Lin & Tai-Li,
More directly, empathy will be defined as an interwoven whole of theory of mind, emotion, regulation, neurology, and the active pursuit of understanding between a therapist and a client (Gerdes & Segal, 2009; Rogers, 1980, 1951; Watson, 2016).

### 2.5 Theory of Mind

Theory of mind (ToM) is not a theory, but the ability to infer, or theorize, the mental states of another to predict behavior (Heyes, & Frith, 2014; Premack & Woodruff, 1978). ToM also describes the cognitive systems and mental states involved in inferring another’s mental states (Heyes, & Frith, 2014; Premack & Woodruff, 1978). ToM therefore has two aspects: 1) the ability to infer, or mentalize, other states through observation and social interaction, and 2) the cognitive systems involved in the process of mentalizing (Heyes, & Frith, 2014; Premack & Woodruff, 1978).

Whether it is talking with a friend, or perceiving the mood of your boss, mentalizing through ToM plays out directly in successful everyday interactions. The ability to infer through observations of another also relates to client-centered care in that it facilitates perspective taking, or the ability to understand the viewpoint of another. This is significant clinically when attempting to read a client’s reactions when performing occupations, interpreting a client’s nonverbal and verbal understanding of instruction, and perceiving a client’s expressed and non-expressed goals for therapy.

Through Piaget’s Theory of Cognitive Development (1990) and the work of Wimmer and Perner (1983), it is understood that ToM develops in most neuro-typical children by the age of four. ToM has also been linked to neurological development and evolution (Tsoukalas &
It has been shown that the ability to infer another’s thoughts through social cues may directly relate to typical neurological development. Deficits in ToM have been discovered in individuals with autism spectrum, brain insult, and substance abuse disorders (Korkmaz, 2011; Ieong & Yuan, 2018).

Research through functional magnetic imaging (fMRI) has also shown that parts of the brain activate when individuals observe social cues in another through ToM processes. In a landmark study, fMRI in the premotor cortex of one macaque monkey activated when it observed another macaque monkey grasping, placing and manipulating objects (Rizzolatti et al., 1996; Rizzolatti et al., 1999). Rizzolatti (1996) called these areas of the brain, which mimicked another’s actions, mirror neurons. His findings led to a series of human studies which discovered varied mirror neuron regions of the human brain responding on fMRI, when one person observed another’s simulated expressions of disgust, fear, and pain (Avenanti et al., 2005; Botvinick et al., 2005; Jackson et al., 2005; Lamm et al., 2007). These findings and others led Vingenemont’s (2006) to speculate whether mirror neurons and empathy are part of a “pre-wired” brain conduit process.

Findings of specific ToM brain processes, which mimic the emotions and movements of another through mirror neurons, have been linked to differing theories of explanation. In ‘theory theory’ (TT) it is posited that we predict, or perceive the intention of another, through learned psychological laws, or social norms (Gallese & Goldman, 1998). For example, if an individual is late and misses a plane flight, it is perceived by an observer that he/she is upset because of a known “psychological law.” Simply, we infer or predict because we know most people are upset if they miss a flight and are late to a destination. TT views ToM through a strictly detached point of view (Gallese & Goldman, 1998). Conversely, in ‘simulation theory’ (ST), an observer
believes the traveler is upset because he or she has experienced something similar in the past. In ST we infer that the traveler is experiencing the same frustration that we did (Gallese & Goldman, 1998). It should be noted in both explanations of ToM, actions are predicted not by directly experiencing the traveler’s emotions, but by one, relying on psychological laws to infer, and or by two, relating what happened to a similar experience in the past. In ST we predict not by experiencing another’s emotions, but through emotional recognition.

Consequently, ToM as defined should not be viewed in isolation as a determining factor for empathy. An individual may be very skilled in reading social cues and relying on similar past experiences intellectually, but have no emotional connection to another (Jones, 2017). For example, a sociopath can understand and manipulate another’s intent very effectively, but feel no emotion toward the fate of another. Understanding does not necessarily translate into caring. Therefore, if an occupational therapist is skilled at ToM, he or she may not necessarily fully understand a patient’s frustrations, joy, sadness, or emotional response. If so, such a lack of an emotional connection may influence impactful client-centered goal making and treatment planning. To be truly effective, therapists need to perceive overt social cues, related psychological laws (TT), related similar experiences (ST), and directly experience, within limitations, the emotions of his or her patient (Rogers, 1951).

More recent study has also found cognitive processes related to ToM to be much more complex than originally believed. Researchers have even begun to question whether mirror neurons even exist in human beings (Heyes, 2010; Hickock, 2009; Lingnau et al. 2009; Turella et al., 2009). Unlike findings in monkeys, scientists have been unable to discover a single motor neuron in humans linked to the perceptions of another, discovering only a series of regions which appear to work with other unrelated regions of the brain (Aziz-Zadeh, 2006; Gazolla, 2006;
Hickok, 2009; Heyes, 2010; Lingnau, 2009). More recent scientific reviews have also struggled to find a definitive link between specific brain regions and feelings of empathy toward another, indicating that speculative mirror neurons may only play a small role, in a complex, integrative system (Chaminade, 2009; Heyes, 2009; Hickok, 2009; Kilher, 2009). In addition, no specific connection has been found between lesions in supposed mirror neuron regions and empathy levels (Heyes, 2009; Mahon, 2008). Furthermore, researchers have demonstrated how feelings of empathy and emotions can be regulated and controlled, may be the result of learning, and are consequently not automatic (Delguidice, 2009; Heyes, 2009). At best, as speculated by Heyes (2009), mirror neurons may be part of yet another complex, integrated brain-environmental interaction involving an almost infinite number of potential variables.

2.6 Emotional Resonance

Emotional resonance can be understood as seeing the world through the emotions of another, or slipping into the metaphorical shoes of another. It involves the observer feeling a person’s emotions, not just understanding them cognitively, or relating to them through a similar prior experience (Decety & Joyder, 2016; Jones, 2017). Through emotional resonance you are directly experiencing someone else’s feelings. Emotional resonance is also at the heart of what binds and connects us to one another and is at the cornerstone of a close relationship (Decety & Meyer, 2008). We care and become attached because we feel the struggles and joys of another.

Therapeutically emotional resonance takes the social relationship between therapist and client one-step further, moving beyond mentalizing to a more complete understanding of a patient. In the words of Rogers (1975), through emotional resonance, a clinician willingly “enters the private world of the other…as if it were you own” (p. 31), in an attempt to more fully grasp
the needs, aspirations, and goals of your patient. It could be argued that this is at the center of a
client-therapist relationship and what drives truly client-centered care. As a clinician, you need to
observe, infer, and care in an attempt to accurately understand and act with your patient.

Similar to ToM, the emotional resonance aspect of empathy has been linked to animal
studies, evolution, morality, and child development (Decety & Lamm, 2006; Zahn-Waxler, Cole,
Welsh, & Fox, 1995; Marsh, 2016). Lack of emotional resonance and psychological pathology
has also been studied, with connections made between lack of emotional resonance in sociopaths
and individuals with brain damage (Decety & Joyder, 2016). In addition, through fMRI, more
contemporary neuroscience has begun to move beyond viewing emotional resonance, or
empathy, as a pre hard-wired, static response involving specific regions of the brain, to a
dynamic, integrative process involving diffuse, complex, connected neural brain pathways
(Marsh, 2018).

For example, the brain’s response to observed pain is now understood as an
interconnected “pain matrix” involving the somatosensory cortex, posterior and anterior insula,
periaqueductal gray, mid-anterior cingulate cortex and paracingulate gyri (Marsh, 2016). Beyond
the pain response, the regions and degree of brain response in fMRI for empathy appear to vary,
however, pending the response elicited and a given social context (Era, Martina, & Selene, 2017;
Tusche, et al, 2016). Consequently, while the question of a consistent brain region and response
to observed emotions (or mirror neurons) has yet to be definitively answered, emerging
understanding persists of a connection between empathy and neurology as an inter-related brain
process.

The above discoveries have facilitated the refinement of empathy assessment through
written scenarios, controlled environments involving images, videos, photographs, and fMRI.
Gerdes, Letz and Segal (2011) developed a self-report empathic index involving neuroscience and social work, which broke empathy into three broad categories: (1) observed emotional resonance through fMRI activation of speculative empathy regions of the brain; (2) cognitive processing (ToM), or the “perspective taking and emotional regulation” involved; and (3) conscious decision making, or “empathic action.” *The Jefferson Scale of Physician Empathy* (JSPE) was specifically designed for medical students and involves a self-report scale on a series of responses to medical scenarios, assessing ToM processes and emphatic awareness (Hojat & Veloooski, 2001; Hojat, 2016). Other attempts have assessed individual emotional responses to a series of videos or photographic images, such as the *Reading of the Mind in the Eyes Test* (RMET), (Baron-Chen, Wheelwright, Raste, & Plumb, 2001). Unlike self-reported empathy assessment tools, the RMET measures ToM performance through an individual’s ability to recognize the subtle emotions of another in photographs (Baron-Cohen et al., 2001). The RMET has been consistently validated through comparisons to individuals with autism spectrum disorder, and other diagnoses (Fernández-Abascal et al., 2013; Vellante et al., 2012).

### 2.7 Emotional Regulation

The third essential part of an empathic process from a clinical perspective is emotional regulation. It is in direct response to emotional contagion, or excessively mirroring the emotions of another (Jones, 2017; Weilenmann et al., 2018). If it is important to understand the intent and emotions of your client, it also important to separate yourself and establish appropriate boundaries; to not become overwhelmed with emotions and struggle to reason and make appropriate clinical decisions (Hojat, 2016). Emotional contagion has also been linked to poor mental health. A systematic review of thirty-seven different studies found a relationship between
emotional contagion and clinical depression (Schrieter, Piineberg & Rot, 2013). The same review also found a connection between individuals with limited cognitive empathy, or ToM, and depression. In other words, if you felt too much and lacked the metacognition to analyze mirrored emotions and put them into perspective, you were vulnerable to depression like symptoms. Other studies have also linked emotional contagion to compassion fatigue and clinician burnout (Gleichgerrcht & Decety, 2014).

Studies have suggested, as stated, that clinicians who strike a balance between emotional resonance and emotional contagion through specific communication strategies, creating graphic narratives, and reflective fiction reading, can reduce symptoms of burnout (Boissy et al. 2015; Diora & Nowaczyk, 2019; George & Green, 2015; Saint-Louis, 2010). Studies have also discovered that those who focus their emotional resonance not on suffering but helping others, through altruistic acts or expressions of compassion, experience less burnout (Ricard, 2013). In fact, compassion training through meditation and other means, has increased activation in regions of the brain associated with ToM, increased feelings of pro-social behavior towards strangers, decreased regions of the brain associated with emotional contagion (fear, anger), and reduced symptoms of clinician burnout (Condon, et al., 2013; Leiberg, Klimecki, Singer, 2001; Weng, et al., 2013). It has also been suggested that no one strategy should be recommended to avoid emotional contagion, but rather a host of different strategies tailored to the individual and specific context of a given encounter (Gross, 2015; Tull, 2015; Dore, Silvers & Ochsner, 2016). Consequently, since it has been shown that empathy and compassion play a role in positive client outcomes, it is not a matter of emphasizing emotional detachment for clinicians, but rather emotional regulation through demonstrated strategies and self-reflection to improve the health of patients and clinicians.
2.8 Empathy as a Willful Act

While ToM, emotional resonance and emotional regulation play essential roles in the process of connecting with, caring for, and understanding another individual, they fall short when attempting to describe the full process of empathy. For any kind of empathic connection or ToM mentalizing to occur, it has to be initiated. Motivation to understand another must happen before the empathic process can begin. Therefore, first and foremost, empathy is a willful act (Jamison, 2014). Inherent within this idea of empathy as a willful act, is that empathy requires genuine communication, or full attention to another. To be fully empathic as a therapist, you need to truly desire and attend to understanding a client’s particular experience, to be open to seeing another fully (Rogers, 1951).

Jamison (2014) in her essay, *The Empathy Exams*, used her personal experience as a professional “standardized patient” working with medical students, to articulate how empathy is a willful, dynamic process. As a simulated patient, wrote Jamison, she was reduced to a list of symptoms, in a series of contrived “encounters” in pursuit of a single medical truth. In a sense, wrote Jamison, the exercise did the exact opposite of its intention, facilitating a continued medical view of sickness as a separation of knower from object, to be discovered through an indifferent systematic process of questioning and testing.

Jamison described the interviewing process as a medical power play; with the students learning “techniques” to probe, connect, expose, and lay bare a patient’s deepest emotions. In every case study, a patient’s exposed emotions were considered a sign of weakness, hidden cause of illness, and “outsourced” to a medical diagnosis. It’s an interviewing process Jamison believes is not only contrived, manipulative, and demeaning, but futile in its attempt to genuinely connect with another.
“They (students) never stop seeking my gaze. Wrestling me into eye contact is the way they maintain power--forcing me to acknowledge their requisite display of care. I grow accustomed to comments that feel aggressive in their formulaic insistence: *that must really be hard* (to have a dying baby), *that must really be hard* (to be afraid you’ll have another seizure in the middle of the grocery store)...*Why not say, I couldn’t even imagine!*” (Jamison, 2014, p. 5).

Jamison and others (Wild, 2020) have stated that empathy is more than a disembodied questioning and probing, or learning of techniques. Jamison said it is rather a complex interplay of inquiry, imagination, “knowing you know nothing,” of acknowledging “a horizon of context that extends perpetually beyond what you can see,” and that no “trauma has discrete edges.” To Jamison trauma metaphorically “bleeds” out of wounds and “across boundaries.” It is not universal, but embodied, local, and particular.

“(Empathy) suggests you enter another person’s pain as you’d enter another country, through immigration and customs: borders crossed by way of query: *What grows where you are? What are the laws? What animals gaze there?*” (Jamison, 2014, p. 7)

Jamison then shifts the essay to her own experiences of sickness and interplay with a physician, seeing similar patterns in contrived techniques and a disembodied probing of emotions.

“It was a strange intimacy, almost embarrassing, to feel the mechanics of her method so palpable between us: *engage the patient, record the details, repeat.* I was sketched into Cliffs Notes. I hated seeing the puppet strings; they felt unseemly—and without kindness in her voice, the mechanics meant nothing...It’s more invasive than anything, but not intimate at all” (Jamison, 2014, p. 18).
Jamison goes on to explain that empathy does not happen automatically and cannot be taught through technique and contrived performance. Jamison states that empathy, rather, requires genuine care of another, a willful “choice to extend ourselves,” to listen and not assume, to make an embodied “effort of getting inside another person’s state of heart” as much as is possible.

Buber (1999) wrote also of this need for genuine dialogue, or “dialogic moments,” to get inside the heart of another’s country, the need to accept multiple realities, and the search for and creation of meaning together. To Buber you can never truly understand another, but you can create a new meaning, or understanding, together.

Gadamer (1989) emphasized a similar openness to not knowing, or so called “radical negativity,” and creating new understanding through translation in a process which is not text or semantic driven, but meaning driven.

“Authentic dialogue can’t be contrived and whole meaning is not text driven, but meaning driven...Conversation is a process of coming to an understanding” (Craig, 2007, p. 246).

When attempting to translate the ideas of Gadamer and Buber to a health setting, Rogers felt Buber’s dialogic moments existed within the meeting of therapist and patient and they could be powerfully therapeutic in what he called “moments of movement” (Cissna & Anderson, 1998).

“At such important (mutuality) moments of change ... the question of equality or inequality is totally irrelevant. The important thing is that two unique persons are in tune
with each other in an astonishing moment of growth and change” (Cissna & Anderson, 1998, p. 74).

This process of becoming “in tune with each other” and creating new meaning together was also discovered in Mattingly and Fleming’s (1994) earlier mentioned study of expert occupational therapists. With the skilled occupational therapists in the study, new meaning was discovered through a prospective narrative -- a collaborative, empathic-centered future story of occupational health beyond the immediate crisis of an acute illness (Mattingly & Fleming, 1994). These observed client-centered future stories then became the basis of client-centered treatment plans (Mattingly & Fleming, 1994).

“In this prospective story, the therapists (collaborate with patient) to see a possible and desirable future for the patient and imagine how they might guide treatment to bring such a future about. The treatment story is, in turn, part of a larger life story of the patient” (Mattingly & Fleming, 1994, p. 241).

To Rogers such collaboration also exists in true dialogue when both individuals actively experience empathy, or acceptance of the other’s uniqueness and transparency, in an attempt to become “fully human.” To Rogers the purpose of therapy is to experience such moments of connection with a patient.

“The state of empathy or being empathetic is to perceive the internal frame of reference of another with accuracy and with the emotional components and meanings which pertain thereto as if one were the person” (Rogers, 1975, p. 2).

As stated (Jamison, 2014; Buber, 1999; Gadamer, 1989; Rogers, 1975), empathy is not something you are. It is something you do. It is not routine goal setting and treatment planning for purposes of reimbursement and productivity; it is the active engagement with a client through
Buber’s (1999) moments of true dialogue and connection in order to discover Mattingly and Fleming’s (1994) future story of health. A clinician, in turn, is not inherently empathic -- they perform empathic acts when closely attending to another in an attempt to “perceive accurately” (Rogers, 1951).

That active doing by the clinician is an interconnected process (table 1.2, figure 1.1) that involves attempting to understand through close observation (mentalizing), engaged dialogue (motivation, communication), feeling the emotions of another (resonance), without fully merging with those emotions (contagion), and acting on that new understanding through either an altruistic act, expression of compassion, or therapeutic insight (Damasio, 2005; Gerdes & Segal, 2009; Jones, 2017).

This connecting of affective and effective brain processes, the emotional and the rational, has been shown on fMRI to exist (Damasio, 2011; Fishman et al., 2014; Libero et al., 2014). Simply, within the brain, mentalizing and emotional resonance have a degree of neural “connectivity” and “affect each other” (Bos & Stokes, 2018). There is no Descartes like separation, or Cartesian dualism, between the rational and the emotional; we know now that decisions are based on a combination of logic and emotion (Tyersky & Kahneman, 1981). This ToM and emotional interplay is part of what empathy is: a connected complex of neurology, initiated by a willful and active engagement by a therapist to another.
Table 1.2:
**Empathy as a complex process**

<table>
<thead>
<tr>
<th>Component</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Theory of Mind (ToM)</td>
<td>The ability to infer the thoughts of another without emotional resonance</td>
</tr>
<tr>
<td>Emotional Resonance</td>
<td>The ability to feel the emotions of another</td>
</tr>
<tr>
<td>Emotional Regulation</td>
<td>The ability to avoid excessive emotional contagion, set appropriate boundaries</td>
</tr>
<tr>
<td>Empathic Volition</td>
<td>Empathy as a willful act</td>
</tr>
</tbody>
</table>

**Figure 1.1: Empathy as an Active Process**
At the heart of this active process of empathy is the ability of a clinician to enter another’s metaphorical land of meaning, Jamison’s (2014) foreign country of another’s sickness. Novelist Virginia Wolf, in her essay *On Being Ill* (1926), called this land, “a virgin forest in each; a snowfield where even the print of birds’ feet is unknown”. Discovering this virgin forest in each, according to Buber (1999), Gadamer (1989), and Rogers (1975), involves the creation of new meaning together through genuine communication. The act of two individuals willfully entering a dialogue of discovery and understanding – the active and complex process of empathy. Solnit (2013) described this active empathic process as an, “act of imagination, a storyteller’s art,” and a way of “traveling from here to there.”

Closely aligned with empathy as an act of imagination is the attempt to find meaning through narratives. This discovery of empathy, through personal stories, resonates with Mattingly and Fleming’s (1994) study and Roger’s therapeutic attempt “to perceive the internal frame of reference of another with accuracy” (1975). Bruner (1991) has further explained the use of narratives as a framework of reality: how an individual interprets and makes sense of his or her world. More simply, a patient may see his or her life as an unfolding temporal story, and the discovery of that story by a therapist may be therapeutically beneficial (Mattingly & Fleming, 1994). This is what Charon (2006), a medical doctor, called the use of the individual story to find deeper meaning during a patient encounter.

“Unlike scientific knowledge…which tries to discover things about the natural world that are universally true…narrative knowledge enables one individual to understand particular events befalling another individual not as an instance of something that is universally true but as a singular and meaningful situation…(and) by looking closely at individual human beings grappling with the conditions of life, attempts to illuminate the universals of human condition by revealing the particular” (Charon, *Narrative Medicine* p. 9, 2006).
Keen (2006), has called Charon’s revealing of the particular through narrative knowledge, narrative empathy. Keen defines narrative empathy as:

“The sharing of feeling and perspective-taking, induced by reading, viewing, hearing or imagining narratives of another’s situation and condition” (2006, p. 209-236).

2.9 Narrative Theory

The study of personal narratives and literature, as articulated by Keen (2006) and Charon et al. (2006), can be categorized under the discipline of narratology, or narrative theory. Narratology is a broadly defined science in humanities that encompasses the theories, concepts, and models related to the study of narratives (Meister, 2014). Narratology has been defined as the impact of narratives and narrative structure on human understanding (Bal, 2017). Narratives, within a context of narrative theory, are defined as the attempt to make meaning of a series of related narrated events -- the representation of the “who, what, where,” and “how” of the stories we tell each other (Puckett, 2016).

Narratology, under a qualitative and phenomenological framework, through its emphasis on personal narratives, fits this dissertation’s emphasis on the nature of literature, reading, and empathy. Such an approach emphasizes emotional truth over the emotional detachment of Cartesian dualism (Descartes, 1641). The reading and potential emotional response of a reader is inherently subjective. Furthermore, the nature of narratives and reading is not a fixed, one-dimensional quantity, but one that is contextual, layered and emotionally engaging (Herman, 2012).

Narrative theory also makes it possible to consider individuals within a narrative as they personally experience illness (Bakewell, 2016), within social and cultural influences (Barnes &
Mercer, 2010). This subjective perception of reality through person-centered narratives as influenced by social and cultural influences, contrasts with a medical view of disability as a binary separation through objectified anatomy, norm-referenced assessment, and illness as a disease in need of fixing (Fisher & Goodley, 2007).

Neurologist Oliver Sacks (2017) has called patient centered narratives a greater truth, beyond the world of detached medicalized observation and empirical reasoning. Sacks (1973), in his narrative on patients afflicted with the immobility of an extreme of form of Parkinsonism, depicted this in his description of Leonard, a Harvard graduate nearly completely immobilized with the disease. Leonard, in his personal diary, compared his plight to the caged animal of Rilke’s poem The Panther, only weary eyes to observe the able-bodied world around him. Sacks believes narratives, such as Leonard’s, are a “fundamental way of making sense of the world,” and a means to discover a “narrative truth” greater than any medicalized description of disease (Sacks, p. 129).

My research agenda, as relates to narratology, will focus on the effects of narrative on the reader. Such potential effects will more fully explore the relationship between reading literary narratives and empathy, using two approaches within the field of narrative theory that more directly apply: rhetorical narrative theory (Phelan & Rabinowitz, 2011), and the nexus between narrative and the mind (Herman, 2012).

Phelan and Rabinowitz (in Herman, 2012) define rhetorical narrative theory as the “multidimensional” communication between author and reader, or teller to audience, with an emphasis on the reader’s “experience”. Rhetorical narrative theory analyzes the “feedback loop” between the author, text, and reader. It also describes a reader dynamic involving the cognitive,
ethical and aesthetical response of the reader, which leads to a potential multi-dimensional response.

The feedback loop involves the reader joining the author’s world as if it were real through realism, creating an, “illusion that the characters are acting autonomously in a world like our own” (Phelan and Rabinowitz in Herman, 2012, pg. 86). Phelan and Rabinowitz (in Herman, 2012) quantify that response or bonding between author and reader through text into three main categories: mimetic, to see the author’s world as like their own; thematic, or interest in the author’s chosen topic of writing; and synthetic, or the reader’s connection to the characters of the story.

Herman (2012), through narrative theory, also emphasized the influence of reading on the reader. In particular, he believes narratology should focus on the “interplay” between stories and the mind in a process he calls “world making” and “world creation”. Within such a process, stated Hermon (2012), the reader takes up “imaginative residency” within the author’s world. Herman believes different kinds of narratives have the potential to create different kinds of inner worlds, and the focus of narrative study should be on the “study of the mind” (p. 18). Herman (2012) said the author, through the text, creates a “blue print” to facilitate this world making cognitive process.

“These blue prints, the complexity of whose design varies, prompt interpreters to construct worlds marked by a particular spatiotemporal profile, a patterned sequence of situations and events, and as inventory of inhabitants” (Herman, 2012, p. 17).

Neurologically the process of world making and realism through reading, as articulated by Herman (2012), Phelan and Rabinowitz (2011), is a unique cognitive process that has been shown to involve the entire brain. Similar to empathy, the cognitive process of reading connects reasoning and affective regions areas of the brain, or emotional resonance, regulation, and ToM
(Wolf, 2007). The complex interplay in the brain between text and world-creation is also a very formative process. In what is called neuroplasticity, the brain molds, forms, and changes in response to what is read (Wolf, 2007). Simply, we appear to change and, in some ways, become what we read (Wolf, 2007).

“…the experience of reading is not so much an end in itself as it is our best vehicle to a transformed mind, and, literary and figuratively, to a changed brain” (Wolf, 2007, p. 18).

2.10 Literary Theory

Literary theory, which is closely aligned with narrative theory, began with Aristotle’s writings in *Poetics* on the components of literature, such as the structure and temporal aspects of plot, mimesis (or mimicry), and the emotional impact of a narrative on an audience (Aristotle, 1997). Literary theory evolved into an attempt to construct universal definitions of literature related genres, plot, perspective, grammar, defamiliarization, and dialogue (James, 1937; Forster, 1955; Propp, 2002).

The impact of literature on the reader, as articulated in narrative theory, also fits Caron et al.’s (2006) and Booth’s (1983) description of the universal truths of literature through literary theory. Booth (1983) described these truths as the moment when the reader’s “beliefs coincide with the author’s” (p. 14), or when a reader of a literary narrative connects with the emotions, metaphor, or worldview of the written text. The story becomes familiar and personal, fitting Phelan and Rabinowtiz (2011) and Herman’s (2012) theorized bonding with the author through the blue-printed facilitation of world making.

Charon (2006) describe this world-making and emotional resonance between writer and reader as the moment when the text “transcends” the reader toward a greater understanding of the deeply personal, or the uniquely contextual and emotional experience of the world-creation of a literary text. This transcendence is postulated to be, in part, the emotional resonance and active
engagement of empathy. This also resonates with the principals of egalitarian and client-centered care, to read about and grapple with different perspectives and to withhold judgment in pursuit of deeper understanding, and agreement with another (Charon et al., 2017).

The reading of literary narratives has also been theorized as a means for occupational therapists to foster the art of practice in occupational therapy, challenge assumptions about disability, and improve occupational therapy’s understanding “of the human condition” (Peloquin, 1988, p. 221). Literary narratives as defined have the following characteristics – sensory evoking language; unsettling reader’s expectations through multiple perspectives, and challenging social conventions (Peloquin, 1995; Koopman & Hakemulder, 2015; Kidd & Castano, 2013; Kidd & Castano, 2016). Literary narratives as defined do not distinguish between fiction and nonfiction, or genres, but the qualities of the particular text. Peloquin (1995) theorized the reading of literary narratives facilitates empathy through its use of metaphor and sensory experiences, as well as its ability to place the reader into a virtual world. Peloquin cited prior work of artists and philosophers to speculate that reading, “rousers a person’s sensibilities because it invites response, emotion and connection,” and that reading consequently, “can be a rehearsal for empathy” (Peloquin, 1995, p. 660).

All of which underlies a theoretical narrative approach that emphasizes the cognitive creation of a blueprint for the reader. It is a blue print to help the reader create an inner world, based on a mimetic similarity to their own world, thematic interest in similar topics, and or a synthetic connection or bonding to literary characters. Again, it is believed that an approach that emphasizes the reader’s experience and connection to literary text, will more closely inform the study of the reading of literary narratives. Specifically, it will support the postulated belief that the reading of literature simulates the cognitive process involved in empathy.
An emphasis on the student’s response to the reading of literary narratives constitutes a shift away from the current educational practice in healthcare of reading emotionally detached and empirically based medicalized texts and case studies (Nissen & Winn, 2014). It is postulated that by reading and reflecting on literary narratives with emotionally and psychologically complex individuals, versus a medicalized case, students will be better equipped to transition from a one-dimensional medical descriptions of patients -- to viewing human beings in all their emotions, multiple truths, context, culture, and nuance (Bayoumi, 2004; Charon et al., 2017). It is postulated that this in will turn help students practice with more client-centered principals (Bayoumi, 2004; Charon et al., 2017).

The question of whether an empathic response can be facilitated through reading has a long history in the literature, dating back to Aristotle’s concept of mimesis, or the internal creation of “world-making” and “world-simulating” through reading (Hallowell, 1998; Oatley, 2011, p. 13).

More recent scholars have further speculated that reading fiction fosters morality through imagining other perspectives and self-examination, and deepens understanding and compassion (Bruner, 1987; Nussbaum, 1995, 2001, 2010).

2.11 Model of Literary Empathy

When attempting to frame the theoretical belief that reading literary narratives fosters empathy, all the principles of empathy have not been fully considered (Keen, 2006; Koopman & Hakemulder, 2015). In an attempt to more closely link a complete definition of empathy with literary narratives, a Model of Literary Empathy (MLE) is proposed (table, 1.3). The MLE postulates: 1) reading literary narratives stimulates ToM, 2) reading literary narratives stimulates
emotional resonance, and 3) reading literary narratives cultivates emotional regulation, reflection, and empathic engagement (Keen, 2006; Koopman & Hakemulder, 2015). Literary narratives within the MLE are defined through metaphorical and sensory evoking text, which challenges and potentially transforms a reader’s point of view through varied perspectives and alternative world making (Peloquin, 1995; Koopman & Hakemulder, 2015; Kidd & Castano, 2013; Kidd & Castano, 2016). Literary narrative again are not distinguished by genre, but the qualities of the particular text.

More distinctly, Kidd and Castano (2013, 2016) have defined literary narratives with the following characteristics:

- Unsettling reader’s expectations through ambiguity and multiple perspectives;
- Complex, multidimensional, unfolding characters;
- Challenging the readers’ social conventions;
- Opportunity for interpretation, or
- Absence of an authoritarian voice, which forces readers to fill in “the gaps” and search for meanings amongst a choice of meanings.

It has been speculated that reading literary narratives stimulates ToM through character identification (Keen, 2006; Koopman & Hakemulder, 2015). Keen (2006) described a reader’s “fusing” with a fictional character through ToM as an act of “imagination and projection” (p. 216). Koopman and Hakemulder (2015) described a similar process of character identification fostering ToM, through “imagining how it would be to view life through a character” (p. 94). Koopman and Hakemulder (2015) stated such a character identification broadens a reader’s “consciousness to encompass fellow beings” (p. 97). Simply, it is believed the reading of literary
narratives simulates ToM’s inferential processes by imagining the world through the eyes of another.

Koopman and Hakemulder (2015) also have postulated the language of literary narratives fosters ToM. Herman (2012) called this reading process “world making” p. 15, where the author creates a “blueprint” (p. 17) for the reader to enter an imaginative world. Koopman and Hakemulder (2015) stated literary language helps you “see” such a world (Conrad, 1938, preface), through defamiliarization, metaphor, and simile. Defamiliarization is defined as shifting attention from what is written, to how it is written, causing “feelings of perceived beauty, surprise” and for the reader to “look at the familiar differently” (Koopman & Hakemulder, 2015, p. 99). In other words, the evoking of alternative worlds through sensory language stimulates the cognitive process of mentalizing, to experience the world as another.

A review of the research literature found a strong connection between the reading of fiction and improved ToM (Djikie, Oatley & Moldoveanu, 2013; Bal & Veltkamp, 2013; Guarisco, Brooks & Freeman, 2017; Mar et. al, 2006; Mar, Oatley & Peterson, 2009; Mumper & Gerrig, 2017). Controls, in most of the studies, were groups of nonreaders compared to fiction readers, and readers of nonfiction compared to fiction. The nonfiction text read by study participants was primarily media and fact based, and did not include any of the literary qualities of language and complex characters stipulated in the MLE’s literary narratives. Respondents’ personality traits, such as agreeableness and creative imagination, age, and intelligence, were ruled out as factors that influenced ToM levels in two of the studies (Mar et. al, 2006; Mar, Oatley & Peterson, 2009). In addition, Mar, Oatley and Peterson (2009), found a statistically significant causal relationship between reading fiction and scores on the Reading the Mind in the Eyes Test (RMET), compared to nonfiction readers. Respondents who read fiction demonstrated
more ToM like traits compared to readers of fact-based non-fiction (Mar, Oatley & Peterson, 2009).

The same study (Mar, Oatley & Peterson, 2009) also found the reading of nonfiction actually reduced levels of ToM. More significantly, when study participants read fact-based accounts, which are similar to medical case studies, they demonstrated reduced ToM (Mar, Oatley & Peterson, 2009). It could consequently be theorized from these findings that current healthcare education practice of teaching through medical cases makes healthcare students less empathetic. More directly, the current emphasis on medical cases may be facilitating, in part, limited client-centered care as voiced by patients (Doig et al., 2011; Knecht-Sabres, Clair, Wenzel, & Zgoda, 2020; Levack et al., 2011; Lindberg, 2013; Rosewilliam, Pandyan, & Roskell, 2011).

Attempts to refine the question of why fiction improves ToM have been done through the comparison of different types of narratives. Non-literary narratives that emphasize plot, stereotypical characters, and non-sensory evoking language were compared to literary narratives. In a study involving multiple experiments, controlling for personality, intelligence, and prior reading history, Kidd and Castano (2013) consistently correlated high scores on a ToM performance assessment with reading literary narratives compared to fiction that emphasized plot, non-sensory language and limited characters.

These finding were also found in three similar studies (Black & Barnes, 2015; Pino & Mazza, 2016; Van Kuijk, Verkoeijen, Dijkstra, & Zwaan, 2018). Furthermore, Tamir, Bricker, Dodell-Feder, & Mitchell (2015) used fMRI to link regions of the brain previously mapped to social interactions with the reading of literary fiction. Participants in the ToM studies read from
either type of fiction (genre or literature), and took the Reading the Mind in the Eyes Test (RMET) pre and post.

Two attempts at exact replication of the Kidd and Castano’s 2013 study came to different conclusions, providing potential insight into the influence of fiction reading on ToM. A study by Panero et al. (2016) did not completely replicate Kidd and Castano’s findings, but did find a connection between participants literary reading history and RMET scores, speculating either 1) individuals with strong ToM are drawn to reading literary fiction, or that 2) a lifetime of reading literary fiction leads to improved ToM. Kidd and Castano’s (2018) attempt at exact replication of their 2013 study also found mixed results, but did find strong continued findings for the postulated influence of literary characters (complex, multi-dimensional) over fiction with predictable and stereotypical characters. Furthermore, Kotovych, Dixon, Bortolussi, and Holden (2011) found that when readers are required to interpret text ambiguities analogous with complex characters in literature, the characters become more “transparent” and real to them as readers. Story characters, as speculated, are fostering more ToM processes in readers (Kotovych, Dixon, Bortolussi, & Holden, 2011).

In summary of the ToM and literary narrative studies, reading passages selected for study were not clearly defined in terms of answering such questions as, can nonfiction have literary type characteristics in its language and character depiction, and can texts accepted as “literary” have characters with limited complexity? In other words, is it the type of text or the genre that makes a potential difference? Such questions have led Kidd and Castano to speculate that reading influences ToM through character depiction versus genre type (Kidd & Castano, 2018). Simply, it may not be fiction alone that improves ToM, but character complexity. It has been theorized that the emotional complexity of a fictional character improves ToM because it forces
readers to “carefully attend” to the “nuances” and “subtleties” of psychologically complex individuals, compared to the more easily understood, or thinly drawn person or characters, which are “well-rehearsed social stereo types” (Eder, Jannidis, & Schneider, 2010; Hakemulder, 2008).

The reading of literary narratives has been speculated to provoke emotional resonance through a reader’s emotional identification with a character (Johnson, 2012; Hakemulder, 2008). Oatley (2011) has articulated the process of reader identification with complex characters as the ability to “imagine ourselves into the minds of” others (p. 102), through “mental models” (p. 95), which involves taking on the emotions of a character’s goals, frustrations, and accomplishments, or both the ToM and emotional resonance aspects of empathy. Emerging science, as stated, has also linked ToM and emotional resonance processes within the brain (Bos & Stokes, 2018). Jones (2017) has further speculated that attempting to understand the complex emotions of multi-dimensional characters involves “the ability to mentalize because imaginative spaces provide occasions for thinking (ToM) and talking about feelings (emotional resonance) and therefore the opportunity to deliberately focus on the contents of our and other minds” (p. 273).

Johnson (2012) found the degree of narrative engagement by a reader influenced character sympathy, or emotional resonance. Additional studies have also found a connection between narrative engagement and ability to connect emotionally with outgroups (Johnson, 2013; Hakemulder, 2008). Furthermore, research has shown the degree to which readers are “transported” by the narrative influences empathy levels (Bal & Veltcamp, 2013). Therefore, in addition to character complexity, the ability of a student to engage with a particular text may have an influence on emotional resonance. Conversely, the degree of narrative engagement may also depend on a reader’s abilities. In particular, a reader’s level of verbal intelligence, ability to create a mental model and imagine different perspectives, may influence how engaged a reader is
with the text and to what degree a reader benefits empathically from reading the text (Bal & Veltkamp, 2013; Johnson, 2012; Johnson, Cushman, et al., 2013; Tamir et al., 2016).

The reading of literary narratives has also been connected to emotional regulation through critical reflection, character identification, language, and self-identity (Koopman & Hakemulder, 2015). Other studies have found a connection between defamiliarization and deeper reflection for some individuals, depending on context, personal loss, and reading histories (Cupchik, Leonard, Axelrad & Kalin, 1998; Koopman, Hilscher & Cupchik, 2012; Sikora, Kniken and Miall, 2010). More generally, other studies have connected the reading of literature to greater self-reflection through character identification and changes in a reader’s self-identity (Djikic, Oatley, & Moldoveanu, 2013; Djikic, Oatley, & Carland, 2012; Igartua, 2010; Leavitt et al, 2009).

Empathy as an empathic process is less clear to measure except as a motivator for a volitional action. In other words, does the reading of literary narratives evoke empathy as an altruistic act? Limited study suggests that reading fiction does increase pro-social behavior (Johnson, 2012; Johnson, Cushman et al., 2013; Koopman, 2015). The speculation being within the MLE is that greater understanding and emotional resonance with fictional characters will translate into an increased desire to understand, emotionally connect with, and act to help patients.

Considering the evidence behind the MLE critically, a growing body of literature has demonstrated that reading literary narratives facilitates ToM (Mumper & Gerrig, 2017). To a lesser degree, the reading of literary narratives may also facilitate emotional resonance and emotional self-regulation through character identification, narrative engagement, defamiliarization and self-reflection. While emerging evidence appears to point towards
character identification as a leading factor to facilitate ToM, questions remain. Does reading facilitate emotional resonance and emotional regulation as well? Is the literariness of the text a definitive factor? Does the connection between reading literary narratives and ToM only work for readers with certain abilities, or for everyone? Exactly how do the processes of ToM and emotional resonance work within the brain?

Another issue to be considered is the duration, or amount of exposure to reading fiction, and degree of potential carryover from reading. Most of the studies cited involved only reading a short story, or short passage, followed by immediate testing (Dodell-Feder & Tamir, 2018). In a comparative meta-analysis, a study by Pino and Mazza (2016), which required participants to read an entire novel, had a larger effect size compared to studies where participants read only short passages (Dodell-Feder & Tamir, 2018). In one of the few studies on carryover, Bal and Veltkamp (2013), found positive empathy changes still remained a week after reading fiction.

In summary the reading of literary narratives, as postulated in the MLE and supported to varying degrees in the literature, directly relates to client-centered practice. As Mattingly and Fleming (1994) observed, more skilled and impactful occupational therapists take on the perspective, or narratives, of their clients. In other words, they are skilled at ToM and possibly emotional resonance and regulation as well. In can be speculated that to perceive a client’s narrative accurately, the occupational therapists in the Mattingly and Fleming study had to feel the emotions of their clients.

This ability to emotionally and intellectually engage with a client is potentially fostered through the narrative engagement of reading, or the ability of a text to transport a reader into another’s point of view. This relates to Jamison’s (2014) emphasis on the willful act of empathy, or fully engaging in the empathic process of therapeutic empathy as advocated by Rogers (1951).
To understand, a therapist needs to engage with a client to gain perspective and emotional resonance, similar to reading’s theoretical required act of creating mental worlds, and actively taking on a character’s effective and affective worldview (Oatley, 2011).

Clinically the more significant question is, does the reading of literary narratives facilitate empathic practice? More specifically, for purposes of this study, does reading literary narratives translate into more empathic-centered practice in the study population? Before this question can be addressed, whether an occupational therapy educational program can improve student empathy levels needs to be first explored. In particular, what constitutes an empathic pedagogy for the study population? Presently, there are no known occupational therapy programs which systematically and consistently emphasize literary narratives and empathy as defined.

<table>
<thead>
<tr>
<th>Table 1.3: Model of Literary Empathy</th>
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<tbody>
<tr>
<td><strong>Definition of Empathy</strong></td>
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<tr>
<td>Empathy is a complex, diverse, neurologic process which involves:</td>
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<tr>
<td>ToM</td>
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<tr>
<td>Emotional Resonance</td>
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<td>Emotional Regulation</td>
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<td>Empathy as a Willful Act</td>
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<tr>
<td><strong>Definition of Literary Narratives</strong></td>
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<tr>
<td>Narratives which:</td>
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<tr>
<td>Unsettle reader’s expectations through ambiguity and multiple perspectives;</td>
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<td>Are complex, multidimensional, unfolding characters;</td>
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<td>Are challenging the reader’s social conventions;</td>
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<td>Provides opportunity for interpretation, or</td>
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<tr>
<td>Absence of an authoritarian voice, which forces readers to fill in “the gaps” and search for meanings amongst a choice of meanings.</td>
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</tbody>
</table>
Table 1.3 Continued:

**Postulates**
Reading literary narratives stimulates theory of mind
Reading literary narratives stimulates emotional resonance
Reading literary narratives cultivates emotional regulation and empathic engagement

**Theoretical Underpinnings**
Empathy as a complex process (Gerdes & Segal, 2009)

Narrative Theory
Table 1.3 Continued:

- Narrative rhetoric (Phelan & Rabinowitz, 2011)
- Nexus between narrative and mind (Herman, 2012; Wolf, 2007)

Literary Theory
- Components of literature (Aristotle, 1997; James, 1937; Forester, 1955)
- Rhetoric of fiction (Booth, 1983)
- Narrative medicine/close reading (Charon, et al., 2017)
- Qualities of literature fosters ToM, emotional resonance, emotional regulation (Keen, 2006; Koopman & Hakemulder, 2015; Kidd & Castano, 2013)

Communication Theory
- Genuine dialogue, authentic communication (Buber, 1999; Gadamer, 1989; Rogers, 1951)

2.12 Narrative Medicine

Given the following:

Empathy is an active, willful integrative process involving ToM, emotional resonance and emotional regulation (Gerdes & Segal, 2011; Jamison, 2014);

Empathic-centered care is an espoused value of occupational therapy (Abreu, 2011);

Recent study of the practice of occupational therapy in today’s healthcare environment has cited a lack of empathic and client-centered care (Cruz, Howie, and Lentin’s, 2015; Gupta & Taff, 2015; Oladottir & Palmadottir, 2017);
Recent study of the practice of occupational therapy in today’s healthcare environment has connected the negative impact of limited client-centered care on the health outcomes of patients (Njelesani, Teachman, Durocher, Hamdani and Phelan, 2015; McCoy, 2018);

Greater empathy and client-centered care has been connected to improved health outcomes of patients (Canale et al., 2012; Hojat et al., 2011);

Greater client understanding through improved empathic-based communication skills training has been linked to improved patient health outcomes (Dugdale et al., 1999; Kraft-Todd, Shapira, Kossowky, & Reiss, 2014; Taylor, et al, 2009; Trzeciak & Mazzarelli, 2019);

Greater client understanding through improved empathic-based communication skills training has been linked to reduced health care costs (Dugdale et al., 1999; Kraft-Todd, Shapira, Kossowky, & Reiss, 2014; Taylor, et al, 2009);

Greater client understanding through improved empathic-based communication skills has been shown to reduce levels of clinician burnout (Boissy et al., 2015);

The reading of literary narratives has been shown to improve reader’s ability to understand another through improved ToM skill levels, and possibly emotional resonance and emotional regulation (Djikie, Oatley & Moldoveanu, 2013; Bal & Veltkamp, 2013; Guarisco, Brooks & Freeman, 2017; Mar et. al, 2006; Mar, Oatley & Peterson, 2009; Mumper & Gerrig, 2017).

Therefore, a potential approach to the education of healthcare students that embraces the reading of literary fiction may improve therapist ToM abilities, facilitate client-centered care, and better meet client and clinician needs within the present medical environment (Starr, 2017).
One such approach is the pedagogy of Narrative Medicine at Columbia University (Charon et al., 2017). At Columbia medical students regularly take part in a Narrative Medicine program, along with practicing physicians and other healthcare providers. Under the direction of founder Charon, students regularly write, read, and workshop literary narratives through the practice of close reading, or the structured analysis, critical reflection, and discussion of literary text (Charon et al., 2017). The lecture and knowledge-based format of traditional medical lecture is replaced by small groups, and teacher facilitated and student led discussion. Students also journal on and directly reflect on the connection between literary narratives and student clinical experiences.

Narrative Medicine’s curriculum, as articulated by Charon et al. (2017), attempts to facilitate empathic-centered care through the reading and close analysis of works of art and literature, in an attempt to shift a health care provider’s perspective from viewing patients through a limited, emotionally detached, medicalized lens, to one that:

- Facilities greater awareness of scene (or context and culture);
- Fosters emotional awareness versus emotional detachment;
- Avoids premature closure and interpretation (or judgment);
- Embraces ambiguity and egalitarianism;
- Emphasizes listening to the inner emotional selves of practitioners and client, and;
- Facilities the ability to enter another’s world and discover more possibilities for care (compared to using a more traditional medical approach in isolation).
While the question of whether such training increases client-centered communication skills, as called for by Dugdale et al. (1999) and others, has yet to be answered conclusively, studies have been done on Columbia’s program and others which emphasize medical humanities, or combining of art with empirical science in the training of physicians. A qualitative study of participants at Columbia found the medical students believed narrative medicine changed their perspectives, challenged assumptions, and improved patient observation skills (Miller, 2014). In addition, a systematic review of eighteen different studies on medical humanities courses found fifteen quantitative studies that reported statistically significant increases in student levels of empathy (Batt-Rawden et al., 2013). An eight-week literature and medicine course also produced increased levels of complex and detailed understanding of patient perspectives compared to pre course levels (Shapiro, 2004).

2.13 Educational Theory

Narrative medicine at Columbia is based theoretically on narratological principles (Phelen & Rabinowitz, 2012; Herman, 2012), and the learning theory of constructivism. Constructivism pedagogy emphasizes individualized learning, direct experience, and student reflection (Steffe & Gale, 2012). Educational outcomes are consequently “student constructed” and unique to each particular student (Steffe & Gale, 2012). Common constructivism teaching examples in health care include problem-based learning, research projects, simulation, practicums, reflection, and group collaboration.

Within constructivism, experiential learning theory (ELT) more directly informs the research agenda. ELT has been described as the creation of knowledge through experience (Kolb & Kolb, 2017). Through ELT, learning and experience are placed at the center, and all
viewpoints are welcome, with teacher and student acting as partners through a process of reflection and metacognition, which facilitates understanding and insight. That experience at the center of learning is ideally “so real, so vivid, so vocal” it promotes different perspectives, interpretation, and meaningful engagement (p. 117, Kolb & Kolb, 2017). It is through that engagement and reflection that learning occurs. ELT also emphasizes a safe learning space that attempts to move the student from “deep reflection” to “conceptualization” (Kolb & Kolb, 2017 pg. xxvii).

The six main principals of ELT are:

The process of learning over learning outcomes, or the direct experience is of greater benefit than traditional lecture and reading;

That the process of learning is continuous and inherent to the experience itself;

Learning evolves through resolved conflict between differing points of view, and disconnect between direct experience and accepted concepts;

Learning involves a holistic interplay between doing, feeling, thinking, perceiving and behaving;

Learning involves a “transaction” between student and task, or the dynamic interaction between subjective experience and objective knowledge;

Learning is the “process of creating knowledge” (Kolb & Kolb, 2017, pg. 26).

The foundations of ELT are based on the work of several theorist. Piaget (1990) in his study of cognitive development in children stressed a similar “active constructing” and “shaping” of intelligence through experience. Dewey (1934) advocated that learning was not the filling of blank slate with expert knowledge, but “humans as active creators of meaning through their interaction with the world” (Kolb & Kolb, 2017, pg. 13). Freire (1992) also stressed a group
dynamic learning process involving a “dialogue among equals” and confronting conflict between concrete and conceptual in a learning process that is “creative, lively” and “transformational.” Roger’s (1964) also accentuated the role of a dialogue among equals, with the student at the center of learning. The role of the teacher in such learning, stated Rogers, is to “facilitate a student’s personal journey” through the following three characteristics: acceptance and trust of student feelings and opinions regardless of difference; teaching with a sense of realness, being yourself and open with personal feelings; and fostering empathy and understanding of student views, and feelings (Rogers, 1964, p. 163).

As stated, a key component of experiential learning is critical reflection on what was experienced (Kolb & Kolb, 2017). Consequently, experiential learning directly informs narrative medicine’s emphasis on student reflection of literary narratives, the vivid, subjective realism of literary narratives as an aesthetic and emotional felt experience, and through critical reflection and application to real-life practice (Charon et al., 2017; Kolb & Kolb, 2017). At Columbia, as with experiential learning, the teacher facilitates this reflection, and learning is primarily student-centered and experience based (Charon et al., 2017; Kolb & Kolb, 2017). The experience, in the case of narrative medicine, is the student’s reading of and response to narratives.

More specifically, Dewey’s (1934) call for workshop-based learning directly applies to the close reading of Columbia’s student led discussions and Freire’s (1994) conversation “among equals”. This dialogue in narrative medicine attempts to become “transformational” through the creation of new meaning together (Freire, 1994). At Columbia, that new meaning is a narrative’s alternate view of reality, or understanding of illness beyond a medical model. To foster insight beyond the medical text, anatomy lecture, and chart review, to fully grasping the story, perspective, and world view of the client in front of you (Charon et al., 2017).
It is this potential conflict, between the medical model and narrative view of client as a complex human being, that creates conflict for student readers. That conflict, and potential group-based exploration through discussion, is where the learning occurs. This is what Follett referred to as the, “action and reaction to one on the other” (1924). Like Buber (1999) and Gadamer’s (1989) call for a genuine dialogue to create meaning together, narrative medicine ideally fosters a similar group movement toward new awareness, and eases the conflict through greater understanding of the complexity of a client’s experience.

Coates (2015) described this reading through critical reflection as a “constant questioning, questioning as ritual, questioning as exploration rather than the search for certainty” (p. 34). Coates (2015) said this constant searching and questioning through critical reading can lead to moments of insight and clarity, “…the rays of light peeking out from the doorframe.” Coates said such reading of individual narratives is not an attempt to seek what it is like to experience a particular disability or racial injustice universally, “but human being singular.” For example, individual narratives do not tell the reader what the experience of paraplegia is like for everyone, but only a particular person within a particular context.

Roger’s experiential theory of learning (1964) applies to the role of workshop teacher as well. In Roger’s theory, as practiced at Columbia, it the task of the teacher to facilitate, and emphasize an empathic safe space for discussion of differing opinions and expressed emotions. It is that safe space based close reading – ELT’s integration of learning, feeling, perceiving and thinking -- that is at the essence of narrative medicine (Charon et al., 2017). This consilience, of the humanistic with the empirical, is the complex of neurobiology, emotions and cognition that is empathy (Gerdes, 2011, Wilson, 1988).
Constructivism and ELT also inform the research agenda’s emphasis on the genuine and real experience of reading literary narratives, what Sacks (1973) referred to as the “greater truth” of the patient’s personal story. Just as importantly in narrative medicine and ELT is the direct application of the genuine narrative to the practice of healthcare. The combination of realistic narratives and its direct application to the clinic, creates an experience “so vivid, so real” as to foster the necessary perspectives, interpretation and discussion that generates learning (Charon et al., 2016). It is only through the real and genuine, that students are engaged, emotional, opinionated, and create the emotional response necessary to foster the educational transformation advocated by ELT and narrative medicine (Charon et al., 2017; Kolb & Kolb, 2017).

This contrasts with the traditional academic practice of didactic lecture and information transfer characteristic of the behavioral theory of learning (Skinner, 1953). Through narrative medicine and close reading, learning is directly experienced through discussion, journaling, and reflection (Charon et al., 2017). Learning is not based on recall of lecture and text material and learners are not passive recipients of knowledge motivated by an exam grade, but active questioners and commentators on lived experiences, altering perspectives, and embraced ambiguity (Kolb & Kolb, 2016; Skinner, 1953).

Conversely, an approach to educating healthcare students based solely on narrative medicine is not advocated. Rather, it is argued that narrative medicine and ELT should be a significant part in a more complete education of the health care student. As practiced at Columbia (Charon et al., 2016), behavioral-based lecture and memorization of body systems, neurological pathways, and empirically evidenced therapies need to remain an essential component of healthcare education. But as demonstrated (Trzeciak & Mazzarelli, 2019), empathy has a distinct role to play in optimum health outcomes along with traditional medical
knowledge. It is not an argument of one over the other, but both together for the benefit of client-centered care and improved client health, to fully know the person and his or her needs, and the skilled scalpel, medication, and occupation to apply.

2.14 Synthesis

Modern healthcare poses a challenge for occupational therapy’s espoused value of empathy (Abreu, 2011). A demonstrated viable modern solution that improves health outcomes in a timely manner is empathic-centered care (Trzeciak & Mazzarelli, 2019; Sep, et al., 2014). Consequently, scholars have called for more student education on empathic-centered care through the reading of diverse literary narratives (Peloquin, 1995), training in therapeutic communication (Taylor et al., 2009), and greater use of narrative reasoning (Zafran, 2019). A challenge to teaching empathic-centered care is a definitive definition of empathy (Dohrenwend, 2018). To provide a more comprehensive and modern understanding, empathy is defined as a complex process involving neurology, ToM, emotional resonance, emotional regulation, and empathy as a willful act (Gerdes & Segal, 2009). Consequently, empathy is considered a volitional dynamic that involves intersubjectivity and imagining the perspective of another (Rogers, 1951).

Given the above definition of empathy, the potential influence of empathic-centered care on the current incongruence in occupational therapy’s values, and the call for more empathic education (Abreu, 2011; Starr, 2017; Zafran, 2019), teaching empathic-centered care to occupational therapy students is warranted. Significant theory has demonstrated that such an educational approach is viable (Koopman & Hakemulder, 2015; Batt-Rawden et al., 2013). One such model, Narrative Medicine at Columbia University, meets the need for more empathic-
centered care in today’s health care environment and demonstrates qualities that build on stated existing theory (Charon, et al., 2017; Kolb & Kolb, 2017). In particular, the approach at Columbia has demonstrated the ability to instruct clinicians to practice more empathically and shows promise as a potential educational model for occupational therapy (Miller et al., 2014; Mattingly & Fleming, 1994; Peloquin, 1998, 2005). There is currently, however, limited existing evidence on Narrative Medicine, and no research on how to design a specific curriculum to meet the theoretical and modern practice needs of occupational therapy. This study, consequently, attempts to begin such a process.
CHAPTER THREE
METHODOLOGY

Given the theory and successful model already implemented at Columbia University, a quasi-experimental design was chosen for this inquiry. Since no literature was found on a Narrative Medicine based OT curriculum, the study aimed to examine the effectiveness of Narrative Medicine in producing empathy within a population of students studying occupational therapy at a small New England University. In particular, the research design was intended to clearly define a potential Narrative Medicine pedagogy for occupational therapy students given that testing the efficacy of such a curriculum in an individual occupational therapy class may generate knowledge to refine future curriculum and justify additional research questions.

The quasi-experimental research design was used to address the following questions:

How do levels of empathy change in occupational therapy students who engage in a course that involves the close reading of literary narratives?

What differences in outcome are related to gender in this population?

What is the relationship between student grade point average (GPA) and levels of empathy of occupational therapy students who engage in a course that involves the close reading of literary narratives?

What is the relationship between student levels of education and levels of empathy of occupational therapy students who engage in a course that involves the close reading of literary narratives?

What is the relationship between number of novels read in the past year and levels of empathy of occupational therapy students who engage in a course which involves the close reading of literary narratives?
The research working hypothesis is the following: empathy levels of occupational therapy students’ will increase following participation in a course that involves the close reading of literary narratives.

3.1 Population

The population of students who completed the course at the university studied are graduate level students in the School of Occupational Therapy (SOT). Students are admitted into the program either as first year students or as transfer students with a pre-existing Bachelor’s degree. The professional phase, or graduate level, of the program begins when first year students enter their third year with a GPA of 3.0 or higher. Transfer students are directly admitted into the third year with a prior degree and meeting criteria for courses and GPA of 3.0 or higher. The cohort of students involved in the study were fourth year students (or students in the spring semester of their second year in the professional phase).

Thirty-one of the 37 students in the class participated in the study (table 3.1). Twenty-seven were females; four were males. Twenty-one students were between the ages of 19 and 21; nine were between the ages of 22 and 29, and one students was 30 or older. For educational level, 23 were undergraduates, six had a Bachelor’s degree, and two had a Master’s degree. The mean GPA for the student population was 3.6, with an actual GPA range of 3.3 minimum to 3.9 maximum. Before the experimental course began, students reported reading a mean of 1.9 novels a year. By the end of the class, they had read 3.29 novels per year.
### Table 3.1: Descriptive Data

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<th>Category:</th>
<th>Males</th>
<th>Females</th>
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</tr>
</thead>
<tbody>
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<td>3.6</td>
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<td>Education Category 3: (Master’s)</td>
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<td>2</td>
</tr>
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<td>Novels Read Posttest: mean</td>
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<td>3.44</td>
<td>3.29</td>
</tr>
</tbody>
</table>

### 3.2 Instrumentation

The *Reading the Mind in the Eyes Test* (Appendix A) measures an individual’s ability to recognize the subtle emotions of another in photographs (Barron-Cohen et al., 2001). The RMET (RMET) has been described by its authors as an “advanced” theory of mind test, and used in over 250 different studies involving measures of empathy, social sensitivity, and theory of mind (Fernández-Abascal et al., 2013; Vellante et al., 2012). The RMET was revised in 2001 to increase sensitivity to ToM differences through a demonstrated inverse correlation \( r = -.53 \) to the Autism Spectrum Quotient, a measure of “autistic traits” (Baron-Cohen et al., 2001). Individuals with medically defined Autism Spectrum Disorder (ASD) did worse on the RMET compared to individuals without ASD.

With neurotypical populations, the revised adult RMET (Barron-Cohen et al., 2001) has demonstrated a positive association with the ability to perceive the emotions of another, an
essential quality of ToM. In a study involving 20 individuals Petroni et al. (2011) found a positive correlation \( r = .57 \) between neurological indicators of facial emotions and scores on the RMET. In Petroni et al.’s study (2011) participants exposed to a wide range of emotional facial images were measured for “amplitude of event-related potentials” through fMRI of the fusiform gyrus of the brain. The higher the ability of study participants to discriminate between emotions, as measured by electrophysiological responses, the stronger the scores on the RMET (Petroni et al., 2011). Similarly, Henry et al. (2009) found 57 individuals had a large positive correlation \( r = .53 \) between accurately labeling the facial emotions of photographs and scores on the RMET. The more accurate participants in the Henry et al. study (2007) were at recognizing facial emotions, the better they scored on the RMET.

The RMET demonstrated convergent validity through an association with the Emotional Quotient (EQ) scale for empathy (Ali & Chamorro-Premuzic, 2010; Chapman et al., 2006) and the Faux Pas Recognition Test (Torralva et al. 2009). The EQ is a 60-item questionnaire designed to measure empathy in adults (Muncer & Ling, 2006). In particular, the 2006 study by Chapman et al. demonstrated a positive correlation between the RMET and the EQ \( r = .56 \). A positive association \( r = .44 \) was also shown in a study by Ali and Chamorro-Premuzic (2010) comparing the RMET to the EQ. In 2009, Torralva et al. compared the RMET to the Faux Pas Recognition (FPR) test. The FPR attempts to measure empathy through participant responses to a series of stories (Korhonen, 2014). Torralva et al.’s study (2009) indicated a large positive correlation between the RMET and the FPR \( r = .60 \).

The RMET has also demonstrated degrees of internal consistency, as measured by Cronbach’s alpha coefficient of reliability. Dehing et al. (2012) demonstrated acceptable internal consistency \( \text{Cronbach’s alpha} = .70 \) on the RMET, as did GIRL’s (2014) study (Cronbach’s
alpha = .71). Acceptable internal consistency was also found in studies by Yildirim et al. (2011) and Vellante et al. (2012), with both studies revealing Cronbach alpha coefficients of .65. Conversely, other studies have found lower levels of internal consistency, including Harkness et al. (2010) (Cronbach’s alpha = .58), and Khorashad et al. (2015) (Cronbach’s alpha = .38). Cited potential reasons for the RMET’s internal consistency center on the measurement tool’s multiple word choices for each image and differences in the angle and lighting of each photograph (Olderbak et al., 2015).

Studies of the RMET’s predictive validity suggest positive correlations to prosocial behaviors, and that females do better on the RMET than males. A study by Declerck et al. (2008) involving 331 college students, found a positive correlation (r = .163) to the RMET and prosocial behaviors, compared to a negative correlation (r = -.152) between the RMET and pro self-behaviors. Behaviors were measured through the Decomposed Game, a validated assessment tool that measures forced choices in social dilemmas (Eisenberger, Kuhlman, & Cotterrell, 1992). Carroll and Chiew’s (2006) study involving 24 males and 24 females found that females scored higher than males on the RMET, with a Cohen’s d, or effect size for the comparison between means, of .71. Dehing et al. (2012) in a study involving 30 females and 27 males, also demonstrated higher female performance on the RMET through a Cohen’s d of .94. Yidrim et al. (2011) had similar findings (Cohen’s d = .61.) when comparing 72 female to 45 male RMET scores.

Vellante et al. (2012) analyzed the RMET’s test-retest reliability by testing the RMET on the same population one month later and found a large intra-class correlation coefficient (ICC), or degree of correlation between tests, of .833. A study by Yidirum et al. (2011) demonstrated an
ICC of .65 when the test was given two weeks later, as did a study by Fernández-Abascal et al. (2013), with an ICC of .61 on the RMET one year later.

The Jefferson Scale of Empathy Health Professions Student version (Appendix B) is an adapted version of the original Jefferson Scale of Empathy Physician/Health Professional version (Hojat, 2016). The Jefferson Scale of Empathy (JSE) is broadly used in the health field as a self-reported measurement of empathy and has been translated into over 38 different languages (Hojat, 2016). The JSE student version was adapted from the health profession version for more general use with health care students.

Exploratory and confirmatory factor analysis by Hojat et al. (2018) suggests the JSE assesses three factors of empathy: perspective taking (or ToM), compassionate care (emotional resonance), and walking in the patient’s shoes (ToM/emotional resonance). Hojat et al.’s study (2018) found internal consistency with the factors of perspective taking (Cronbach’s alpha = .80), compassionate care (Cronbach’s alpha = .71), and walking in the patient’s shoes (Cronbach’s alpha = .71). Other JSE factorial studies found the factors of perspective taking and compassionate care with medical students (Hojat & Lanoue, 2014), physicians (Johat et al., 2002), and nurses (Ward et al., 2009) in the United States, physicians in Italy (Dillo et al., 2009), and medical students in Iran (Shariat & Habibi, 2013), China (Wen et al., 2013), Austria (Preusche & Wagner-Menghin, 2013) and England (Tavakol et al., 2011).

Studies of the psychometric properties of the JSE suggest the scale has degrees of internal consistency. Three large studies that demonstrated strong internal consistency on the JSE were Hojat et al.’s (2018) study involving over 6000 medical students (Cronbach alpha = .82); Ward et al.’s (2009) study involving 333 nursing students (Cronbach alpha = .77), and a longitudinal study (Fields, et al. 2011) that included 265 nursing students (Cronbach alpha = .78).
The JSE has also demonstrated convergent validity. Costa and McCrea (2017) found a medium positive association between the JSE and perspective taking scales of the Interpersonal Reactivity Index (r = .40). Hojat et al. (2005a) also found a positive correlation between the JSE and the IRI (r = .45). The Interpersonal Reactivity Index (IRI) is a self-report survey designed to assess different aspects of empathy, including ToM and emotional resonance (Yang et al., 2020).

Several studies have suggested that females score higher than males on the JSE. Recent research indicating a statistically significant difference in female scores over male scores on the JSE, includes Hojat et al.’s (2018) study involving 2,795 women and 3,175 men; Leombruni et al.’s (2014) study involving 144 female Italian medical students and 114 male Italian medical students, Shariat et al.’s (2013) study of 759 female Iranian medical students and 428 male Iranian medical student, Fields et al.’s study (2011) of 233 female nursing students and 32 male nursing students, and Fjortoft’s study (2011) of 93 female pharmacy students and 67 male pharmacy students.

In addition, Hojat et al. (2005b) found the JSE has a degree of predictive validity for future practice tendencies. In a study involving over 100 physicians, top scorers on JSE demonstrated statistically significant levels of empathy in practice compared to low scorers (Hojat et al., 2005b). The study was done over a three-year period. Physicians took the JSE as medical students. Three years later the medical students’ original scores were compared to levels of empathic practice, as rated by clinical supervisors (Hojat et al., 2005b). Students that originally scored high on the JSE also scored high as empathic practitioners (Hojat et al., 2005b).

Furthermore, two large studies (Del Canale et al., 2012; Hojat, 2011) found a connection between high scores on the JSE, and positive patient outcomes. The study by Del Canale et al. (2012) involved over 20,000 patients and 301 physicians, and found patients of physicians with
high empathy levels (as measured by the JSE) had a statistically significant lower rate of diabetic symptoms compared to moderate and lower scorers on the JSE. Hojat et al. (2011) followed 891 individuals with diabetes over a three-year period, and again found patients of physicians with high JSE levels had significantly improved indicators of diabetes management compared to patients of physicians with moderate and low levels on the JSE.

Two separate studies addressed the potential influence of social desirability on the JSE (Hojat et al., in 2005; Hojat, 2016). In both studies medical students were given the JSE and Zuckerman Kuhlman Personality Questionnaire (Zuckerman, 2002). The infrequency scale on the Zuckerman Kuhlman Personality Questionnaire (ZKPQ) screens for participants who make “responses unlikely to be true” by giving “a false good impression” (pg. 1208, Hojat, 2005). An example would be a respondent stating, “I never saw a person I did not like” (pg. 1208, Hojat, 2005). EZKQ authors have stated while the infrequency scale is primarily to screen out invalid answers, it can indicate social desirability (Hojat, 2005; Zuckerman, 2002). In the first study, involving over 400 medical students, 5% of respondents scored above the threshold suggestive of “questionable validity” on the ZKPQ (Hojat, 205). In a second similar study, involving over 2,600 medical students over a nine-year period, 6% of students scored above the threshold of questionable validity on the ZKPQ (Hojat, 2016). In both studies, after discarding invalid responses, the authors concluded the results were “virtually unchanged” (Hojat et al., 2005; Hojat, 2016).

### 3.3 Procedure

A pre and post-test design was conducted to answer the research questions. One course involving occupational therapy students functioned as the experimental course. The pretest was done before the class began and the posttest was given after the course was completed. A brief
post-test survey was given once on reported GPA, number of novels read in the previous year, level of education, and gender (Appendix G). Data were collected by administering the surveys electronically in class during the first class session and then again after the last session. There were fourteen classes, or sessions, altogether. The professor was present during the administration of the initial survey. Students completed the second survey on their own without the professor present. Students put the last four numbers of their student identification number on surveys and administrated tests such that matching results could be calculated.

3.4 Experimental Class

Guided by the literature on narrative reading and activities to apply this reading to the development of empathy, all curriculum interventions in the experimental class centered on the pedagogy of Narrative Medicine and the process of close reading detailed in the literature review. In an occupational therapy context, through close reading the experimental curriculum attempted to train students to think in stories and practice with empathy, similar to Mattingly and Fleming’s (1994) observed “expert” therapists use of narrative reasoning to project a collaborative patient future story of health.

All assigned literary narratives in the experimental class met the criteria of literature as defined by the MLE and Kidd and Castano (2016), including psychologically complex characters, qualities of aesthetic or literary language, and challenges to traditional social conventions. Chosen narratives did not involve traditional medical case studies, academic text, and or fact based nonfiction (Appendix C). In addition, all of the selected stories (Appendix D) and assigned reflective questions (Appendix E) were designed to be relevant to the student population for purposes of enhanced learning engagement (Bal & Veltcamp, 2015; Johnson,
In addition to the weekly short story assignments, students had to choose, read, and reflect on a single novel from a selection of choices. Choices were provided to students based on the tenet that reading levels and choice can influence readers’ ability to engage with the narrative and stimulate empathic processes (Bal & Veltkamp, 2013; Johnson, 2012; Johnson, Cushman, et al., 2013; Tamir et al., 2016).

Furthermore, the selected narratives avoided stigmatization and marginalization of the medically defined disabled populations. Such stereotypes that were avoided included depicting disabled groups as primarily “conquering” or being “conquered by” disability, objects of suffering, symbolism, metaphor, “character-making trope,” or as a vehicle for social critique (Davis, 2013; Mitchell & Snyder, 2011, Patterson, 2019). The readings chosen primarily depicted worlds that challenge stigma, embrace difference, describe positive representations of disabled bodies, and attempt to create “accessible” and “valued spaces” for disability (Fletcher & Primack, 2017). Memoirs by individuals with conditions traditionally referred to as “chronic” in a medical model were selected for their ability to “redefine” and “reconstruct” common characterizations (Cardillo, 2010). Other selections treated disability with every day nuance, as part of what it means to be human, versus apart or marginalized from the able bodied, a challenge to overcome or object of exclusion. These fit what Muller (2006) referred to as acceptance of “different styles of being”.

Curriculum in the experimental class also included the reading of one short story weekly for ten weeks. The short stories met the criteria for a literary narrative and ranged from stories on a home health occupational therapist and clients (Appendix F), to works from accomplished literary authors such as Louise Aronson, Roger Angell, Lucy Grealy, Joanne Greenburg, and Susan Miller. Assignments related to the short stories were designed to apply narrative readings
to the development of empathy in clinical contexts. In particular, the narratives were introduced to students as real-world examples of topics covered in class, with an emphasis on stories about individuals experiencing health issues. Students had to reflect on a story character’s major life events, dominant occupations, primary relationships, perceptions of emotional and physical health, and envision a future story of health for story characters. Student reflection was done through written assignments and in class discussions led by the students (with each student assigned a particular week) and by the professor.

3.5 Data Analysis

All data were analyzed using IBM SPSS Statistics for Windows, Version 24 (IBM Corp., Armonk, N.Y., USA). Descriptive univariate and bivariate statistics were calculated, followed by an examination of group differences.

RMET and JSE pretest to posttest means were compared using a paired samples t-test to determine whether empathy levels of the studied population changed following participation in the experimental course.

Associations between GPA, novels read, and the dependent variable were calculated with a Pearson correlation coefficient to ascertain magnitude and direction of reading, academic achievement, and empathic outcomes.

To examine group differences between gender on measures of empathy, an independent samples t-test was computed.

Education in the survey was categorized into three levels (undergraduate, Bachelor’s degree, and Master’s degree). A one-way analysis of variance (ANOVA) examined between and
within group differences on empathy scores specific to educational levels (Yaghoubi et al., 2018).
CHAPTER FOUR

FINDINGS

The following section describes the numeric findings for the statistical analysis described in the methods section. Each section in chapter four is organized according to the research questions, beginning with the univariate findings for both instruments (JSE and RMET), the Pearson r correlations for Novels Read and GPA to empathy, t-tests for GPA and empathy, and ANOVA for the differences between educational groups and empathy.

4.1 Research Question 1: How do levels of empathy change in occupational therapy students who engage in a course that involves the close reading of literary narratives?

The JSE (Appendix B) includes twenty question on a Likert scale of 1-7 with each question worth twenty points. The JSE has a possible scoring range of 20 minimum to 140 maximum. On the JSE pretest with the participating students, the actual scores on the JSE ranged from a minimum of 62 to a maximum of 115. The JSE group mean (table 4:1 below) on the pretest was 99.09 (SD = 2.39). The group mean on the posttest JSE in the study was 116.84 (SD = 1.67), with an actual range of 100 minimum to 130 maximum.

The JSE group mean, or score average, consequently improved from 99.09 on the pretest to 116.84 on the posttest, meaning student scores improved the second time they took the survey. A paired samples t-test (table 4:2), comparing pre and post JSE group score means, demonstrated a statistically significant change (p =.000) between the pretest and the posttest mean scores on the JSE.

The RMET (Appendix A) consisted of 36 questions with four choices for each question. Student choices were converted to 1 point for correct and 0 for incorrect, allowing the computation of a total interval level score for each respondent on each iteration of the test. The
converted possible scores ranged from a minimum of 0 to a maximum of 36. The scores on the RMET pretest ranged from 17 minimum to 32 maximum with a mean of 25.45 (table 4:1). The score range on the RMET posttest ranged from 16 minimum to 33 maximum with a mean of 25.41.

The RMET group mean decreased from 25.45 on the pretest to 25.41 on the posttest, indicating student scores decreased slightly the second time they took the survey. A paired samples t-test (table 4:2), comparing pre and post RMET group score means, demonstrated an insignificant change (p = .963) between the pretest and the posttest mean scores on the RMET.

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<tr>
<th>Table 4:1</th>
<th>Paired Samples Statistics: Empathy Group Comparison</th>
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<th>Table 4:2</th>
<th>Paired Samples t-test: Empathy Paired Differences</th>
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4.2 Research Questions 2: What is the relationship between student grade point average (GPA) and levels of empathy of occupational therapy students who engage in a course that involves the close reading of literary narratives?

The Pearson r correlation between GPA and JSE posttest scores (table 4.3) revealed a small positive correlation (.142), indicating students with a higher GPA did slightly better on the posttest survey than those with lower GPAs and visa versa (Pallant, 213).

The correlation between the JSE change score and GPA (-.249) was inverse and small to moderate (Table 4:4). Empathy change scores for the JSE were calculated by subtracting scores on the JSE pretest survey from the JSE posttest survey, and computing a Pearson r correlation (table 4:4) between the change score and GPA.

The correlation between GPA and the RMET post scores (table 4:3) was positive (.219). Indicating that after the course was completed, students with a higher GPA did better on the RMET posttest.

The correlation between the RMET change score and GPA was a positive small association (.108), (table 4:4). Empathy change scores for the RMET were calculated by subtracting scores on the RMET pretest survey from the RMET posttest survey, and computing a Pearson r correlation (table 4:4) between the change score and GPA.
### Table 4.3: Pearson r Correlations: GPA to Empathy Post Test Scores

<table>
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<th>GPA</th>
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<th>RMET Post</th>
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<td><strong>JSE Post</strong></td>
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<tr>
<td><strong>RMET Post</strong></td>
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<td></td>
</tr>
<tr>
<td>Correlation</td>
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<td>.155</td>
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</tr>
<tr>
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### Table 4.4: Pearson r Correlations: GPA to Empathy Change Scores

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<th>RMET Change</th>
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<td>.108</td>
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<td><strong>JSE Change</strong></td>
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</tr>
<tr>
<td>Correlation</td>
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<td>.019</td>
<td>1</td>
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<td><strong>N</strong></td>
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<td>31</td>
<td>31</td>
</tr>
</tbody>
</table>
4.3 Research Question 3: What is the relationship between number of novels read in the past year and levels of empathy of occupational therapy students who engage in a course which involves the close reading of literary narratives?

The Pearson r correlation between the number of novels read in the posttest survey (table 4.5) and the posttest JSE scores was negative (r = -.212). The strength of the correlation (r = -.212) was small.

The Pearson r correlation between the JSE change score and the number of novels read in the posttest survey (r = -.040) was also negative (table 4.6). This means high novel readers did worse on the JSE change scores. The strength of the correlation (r = -.040) was almost nonexistent however.

The Pearson r correlation between the number of novels read on the posttest survey and posttest scores on the RMET was negative (r = -.296), (table 4.5). The Pearson r correlation between the number of novels read on the posttest and the RMET change scores (table 4.6) was also negative (r = -.112).

| Table 4.5: Pearson r Correlations: Novels Read to Empathy Post Test Scores |
|-------------------------------------------------|----------------|----------------|
| | Novels Read | JSE Post | RMET Post |
| Novels Read | Pearson Correlation | 1 | -.212 | -.296 |
| | N | 31 | 31 | 31 |
| JSE Post | Pearson Correlation | -.212 | 1 | .155 |
| | Sig (2-tailed) | 252 | | .404 |
| | N | 31 | 31 | 31 |
| RMET Post | Pearson Correlation | -.296 | .155 | 1 |
| | N | 31 | 31 | 31 |
Table 4.6: Pearson r Correlations: Novels Read to Empathy Change Scores

<table>
<thead>
<tr>
<th></th>
<th>Novels Read</th>
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<th>RMET Change</th>
</tr>
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<td>Novels Read</td>
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<td>JSE Change</td>
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</tr>
</tbody>
</table>

4.4 Research Questions 4: What differences in outcome are related to gender in this population?

A comparison of gender group differences was first examined through descriptive statistics (because of the uneven numbers in each group) and then confirmed with an independent samples t-test. Descriptive data indicated participating male students on average read less novels (1.9 males,) compared to the females (3.6 females). Males also had a slightly lower GPA (3.5 males, 3.6 females) compared to females (descriptive data). On the JSE posttest survey (table 4.7, group statistics), on average females scored below males (116.62 females, 118.32 males). On the RMET, females did slightly higher than males on average (25.44 females, 25.25 males).

A comparison of group differences between gender and JSE posttest scores through an independent samples t-test (table 4.8), indicated no significant difference between the two groups (p = .452). A comparison of group differences between gender and JSE change scores (table 4.9),
also indicated no significant difference between the two groups (p = .566). A comparison of group differences between gender and RMET posttest scores (table 4.8), indicated no significant difference between the two groups (p = .455). A comparison of group differences between gender and RMET change scores (table 4.9), indicated no significant difference between the two groups (p = .156).

<table>
<thead>
<tr>
<th>Table 4.7</th>
<th>Group Comparison: Gender to Empathy Post Test Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Gender</td>
</tr>
<tr>
<td>RMET Post</td>
<td>1(females)</td>
</tr>
<tr>
<td></td>
<td>2</td>
</tr>
<tr>
<td>JSE Post</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>2</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Table 4.8</th>
<th>Independent Samples t-test: Gender to Empathy Post Test Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Sig.</td>
</tr>
<tr>
<td>RMET Post</td>
<td>.455</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>.068</td>
</tr>
<tr>
<td></td>
<td>Sig.</td>
</tr>
<tr>
<td>----------------</td>
<td>-------</td>
</tr>
<tr>
<td>JSEPost</td>
<td>.452</td>
</tr>
<tr>
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<td></td>
</tr>
<tr>
<td>JSEPost</td>
<td>-.391</td>
</tr>
<tr>
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<td></td>
</tr>
<tr>
<td>JSEChange</td>
<td>.566</td>
</tr>
<tr>
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<td></td>
</tr>
<tr>
<td>JSEChange</td>
<td>-.281</td>
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<td>RMETChange</td>
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</tr>
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<td>RMETChange</td>
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<tr>
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4.5 Research Questions 5: What is the relationship between student levels of education and levels of empathy of occupational therapy students who engage in a course that involves the close reading of literary narratives?

The educational category included twenty-three undergraduate students in category one, six students with a Bachelor’s degree in category two, and two students with a Master’s degree in category three. A one-way ANOVA was done to compare the group differences in the three educational categories to RMET and JSE scores.

When comparing the educational category group differences to JSE posttest scores (table 4.11), no significant was found in the difference in scores (p = .871). The educational category group differences compared to JSE change scores (table 4:12), again indicated no significant differences in scores (p = .092). No statistical significance between groups was also found when comparing the educational category group differences (table 4.11) to RMET posttest scores (p = .322). The educational category group differences compared to RMET change scores (table 4.12), again indicated no significant differences in scores (p = .339).

<table>
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<tr>
<th>Table 4.10</th>
<th>One-way ANOVA: Group Differences: Education to Empathy Post Test Scores</th>
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</thead>
<tbody>
<tr>
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<tr>
<td>RMET Post</td>
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</tr>
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<td>Between Groups</td>
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</tr>
<tr>
<td>Within Groups</td>
<td>28</td>
</tr>
<tr>
<td>Total</td>
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</tr>
<tr>
<td>JSE Post</td>
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</tr>
<tr>
<td>Between Groups</td>
<td>2</td>
</tr>
<tr>
<td>Within Groups</td>
<td>28</td>
</tr>
<tr>
<td>Total</td>
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</tr>
<tr>
<td></td>
<td>df</td>
</tr>
<tr>
<td>----------------</td>
<td>-----</td>
</tr>
<tr>
<td><strong>JSE Change</strong></td>
<td></td>
</tr>
<tr>
<td>Between Groups</td>
<td>2</td>
</tr>
<tr>
<td>Within Groups</td>
<td>28</td>
</tr>
<tr>
<td>Total</td>
<td>30</td>
</tr>
<tr>
<td><strong>RMET Change</strong></td>
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<td>2</td>
</tr>
<tr>
<td>Within Groups</td>
<td>28</td>
</tr>
<tr>
<td>Total</td>
<td>30</td>
</tr>
</tbody>
</table>
CHAPTER FIVE
DISCUSSION

The following section discusses limitations of the study, implications of findings on the research questions, curriculum design, and contribution of the study to the scholarship informing curricula.

5.1 Limitations

Limitations of the instrumentation include the potential impact of the pandemic on course curriculum and survey responses, and the possible influence of social desirability on the JSE.

Halfway through the semester the COVID-19 pandemic changed the course from completely in person, to strictly online with audio lectures, videos, and written assignments. While most assignments stayed the same as they were before the pandemic changes, the student led discussion assignment shifted to an online forum, where students posted comments on the readings. During the recorded lectures, students and the teachers also could not interact spontaneously. Nor were students able to make impromptu visits with their professor to discuss assigned readings. To preserve reflection and interaction that are at the heart of close reading and Narrative Medicine as practiced at Columbia (Charon et al., 2017), screen mediated interaction and assignments were parallel to on-campus work, but not equivalent.

The pandemic also changed the context of how each survey was given. The first survey, before the shift to an online format, was done in class with the professor present. The second was done online after the course was completed without the professor present. Consequently, it is unknown where students took the survey, what distractions were present, and what potential influence being in the classroom with the professor may have had.
In addition, social desirability has been shown to influence the results of self-report surveys of healthcare workers on socially sensitive subjects, such as empathy (King & Bruner, 200; Van de Morel & Bird, 2009). In this study, even though grades were not connected to the survey and results were anonymous, students may have wanted to meet the perceived ideals of the OT profession as advocated by their occupational therapy instructor. This point may be implicit in survey findings that show a small positive correlation between GPA and the empathy posttest scores for both instruments (table 4.3). Students who presumably worked harder to master course material, performed better on the empathy scales compared to those with lower levels of academic achievement.

5.2 Research Questions:

How did levels of empathy change in occupational therapy students who engage in a course that involves the close reading of literary narratives?

The improvement in JSE group mean scores (tables 4:1, 4:2) supports in part the research hypothesis that after an occupational therapy course involving close-reading, empathy levels would improve. The quasi-experimental design improvement in scores may not be attributable to the course itself, but they are a strong indicator of change following participation. The improved JSE scores also correspond with existing literature, which suggests humanities content in a healthcare-based course improves student levels of empathy (Batt-Rawden, Chisholm, Anton & Flickinger, 2013). In particular, the JSE findings are similar to the qualitative study of the program at Columbia University (Miller, 2014), in which students reported higher levels of empathy after completing a Narrative Medicine based course.
The findings also correspond to the empathic qualities of the JSE as supported in the literature (Hojat et al., 2018). As stated, a factorial analysis found the JSE measures qualities of “Walking in a Patient’s Shoes and Perspective Taking” (or ToM) and “Compassionate Care” (or emotional resonance) (Hojat, 2016, p. 108-109). This phenomenon thus supports the emphasis of the definition of empathy that was the focus of the course outcomes and of this study (Gerdes & Segal, 2009). In other words, students in this particular course demonstrated higher scores in a survey that measures aspects of ToM and emotional resonance following their participation in the course.

Furthermore, as stated, the JSE has demonstrated a connection between high JSE scorers and improved patient outcomes compared to low JSE scorers (Del Canale et al., 2012; Hojat et al., 2011). As stated, in two large experimental studies clinicians with qualities of empathy, as defined by the JSE, were more effective on patient indicators of diabetes control compared to clinicians who scored low on the JSE (Del Canale et al., 2012; Hojat et al., 2011). This meets the theorized connection between Narrative Medicine, empathy, and health outcomes in the MLE (Koopman & Hakemulder, 2015). Simply, after a course involving close reading, the occupational therapy students in this particular course demonstrated higher scores in an empathy survey that correlates with better health outcomes in today’s healthcare environment.

In addition, the occupational therapy students participating in the study had experienced initial clinical rotations and three semesters in the occupational therapy program prior to taking the course studied. The rotations involved observation of practicing occupational therapists. The prior course work was primarily on the theoretical foundations of occupational therapy. The prior rotations and course work did not reflect in strong scores on the JSE pretest (table 4:1). The low initial JSE scores may suggest that what the students had previously experienced, observing
practicing occupational therapists and participating in foundational course work, did not result in strong awareness of the role of empathy in practice. The fact that the level of JSE scores increased after completion of the course studied, suggests close reading may have a unique role in teaching students empathic awareness. Simply, the class on Narrative Medicine may be filling a missing gap in empathic instruction. Further inquiry is needed to address this question.

Consequently, the results warrant additional study into whether the higher scores on the JSE were the result of the course curriculum. In that sense, the results can be viewed as an important and compelling starting point for refining Narrative Medicine to meet the stated modern challenges of occupational therapy (Abreu, 2011). When viewing the JSE scores as an evaluation of a particular course, however, the stated limitations and complex nature of empathy also need to be considered (Gerdes & Segal, 2009). Since the JSE survey is self-report, it does not support improved empathic performance through ToM and emotional resonance (Hojat, 2016), or empathy as a willful act. Consequently, results from the JSE should be viewed in terms of potential increased awareness, understanding, and sensitivity to the need for empathic practice, not improved empathic performance.

Empathic performance in ToM and emotional resonance was measured through the RMET (Baron-Cohen, Wheelwright, Raste, & Plumb, 2001). In this study, no change was found between pre and posttest mean scores of the RMET (table 4.1). This finding contradicted extensive findings in the literature which linked the reading of literary narratives to improved scores on ToM measures such as the RMET (Djikie, Oatley & Moldoveanu, 2013; Bal & Veltkamp, 2013; Guarisco, Brooks & Freeman, 2017; Mar et. al, 2006; Mar, Oatley & Peterson, 2009; Mumper & Gerrig, 2017).
Speculated potential reasons for the lack of significant change are numerous. Foremost amongst the reasons may be the format of the test itself. Unlike the JSE (which involves only 20 Likert scaled questions), the RMET involves over 36 different questions and a degree concentration to study each image and make a selection (Appendix A). As stated in the Methodology section, the images themselves can also be distorted depending on lighting. Considering the stated limitations on the second survey, some students may have been unwilling to give the survey the necessary required attention the second time.

It also is important to note that Narrative Medicine at Columbia involves reflection of artistic images through photos and paintings (Charon, et al., 2017). This material was not part of the curriculum studied (Appendices C-F). Such close study and reflection on artistic images may influence the RMET’s similar measure of human emotions in photographic images (Baron-Cohen, Wheelwright, Raste, & Plumb, 2001). In addition, the study of artistic paintings has been shown to increase student levels of empathy and visual recognition skills (Gernot, Pelowski, & Leder, 2018).

It is also significant that unlike prior studies, the RMET was not given to study participants directly after a literary narrative reading (Djikie, Oatley & Moldoveanu, 2013; Bal & Veltkamp, 2013; Guarisco, Brooks & Freeman, 2017; Mar et. al, 2006; Mar, Oatley & Peterson, 2009; Mumper & Gerrig, 2017). The delay between when the students read their last literary narrative and took the RMET survey may have played a role in the RMET scores. In other words, close reading of literary narratives may not influence ToM and emotional resonance over a length of time (Koopman & Hakemulder, 2015). If so, this finding would have significant implications on the feasibility of carryover of this curricular innovation into the practice of
occupational therapy. Further study is warranted to examine the extent to which curriculum can teach empathy such that it is implemented in praxis.

**What is the relationship between number of novels read in the past year and levels of empathy of occupational therapy students who engage in a course which involves the close reading of literary narratives?**

Unlike findings in the literature, prior reading had only a small correlation (tables 4.5, 4.6) with empathy scores (Kidd & Castano, 2016). This finding may be due to the limited sample involved and the use of the term “novels” in the survey (Appendix G). It is uncertain if students interpreted the term as meaning graphic novels, romance novels, nonfiction, etc. The term “novels” also did not distinguish between literary and non-literary narratives. Further inquiry on the potential correlation between reading and empathy may require more sophisticated assessment tools, or clarification of survey terms.

**What is the relationship between GPA, gender, student levels of education and levels of empathy of occupational therapy students who engage in a course that involves the close reading of literary narratives?**

The influence of education and gender on empathy levels in the RMET and JSE did not demonstrate a statistically significant difference (tables 4:7-4:11). This finding again contradicts the literature (Atkins, Uskul, & Cooper, 2016; Schwenk et al., 2014; Van De Graaf et al., 2014; Yaghoubi et al., 2018). The results may have been a result of the limited number of participating students, little variation in student and education levels, or the timing of the RMET with the
readings as discussed. The lack of a strong correlation between GPA and empathy levels may also be a result of limited variation in student GPA scores and the low number of participants.

While again it is unknown if the curriculum influenced survey scores, the findings suggest course content may have played a role for this particular class. In other words, if it is speculated that outside factors (novels read, GPA, gender, education) did not influence the JSE scores, it may have been the class itself that improved student JSE scores. Questions to pursue include, were findings an artifact of the stated potential issue with social desirability, or of curriculum design and content? Close reading has two primary aspects, reading and reflection (Caron, 2017). Were findings related to the reading, the reflection, or something else that influenced increased scores on measures of empathic awareness for these particular students? For example, was it any one or combination of assignments, or something stated by the professor during lectures? Further inquiry into these questions may help improve understanding of factors influencing the course and consequently better inform the existing and future curricula.

5.3 Questions to address

In summary, for participating students, the improved JSE scores are an indicator that there is a potential connection between course content and increased student awareness of the role of empathy in occupational therapy. Future inquiry needs to address the following questions:

To what extent did the curriculum, as designed, result in improved empathic awareness?

If so, which aspects of the curriculum influenced empathic awareness: the reading of literary narratives, student reflection, or lecture content, other?
To what extent is close reading more effective than existing occupational therapy curriculum in teaching and promoting the practice of empathic centered care?

The RMET findings call for revisions to the existing pedagogy, involving potentially more close observation and reflection on artistic images as practiced at Columbia (Charon et al., 2017). This addition in turn may help improve student ability to both view empathy as a willful act and practice more empathically. Unanswered questions to address regarding the RMET include the following:

To what extent would greater use of artistic images improve RMET-measured empathic performance?

What role did the timing of the reading literary narratives have on the RMET findings?

What role did the more challenging format of the RMET have on student levels of participation? If so, are their other instruments that would be more appropriate?
CHAPTER SIX
CONCLUSION

This research was significant because it adds to an understanding of a potential occupational therapy curriculum to improve student levels of empathy. The study proposes a model and specific curriculum that can be refined and used as the basis for further study, and as a vehicle for assessing the curriculum’s impact on clinical experiences. Because of the study’s mixed results and limitations, it is the beginning of an important and ongoing dialogue on how to teach students to practice occupational therapy more empathically. The study adds to the growing literature on both Narrative Medicine and medical humanities as a whole. The study expands the pedagogy of medical humanities through a curriculum that attempts to operationalize the theoretical findings on literary narratives into the field of occupational therapy education.

More compelling, the study examines concerns within the field of occupational therapy on the growing disconnect between the profession’s roots and espoused beliefs, and the modern realities of health care (Abreu, 2011; Myer, 1922; Star, 2017). As stated, it has been argued that the profession of occupational therapy has strayed from its foundation, or abandoned its core values, while attempting to remain viable in a medical model based healthcare system (American Occupational Therapy Association, 2017; Myer, 1922; Yerxa, 2009). This growing divide and chasm between the espoused ideals of the profession, or client and empathic-centered care, and contemporary demands of productivity, documentation, and reimbursement, has created a crisis in occupational therapy through therapist burnout, disconnect, and limited patient outcomes (Hamel, 2015; Njelesani, Teachman, Durocher, Hamdani & Phelan, 2015; Oladottir & Palmadottir, 2017; Wressle & Samuelsson, 2014).
Proposed in this study is a potential path forward for occupational therapy to regain its valued roots in occupation and client-centered care. By so doing, the study attempts to not only articulate a crisis in occupational therapy, but analyze viable solutions both generally and specifically through a definition of empathy as a complex process, and a proposed Narrative Medicine pedagogy to work within the given realities of today’s occupational therapy practice.

If the proposed curriculum and findings in the literature can be captured by a single concept, it is the need for greater empathy, to simply understand better, listen closer, and care more about clients and patients. This tenet is not something new, but it is something that has been shown to potentially positively transform the practice of health care (Trzeciak & Mazzarelli, 2019). In the words of physician Francis Peabody in the *Journal of American Medical Association* nearly a hundred years ago -- “the secret of the care of the patient is in the caring for the patient” (Peabody, 1927, p. 877).

It is proposed that this call for greater caring is where today’s occupational therapy needs to look for instruction and practice to fully meet the core values of the profession, complex occupational needs of patients, and the outcome focused demands of today’s healthcare environment.

6.1 Future Study

When considering future studies, the question of how to assess the impact of the course through the RMET can be revisited. More specifically, to what extent does the reading of emotions in facial photographs foster the kind of empathic practice that will lead to better health outcomes? The RMET may not be appropriate instrumentation in itself considering the end goal of teaching students to foster greater understanding or perspective taking on client points of
view, beyond a basic ToM skill linked to autism spectrum disorder (Baron-Cohen et al., 2001). The Interpersonal Reactivity Index (IRI), for example, a validated survey that measures student sensitivity to altering points of view (Bonfils et al., 2017) could be added to the testing protocol.

Stated limitations in the JSE may be addressed in part through the use of social desirability scales, such as the Marlow-Crowne Social Desirability Scale (Reynolds, 1982). Other solutions may include greater practice and measure of empathic performance through simulation. Simulation involves student actors playing the role of a patient, while students perform evaluations and design treatment plans. More qualitative examination may also develop theory of student perceptions of empathy and the role of empathy in modern practice. Future study of simulations and journal reflections on fieldwork clinical rotation, through both quantitative and qualitative analysis, may address questions as: To what extent do students practice empathically during simulation and fieldwork after a course involving Narrative Medicine? To what degree do student levels of empathy change after fieldwork? This line of inquiry in turn may help more closely align coursework with the modern demands of occupational therapy practice.

Combining Narrative Medicine into simulation moves beyond the current practice in medical humanities of separating course content from skill-based class work. In other words, medical humanities courses are usually taught in a class that is separate from the basic skill building and simulated practice of a particular medical discipline (Batt-Rawden, Chisholm, Anton & Flickinger, 2013; Charon, et al., 2017). Traditionally in medical humanities courses, reflection on practice is done through art based humanities content and not directly applied to hands-on procedural training (Batt-Rawden, Chisholm, Anton & Flickinger, 2013). In that sense, the theory of Narrative Medicine and the practice of medicine are separate entities. Conversely,
when combining Narrative Medicine theory and practice through simulation, for example, students are expected to evaluate a patient’s physical abilities, as they understand his or her story through interview. The idea is not for students to understand the story in isolation, or as something to reflect on separately, but as one focal point of clinical reasoning.

Consequently, future research may need to focus on two areas: the impact of the course as a whole, and activities designed to combine theory with practice, such as lab simulations and student journaling during clinical rotations. In addition, future changes to the course that involve more use of simulation and reflection on clinical fieldwork, may provide a more direct link from the classroom to the practice of occupational therapy. As stated, this change in turn could help design pedagogy that more closely meets the real world demands of the profession. Once theory to teach and enhance empathic practice is well developed and tested in innovative curricula, external validity should be considered in research design to expand the outcomes of each study to the full population of OT students.
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evidence for mirror neurons in humans. PINAS, 24, 9925-9930.


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APPENDICES

Appendix A: RMET

*Reading the Mind in the Eyes Test:*
URL (in public domain): [https://socialintelligence.labinthewild.org/mite/](https://socialintelligence.labinthewild.org/mite/)

*Instructions:* For each photo, choose the word that best describes what the person is thinking or feeling

![Image of eyes with options: Playful, Comforting, Irritated, Bored, Terrified, Arrogant, Annoyed, Upset]
<table>
<thead>
<tr>
<th>Joking</th>
<th>Flustered</th>
</tr>
</thead>
<tbody>
<tr>
<td>Desire</td>
<td>Convinced</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Joking</th>
<th>Insisting</th>
</tr>
</thead>
<tbody>
<tr>
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<td>Relaxed</td>
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<table>
<thead>
<tr>
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<th>Sarcastic</th>
</tr>
</thead>
<tbody>
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<td>Friendly</td>
</tr>
<tr>
<td>Aghast</td>
<td>Fantasizing</td>
</tr>
<tr>
<td>--------------</td>
<td>--------------</td>
</tr>
<tr>
<td>Impatient</td>
<td>Alarmed</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Apologetic</td>
<td>Friendly</td>
</tr>
<tr>
<td>Uneasy</td>
<td>Dispirited</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Despondent</td>
<td>Relieved</td>
</tr>
<tr>
<td>Shy</td>
<td>Excited</td>
</tr>
<tr>
<td>Contemplative</td>
<td>Flustered</td>
</tr>
<tr>
<td>---------------</td>
<td>-----------</td>
</tr>
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<td>Amused</td>
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<td>Thoughtful</td>
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<td>Affectionate</td>
</tr>
<tr>
<td>-----------</td>
<td>--------------</td>
</tr>
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<td>Playful</td>
<td>Aghast</td>
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<td>Fantasizing</td>
</tr>
<tr>
<td>--------------</td>
<td>--------------</td>
</tr>
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<td>Panicked</td>
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<tr>
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<td>Imploring</td>
</tr>
<tr>
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<td>Apologetic</td>
</tr>
<tr>
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</tr>
<tr>
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<td>Curious</td>
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<table>
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</thead>
<tbody>
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</tr>
<tr>
<td>Panicked</td>
<td>Incrédulous</td>
</tr>
<tr>
<td>---------------</td>
<td>-------------</td>
</tr>
<tr>
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</tr>
<tr>
<td>Alarmed</td>
<td>Shy</td>
</tr>
<tr>
<td>Hostile</td>
<td>Anxious</td>
</tr>
<tr>
<td>Impatient</td>
<td>Aghast</td>
</tr>
<tr>
<td>-----------</td>
<td>------------</td>
</tr>
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</tr>
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</tr>
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<td>Puzzled</td>
<td>Nervous</td>
</tr>
<tr>
<td>------------------</td>
<td>------------------</td>
</tr>
<tr>
<td>Insisting</td>
<td>Contemplative</td>
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<table>
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<tbody>
<tr>
<td>Suspicious</td>
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</tbody>
</table>
Appendix B: JSE Survey

Jefferson Scale of Empathy Student Version:

URL: https://www.jefferson.edu/university/skmc/research/research-medical-education/jefferson-scale-of-empathy.html

Jefferson Scale of Empathy

Health Professions Student version (HPS-version)

Instructions: Please indicate the extent of your agreement or disagreement with each of the following statements by marking the appropriate circle below each statement.

Please use the following 7-point scale (a higher number on the scale indicates more agreement):

Mark one and only one response for each statement

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

Strongly Disagree Strongly Disagree

1. Health care providers’ understanding of their patients’ feelings and the feelings of their patients’ families does not influence treatment outcomes.

1 2 3 4 5 6 7

2. Patients feel better when their health care providers understand their feelings.

1 2 3 4 5 6 7

3. It is difficult for a health care provider to view things from patients’ perspectives.

1 2 3 4 5 6 7
4. Understanding body language is as important as verbal communication in health care provider – patient relationships.

1 2 3 4 5 6 7

5. A health care provider’s sense of humor contributes to a better clinical outcome.

1 2 3 4 5 6 7

6. Because people are different, it is difficult to see things from patients’ perspectives.

1 2 3 4 5 6 7

7. Attention to patients’ emotions is not important in patient interviews.

1 2 3 4 5 6 7

8. Attentiveness to patients’ personal experiences does not influence treatment outcomes.

1 2 3 4 5 6 7

9. Health care providers should try to stand in their patients’ shoes when providing care to them.

1 2 3 4 5 6 7

10. Patients value a health care provider’s understanding of their feelings which is therapeutic in its own right.

1 2 3 4 5 6 7

11. Patients’ illnesses can be cured only by targeted treatment, therefore, health care providers’ emotional ties with their patients do not have a significant influence in treatment outcomes.
12. Asking patients about what is happening in their personal lives is not helpful in understanding their physical complaints.

13. Health care providers should try to understand what is going on in their patients’ minds by paying attention to their non-verbal cues and body language.

14. I believe that emotion has no place in the treatment of medical illness.

15. Empathy is a therapeutic skill without which a health care provider’s success is limited.

16. Health care providers’ understanding of the emotional status of their patients, as well as that of their families is one important component of the health care provider-patient relationship.

17. Health care providers should try to think like their patients in order to render better care.

18. Health care providers should not allow themselves to be influenced by strong personal bonds between their patients and their family members.
19. I do not enjoy reading non-medical literature on the arts.

20. I believe that empathy is an important factor in patients’ treatment.
# Appendix C: Literary Narrative Characteristics

<table>
<thead>
<tr>
<th>Type of reading/narrative</th>
<th>Example</th>
<th>*Flawed, fully developed characters</th>
<th>*Emotionally engaged in cultural, social complexity</th>
<th>*Realism in descriptive prose, not a sanitized description of reality</th>
<th>*Complex ending</th>
<th>*Emotionally engaged in characters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Literary fiction/ nonfiction</td>
<td>Literature</td>
<td>X</td>
<td>X</td>
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<tr>
<td>Personalized Nonfiction Scientific inquiry</td>
<td>Oliver Sacks</td>
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<td>Magazine feature story</td>
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<td>X</td>
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<td>Genre fiction</td>
<td>Romance, Mystery, Historical novel</td>
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<td>News article</td>
<td>NY Times</td>
<td></td>
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<tr>
<td>Case Studies</td>
<td>OT textbooks</td>
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<tr>
<td>Medical Chart Review</td>
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</tbody>
</table>

*Characteristics supporting narrative facilitation of empathy in studies by:*


Appendix D:

Literary Narrative Rating Scale:
Rated 1-4 scale based on following categories (4 is the highest)

<table>
<thead>
<tr>
<th>Title</th>
<th>Complex Characters:</th>
<th>Course Related Content:</th>
<th>Realism:</th>
<th>Student appeal:</th>
<th>Total Score:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Left Neglected</td>
<td>- Character driven</td>
<td>- Disability theme, topic or Medical theme, OT topic, population or - Strong cultural/contextual components</td>
<td>- Avoids medicalization - Avoids inspiration porn - Realistic versus a contrived/romanticized/sanitized depiction of reality</td>
<td>- Strong plot - Female characters - Young adult topics - Accessible language</td>
<td></td>
</tr>
<tr>
<td>Brain injury: Lisa Genova</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>16</td>
</tr>
<tr>
<td>Ginny Moon</td>
<td>- Features flawed, multi-dimensional characters - Unpredictable “To search for meaning amongst a spectrum of meanings” To closely attend to character development, moral judgement, versus easily falls into social conventions, predictability</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>16</td>
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<tr>
<td>Autism: Benjamin Ludwig</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>16</td>
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<tr>
<td>A Piece of The World</td>
<td>- Strong plot</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Paralysis: Christina Baker Kline</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>3.5</td>
<td>15.5</td>
</tr>
<tr>
<td>Vision, hearing loss: Joanne Greenberg</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>3.5</td>
<td>15.5</td>
</tr>
<tr>
<td>Of Such Small Differences</td>
<td>- Strong plot</td>
<td>- Female characters</td>
<td></td>
<td></td>
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<tr>
<td>Vision, hearing loss: Joanne Greenberg</td>
<td>4</td>
<td>4</td>
<td>3.5</td>
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<tr>
<td>Me Before You</td>
<td>- Accessible language</td>
<td>- Strong plot</td>
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<tr>
<td>SCI: Jojo Moyes</td>
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<td>3.5</td>
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<td>15.5</td>
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<tr>
<td>Appendix D Continued:</td>
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<td>4</td>
<td>3.5</td>
<td>15.5</td>
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<tr>
<td><strong>A Man Called Ove</strong>&lt;br&gt;Aging, SCI: Fredrik Backman</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>3.5</td>
<td>15.5</td>
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<tr>
<td><strong>Father's Day</strong>&lt;br&gt;Adoption, Disability: Simon Van Booy</td>
<td>4</td>
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<td>3.5</td>
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<td><strong>Mockingbird</strong>&lt;br&gt;Asperger's: Kathryn Erskine</td>
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<td><strong>Outside the Lines</strong>&lt;br&gt;Homelessness, Schizophrenia: Amy Hatvany</td>
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<td><strong>This Much I Know is True</strong>&lt;br&gt;Schizophrenia: Wally Lamb</td>
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<td><strong>White Oleander</strong>&lt;br&gt;Homelessness: Janet Fitch</td>
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<td><strong>The Ha, Ha</strong>&lt;br&gt;Aphasia: Dave King</td>
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<td>15</td>
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<td><strong>Moving Violations</strong>&lt;br&gt;SCI: John Hockenberry</td>
<td>4</td>
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<td><strong>Every Note Played</strong>&lt;br&gt;ALS: Lisa Genova</td>
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Appendix D continued:

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<tr>
<th>Title</th>
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<td>The Great Believers</td>
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<td>4</td>
</tr>
<tr>
<td>AIDS: Rebecca Makkai</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>The Curious Incident of the Dog in the Nighttime</td>
<td>4</td>
<td>4</td>
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<tr>
<td>Asperger's: Mark Haddon</td>
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<td>14.5</td>
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<tr>
<td>Double Take</td>
<td>3</td>
<td>3.5</td>
</tr>
<tr>
<td>Mobility: Kevin Michael Connolly</td>
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</tbody>
</table>

*Characteristics supporting narrative facilitation of empathy in studies by:


Appendix E:  
Literary Narrative Assignment Exemplar

The Great Believers – Rebecca Makkai

ANY COPYING FROM A FELLOW STUDENT OR THE INTERNET WILL BE AN AUTOMATIC F IN THE COURSE

- All papers are screened electronically for internet copying

Read the entire book (no auditory books). Please do not choose a book you have already read.

Write a paper on the following (length is your decision):

Briefly summarize the plot of the book, using as many details from the book as you can

Address the following book topics:

On the character of Yale:
- Do a REAL assessment
- How would you describe him? What specific details, events in the book made him come to life as a character?
- Choose a major event, or series of related events, in his life and address what he was like before and after the event. In particular, what gave his life meaning and purpose before and how that changed. How did he reinvent himself or become different and find new or more meaningful purpose after the change? Did he have juncture prior to the event? Did he find it after? How so?

On the character of Fiona:
- How would you describe her?
- How did the AIDs crisis shape/influence the person she became? Her relationship with her daughter? How does she come to terms with it and eventually heal?

Other thoughts/ideas/opinions you may have on the book

Due to book length you do not need to do the movie assignment with this book

| Book Grading Rubric |
|----------------------|-----------------|-----------------|-----------------|
| Topic                | Mastered | Approaching | Competent |
| Depth of answers to questions |         |               |               |
| Insight into book and related assignments (if applicable) |         |               |               |
| Application to course themes |         |               |               |
| Depth of personal reflection |         |               |               |
Appendix F: Literary Narrative Exemplar

Legs

Negative six degrees. Trails of white spewed from rows of chimneys, pickup trucks caked in ice, bearded men with steaming breath and greasy caps, and looming over all of it --- a once impregnable mill of brick and smoke stacks and log mountains, now silent and boarded up. On the far side of town, past the closed mill and its silent stacks, is a trailer park. The farther I drove into the trailer park, the worse the trailers became, warped, tilting and tossed, like rotting barges a drift in an ocean of snow.

Johnny’s driveway, in the back of the trailer park, was barely plowed enough to fit my pickup. Frozen dog waste and yellow snow littered the snow. An ancient refrigerator and the rusted hull of a snowmobile half stuck out of a snowbank. The mud room of plastic windows and plywood walls, rattled and buckled in the fierce wind, and for a moment, knocking on the door, I felt like I was going to blow away.

“Come in,” said Johnny.

I entered a room of steamy heat and black puppies jumping all over my legs.

Johnny, forty four, smiled, shook my hand, and sat up on the edge of his bed, dressed only in his underwear. His small frame looked child-like. His bed, only a mattress on the floor, was filled with comic books, TV remotes, dog hairs, a chewed up Batman figurine, and soiled gray sheets. Standing beside the bed, in a laced shoe ready to walk, was his prosthesis. It was black and shiny and Johnny had named it Beauty.

“How are you today, Cav?”

“Just great,” I said and pulled out my laptop. The puppies licked and pushed against me.

Robby, Johnny’s brother, rolled out of his side of the mattress.

“Hi, Cav,” he said.
I nodded at Robby. Balding, with a large stomach, Robby was disabled from the mill because of a back injury. He wore pajamas and it was almost noon.

Standing and scrolling through my laptop -- I had learned to never sit -- I reviewed Johnny’s problem list. His medical history included life-long brittle diabetes, right above the knee amputation (AKA), depression, illiteracy, abuse by his late father, and a mill-related explosion that had damaged his brain and left him permanently disabled in his early thirties. My initial evaluation found him dependent for showering, in need of moderate assist for toileting on a commode, and dependent for donning and doffing his prosthetic leg, which was why he pretty much lived in bed.

“Thinking of trying to get you onto the toilet today,” I said.

Johnny nodded, petting one of the puppies. “Someone told me they look like labs. But they’re wrong. They’re just mutts.”

“Think you can slip on some shorts and a shirt?” I asked.

“Sure thing.”

While I helped Johnny pull on a pair of socks and a gait belt, smells of bacon and a cloud of grease floated in from the open kitchen. Robbie was making breakfast. The puppies whelped and jumped at Robbie’s feet.

“How is it going with the crutches and PT?” I asked.

“Better,” said Johnny.

With a good boost, he stood without his prosthesis and wheeled forward on the Canadian crutches while I held his belt. He maneuvered nicely to avoid one of the puppies’ puddles of pee.

Once in the kitchen, I kicked out a chair and lowered Johnny slowly onto a seat at the kitchen table. I then headed for the bathroom. I wanted to make sure there was enough room to maneuver. In the tub sat a sack of potatoes and a wooden rack of drying underwear. I removed them both. Dried feces streaked over the rim of the low toilet. I decided not to work on toilet transfers today.

Like always, Alice, Johnny’s mother, accosted me in the hall. Alice was barely five feet. She had the face of a thousand years and long gray hair that almost touched the back of her knees.

“Who the hell is in my bathroom?” she asked.

“It’s just me, the therapist,” I said. She had dementia and never remembered me.

“Therapist? For who?”

“Johnny. I’m here to help him with his new leg.”

“Who sent you?”

“The doctor.”

“Doctor? You mean, Dr. Hartford?”
I nodded.

“That man should be locked up. Nothing but a butcher and a drug pusher. You think we can pay you to come in here?”

“Ma,” Robby yelled from the kitchen. “It’s just Johnny’s therapist. The insurance pays. Go back to bed.”

She scowled and disappeared into the back room.

Robby laughed at me over his cloud of frying bacon. “Good thing she likes you.”

I smiled. “Yeah, good thing.”

The one person Alice definitely did not like was the nurse, Roberta, or Bert as everyone called her. The previous summer Bert and Alice had battled fiercely over the fate of Johnny’s leg. As the veins of infection crawled upwards toward his heart, it became a war of wills. To Bert and the doctor it was a matter of saving Johnny’s life. To Alice it was more simple, over her dead body was anyone going to cut off her son’s leg. Johnny eventually agreed with Bert, and it took the police to restrain Alice, kicking and screaming and spitting, while the paramedics raced Johnny to the hospital.

I brought Beauty to Johnny’s side and once again reviewed the process of donning it. This leg was just his training leg. His stump needed to be molded and shaped in a process that involved wearing his sleeves and socks over the stump, sliding the prosthesis on just right and clicking it into the brace with his extended stump, and then weight bearing on the prosthesis while he attempted to walk. It has been a slow process. Johnny’s goals were simple enough, use the leg to toilet, shower, and perhaps, go downtown and play some pool with his buddies.

Johnny as usual struggled to remember how to put it on. He got as far as the second step before he became confused, and looked up at me smiling. It was then that I thought of something. It was a problem I had with my patients sometimes: imagining the hard moments of their lives. This time it was Johnny as a child, in ragged clothes and dirty hair, sitting in the back of the classroom, trying to be invisible. Then there was his life at home. His mother and monster of a father. Johnny once told me his dad preferred a belt buckle with jagged edge, and his case manager talked of sexual abuse and post-traumatic stress disorder.

I bent down onto my knees and grabbed one of the shrinkers. The puppies piled on me with their wet licking and rubbing. I pushed them off.

“Oh, Johnny,” I said, “let’s see if we can figure this out.”

Just outside of town I met my next client, Joey, in his driveway plowing snow. Thirty two years old, he drove a small tractor up the driveway, cigarette in his mouth, pushing a mound of snow into the bank. On his right foot was his new prosthesis in a snow boot. It had just arrived the previous week. During my initial visit, before the new leg, he maneuvered with a walker and it took a good max assist to get all 300 pounds of him up from the toilet. After years of fighting leg infections related to uncontrolled diabetes, it had been his choice to have the surgeon amputate from below the knee down (BKA).
“What the fuck was I thinking?” he had said that day on the toilet through his tears. “No way, I can live like this.”

Now a week later he was somehow outside and going with the new leg. I wondered how he had maneuvered down the steps and onto the tractor. No walker was in sight.

“Good morning,” I said.

Joey stopped plowing and turned off the tractor. He was all smiles. “Beautiful morning,” he said, tossing his butt. It was one of my rules, no smoking during therapy sessions.

He pulled out a cane from the back of the tractor and with light supervision, limped across the snowy driveway, up the cleared steps with a railing, and into the house. In the kitchen we sat beside the warm woodstove; the glowing heat nice on my cold feet. I reviewed his checklist of previous problems. Joey said he could do everything now and I told him I needed to see it before I could discharge.

“No problem,” he said.

Joey doffed and donned his new prosthesis, limped into the bathroom with the cane and transferred off the toilet without assist. We worked our way through the last of the list in his bedroom and discussed any future problems that may arise back in front of the woodstove. All his goals had been met. There was nothing else to discuss.

“You’ve worked me out of a job,” I said.

Joey smiled. “It was a great fit right from the beginning. Best thing I ever did.”

My final stop of the day was back in town at a nice two-story ranch overlooking the frozen river and dead mill. My client, Gwen, was a tall, middle aged accountant with a husband and a seven-year-old daughter. It was my initial evaluation and she was having an increasingly hard time getting around on her sore right leg. It was infected and not healing. Like all the others, she too had diabetes.

“You want to look at it?” she asked, sitting in her wheelchair in the living room. She had a blanket over her lap.

“Not necessary,” I said. Wounds were not my thing.

I checked out her range of motion and strength and asked her about her daily routine.

“I am not sure I really need you,” she said. “I can do pretty much everything from my wheelchair.”

I nodded. “Is there anything you would like to be able to do that you can’t do? Anything at all that I can help you with?”

Gwen shrugged and looked out the window. I noticed tears coming down the side of her face.

“They want me to amputate. But I’m not sure I can do it.”
Her husband, dark and even taller, came into the living room and sat on the couch beside her. He took Gwen’s hand. “The doctor said it is at the point where she has no choice,” he said.

“That’s easy for him to say,” said Gwen. “He’s not losing his leg.”

The husband looked to me, obviously wanting support.

“You know how dangerous it can be if it spreads, right?” I asked.

Gwen looked at me directly. “Of course. I’m not ignorant. But. It’s my leg we’re talking about here. And it’s…well…It’s part of me. That I don’t want to lose.”

I nodded. “I can understand that. It’s a very traumatic thing. But the doctor does not think there is an alternative.”

“But maybe there is,” she said. “There’s always other doctors and different opinions.”

“There’s no more time for that,” interrupted the husband. “And besides, amputation isn’t so bad. People get along with artificial legs all the time. Don’t they?” he asked, again looking to me.

“Certainly,” I said. “Just this morning I had a patient with a new prosthesis and he was out plowing his driveway and walking across the snow with it.”

Gwen nodded at me and padded her husband’s hand, like she understood now. “I just can’t stop thinking about what it will look like.”

“What do you mean, the residual leg after the surgery?” I asked.

“No,” she said, tearing up again. “My leg. Once it’s gone. Once they cut it off me.”

It was then that I saw her moment. It was not graduating from college, marrying her husband, or even the birth of her child and all the struggles of parenting and working and daily life. But this very moment, at this very time, and her fate.
Appendix G: Data Survey

Student demographic survey:

<table>
<thead>
<tr>
<th>What is your age:</th>
<th>19-21</th>
<th>22-29</th>
<th>30-39</th>
<th>40-above</th>
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<tbody>
<tr>
<td>Gender:</td>
<td>Male</td>
<td>Female</td>
<td>Other, please describe:</td>
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<tr>
<td>What is your current highest level of education:</td>
<td>Undergraduate</td>
<td>Bachelor’s</td>
<td>Master’s</td>
<td>Doctorate</td>
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<tr>
<td>Number of novels read in the past year</td>
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</table>
Cavenaugh Kelly was born in Colt’s Neck, New Jersey on March 8, 1962. He graduated Telstar Regional High School in Bethel, Maine, 1980, the University of Southern Maine in Portland/Gorham in 1989 with a Bachelor’s degree in English Literature, and the University of Southern Maine in Lewiston with a Master’s degree in Occupational Therapy in 1998. He has worked as a print journalist and an occupational therapist. His fiction short stories have been published in the following literary journals: The Puckerbrush Review (University of Maine), The Connecticut Review (University of Connecticut), Birmingham Arts Journal, MacGuffin, Red Wheelbarrow, Barrier Islands Review, Slice, and Toucan. He is currently an assistant professor in occupational therapy at Husson University in Bangor, Maine, and is a licensed and registered occupational therapist. He is a candidate for a Doctorate of Philosophy in Interdisciplinary Studies from the University of Maine in May, 2021.