DEVELOPING CULTURAL COMPETENCE:

EXPLORING STUDENTS' UNDERSTANDING OF CULTURAL COMPETENCE

IN AN ENTRY-LEVEL PHYSICAL THERAPY PROGRAM

John Jonghyun Lee

Submitted in partial fulfillment of the
requirements for the degree of
Doctor of Philosophy
under the Executive Committee
of the Graduate School of Arts and Sciences

COLUMBIA UNIVERSITY

2024

Abstract

DEVELOPING CULTURAL COMPETENCE:

EXPLORING STUDENTS' UNDERSTANDING OF CULTURAL COMPETENCE

IN AN ENTRY-LEVEL PHYSICAL THERAPY PROGRAM

John Jonghyun Lee

In healthcare, cultural competence is an essential skill identified as one of the most modifiable factors in resolving health disparities. Through the lens of multiple frameworks, including the Process of Cultural Competence in the Delivery of Healthcare Services, multicultural education, and reflective practitioner, this study seeks to explore how students understand the concept of cultural competence in an entry-level physical therapy program and where in the curriculum they locate their learning experiences of the idea. Third-year students from a single entry-level physical therapy program are recruited to participate in individual interviews, online questionnaires, and focus group discussions. The study used a qualitative case study approach with a constructivist grounded theory data collection and data analysis methodology. The cyclical data collection and analysis methods with an initial, focused, and theoretical coding scheme were adopted to generate themes to answer the research questions. Drawing on participants' understanding of cultural competence, this study illustrates that, although students exhibit analogous motivations and definitions of cultural competence, there exists a variation in their skills and knowledge pertinent to cultural competence. Moreover, the results advocate for continuous integration of classroom learning with practical clinical experiences, complemented by intentional learning experiences, to enhance students' cultural competence. The findings implicate the critical need for curricular revisions that emphasize

cultural competence, ensuring students are adequately equipped to navigate society's rapidly diversifying demographic landscape.

Keywords: Physical therapy education, multicultural science education, healthcare education, cultural competence, health disparities, health equity

Table of Contents

List of Figures

List of Tables

Acknowledgments

Throughout my doctoral journey, I have been fortunate to receive incredible support and love from my family, friends, peers, and mentors. Their encouragement and guidance have helped me overcome numerous obstacles and shaped me into who I am today. Words cannot express my gratitude to each and every individual who has played a crucial role in this transformative process.

I am deeply grateful to my mentor and advisor, Dr. Felicia Moore Mensah, whose support and mentorship have been invaluable in fostering my growth as a researcher, educator, and clinician. I am so grateful that I met you during this journey. To my dissertation committee—Dr. Ann Rivet, Dr. Jessica Chen, Dr. Carol Ewing Garber, and Dr. Christopher Kevin Wong—your wisdom and guidance have inspired me to pursue scholarly excellence with passion and dedication. I also owe gratitude to the exceptional faculty, staff, and peers at Teachers College whose contributions were indispensable to my learning experiences.

To my parents, Woong Jae and Kwang Ae, I extend my heartfelt appreciation for your unconditional love and support, and most importantly accepting me as who I am. Your endless loving words always gave me the confidence I needed to succeed. I am equally thankful to my sister Rana and her family for extending their kindness and thoughtfulness, whenever I required their guidance.

To my loving friends, your consistent encouragement got me through the most challenging times, and I am deeply thankful for your presence through the highs and lows of my life. To my colleagues, students, and patients, your inspiration, trust, and warmth have been a constant source of my motivation.

This accomplishment is as much yours as it is mine. Each of you has left an unforgettable handprint on my journey, and I will always be grateful for the privilege of knowing and learning from you. Thank you for being the incredible individuals that you are in my life.

Chapter 1: Introduction

Background of the Study

Health inequity is the state where individuals do not have a fair opportunity to attain their highest level of health (the Center for Disease and Control [CDC], 2021). According to the World Health Organization (WHO), these unfair situations are created by policies and practices deeply rooted in historical and current discrimination and social injustice (2017). Consequently, health inequity creates health disparities, which are defined as "measurable differences in the incidence, prevalence, mortality, and burden of diseases and other adverse health conditions that exist among specific populations" (United States Department of Health and Human Services [USDHHS], 2018, p. 2).

Unfortunately, these measurable differences in health outcomes are progressively worsening, as the United States is going through a rapid change in its racial demographics (National Institute of Health [NIH], 2023). For example, the comparative population projection in the United States of 2022 and 2060 presents that white alone (non-Hispanic) will decrease from 58.9% to 44.9%, Black or African American from 13.6% to 14.8%, and Hispanic or Latino from 19.1% to 26.9% (United States Census Bureau, 2023).

In response to the recognized problems of health disparities, the USDHHS formed the National Project Advisory Committee, to publish *National Standards for Culturally and Linguistically Appropriate Services in Health and Health Care* (2013). The purpose of this publication was to establish national standards to guide individuals and organizations in healthcare to implement culturally and linguistically appropriate services, reduce healthcare disparities, and enhance healthcare quality (Barkdale et al., 2017). Further, the report introduced

cultural competence as "one of the most modifiable factors," as part of the solutions to reach an equitable healthcare system.

The American Physical Therapy Association (APTA), the largest professional body that represents the physical therapy profession nationally, also published the *Blueprint for Teaching Cultural Competence in Physical Therapy Education* (*Blueprint for Cultural Competence*, 2014), to update its original publication from 2008, to reflect the report from the USDHHS. The *Blueprint for Cultural Competence* included definitions of key terminologies, theoretical models, and resources for implementing cultural competence in physical therapy education. For example, the APTA adopts two different models of cultural competence from Cross (1989) and Campinha-Bacote (2002) and defines cultural competence as "the process in which the healthcare professional continually strives to achieve the ability and availability to effectively work within the cultural context of the client—family, individual, or community" (2014, p. 4). The *Blueprint for Cultural Competence* further proposes three constructs of cultural competence, which are consumer-centricity, access/equity, and advocacy.

One of the cultural competence models adopted by the APTA is the Process of Cultural Competence in the Delivery of Healthcare Services (The PCC Model) by Campinha-Bacote (2002). Using the five constructs of cultural awareness, cultural knowledge, cultural skill, cultural encounters, and cultural desire, this model argues that healthcare professionals are constantly becoming culturally competent, rather than being fully culturally competent with an endpoint (2002). Although multiple models of cultural competence are currently present, the literature on physical therapy education frequently uses the PCC Model, as presented by the *Blueprint for Cultural Competence* (APTA, 2014).

Statement of the Problem

All healthcare disciplines recognize the importance of the cultural competence of clinicians, as it directly impacts the patients' clinical outcomes (Doyle, 2020). However, the physical therapy profession is confronted with notable gaps in its body of literature, particularly regarding curriculum development, pedagogical strategies, and the efficacy of assessment instruments (Doherty et al., 2017). Moreover, the current approaches for understanding cultural competence in healthcare focus on quantitative assessment of the clinicians' and students' cultural competence. The "how" and "when" parts of cultural competence development have been left unanswered—how one develops cultural competence and when one develops cultural competence.

This scarcity of specialized research becomes even more critical when considering the persistent homogeneity within the physical therapy workforce—a condition that has seen minimal improvement over time (Matthews et al., 2021). Such a static state of diversity not only hampers the field's growth but also limits the scope of care provided to a demographically diverse population (Hogan, 2024). Cultural diversity in the United States is expanding, reflected by the growth of Black, Indigenous, and People of Color (BIPOC) populations (U.S. Census Bureau, 2023), and the evidence also demonstrates that BIPOC populations are more vulnerable to suffering from health disparities (Patel et al., 2021). Thus, the growing diversity in the patient population mandates clinicians to improve their cultural competence to decrease health disparities and ultimately reach health equity (Andrulis, 2010; USDHHS, 2013).

Recognizing these substantial gaps and the consequential limitations they impose on the profession, the necessity for comprehensive research in this area becomes evident. It was through the acknowledgment of these deficiencies and the potential for impactful change that my interest

in exploring cultural competence within physical therapy education was sparked. Exploring the students' understanding of cultural competence in a physical therapy program can be a beneficial first step to take, to contribute to the current body of knowledge that is specific to physical therapy education.

Therefore, the field of physical therapy education must aim to address the critical need for enhanced diversity and inclusivity in physical therapy education, by examining existing educational frameworks and proposing innovative approaches to curriculum design, teaching methodologies, and assessment techniques (Jensen & Mostrom, 2012). Further, the profession must foster the development of a generation of physical therapy professionals who are not only diverse and inclusive but are also proficient in providing culturally competent care across a broad spectrum of patient demographics.

Purpose and Research Questions

The purpose of this research study is to understand how cultural competence is understood by students in an entry-level physical therapy program, and what part of the learning experiences affect the development of their idea of cultural competence. The research questions of this study are:

1. What is the understanding of cultural competence by student physical therapists enrolled in an entry-level Doctor of Physical Therapy program?
    a. What constructs of the APTA's *Blueprint for Cultural Competence* can be found in student physical therapists' understanding of cultural competence?
    b. What constructs of the PCC Model can be found in student physical therapists' understanding of cultural competence?

2. What is the perception of learning cultural competence by the student physical therapists enrolled in an entry-level Doctor of Physical Therapy program?
    a. What learning experiences do physical therapist students believe facilitated their understanding of cultural competence?
    b. What do student physical therapists believe is the most effective way to learn cultural competence?

Through the abovementioned research questions, this study examined how the three constructs of cultural competence from the *Blueprint for Cultural Competence* and the five constructs of the PCC Model manifest among current students enrolled in an entry-level physical therapy program. Additionally, it explores which curriculum components are perceived by participants as instrumental in developing their cultural competence, and the last question explores the most effective way to enhance cultural competence based on the participants' understanding, within the context of an entry-level physical therapy program.

Research Design and Approach

The approach for this research study focuses on students' understanding of cultural competence through a single qualitative case study, with the data collection and analysis method adopted from the constructivist grounded theory. According to Creswell and Poth, case study methodology refers to the study of a case within a real-life, contemporary context (2018), and this approach allows in-depth understanding by collecting multiple sources of information to generate case themes.

Current entry-level physical therapy students were recruited from a single institution for a homogenous curriculum purpose, and the data were collected through a single virtual individual semi-structured interview, a single online questionnaire, and a single focus group session. The

collected data were analyzed concurrently by adopting the methodology of constructivist grounded theory by Charmaz (2014). All data were meticulously analyzed through the conceptual framework consisting of the PCC Model (Campinha-Bacote, 2002), multicultural education (Banks, 2008), and reflective practitioner (1987); the coding scheme of initial, focused, and theoretical coding (Charmaz, 2014) was sequentially performed. Subsequently, findings and emerging themes were generated, to provide implications for future research on cultural competence in physical therapy education.

Organization of the Document

This dissertation is organized into five chapters. In Chapter 2, I review the literature on health disparities, cultural competence, its associated concepts, and the implementation of cultural competence education in physical therapy practice and education. It also introduces a conceptual framework that integrates the Patient-Centered Care (PCC) model, multicultural education, and reflective practice, presenting how these theoretical frameworks collectively operate in this research study.

In Chapter 3, I highlight the methodology of the study, describing the qualitative case study approach and providing specifics on the settings, participants, data collection, and analysis procedures. In Chapter 4, the findings of the research are presented, and organized sequentially according to the research questions, offering a clear insight into the data gathered. Finally, in Chapter 5, I present the discussion with a comprehensive analysis of the research findings. I discuss the implications of the findings, acknowledge the limitations of the study, outline possible future research directions, and conclude the study, providing a thorough understanding of the research and its contributions to the field of physical therapy education.

Chapter 2: Literature Review

In this chapter, I present a comprehensive literature review relevant to the research study, to provide several key concepts and their interrelations. First, I present definitions and relationships among health equity, health disparities, social determinants of health, and cultural competence, establishing a foundational understanding that is essential for this study. Second, I present the necessity of cultural competence in the current healthcare system, to highlight the significance of cultural competence in enhancing healthcare practice. Third, I present an analysis of how cultural competence is perceived and integrated not only within physical therapy but also across various professional fields to offer a comparative perspective. Fourth, I present the pedagogical strategies employed in physical therapy education to enhance cultural competence, examining the curricular elements and instructional methodologies. Fifth, I present the evaluation of assessment instruments designed to measure cultural competence, critiquing their efficacy and application. Concluding the chapter, I present the conceptual framework that guided and framed this study.

Understanding Cultural Competence

Health Equity, Health Disparities, and Social Determinants of Health

In the evolving healthcare landscape, the imperative concepts of health equity, health disparities, and social determinants of health spotlight the intricate nexus between socioeconomic factors, cultural competence, and healthcare outcomes (Bailey et al., 2017; Penman-Aguilar et al., 2016). Health equity aspires to afford every individual, irrespective of socioeconomic, racial, or ethnic background, the equitable chance to achieve optimal health. Yet, the realization of this objective is prevented by enduring health disparities—variations in health status and healthcare accessibility among different population groups, often rooted in social, economic, and

environmental disadvantages (Artiga & Hinton, 2018; WHO, 2021). Central to these disparities are the social determinants of health (Daniel et al., 2018), encompassing factors such as education, income, housing, and healthcare accessibility, which dictate the environments of an individual's life journey. The capability of healthcare professionals to offer care that aligns with the social, cultural, and linguistic needs of patients, defined as cultural competence, is crucial in bridging these disparities and promoting health equity (Ortega & Rodriguez, 2020). Hence, grasping the complex interrelations among these elements is fundamental to devising targeted strategies and interventions to diminish health disparities and enhance health outcomes for all, especially within diverse and underserved communities (Egede & Walker, 2020). This introduction paves the way for an in-depth exploration of cultural competence as a cornerstone in advancing health equity, by addressing health disparities via the recognition and incorporation of the social determinants of health.

Health Equity

Health equity is the state where individuals have a fair opportunity to attain their highest level of health (CDC, 2021). Unfortunately, due to historical and ongoing discrimination and social injustice, health inequity persists in the United States (Institute of Medicine [IOM], 2014). According to the report from the IOM, Americans in the United States have an inaccurate perception of the post-racial period, that the racial gap in the healthcare system has been mostly resolved (2014). However, this is a misconception that must be viewed more carefully, as research has shown that racial and ethnic inequities in the healthcare system are prevalent. For example, it has been consistently shown that the paired tester of color receives poorer treatment than the other test who shares the same color as the clinician, due to clinicians lacking cultural competence (Hall et al., 2015; Smedley et al., 2003). Furthermore, there are additional factors

contributing to health inequity in the current society, such as socioeconomic inequities, which bring additional challenges for individuals from lower-income backgrounds experiencing greater barriers to accessing healthcare, including lack of insurance coverage, higher healthcare costs, and limited availability of healthcare providers in their communities (Artiga & Hinton, 2018). Another example is geographic inequities, as rural areas often have fewer healthcare resources, leading to decreased access to care (Cosby et al., 2019). These examples of inequities collectively create a state of health inequity, as not everyone has the full potential to reach their highest level of health.

Health Disparities

Stemming from discrimination and social injustice, the state of health inequity consequently created health disparities. Health disparities refer to "measurable differences in the incidence, prevalence, mortality, and burden of diseases and other adverse health conditions that exist among specific populations" (USDHHS, 2018, p. 2). The IOM reports that it is important to understand that racial and ethnic health disparities are not new, and they have persisted over time (IOM, 2012). For example, even though the rate of heart disease has declined over time for both White and African Americans, it is important to notice that the gap in treatment outcomes has existed since 1980 (Mensah et al., 2005). Also, another example of breast cancer shows that every indicator for African American women is worse, compared to White women counterparts (DeSantis et al., 2019). This is also alarming since the overall incidence of breast cancer is actually lower for African American women (DeSantis et al., 2019). This trend of disparities is not just limited to certain diagnoses but also spread across the lifespan (Singh et al., 2013). One of the examples is childhood obesity, since children from low-income families in every racial, ethnic, and gender group have higher obesity rates (Skinner et al., 2018).

To address these measurable health disparities, both federal and state-level initiatives have been actively involved. For example, the equity action plan was a federal-level initiative that started in 2013 and published annual updates, and the most recent action plan of 2023 addresses measurable goals such as improving maternal health outcomes and meeting behavioral health needs (USDHHS, 2023). On the state level, examples include California being the first state to ban soft drinks in schools (American Public Health Association, 2018), New York, Massachusetts, and California expanding their Medicaid coverage (Kaiser Family Foundation, 2020), and Florida applying a tobacco control program that includes higher taxes, limited public smoking places, and increase in educational campaigns (National Center for Chronic Disease Prevention and Health Promotion, 2021). Although there are multiple initiatives in place, consistent and efficient action plans must be made at each level to act upon health disparities continuously.

Social Determinants of Health

The social determinants of health are socioeconomic status, education, neighborhood and physical environment, employment, and social support networks, as well as access to healthcare (Healthy People 2030, n.d.). Researchers argue that there is a cause-and-effect relationship between social determinants of health and health disparities, that poor social determinants, such as poverty, lack of access to quality education, unsafe environments, poor housing conditions, and limited access to fresh food and healthcare, directly generate measurable health differences (Braveman et al., 2011). As a result, addressing health inequity and health disparities requires intervening with these social determinants of health through policies and practices, which are the root causes contributing to unequal health outcomes.

Culture and Cultural Competence

Cultural competence is defined as "the process in which the healthcare professional continually strives to achieve the ability and availability to effectively work within the cultural context of the client—family, individual, or community" by Campinha-Bacote (2002, p. 181), and the APTA adopted this definition in its *Blueprint for Cultural Competence* (2014). The APTA further illustrates that cultural competence should be treated as an ongoing process, rather than a destination due to its dynamic and multi-defining nature, which also reflects the dynamic nature of culture. In the *Blueprint for Cultural Competence*, culture is defined as "integrated patterns of human that are dynamic in nature, and includes thoughts, communications, actions, beliefs, customs, as well as institutions of racial, ethnic, religious, or social groups" (APTA, 2014, p. 7). As a result, becoming a culturally competent clinician requires an understanding of different cultures within the patient population (Epner & Baile, 2012).

Healthcare Sciences

In healthcare, cultural competence is considered "a commitment and active engagement in a lifelong process" (Tervalon & Murray-Garcia, 1998, p. 118), and the body of literature focuses on building awareness, respect, and ultimately building a culturally safe clinical environment for the patients (Grote, 2008). Not only physical therapy but also other healthcare disciplines have been paying attention to cultural competence, and the USDHHS also recognized that cultural competence is one of the most modifiable factors within potential solutions for health disparities, involving all healthcare disciplines (2017). In every discipline of healthcare practice, poor health outcomes can stem from more than just medical errors or complications, since those errors and complications can arise from poor communication, mismatch in expectations, and differences in belief systems as well (Brach & Fraser, 2002). Thus, it is pivotal

to understand that cultural competence can impact clinical outcomes (Troung et al., 2014). As a result, cultural competence must be clearly defined within the context of each discipline and implemented as part of the healthcare curriculum. Multiple healthcare disciplines have generated their definitions and corresponding constructs of cultural competence for educational purposes, including general medicine (Lee et al., 2020; Mews et al., 2018; Ring et al., 2018; Truong et al., 2014), nursing (Choi & Kim, 2018; Loftin et al., 2013; Sharifi et al., 2019), clinical counseling (Owen et al., 2011; Tormala et al., 2018), occupational therapy (Govender et al., 2017; Hammell, 2020; Sonn & Vermeulen, 2018), social work (Jansson, 2018; Nadan, 2017), pharmacy (Hassali et al., 2009; O'Connell et al., 2013), dentistry (Butani et al., 2008; Glick et al, 2016), speech-language pathology (Horton-Ikard & Munoz, 2010; Stockman, 2006), clinical psychology (Hall et al., 2016; Sue et al., 2009), public health (Larson et al., 2014; Marmot et al., 2008), nutrition and dietetics (Kumanyika & Grier, 2006), chiropractic (Hawk et al., 2012; Johnson & Green, 2015), and more.

Social Sciences

Within the scope of social science literature, cultural competence is recognized as a dynamic and multifaceted concept, whose definitions can vary depending on which discipline and approach is taken. For example, in cognitive psychology, cultural competence is defined as a concept that enables clinicians to respond in proper ways to the clients, regardless of their backgrounds and within the social contexts (Kirmayer, 2012). Literature on sociology shares similar ideas, as cultural competence allows people to interact with individuals coming from different genders, sexualities, religions, ages, abilities, languages, and nationalities (Razack, 1999). Social science focuses on understanding complex personal and social identities, how the intersectionality of multiple layers constructs an individual, and how practitioners can develop

meaningful relationships with their clients (Rothman, 2007).

Educational Sciences

In educational research, cultural competence is viewed as a skill that is required to "master complex awareness and sensitivity, various bodies of knowledge, and a set of skills that, taken together, underlie effective cross-cultural teaching" (Diller & Moule, 2005, p. 5). Educational studies have shown that teachers can connect with their students better through cross-cultural conversations, which allow them to envision what they can do in the future to further help children (Taylor, 2016). Although there are multiple interpretations of the concept of cultural competence, the common ideas are relationship building and learning as a continuous process (Aikenhead, 2001; Atwater, 2023; Barton & Yang, 2000; Ladson-Billings, 1995, 2021; Rodriguez & Kitchen, 2005). Thus, regardless of what lens you view cultural competence with, it is important to acknowledge that the core concept is about building a meaningful relationship between the practitioner and the client, patient, and student, on an ongoing basis.

Consequently, many professions regardless of their field of study recognize the importance of cultural competence. Further, all students are aware of the need for cross-cultural knowledge to resolve any issues and barriers in cultural collisions–unexpected or unwanted poor outcomes stemming from the inability of the clinician to understand the patient's culture (Kraemer, 2001). While the needs and expectations are established, educational approaches to improve cultural competence have been inconsistent (Doherty et al., 2017). For example, Doherty et al. argue that the lack of research on pedagogy and assessment brought challenges to physical therapy educators, bringing the topic of cultural competence to their classrooms, and students were unaware of clear goals for their learning experiences (2017).

Related Concepts to Cultural Competence

In exploring various concepts and corresponding terminologies related to cultural competence, it is essential to delineate these similar yet different values. For example, intercultural competence, defined as the capacity to effectively and appropriately navigate intercultural settings (Deardorff, 2006), is primarily utilized by the literature in international relations (Ting-Toomey, 2012) and global business management (Johnson, 2015).

Cultural responsiveness, which involves responding to the cultural needs of diverse populations with respect and value for differences (Gay, 2010, 2018), is integral to the practice of teachers and educators (Gay, 2018; Paris & Alim 2017), as well as healthcare providers including clinical social workers (Betancourt, 2003; Fong, 2001). Further, Gay described how cultural responsiveness can be applied through culturally responsive teaching for teachers, by using the cultural knowledge, prior experiences, frames of reference, and performance styles of ethnically diverse students to make learning encounters more relevant to and effective for them (2010).

Cultural sensitivity, the awareness and incorporation of cultural knowledge into one's behavior (Anderson et al., 2003; Foranda et al., 2016), is crucial for mental health professionals (Sue, 2001) and continuously used in the fields of clinical and cognitive psychology (O'Donohue & Benuto, 2010; Benuto et al., 2021). Critical consciousness, a deep understanding of one's social context and a commitment to challenging systemic injustices (Freire, 1970), is adopted by social justice educators (Giroux, 2005), as well as sociologists (Watts & Hipolito-Delgado, 2015). Sociopolitical consciousness, which refers to the awareness of how sociopolitical factors affect well-being and the urge to act for social change (Watts, 2003), finds relevance among political scientists (Smith, 2010) and public policy analysts (Jansson, 2008).

Multicultural competencies refer to "how well a clinician has acquired knowledge and skills" that can be used for their work with culturally diverse clients, and this concept is vital for counselors and clinical psychologists (Hook et al., 2016, p. 271) and often used in the realm of multicultural education by teachers (Banks, 2004). Structural competency is often used in the literature for medical (Bourgois, 2017; Metzl & Hansen, 2014) and legal (Freeman, 2017) professions.

Cultural humility, a commitment to self-evaluation to address power imbalances (Tervalon & Murray-García, 1998), is most often practiced by healthcare disciplines, such as physicians and nurses (Foronda, 2016) and cognitive therapists and social workers (Ortega & Faller, 2011). Similarly, structural humility focuses on the idea of self-assessment. This term involves recognizing one's limitations in understanding structural factors affecting communities (Bloom, 2018) and is relevant to the public health discipline (Allen, 2017) and sociological researchers (Collins, 2015). This comprehensive examination of terminologies across professions underscores the similarities yet distinct values related to the concept of cultural competence.

Despite the presence of numerous concepts and corresponding terminologies, this research positions cultural competence as its foundational pillar, serving as the key concept that empowers individuals to provide healthcare services within the cultural context of the patient, to ultimately tackle health disparities, and promote health equity (APTA, 2014; Campinha-Bacote, 2002). The emphasis on cultural competence is also emphasized by its identification by the USDHHS in their publication of the *National Standards for Culturally and Linguistically Appropriate Services in Health and Health Care* (2013), where the USDHHS addresses cultural competence as a critical and most changeable factor in addressing the current health disparities in the United States. Moreover, the discipline of physical therapy education regularly engages with

and investigates cultural competence, making the adoption of this standardized term important for a consistent contribution to the existing body of knowledge.

The Necessity for Culturally Competent Clinicians

The growing need for cultural competence has been reiterated by the publication of the *National Standards for Culturally and Linguistically Appropriate Services in Health and Health Care* by the USDHHS, highlighting the potential benefits of providing "health-related care and services that are respectful and responsive" to patients and their culture (2013, p. 10). The USDHSS argues that all healthcare professionals, regardless of their disciplines, should provide culturally competent care, aiming to lessen the effects of health disparities while promoting health equity (2013).

In conjunction with the necessity of cultural competence underscored by the USDHSS, the changing demographics in the United States further accentuate the importance of cultural competence. Data from the U.S. Census Bureau project a significant shift of the public demographics by 2060, with a decrease in the population identifying as White alone (not Hispanic or Latino) from 58.9% to 44.9%, whereas Black or African American will increase from 13.6% to 14.8%, and Hispanic or Latino will also increase from 19.1% to 26.9% (2023). Despite these demographic changes, the physical therapy workforce remains predominantly White (not Hispanic or Latino), comprising 81.2% of the profession, as reported by the APTA in 2020. This lack of diversity persists despite efforts and legislative initiatives aimed at recruiting a more diverse pool of physical therapists through outreach programs. While the APTA continuously works on its diverse recruitment strategies, the existing and persistent gap of workforce diversity in the physical therapy profession underscores the urgency for current and

future clinicians to attain cultural competence, which is critical in addressing current and future health disparities.

The concept of a culturally competent clinician in the contemporary healthcare system was formally introduced by Betancourt et al. (2005; 2013), who defined it as "one that acknowledges and incorporates the importance of culture into the healthcare" (2013, p. 297). As a medical educator for physicians, Betancourt et al. argued that the critical elements of being a culturally competent clinician involve understanding the importance of social and cultural influences on patients' health beliefs and behaviors, tailoring healthcare delivery to meet patients' social, cultural, and linguistic needs, and creating a diverse workforce to promote equitable healthcare policies (2005). Thus, Betancourt et al. suggested that the healthcare community requires culturally competent clinicians, who can assess the patients' health beliefs and behaviors, and provide individualized healthcare service to each patient, rather than repeating similar treatments based on their previous didactic education (2013; Ngo-Metzger et al., 2006). Further, recruiting a diverse workforce within the healthcare organization and providing equitable policies to prevent any discrimination were reiterated as important tasks.

Echoing Betancourt et al.'s emphasis on the critical role of cultural competence in medicine and the need (2005), other healthcare disciplines mentioned within this chapter also identified the urgent need for cultural competence across various healthcare disciplines. For example, Sue et al. highlighted the essential need for culturally competent counselors to offer the highest standard of care through multicultural counseling (2021, 2022). This approach is particularly crucial for reaching underserved populations who benefit from counseling services, ensuring they receive the most effective and respectful care tailored to their cultural context (Sue et al., 2021, 2022). Also, Goode et al. delineate the vital importance of cultural competence in

healthcare practitioners working with children, advocating for equitable healthcare delivery, and recommend that employers or healthcare organizations provide ongoing education and structural support, including regular cultural competence training sessions (2001). Thus, it is evident that literature from multiple healthcare disciplines agree that cultural competence is crucial, as it involves an "understanding of the importance of social and cultural influences" (Betancourt, 2013, p. 298), and ultimately the implementation of cultural competence training should occur within the healthcare system to assure quality healthcare delivery to diverse patient populations.

Barriers to Becoming Culturally Competent

In conclusion, targeted strategies for each level are required to promote cultural competence further in the healthcare system (Betancourt, 2013). For example, at an organizational level, Betancourt et al. suggest that increasing the number of underrepresented minorities in the health professions is believed to improve both clinical outcomes as well as health status (2013). On the structural level, the call for innovative changes within the healthcare system and design to increase healthcare access to the general public is discussed by the authors. Lastly, at the clinical level, Betancourt et al. claim that educational initiatives that aim to teach clinicians the essential tools and skills required to overcome the clinical barriers–not achieving the desired clinical outcomes due to the lack of cultural competence–are currently present. Throughout the improvement in organizational, structural, and clinical levels of the healthcare system, cultural competence gains its full potential to address health disparities and contribute to reaching the state of health equity (2013).

Cultural Competence in Physical Therapy

As previously articulated, the American Physical Therapy Association (APTA) embraces the definition of cultural competence as delineated in the PCC Model. This definition

characterizes cultural competence as the ongoing endeavor of healthcare professionals to attain the capability and readiness to effectively operate within the cultural contexts of their clients—be it family, individual, or community (APTA, 2014; Campinha-Bacote, 2002, p. 181). The growing disparity between the evolving demographics of the United States (U.S. Census Bureau, 2023) and the homogeneous nature of the physical therapy workforce underscores the increased importance and urgency of cultural competence (APTA, 2020). Additionally, the lack of literature on cultural competence within the domain of physical therapy education reveals a significant gap, leaving educators without adequate resources for curriculum development, pedagogical strategies, and assessment methodologies (Jette et al., 2020).

The Taskforce for Cultural Competence

In response to the urgent and immediate need to establish a foundation of cultural competence for the physical therapy profession, a task force for cultural competence was developed in 2008, within the APTA. This task force comprised expert clinicians and educators in physical therapy recommended by the members of the APTA, and the task force members were recommended for being proficient in delivering culturally competent care and recognized the significance of cultural competence among healthcare providers as a strategy to address and eliminate existing health disparities (APTA, 2008). The task force dedicated extensive efforts to identifying the most appropriate model of cultural competence for the physical therapy profession. Their goal was to adopt precise definitions, establish fundamental constructs of cultural competence, and disseminate resources for educators and clinicians within the field (APTA, 2008, 2014). Consequently, the APTA embraced cultural competence models developed by Cross et al. (1989) and Campinha-Bacote (2002), leading to the publication of the first edition of the *Blueprint for Cultural Competence* in 2008. This initiative underscored the commitment to

cultivating a robust foundation of cultural competence within the discipline of physical therapy. Following the initial publication, efforts to enhance the discipline's cultural competence foundation persisted. In response to ongoing research and the national guidelines set forth by the USDHHS in 2013, an updated version of the document was released by the APTA in 2014. This new edition expanded the definitions of related concepts and included additional resources and references for further information (APTA, 2014).

The Constructs of Cultural Competence

In the *Blueprint for Cultural Competence*, the task force disseminated the framework of cultural competence alongside its foundational constructs. While the framework was directly derived from the models of cultural competence proposed by Cross et al. (1989) and Campinha-Bacote (2002), the APTA introduced three constructs that are intricately aligned with the adopted frameworks. These constructs include consumer-centricity, access/equity, and advocacy, summarized in Table 1.

Table 1

The Constructs of Cultural Competence

Construct	Description
Consumer-Centricity	In physical therapy, consumer-centricity underscores the primacy of patient, client, or consumer values and goals across all professional endeavors. The profession commits to cultural competence as an essential competency, aiming to achieve excellence in physical therapy services. This commitment entails tailoring services to meet each individual's unique cultural considerations, needs, and values.
Access/Equity	The physical therapy field acknowledges the presence of health inequities and disparities, pledging to address these issues through the development of innovative service delivery models, advocacy, and a focus on the impact of social determinants of health on consumers. Efforts will also include collaboration with community organizations to enhance the benefits of physical therapy, establishing the profession as an accessible entry point into the healthcare system, and proactive consumer outreach to foster education and heightened awareness.
Advocacy	The concept of advocacy within the physical therapy profession is described as a commitment to represent and support patients, clients, or consumers, both individually and collectively. This encompasses a broad range of activities in clinical practice, education, and research aimed at facilitating and championing change, adopting best practices, and ensuring that systems are designed with a consumer-centered focus.

Note. The constructs of the model are derived from the model presented by the APTA (2008). For a detailed discussion of each construct, see American Physical Therapy Association (2008). *Blueprint for teaching cultural competence in physical therapy education*. Committee on Cultural Competence.

These constructs were introduced to guide physical therapists and physical therapy educators towards integrating cultural competence into their practice, thereby improving the quality of care, enhancing access and equity in health services, and advocating for a more inclusive and responsive healthcare system (APTA, 2014).

Cultural Competence in Other Healthcare Disciplines

The APTA's definition of cultural competence focuses on the importance of acknowledging the cultural context of the patient (APTA 2014; Campinha-Bacote, 2002). Similarly, the American Occupational Therapist Association defines the concept as removing one's own cultural beliefs and creating a patient-centered approach in clinical practice (Montgomery, 2018), and the American Speech-Language-Hearing Association emphasizes the domain of understanding and responding to different cultural variables (n.d., para. 1). In the American Medical Association's definition, cultural competence is the ability to communicate and empathize during their delivery (Robeznieks, 2021). Further, the American Nursing Association states that providing care with the patient's preferred cultural values, beliefs, worldview, and practice is important (n.d.). On the other hand, the American Dental Association describes cultural competence as delivering higher quality care regardless of racial, ethnic, and cultural differences (2010, para. 6).

Although different disciplines have marginally different definitions for cultural competence, it is evident that each profession focuses on respecting different cultures to improve patient outcomes. The difference within each organization may be region-specific, such as the American Dental Association specifically describing how understanding dental disparities among the patient population is important (para. 8), whereas the APTA emphasizes movement health as the prior patient outcomes in their description of cultural competence (n.d.). The similarity across disciplines in defining cultural competence lies in the emphasis on treatments being informed by an understanding of the patients and their cultural contexts, and this highlights a unified concept of cultural competence within healthcare disciplines.

Cultural Competence in Social Science Disciplines

The development of cultural competence is also an important topic outside of healthcare, extending into the realm of social sciences. For example, the field of psychology has been studying the idea of cultural competence among various stakeholders for multiple decades (Sue et al., 2009). Recognizing this importance, the American Psychological Association (APA) established guidelines in 2002 aimed at guiding multicultural education, training, research, practice, and organizational transformation for psychologists. These guidelines were intended to standardize cultural competence training, thereby enhancing the educational outcomes for practicing psychologists and students. Despite these endeavors to standardize cultural competence training within the field, recent systematic reviews, such as the one conducted by Benuto et al. (2018), suggest that the effectiveness of such training in psychology remains limited. A frequently mentioned challenge is the difficulty in generalizing results, attributed to the considerable diversity within psychology regarding research focus, provided services, and client demographics (Benuto et al., 2018).

For example, the challenge of creating standardized cultural competence training arises from the diverse needs and practices across different domains of psychology, such as childhood psychology and sports psychology, each demanding tailored approaches to effectively address their unique client populations. In the field of early childhood psychology, cultural competence training must encompass an understanding of developmental stages, family dynamics, and the influence of cultural background on a child's behavior and mental health (Tummala-Narra et al., 2018). Further, Tummala-Narra et al. argue that training should include case studies focusing on how cultural norms influence specific parenting styles and child development, and the

implications these have on therapeutic approaches (Betancourt et al., 2013; Tummala-Narra et al., 2018).

On the other hand, the training of cultural competence in sports psychology demands a different facet of cultural competence, where understanding an athlete's cultural background is pivotal in addressing mental health, motivation, and performance (Schinke et al., 2018). Cultural competence training in sports psychology might focus on the dynamics of team cultures, the individual identities of athletes, and how cultural perceptions of masculinity or femininity influence mental health and performance in sports settings (Schinke et al., 2018).

As described above, the distinct nature of client concerns in early childhood psychology versus sports psychology illustrates why a one-size-fits-all approach has been difficult for conceptualizing cultural competence. Instead, training programs must be customized to the specific cultural contexts and needs of the population served, informed by ongoing research and practice within each specialty. This ensures that psychological services are relevant, respectful, and effective across different cultural backgrounds (Tummala-Narra et al., 2018).

In the field of education, cultural competence refers to the ability of educators and educational institutions to effectively understand, communicate with, and support students from diverse cultural backgrounds (Lindsey et al., 2009). This concept encompasses awareness and appreciation of the differences in cultural practices, beliefs, and values among students and their families (Banks & McGee Banks, 2010). It involves the integration of this knowledge into teaching practices, curriculum development, and educational policies to create inclusive, respectful, and equitable learning environments (Gay, 2018). Educators are encouraged to engage in ongoing learning and self-reflection to enhance their cultural competence, thereby ensuring that all students have the opportunity to succeed academically and socially (Villegas &

Lucas, 2002). The treatment of cultural competence in education emphasizes the importance of adapting teaching methods to accommodate diverse learning styles, fostering an open dialogue about cultural differences, and promoting equity in educational outcomes (Nieto & Bode, 2008). Through these efforts, the educational field aims to address and mitigate systemic barriers to success for culturally diverse populations, ultimately contributing to a more inclusive society (Ladson-Billings, 1995).

For example, the body of literature on professional development shows a dedication from the field of education to enhance cultural competence for teachers, highlighting its critical role in equipping educators with the skills and knowledge necessary to meet the needs of diverse student populations (Klump & Nelson, 2005). Professional development programs focused on cultural competence aim to enhance educators' awareness of their own cultural identities and biases, improve their understanding of students' cultural backgrounds, and develop pedagogical strategies that are inclusive and effective for all students (Gay, 2018; Villegas & Lucas, 2002). Studies have shown that such programs can lead to positive outcomes in educational settings, including improved student achievement, stronger relationships between teachers and students, and a more inclusive school culture (Lindsey et al., 2009; Sleeter, 2011). Despite these benefits, challenges also remain in the field of education as well, due to the difficulty of ensuring the widespread implementation and sustainability of culturally competent practices, highlighting the need for ongoing research and support in this area (Darling-Hammond & Bransford, 2005; Howard, 2003).

Further, although the literature on cultural competence through the lens of multicultural education emphasizes the teacher's ability to successfully teach students who come from different backgrounds, the common thread of the research requires not only the teacher to

develop the skill of cultural competence, but the support from both organizational as well as policy initiatives levels as well (Carlone et al., 2010). This multi-layer requirement is aligned with the IOM's argument that health equity approaches must come from all government, state, and local stakeholders (2014).

Cultural Competence in Science Education

In science education, cultural competence is viewed as the educators' capacity to effectively teach students from diverse racial, ethnic, and cultural backgrounds (Atwater, 2022). In her work, Atwater focuses on the importance of science educators being able to communicate scientific concepts in ways that are meaningful and accessible to students with varied cultural experiences (1996, 2022). Further, she argues that cultural competence involves more than just an awareness of cultural diversity; it requires active efforts to integrate this awareness into teaching practices, curriculum design, and interaction with students (Atwater, 1996, 2022).

Similarly, Geneva Gay defines cultural competence as the ability of educators to use their cultural understanding as a resource to enhance the learning environment (Gay, 2010, 2018). This involves recognizing the cultural backgrounds of students as assets rather than barriers to learning. Gay emphasizes that culturally competent educators should employ teaching strategies that are responsive to the cultural differences and learning styles of diverse student populations, thereby promoting equity and inclusion within the classroom (Gay, 2018).

As the Next Generation Science Stands (NGSS) provides more direct effort to address the issues of equity and diversity (Lead States, 2013), science educators are aware of the importance of culture, identity, language, literacy, and community of diverse students. Yet, these individual factors are often not emphasized (Mensah & Larson, 2017). According to Atwater et al., science is still often viewed as the content area practiced by "white males, with glasses, beakers and lab

coats," whereas students of color rarely envision themselves in the field of science or science-related fields (2013, p. 2). Further, unlike the increasing diversity within the student population, the demographics of science teachers are White and female-dominant, which brings another layer of challenge to providing a culturally inclusive classroom (O'Leary et al., 2020). To move towards equitable science learning, scholarship on pedagogies and inclusive practices to address fairness and justice for science teaching may be applied to other educational practices outside of science education (Atwater et al., 2022).

Inclusive Pedagogies

As researched in both teacher education and science education, a body of literature that physical therapy education can immediately borrow and implement is inclusive pedagogies. Inclusive education has the power to "reflect values and principles and is concerned with challenging the ways in which educational systems reproduce and perpetuate social inequalities" (Mensah & Larson, 2017, p. 2), thus it can be a valuable addition to the physical therapy profession that lacks education research in this area.

In physical therapy education, the lack of pedagogical research has been a topic of debate and discussion in the international literature (Sparkes, 2002), creating a challenge to improve inclusive curriculum development (Jensen et al., 2016). For example, culturally relevant pedagogy, one of the inclusive pedagogies, specifically focuses on the significance of language and cultural congruence (Ladson-Billings, 2021). This is aligned with the statement by USDHHS, as cultural and linguistic competence are identified as assisting in providing solutions to health disparities (2013). Further, Ladson-Billings explains that teachers who implement culturally relevant pedagogy can produce students "who demonstrate cultural competence" through enhancing academic excellence, cultural competence, and sociopolitical consciousness

(1995, p. 474), which is pivotal for student physical therapists. Physical therapy programs must educate their students to not only gain technical expertise but also develop the ability to navigate and appreciate the complexities of cultural differences in healthcare settings, as such an education prepares physical therapists to better address health disparities and contribute to the overall well-being of diverse communities through culturally sensitive care (APTA, 2014, 2020; Betancourt et al., 2005; USDHHS, 2013).

Like culturally relevant pedagogy, other inclusive pedagogies address culture and diversity (Mensah & Larson, 2017). Through the lens of social justice, inclusive pedagogies focus on culture, identity, language, literacy, and community (Gay, 2018; Ladson-Billing, 2021; Mensah & Larson, 2017). The research on these inclusive pedagogies continues to grow to address diversity and equity. Thus, not only learning from the healthcare disciplines but also borrowing literature from teacher education and science education may benefit physical therapy education in improving cultural competence through pedagogical change.

Diversity Training and Cultural Competence Training

In theory, diversity training as well as professional development programs address distinct aspects of inclusivity and understanding in professional and educational environments, which share similar goals with cultural competence training. Due to the existence of multiple terminologies with similar meanings, people often confuse what diversity training and cultural competence entail. However, there is a fundamental difference between the two notions, and the difference is in the nature of the training.

Diversity training primarily focuses on raising awareness and appreciation of differences in race, ethnicity, gender, sexual orientation, and other demographics within organizations (Naff & Kellough, 2003; Tan et al., 2003). Its goal is to create an environment where all individuals

feel respected and valued, highlighting the importance of equity and inclusion in the workplace. For example, a diversity training session might cover topics such as unconscious bias, microaggressions, and strategies for creating an inclusive work culture (Bezrukova et al., 2016).

In contrast, cultural competence training probes deeper into understanding and effectively interacting with people across different cultures. It emphasizes the development of skills and knowledge that enable professionals to provide services or care that respect the cultural backgrounds of those they serve. As previously mentioned, in healthcare, cultural competence training teaches medical professionals how to consider patients' cultural beliefs and practices when planning and implementing care, thereby improving patient outcomes and satisfaction (Betancourt et al., 2003). Cultural competence might include learning about traditional health beliefs, communication styles, and culturally specific expressions of illness and wellness.

Both types of training are crucial for fostering respectful and effective interactions in increasingly diverse societies. However, cultural competence training offers a more in-depth exploration of cross-cultural dynamics, which is particularly essential in fields like healthcare, education, and social services, where understanding the cultural context can significantly impact the effectiveness of the services provided.

Current Practice of Cultural Competence Education in Physical Therapy Education

Currently, there are multiple pedagogical tools to increase cultural competence in both clinical and academic environments. The traditional didactic lecture has been shown to increase the clarity of the contents (Bond et al., 2001; Paparella-Pitzel et al., 2016); however, its passive nature shows low retention and low power to promote change (Long, 2012). Moreover, group discussions to improve cultural competence demonstrate the active participation of learners, leading to the exchange of ideas, yet distraction and the burden of time management were noted

(Paparella-Pitzel et al., 2016; Zuzelo, 2010). Clinical experiences allow real-life exposure to diverse cultures, which results in increased student comfort and confidence (Chrisman & Maretzki, 2005). Also, clinical experiences presented improvement in clinical performance outcomes, and cultural competence was noted as well (Larson et al., 2010). Simulation can create a non-threatening, safe, and controlled environment; however, increased amounts of training and capital are cited as challenges (Rutiedge, 2008). Lastly, guest lectures have shown a meaningful connection between academia and local communities to promote cultural competence as well (Goodman & Nugent, 2020; Napholz, 1999).

Suggested Classroom Models for Cultural Competence

The *Blueprint for Cultural Competence* introduces two instructional models: the diversity dimension model and the LEARN model (APTA, 2014). The diversity dimension model highlights eight primary societal discrimination dimensions: age, race, gender, sexual orientation, ethnicity, nationality, mental and physical ability, socioeconomic status, and religion. It advocates for students to gather information regarding these dimensions from their patients to inform and enhance their plan of care (APTA, 2014).

Additionally, the APTA promotes the LEARN model, which aims to refine skills in listening, eliciting, assessing, recommending, and negotiating (Berlin & Fowkes, 1983). Despite detailing the model and its underpinnings, the *Blueprint for Cultural Competence* does not provide explicit guidance on its application or practical execution strategies. As a result, this omission of guidance has posed challenges for physical therapy educators attempting to implement these models effectively (Denton et al., 2016; Nixon-Cave & Meadows, 2014).

A research study by Jones and Pinto-Zipp employing the Global Worldview Cultural Competence Survey sought to evaluate the impact of cultural competence education in doctoral-

level physical therapy programs (2017). This survey was administered to students at the onset and conclusion of their programs. Although the study revealed a significant improvement in cultural competence scores post-program, the levels achieved still did not meet the proficiency benchmarks set by the survey (Jones & Pinto-Zipp, 2017). This outcome suggests that while cultural competence among physical therapy students may improve through current educational strategies, however, the current, quantitative approach to assessing this growth may not fully capture the intricacies of their learning experience.

Suggested Teaching Methodologies for Cultural Competence

While the *Blueprint for Cultural Competence* outlines various teaching methodologies encompassing diversity dimensions and the LEARN framework, it falls short in providing detailed guidance on curriculum design, pedagogical approaches, and evaluation methods (APTA, 2014). The document broadly categorizes teaching methods as "lectures, discussions, role-plays, simulations, interactive games, active training techniques, self-awareness and self-reflection exercises, case studies, problem-based learning, community activities, clinical case reporting, and clinical education" (p. 7). Also, the *Blueprint for Cultural Competence* suggests that assessments should evaluate knowledge, attitudes, and skills in alignment with these domains without specific instruments (APTA, 2014).

Moreover, the Commission on Accreditation in Physical Therapy Education (CAPTE), which oversees the curriculum accreditation processes for physical therapy programs in the United States, grants considerable freedom to individual programs in curriculum and pedagogy development (CAPTE, 2023; Rehman et al., 2018). Despite CAPTE's requirement for the inclusion of cultural competence content at some point in the curriculum, the national physical therapy examination for licensure does not assess cultural competence (FSBPT, 2024). This

autonomy, while allowing for program-specific innovation, has led to a lack of standardized approaches and frameworks for teaching cultural competence across physical therapy programs, as evidenced by the diverse interpretations and applications of cultural competence among licensed physical therapists (Starr & Wallace, 2009). For example, the study from Starr and Wallace showed that some physical therapists equate cultural competence with two abilities to provide services in multiple languages or with preferred gender (2009), which is a narrow interpretation that overlooks the multifaceted nature of cultural competence as emphasized by the APTA (2014). Furthermore, the APTA highlights cultural competence as an ongoing process rather than a static achievement based on their adopted models (APTA, 2014; Campinha-Bacote, 2002; Cross, 1989). Therefore, establishing a unified definition and understanding of cultural competence within the profession is essential to improve the integration and effectiveness of cultural competence education and practice across clinical and academic settings.

Assessments in Cultural Competence

Since assessment is an integral aspect of education, understanding student achievement creates an opportunity to review the progress of the learning objectives and student outcomes (Airasian & Russell, 2008). According to the *Blueprint for Cultural Competence*, the assessment should include three domains that have been traditionally implemented in physical therapy education: knowledge, behavior or attitude, and skill (APTA, 2014). The APTA further elaborates that knowledge is about what a person knows, covering factual and theoretical information, behaviors and attitudes focus on how a personal belief influences their actions and behaviors in certain situations, and skills are referred to the ability to perform tasks or actions with expertises, usually gained through practice and experience (APTA, 2014; CAPTE, 2023).

In physical therapy education, assessment of knowledge is approached by a performance of pre- and post-written examinations, application of knowledge in reflection papers and discussions, and results of clinical decision-making processes during case studies or patient interactions (CAPTE, 2023). Further, assessment of behavior or attitude can be performed by survey instruments, self-assessment questionnaires, and simulations (CAPTE, 2023). Lastly, assessment of skills is evaluated through patient interview skills, clinical patient encounters, and case presentations (CAPTE, 2023). However, there are currently no validated assessment tools in all three domains that focus on cultural competence in physical therapy education. As a result, most assessment methods including both quantitative and qualitative instruments are often implemented by using the tools developed for a general healthcare discipline (Association of American Medical Colleges, 2005; Mason, 1995; Schim et al., 2003) or assessments instruments developed from nursing education (Campinha-Bacote, 2002; Jeffreys, 2000).

Assessment Instruments

In the field of healthcare education, five principal instruments are commonly used to assess cultural competence. The Inventory for Assessing the Process of Cultural Competence (IAPCC), developed by Campinha-Bacote originally for the nursing profession, evaluates healthcare professionals' cultural competence through five key constructs: cultural awareness, cultural knowledge, cultural skill, cultural encounters, and cultural desire (2002). Another instrument is the Cultural Self-Efficacy Scale (CSES), a sub-section of the Transcultural Self-Efficacy Tool (TSET) developed by Jeffreys, aimed to assess the perceived self-efficacy of nursing students and professionals in delivering culturally competent care, aligning with the PCC Model (Campinha-Bacote, 2002; Jeffreys, 2000). The Cultural Awareness Scale (CAS) draws on the Pathways Model and Purnell Model of Cultural Competence, focusing on interactions

between nursing faculty and students (Rew et al., 2003). The Cultural Competence Assessment (CCA), based on Schim and Miller's model, measures healthcare providers' cultural competence across four domains: awareness, knowledge, skill, and encounters (Schim et al., 2003). Lastly, the Tool for Assessing Cultural Competence Training (TACCT), created by the Association of American Medical Colleges (AAMC), serves as a self-assessment tool for medical schools to evaluate the integration of cultural competence training in their curricula (AAMC, 2005). Each of these tools employs a Likert-type scale with variations in point systems, theoretical foundations, objectives, and target populations. Notably, these instruments are primarily rooted in medical and nursing disciplines, and the instruments do not directly assess the three APTA-identified domains of knowledge, behavior or attitude, and skill (Caffrey et al., 2005). Consequently, assessments of cultural competence within the physical therapy discipline have traditionally relied on an inconsistent mix of the mentioned quantitative scales and qualitative approaches.

Challenges in Assessment in Physical Therapy Education for Cultural Competence

Clinical Practicum Settings

In the field of physical therapy, research has identified significant challenges in evaluating cultural competence within both educational and clinical environments. Shepherd et al. (2019) report that over 90% of practicing physical therapists perceive themselves as culturally competent. However, a deeper investigation into their experiences with patients from diverse cultures with specific case scenarios revealed that only about 20% felt genuinely comfortable handling such interactions, highlighting a discrepancy in the understanding of cultural competence in clinical practice. This discrepancy often arises from the misconception that cultural competence is limited to linguistic abilities, neglecting broader aspects such as cultural

biases, diverse worldviews, and power dynamics (Betancourt et al., 2003). Similarly, Starr and Wallace noted that some therapists equate cultural competence with the provision of multilingual services and gender-specific care, suggesting a superficial approach to cultural competence (2009). This divergence in definitions poses a significant obstacle to accurately assessing cultural competence among physical therapists in clinical settings.

Moreover, the predominant reliance on self-assessment methods for evaluating cultural competence overlooks the valuable insights that could be gained from patients' experiences and perspectives (Shepherd et al., 2019). The scarcity of studies that assess cultural competence from the patients' viewpoint further complicates efforts to implement and improve cultural competence education in clinical settings (Horvat et al., 2014; Thackrah & Thompson, 2013).

Classroom Settings

In academic settings, several obstacles impede the effective teaching of cultural competence. Romanello (2007) points out that the absence of strategic planning obstructs the integration of cultural competence in physical therapy curricula. Despite the APTA providing the *Blueprint for Cultural Competence*, it lacks explicit guidelines for faculty on how to conduct assessments (APTA, 2014; Romanello, 2007). Further, Grandpierre et al. also highlight the scarcity of resources dedicated to cultural competence education, which can be seen across healthcare fields, attributing this to insufficient curricular focus (2018). They argued that the absence of practical and assessment materials contributes to a void in cultural competence education (2018). As a result, both clinical and academic settings within physical therapy face obstacles in assessing and implementing cultural competence effectively.

There is a clear need for the development and dissemination of comprehensive, practical instruments and guidelines that can be uniformly applied across educational settings to enhance

the teaching and assessment of cultural competence. Additionally, fostering partnerships between academic institutions, clinical settings, and diverse communities could further enrich cultural competence education, ensuring it is deeply rooted in real-world experiences and the varied needs of multicultural populations (Grandpierre et al., 2018; Romanello, 2007; Shepherd et al., 2019).

Conceptual Framework

The conceptual framework provides a central platform for multiple aspects of the research study, and "consists of multiple parts and serves a variety of intersecting, ongoing, and iterative functions for researchers embarking on and engaging in research and the scholarship it produces" (Ravitch & Carl, 2016, p. 35). According to Ravitch and Riggan, the conceptual framework effectively bridges the research question, theoretical frameworks, the researcher, and the study's methodology (2016). Given the scarcity of literature on cultural competence and education within the field of physical therapy, it becomes necessary to integrate knowledge from related disciplines. Therefore, this section explores how my study employs a conceptual framework that integrates the PCC Model (Campinha-Bacote, 2002), multicultural education (Banks, 1996), and reflective practitioner (Schön, 1983). This implementation of multiple theories within a conceptual framework aims to address the intricate dynamics of cultural competence within physical therapy, allowing a comprehensive approach to understanding and exploring this area.

The Process of Cultural Competence in the Delivery of Healthcare Services

According to the original article by Campinha-Bacote (1998), the PCC Model is a framework that views the concept of cultural competence as a dynamic, ongoing process, rather than a static endpoint. This dynamic process involves being able to effectively work within all

cultural contexts and provide service to the client at the individual, family, and community levels. The development of the PCC Model started due to the changing demographics as well as the long-standing disparities that persist in the health of people from diverse backgrounds (Campinha-Bacote, 1998, 2002). To address these health disparities, her model of cultural competence was developed in the hope of providing a tool to deliver culturally responsive healthcare service (Campinha-Bacote, 1998). According to Campinha-Bacote, five assumptions must be met for this specific model to be effective (2002):

1. Cultural competence is a process, not an event.
2. Cultural competence consists of five constructs: cultural awareness, cultural knowledge, cultural skill, cultural encounters, and cultural desire.
3. There is more variation within ethnic groups than across ethnic groups (e.g., intra-ethnic variation).
4. There is a direct relationship between the level of competence of healthcare providers and their ability to provide culturally responsive healthcare services.
5. Cultural competence is an essential component in rendering effective and culturally responsive services to culturally and ethnically diverse clients.

Further, Table 2 describes the five constructs of the PCC Model, that operate as the core tenets of the PCC Model. By weaving together the following constructs, this model illustrates that cultural competence is not a static achievement but a dynamic, continuous process of learning, self-examination, and engagement with the cultural dimensions of patient care:

Table 2

Constructs of the Process of Cultural Competence in the Delivery of Healthcare Services

Construct	Description
Cultural Awareness	This construct emphasizes the importance of healthcare professionals recognizing their own preconceptions, biases, and personal backgrounds that might influence their perceptions and interactions with patients from different cultures. It involves a reflective examination of one's cultural identity and an acknowledgment of how personal experiences shape one's attitudes toward cultural differences
Cultural Knowledge	This aspect focuses on the acquisition of information about different cultural beliefs, behaviors, and needs related to health, illness, and wellness. Healthcare providers are encouraged to actively educate themselves about the cultural contexts of their patients, encompassing traditional health practices, perspectives on healthcare, and sociocultural factors affecting health outcomes
Cultural Skill	This construct involves the ability to effectively assess and gather relevant cultural information from patients to inform care planning and delivery. It includes developing the capacity to conduct culturally sensitive assessments and communicate effectively with patients from diverse backgrounds, ensuring that healthcare interventions are culturally appropriate
Cultural Encounter	This construct refers to the engagement in direct interactions with patients from diverse cultural backgrounds. Such encounters provide practical opportunities for healthcare professionals to apply their cultural awareness, knowledge, and skills, thereby fostering continuous learning and adaptation in real-world settings
Cultural Desire	At the heart of the model, this construct represents the genuine motivation and commitment of healthcare professionals to pursue cultural competence. Unlike the other constructs, which can be developed through education and practice, cultural desire stems from an intrinsic willingness to embrace and value cultural differences, driving the ongoing pursuit of cultural competence

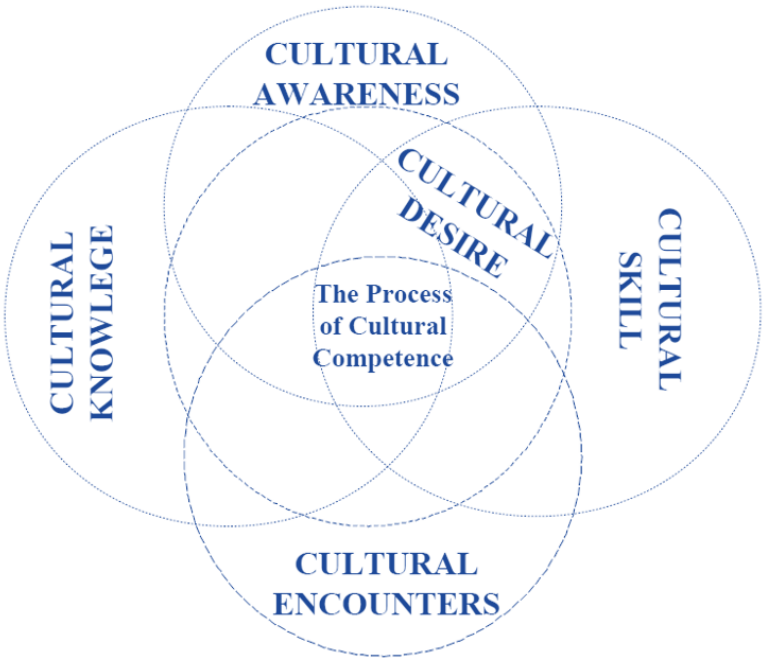
Note. The constructs of the model are derived from the model presented by Campinha-Bacote (2002). For a detailed discussion of each construct, see Campinha-Bacote, J. (2002). The Process of Cultural Competence in the Delivery of Healthcare Services: A Model of Care. *Journal of Transcultural Nursing, 13*(3), 181-184.

Continuous Nature of the Model

Similar to how culture is defined as a dynamic pattern of human nature (APTA, 2014), the model presented by Campinha-Bacote also treats cultural competence as a dynamic process. Figure 1 illustrates the visual presentation of the model, encapsulating the continuous and interconnected nature of the constructs. Typically depicted in a circular format, her visual representation of the model highlights the idea that cultural competence is an ongoing process rather than a static achievement.

Figure 1

The PCC Model (Campinha-Bacote, 2002, p. 183)



At the core of the figure lies the healthcare provider, around whom the five constructs of cultural competence orbit, suggesting that the journey toward cultural competence is both personal and professional. The overlapping areas in the model's diagram illustrate that these constructs are not isolated and not particularly sequential stages but are deeply interwoven and affect each other. The overlaps also represent the idea that progress in one area can influence and

reinforce developments in others, creating a synergistic effect that propels the healthcare provider toward greater cultural competence. For example, an increase in cultural knowledge can enhance cultural awareness, while frequent cultural encounters can deepen one's cultural knowledge and skill.

Further, the lack of a directional arrow indicates the non-linear nature of the progression, where each construct influences and is influenced by the others. This design highlights the dynamic interaction between cultural awareness, cultural knowledge, cultural skill, cultural encounters, and cultural desire, providing a snapshot that competence is not achieved through isolated acts but through a continuous, reflective, and interactive process that encompasses multiple dimensions of one's professional practice and personal growth. This model serves as a reminder that cultural competence is a dynamic and evolving journey, rather than a static endpoint.

Criticism of the PCC Model

Despite the popularity of the model, this framework is often criticized that purposeful learning of categorical knowledge of an individual or group of people has an increased potential to further develop stereotypes and bias (Hankivsky, 2014; Loftin et al., 2013). One primary concern is the model's overemphasis on developing individual competence, which may inadvertently neglect the systemic and institutional barriers that impede the provision of culturally competent care. Critics like Kumas-Tan et al. (2007) argue that focusing predominantly on individual skills and knowledge can eclipse the critical need for organizational and policy reforms aimed at fostering culturally competent practices across healthcare systems. Furthermore, Loftin et al. (2013) critique the model for its broad conceptualization of cultural competence without providing detailed guidance on how its key constructs can be practically

applied, rendering it difficult for healthcare organizations to implement strategies that result in tangible improvements in care delivery.

Additionally, the debate between cultural competence and cultural safety has gained traction, with some scholars, such as Brascoupé and Waters (2009), advocating for the latter. Cultural safety encompasses an understanding of power imbalances and prioritizes the experiences of care recipients, extending beyond the scope of individual competence to address systemic issues. This shift suggests that models focused exclusively on competence might not adequately address power dynamics for the patients. Moreover, the model's lack of attention to intersectionality, as highlighted by Hankivsky (2014), means it may not fully recognize how various facets of identity intersect to influence healthcare experiences, potentially limiting the effectiveness of cultural competence efforts. Finally, the complexity and multifaceted nature of the constructs within the model poses significant challenges in assessment and evaluation, as noted by Beagan (2003). The development of valid and reliable tools for measuring cultural competence is crucial for assessing the impact of educational programs and interventions yet remains a considerable challenge within the field.

The PCC Model and Physical Therapy Education

Despite the criticisms it faces, Campinha-Bacote's model remains highly relevant to the field of physical therapy education, underscoring its utility in preparing future practitioners for interactions with diverse patient populations. The model's emphasis on understanding patients within their unique cultural and cultural contexts is crucial for student physical therapists, as highlighted by the APTA (2014). Further, incorporating this dynamic model into the curriculum can enhance physical therapy students' understanding and appreciation of cultural diversity, thereby improving their ability to deliver empathetic and effective care (Jensen et al., 2016). For

example, by focusing on cultural awareness, students learn to recognize their own biases and how these can impact patient care. Cultural knowledge and skills are developed through targeted education and practical experiences, preparing students to assess and meet the cultural needs of their patients competently. Encounters with diverse patient populations during clinical practicum further enrich this learning process, reinforcing the significance of cultural desire—the motivation to engage in cultural competence development as a lifelong professional journey. Thus, as presented by the APTA in its *Blueprint for Cultural Competence*, this model serves as a foundational framework for integrating cultural competence into the curriculum of physical therapy education (2008; 2014).

Multicultural Education

Multicultural education focuses on racial, ethnic, cultural, linguistic, and religious differences to be incorporated into educational spaces (Banks, 2008). The early concept of multicultural education was brought up by the separate actions of historically marginalized groups who were "dissatisfied with the inequities of the education system" (Gorski, 1999, p. 1), and multicultural education became a framework that can increase "the knowledge of diversity, altering of attitudes towards multiculturalism, and preparedness of them teaching multicultural education to students of a variety of backgrounds" (Wasonga, 2005, p. 68). Table 3 illustrates five constructs of the theoretical framework of multicultural education by Banks (1995).

Table 3

Constructs of Multicultural Education

Constructs	Description
Content Integration	Content integration refers to the inclusion of examples, data, and information from a variety of cultures and groups to enrich the curriculum and instruction. This construct emphasizes the importance of integrating diverse cultural perspectives across different subject areas, rather than treating them as separate or peripheral topics.
Knowledge Construction	Knowledge construction challenges educators and students to critically examine the assumptions, perspectives, and biases within a discipline, including how knowledge itself is constructed. It encourages an awareness of how one's own background and experiences can influence understanding and interpretation of information.
Prejudice Reduction	Prejudice reduction focuses on strategies to develop more positive attitudes among students towards different cultural, ethnic, and racial groups. It aims to reduce biases and stereotypes by fostering understanding and respect.
Equity Pedagogy	Equity pedagogy involves modifying teaching methods to facilitate the academic success of students from diverse racial, cultural, and socioeconomic backgrounds. It recognizes that students have varied learning styles and backgrounds, necessitating adaptable teaching approaches.
Empowering School Culture and Social Structure	This construct addresses the need for educational institutions to create a culture and social structure that promotes equality and supports the participation of all groups. It involves critically examining and restructuring the culture, policies, and practices within an institution to ensure they empower students from all backgrounds

Note. The constructs of multicultural education outlined in this table are based on the framework developed by Banks (1993). For an in-depth exploration of these dimensions, refer to Banks, J. A., & McGee Banks, C. A. (1993). Multicultural Education: Issues and Perspectives. John Wiley & Sons.

Although multicultural education has provided a valuable framework for school and district-wide practices as well as teaching strategies and practices in K-12 and higher education,

the challenges within the framework are often encountered by difficulty in assessment (Ogbu & Simmons, 2016), increased burden of educators (Fullinwider, 2005), and denoting the responsibility of the learner (Ogbu, 2016).

Continuous Nature of the Model

The theoretical framework of multicultural education as proposed by James A. Banks presents a continuous nature through its five constructs: content integration, knowledge construction, prejudice reduction, equity pedagogy, and empowering school culture and social structure. This continuity is evident in how each construct builds upon and interacts with the others to foster an environment of lifelong learning, critical thinking, and adaptation in response to diverse cultural perspectives and educational needs.

Content integration serves as the initial step, laying the groundwork for a curriculum that reflects a broad spectrum of cultural narratives and perspectives. This inclusivity in content is essential for setting the stage for deeper engagement with knowledge construction, where students and educators critically examine how knowledge is shaped by cultural contexts and personal experiences (Banks, 2004). The progression from understanding diverse content to analyzing the construction of knowledge encourages a continuous process of reflection and growth.

Prejudice reduction further extends this continuum by actively addressing biases and stereotypes, fostering a shift from awareness to action. By engaging with diverse perspectives and challenging preconceived notions, individuals embark on a journey of personal transformation that is both ongoing and reflective (Banks, 1996). This evolution of understanding and empathy is critical for the effective implementation of equity pedagogy,

where teaching strategies are continuously adapted to meet the diverse needs of all students, ensuring an equitable learning environment.

The empowering school culture and social structure embody the culmination of this continuous process, advocating for systemic changes that support the sustained inclusion and success of diverse groups. This construct requires ongoing reflection, dialogue, and action to dismantle barriers and create a more inclusive educational ecosystem (Banks, 2004). The dynamic and interconnected nature of these constructs highlights the continuous process of learning, unlearning, and relearning necessary to foster an environment that celebrates diversity and promotes equity.

The continuous nature of Banks' multicultural education framework underscores the importance of an iterative, reflective process in achieving and maintaining cultural competence in educational settings, including physical therapy education. By incorporating these principles, educators and students are encouraged to engage in a lifelong journey of growth, understanding, and advocacy for diversity and equity.

Multicultural Science Education

The field of science education also adopted an important aspect of multicultural education. Atwater's pioneering work in multicultural science education has significantly contributed to the field, drawing upon a comprehensive body of research that emphasizes diversity and inclusivity within educational frameworks. Atwater's endeavors were notably influenced by James Banks, a proponent of an expansive multicultural educational framework designed to mirror society's diversity (1993). Focusing on science education, Atwater adeptly integrated Banks' principles of multicultural education with the distinct requirements of science instruction. This integration aimed to address the issues of underrepresentation and

marginalization of diverse student groups in science education (Banks & McGee Banks, 1995). Atwater's methodologies advocate for the incorporation of students' cultural backgrounds and perspectives into the science curriculum, thereby enriching the learning experience and fostering increased scientific literacy and participation among a broad student base (Atwater, 1996; Atwater et al., 1999). Emphasizing the value of cultural assets in enhancing the educational process, Atwater's strategies ensure that science education is both accessible and relevant, empowering students from a wide array of cultural backgrounds (Atwater, 2000). Thus, Atwater's contributions mark a significant evolution toward equitable practices in science education, establishing a foundation upon which future educators can develop more inclusive and supportive learning environments (Banks, 1993; Atwater, 1996).

Multicultural Education and Physical Therapy Education

Integrating Banks' constructs of multicultural education into physical therapy education not only enriches the learning environment but also prepares students to become more culturally competent practitioners (1996; 2004). By embracing the tenets of multicultural education, future physical therapists can be better equipped to address the nuanced needs of a diverse patient population, ultimately contributing to more equitable healthcare outcomes.

For example, content integration could involve incorporating case studies and treatment protocols from a wide range of cultural contexts. Students could learn about traditional intervention practices alongside conventional medical treatments, understanding how cultural beliefs and practices influence patient care and outcomes. Further, knowledge construction could mean encouraging students to explore how cultural biases can affect diagnoses, treatment decisions, and patient interactions (Banks & McGee Banks, 1995). An example would be analyzing case studies to identify and challenge stereotypes or biases about pain tolerance or

physical capabilities among different cultural groups. Prejudice reduction is another area where physical therapy education can adopt this construct, and facilitate discussions (Sue et al., 1992) and reflections (Schön, 1983) on personal prejudices and their impact on patient care. An example might include workshops or simulations that expose students to diverse patient scenarios, helping them to recognize and overcome unconscious biases to treat all patients with empathy and equity. Equity pedagogy can be implemented by employing diverse teaching strategies, such as collaborative learning (Johnson & Johnson, 1994), problem-based learning (Barrows, 1996), and inclusive pedagogies (Atwater, 2022; Gay, 2002; Mensah & Larson, 2017), to accommodate different learning preferences and backgrounds. An example could involve using patient scenarios that reflect a broad spectrum of socioeconomic and cultural backgrounds, ensuring all students can relate to and learn from the curriculum. Lastly, empowerment in school culture implies evaluating admissions policies, faculty diversity, and student support services to ensure they promote inclusivity and support for students from diverse backgrounds. For example, the school can establish mentorship programs that pair students from underrepresented groups with mentors who can provide guidance, support, and role modeling (Ladson-Billings, 1995).

Reflective Practitioner

According to Schön, a reflective practitioner is someone who practices reflection to learn from past experiences and simultaneously navigates through the complex problems situated within the professional environment (1987; 2017). Reflection has been utilized by multiple allied health professions (Caty et al., 2015; Chacko & Screerenjini, 2012; Kinsella & Whiteford, 2009; Ziebart & MacDermid, 2019). For example, in the academic setting of physical therapy, reflection has been implemented to enhance both didactic and clinical education (Jensen & Richert, 2005). As action without reflection has a low outcome of learning and retention,

engaging in critical analysis and evaluating experiences are two main goals of using reflection in academic programs (Donaghy & Morss, 2000). The clinical setting uses reflection for practitioners to integrate past experiences with new knowledge and to expand the individual's framework of clinical decision-making processes (Huhn et al., 2019). Researchers claim that this metacognitive use of reflection allows continued assessment of clinical performance, potentially expanding future examination or intervention options (Ziebart & MacDermid, 2019). According to the original work by Schön, there are two essential tenets for the model of reflective practice, and Table 4 summarizes two constructs of reflective practice (2017).

Table 4

Constructs of the Reflective Practitioner

Construct	Description
Reflection-in-Action	This construct describes the process of reflecting on one's actions while they are occurring. It involves a practitioner's ability to think on their feet, assessing and adapting their actions in response to the unfolding situation. This type of reflection allows for immediate adjustment and experimentation within the context of practice, promoting a more intuitive and responsive approach to professional challenges.
Reflection-on-Action	This construct occurs after the event has taken place. It involves a critical analysis of one's actions, considering what was done, why it was done, and how it could be improved or altered for better outcomes in future situations. This reflective process encourages a deeper understanding of both the actions taken and the underlying knowledge and assumptions that guided those actions. It facilitates learning from experience, contributing to professional growth and development.

Note. The constructs in this table are based on the conceptual frameworks described in Schön (1983). For an in-depth exploration of these constructs, refer to Schön, D. A. (1987). *Educating the reflective practitioner: Toward a new design for teaching and learning in the professions*. Jossey-Bass.

Continuous Nature of the Model

The dynamic and continuous nature of reflective practice, as outlined by Schön, lies in the interplay between reflection-in-action and reflection-on-action. This cyclical process fosters

an ongoing development loop where practitioners continuously evolve their understanding and expertise through active engagement with and reflection on their practice (Schön, 1983, 1987). The iterative nature of reflecting during and after practice encourages a deeper, more nuanced understanding of professional actions and decisions, enabling individuals to adapt and refine their approaches over time.

Reflective Practitioner and Physical Therapy Education

Integrating Schön's theoretical framework of reflective practice into physical therapy education can significantly enhance the learning experience and professional development of students. Encouraging students to engage in reflection-in-action and reflection-on-action as part of their clinical training helps them to develop critical thinking, problem-solving skills, and adaptability (Schön, 1983). In physical therapy education, the methodology to apply reflection has been mainly studied in two ways, which are written reflections and peer-supported reflections. Written reflections are the most common reflective approach, including "blogging, journaling, field notes, online discussion board, and diaries" (Ziebart & MacDermid, 2019, p. 1064). The authors discuss peer-supported reflections as well, which are presented in the form of "dialogue, peer review, online discussion boards, questionnaires, and guided reflection practices" (p. 1064). Both written and peer-supported methodologies have been studied and showed improvement in academic and clinical performance (Ziebart & MacDermid, 2019), which was the driving force behind the decision made by the American Board of Physical Therapy Specialties (ABPTS) to implement a reflective portfolio (n.d.). As a result, all board-certified clinicians who are renewing their certification must submit a reflective case study as part of their mandatory maintenance policy (ABPTS, n.d.). Through this form of self-assessment and professional commitment, clinicians and students demonstrate conscious effort in reflection to

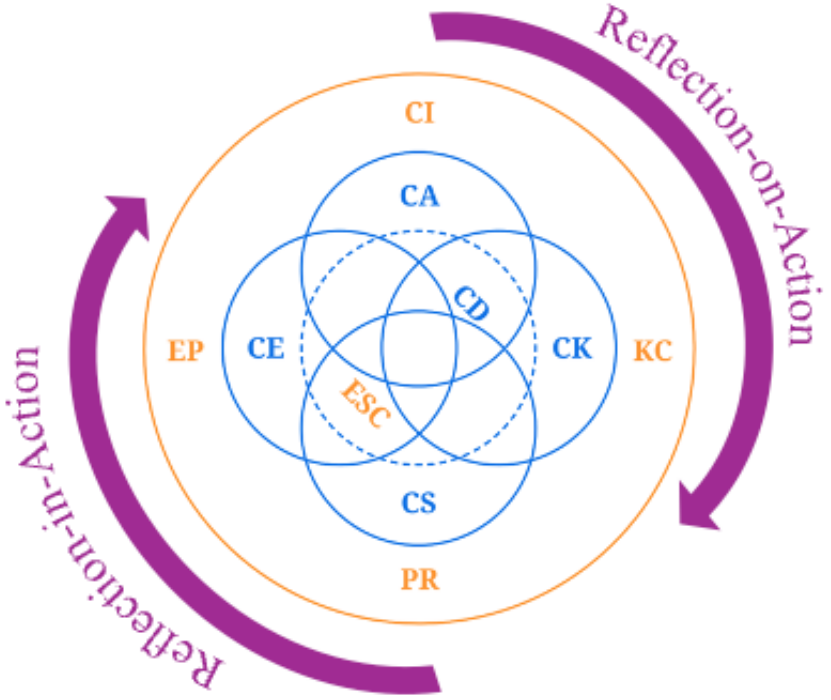
improve their practice. Thus, reflective practice not only deepens their clinical reasoning skills but also promotes a culture of lifelong learning and continuous improvement within the physical therapy profession (Boud et al., 1985; Mann et al., 2009; Ng et al., 2015; Schön, 1987)

Synthesis of the Conceptual Framework

As a conceptual framework, I bring the PCC Model, multicultural education, and reflective practitioner to guide the theoretical basis of this current study. Expanding on the interconnections among Campinha-Bacote's model of cultural competence, Banks' multicultural education framework, and Schön's reflective practitioner reveals a deeper, multifaceted approach to integrating these theories into a single, coherent conceptual framework for enhancing cultural competence in healthcare delivery, especially in the education of physical therapy students. This detailed exploration underscores the synergistic potential of these frameworks to foster a comprehensive, reflective, and inclusive approach to healthcare education and practice. The conceptual framework has four major interconnections: Foundation on reflection and continuous learning, emphasis on cultural awareness and knowledge, skill development through cultural encounters and equity pedagogy, and motivation and empowerment. A visual presentation of the conceptual framework is illustrated in Figure 2, and its interconnections are described below.

Figure 2

Visual Presentation of the Conceptual Framework



Note. CI = Content Integration, KC = Knowledge Construction, PR = Prejudice Reduction, EP = Equity Pedagogy, ESC = Empowering School Culture and Social Structure, CA = Cultural Awareness, CK = Cultural Knowledge, CS = Cultural Skill, CE = Cultural Encounter, CD = Cultural Desire

Foundation on Reflection and Continuous Learning

The first interconnection of the conceptual framework focuses on the integrative reflection mechanism and enhanced learning outcomes. For the integrative reflection mechanism, Schön's reflective practice serves as the core mechanism that integrates the continuous learning aspects of Campinha-Bacote's and Banks' frameworks. Through reflection-in-action and reflection-on-action, healthcare professionals and students are encouraged to think critically

about their cultural biases and healthcare practices in real-time and upon reflection, promoting a deeper understanding of cultural competence (Schön, 1983). This reflective process is essential for recognizing and addressing one's cultural assumptions and biases, thereby facilitating a more profound engagement with multicultural education principles and culturally competent care practices.

Enhanced learning outcomes are also a common thread that can be found in the individual theoretical frameworks, as reflection fosters the internalization of knowledge and skills related to cultural competence and multicultural education. By actively reflecting on their experiences with diverse populations, students can bridge the gap between theoretical knowledge and practical application, leading to enhanced learning outcomes and more effective healthcare delivery (Mann et al., 2009).

Emphasis on Cultural Awareness and Knowledge

The second interconnection highlights the synergistic educational content and the significance of critical pedagogy. In Banks' framework of multicultural education, he emphasizes the integration of diverse cultural perspectives into educational content (1993), aligning with Campinha-Bacote's emphasis on developing cultural awareness and knowledge (2002). By leveraging Banks' principles of content integration and knowledge construction, healthcare educators can design curricula that include diverse cultural perspectives, histories, and contributions, thereby enriching students' understanding and appreciation of cultural diversity (Banks, 2004).

Further, incorporating a critical pedagogy approach encourages students to question and analyze the cultural assumptions embedded in their education and clinical practices (Mensah & Larson, 2014). This approach supports the development of a critical consciousness about health

disparities and social determinants of health, aligning with the goals of cultural competence and equity in healthcare (Freire, 1970).

Skill Development through Cultural Encounters and Equity Pedagogy

The third interconnection of the conceptual framework is practical application in diverse settings and reflective skill enhancement. The concept of cultural encounters in Campinha-Bacote's model provides a practical framework for applying Banks' equity pedagogy principles. By engaging in cultural encounters, students have the opportunity to apply multicultural education principles in real-world settings, applying their skills in communication, empathy, and cultural sensitivity that are essential for effective healthcare delivery (Campinha-Bacote, 2002).

Moreover, reflective practices allow students to critically evaluate their performance in cultural encounters, identifying areas for improvement and reinforcing successful strategies. This reflective cycle ensures that students continually refine their abilities to engage effectively with diverse populations. Through continuous reflection, students must demonstrate the adaptable nature of the healthcare practice within the context of the diverse racial, cultural, and socioeconomic backgrounds of the patients, and foster a higher level of cultural competence (Schön, 1983).

Motivation and Empowerment

The fourth and last interconnection of the presented conceptual framework is cultivating cultural desire and inclusive culture as well as empowerment through reflection. The motivational aspects of Campinha-Bacote's cultural desire (2002) and Banks' empowering school culture (2004) are interconnected through the promotion of an inclusive and supportive educational environment. By fostering a culture that values diversity, encourages curiosity about

other cultures, and promotes equity, educators can inspire students to pursue cultural competence with enthusiasm and commitment (Campinha-Bacote, 2002; Banks, 2004).

Further, empowerment through reflection can occur, as Schön's reflective practice contributes to the empowerment of students by providing them with the tools to critically assess and navigate cultural complexities in healthcare. Empowerment comes from the confidence gained through reflective practice, ultimately motivating students and enabling them to take initiative in their learning and professional development regarding cultural competence (Schön, 1983).

As a result, integrating these theoretical frameworks into a single conceptual framework for healthcare education and practice not only enhances cultural competence but also fosters a holistic, reflective, and inclusive approach to healthcare delivery (Banks, 2004; Campinha-Bacote, 2002; Schön, 1983). This integrated conceptual framework supports the development of healthcare professionals who are not only skilled in providing culturally competent care but are also advocates for equity and inclusion within the healthcare system. Further, this conceptual framework will guide the theoretical basis of the study.

Summary

In light of the physical therapy profession's acknowledgment of the critical role of cultural competence in physical therapy, there remains a notable gap in the representation of minority groups within physical therapy programs. This gap emphasizes the capacity of these entry-level physical therapy programs to furnish physical therapy students with adequate cultural competence education (Gordon, 2005). Therefore, an essential shift is required in current educational methodologies within physical therapy to include the establishment of detailed guidelines and an expansion of research focusing on curriculum, pedagogy, and assessment

related to cultural competence. The scarcity of literature in these areas presents a significant challenge. However, the development of well-defined, research-supported guidelines is the essential groundwork that the discipline must undertake, drawing insights from the scholarship in related healthcare and social science fields and applying a variety of theoretical frameworks. It is pivotal for the physical therapy profession to acknowledge the importance of equipping clinicians with the cultural competence necessary to serve an increasingly diverse patient demographic effectively. Ultimately, this endeavor is crucial for addressing ongoing health disparities and inequities.

Chapter 3: Methodology

Research Approach

In this chapter, the sequence and methodologies employed in this research study are presented chronologically. I will begin with an overview of the qualitative research design and the implementation of a single case study approach, followed by a discussion on obtaining Institutional Review Board (IRB) approval and the participant recruitment strategy. Then, the context and demographics of the participants are outlined, leading to the methodologies for data collection and analysis, which are executed cyclically as suggested by Charmaz (2014). Additionally, I will describe my researcher's positionality, ethical considerations, and reflexivity to enrich the study's contextual understanding. The chapter concludes by examining the measures taken to ensure the study's rigor, as well as acknowledging the potential challenges and limitations encountered.

The purpose of this research study is to explore how students understand cultural competence in an entry-level physical therapy program through the lenses of the PCC Model, multicultural education, and reflective practice. Thus, I asked the following research questions:

1. What is the understanding of cultural competence by student physical therapists enrolled in an entry-level Doctor of Physical Therapy program?
    a. What constructs of the APTA's *Blueprint for Cultural Competence* can be found in student physical therapists' understanding of cultural competence?
    b. What constructs of the PCC Model can be found in student physical therapists' understanding of cultural competence?
2. What is the perception of learning cultural competence by the student physical therapists enrolled in an entry-level Doctor of Physical Therapy program?

a. What learning experiences do physical therapist students believe facilitated their understanding of cultural competence?
b. What do student physical therapists believe is the most effective way to learn cultural competence?

The research questions above allowed me to explore the comprehension of cultural competence among students enrolled in an entry-level physical therapy program. The imperative for enhancing cultural competence is well-acknowledged as a critical element in decreasing health disparities; however, the way of the most efficacious and efficient methods for fostering cultural competence among the workforce, including students, remains unclear (Kaihlanen et al., 2019). This research study aimed to learn the extent to which the constructs recommended by the APTA and the PCC model are reflected in the students' understanding of cultural competence. Furthermore, it endeavored to identify the aspects of their educational experiences that students perceive as helpful in the development of their cultural competence. The final research question probed students' perspectives on the most effective way to improve cultural competence within the context of an entry-level physical therapy curriculum.

Qualitative Research

This research study adopted a qualitative methodology, utilizing a single case study framework alongside constructivist grounded theory techniques to facilitate ongoing data collection and analysis (Charmaz, 2014). Qualitative research seeks to understand phenomena from the perspective of those experiencing them, focusing on the "why" and "how" questions rather than quantifying "how many" or "how much," which are typical of quantitative research (Merriam & Tisdell, 2015). This approach is particularly suited to exploring complex issues, processes, and relationships in depth (Saldaña, 2021). Creswell and Poth define qualitative

research as a means for exploring and understanding the meaning individuals or groups ascribe to a social or human problem (2017). The process involves collecting data in a natural setting sensitive to the people and places under study through methods such as interviews, observations, and document analysis (Creswell & Poth, 2017). This methodology is inherently flexible, allowing researchers to adapt their inquiries based on the evolving nature of the data. This adaptability makes qualitative research particularly valuable in fields like healthcare and education, where the intricacies of human experiences and interactions are central to understanding outcomes and improving care (Creswell, 2014).

The application of qualitative research in healthcare education is particularly beneficial in the examination and enhancement of cultural competence training. Given the diverse populations served by the healthcare sector, preparing practitioners who are culturally competent and able to provide inclusive, respectful care is paramount (Betancourt et al., 2003). Further, Charmaz underscores the role of qualitative research in generating grounded theories that reveal how students and educators perceive and integrate concepts of cultural competence into their practice (2014). Through methods such as in-depth interviews, focus groups, and participant observations, qualitative studies can uncover the pedagogical practices that effectively foster an understanding of cultural diversity, empathy, and communication skills among healthcare professionals (Creswell & Poth, 2017). These insights are crucial for healthcare educators aiming to equip students with the attitudes, knowledge, and skills necessary to navigate the complexities of a multicultural healthcare environment.

Despite the existence of various quantitative assessment tools in healthcare research aimed at evaluating the levels of cultural competence among students or clinicians (AAMC, 2005; Campinha-Bacote, 2002; Jeffreys, 2000; Rew et al., 2003), these instruments generally

shared a common objective but reveal limitations in capturing the multifaceted essence of cultural competence through quantitative methods only, as highlighted by Jones and Pinto-Zipp (2017). The qualitative approach empowered the analysis of participants' reflections and the processes leading to their perspectives. Such in-depth accounts of individual experiences are invaluable, which enabled the identification of themes that emerge directly from the data, thus addressing the research questions with greater specificity and depth (Creswell & Poth, 2018).

Case Study

A case study in qualitative research is an in-depth investigation of a particular individual, group, event, or situation over a specific period. The primary aim was to gain a comprehensive understanding of the case in its real-life context, highlighting the complexity and uniqueness of its phenomena (Yin, 2018). This method allows me to explore the how and why questions, providing detailed insights into the processes, practices, and experiences that define the case. Unlike other qualitative methods, such as ethnographies that may focus on cultural groups, or grounded theory that aims to develop a broad theory from the data, case studies are uniquely positioned to offer a deep, contextual analysis of a specific instance, making it possible to uncover details and insights that might be lost in broader research designs (Creswell & Poth, 2017).

A "single case study" refers to the focused examination of a single entity or phenomenon within its real-world context (Baxter & Jack, 2008). This approach is particularly valuable when the case represents an extreme or unique example, a critical case for testing a well-formulated theory, or an opportunity to explore a previously inaccessible or understudied area (Baxter & Jack, 2008; Creswell & Poth, 2017). Single case studies can provide significant contributions to

knowledge and theory development by illuminating specific issues, processes, or outcomes that might not be evident in more generalized research approaches (Creswell & Poth, 2017).

My decision to choose a case study design for investigating the cultural competence of student physical therapists stemmed from the need to deeply understand the intricate processes and experiences that contribute to the development of cultural competence within a specific educational context–an entry-level physical therapy program. This method was appropriate for capturing the complex interplay between individual learning experiences, pedagogical strategies, and institutional cultures that influence students' acquisition of cultural competence, thus suitable for my goal to learn the existing evidence of multiple constructs within students' understanding of cultural competence (Creswell & Poth, 2017). By focusing on a single case, this research aimed to generate detailed insights into the ways student physical therapists perceive, learn, and apply cultural competence in their practice. This approach not only highlighted the unique aspects of an entry-level physical therapy education program under study but also offered potentially transferable lessons on enhancing cultural competence in physical therapy education settings.

Process and Procedures

The Institutional Review Board (IRB) at Teachers College, Columbia University approved this research study on December 27, 2022 (Appendix C). Following IRB approval, an initial recruitment email was communicated to all students enrolled in the entry-level physical therapy program located in the northeast region of the US, where I serve as a faculty member. This email contained a comprehensive description of the study (Appendix A), along with a link to a Qualtrics survey that directed respondents to an informed consent page (Appendix B) as well as the approved letter from the IRB (Appendix C). This ensured that potential participants were

fully apprised of the study's details before their participation. The recruitment email for the study was sent out on three separate occasions, with a two-week interval between each send. These multiple emails served as reminders to potential participants. In total, four students expressed interest in participating in the study, and all four of them were included as participants. The recruitment process started in May 2023, with the selection of study participants concluding in July 2023. Once the informed consent form was signed and returned to me, the selection of the participants was done. All four participants who consented to participate in this study joined the research. After the participation was confirmed, the data collection process began by finding a mutually agreeable time for the first phase of the data collection through a Doodle poll link system, enabling participants to select a convenient time for the first phase of data collection between September and October 2023. This phase consisted of an individual semi-structured interview designed to gather preliminary data, which is explained in detail in the data collection section.

Setting

The research study was conducted within an entry-level physical therapy program situated in the northeastern region of the United States. This institution has an average student cohort size of 21 students per cohort and 7 full-time faculty members. At the time of the study, the CAPTE accredited 279 physical therapy education programs (CAPTE, 2023), and the duration of each entry-level physical therapy program is typically three years (APTA, 2018). While CAPTE determines the curriculum content, the sequencing of courses and the pedagogical approach are at the discretion of the individual program (CAPTE, n.d.). Consequently, this study was intentionally situated within a single institution to ensure uniformity in the curriculum experienced by students. The selected entry-level physical therapy program employed an

integrated clinical education model, and this model requires that students engage in both didactic and clinical practicum courses from their first year, contrasting with the separated model, which sequences all didactic coursework before clinical training (CAPTE, n.d.).

Participants

Creswell and Poth (2018) articulate that a single case study methodology facilitates data access through the identification of a homogeneous sample group. Consequently, this study's participant recruitment was confined to a single institution, ensuring that all participants were engaged in an identical curriculum. Participants who provided informed consent were officially enrolled in the research. The demographic composition of the study's participants mirrored the national demographic trends of students in entry-level physical therapy programs, where 84.3% of the student population is identified as White, not Hispanic or Latino (APTA, 2020). In this study, 75% of participants self-identified within this demographic category. Recruitment of students occurred from September through December 2023, during which time each was engaged in distinct clinical practicum settings, selections for which were influenced by the students' interests and the practicum sites' availability. To safeguard participant confidentiality, pseudonyms were used consistently throughout the study and in any dissemination of its findings, including potential future publications. Details regarding student demographics and their clinical practicum placements are delineated in Table 5.

Table 5

Demographics of the Participants

Participants Pseudonyms	Year of Study	Gender	Race	Ethnicity	Clinical Practicum Placement
Dakota	3rd-year	Female	White	Not Hispanic or Latinx	Acute Care Hospital (Neurological Unit)
Riley	3rd-year	Female	White	Not Hispanic or Latinx	Acute Cate Hospital (Burn and Wound Unit)
Noel	3rd-year	Female	White	Not Hispanic or Latinx	Outpatient Clinic (Pediatric)
Terry	3rd-year	Female	Two or more races	Not Hispanic or Latinx	Home Care and Skilled Nursing Facility

In qualitative research, particularly in constructivist grounded theory methodology, having a small number of participants is often justified and considered appropriate. The focus is on gaining an in-depth understanding of the phenomenon under study rather than achieving statistical generalizability (Charmaz, 2014). Constructivist grounded theory emphasizes the co-construction of meaning between the researcher and participants (Mills et al., 2006). The goal is to explore and understand the participants' perspectives, experiences, and the social processes involved (Charmaz, 2014). This necessitates a more intensive and detailed examination of the data, which can be achieved with a smaller sample size. Furthermore, the iterative nature of data collection and analysis in constructivist grounded theory allows for theoretical saturation to be reached, where no new significant insights emerge from additional data (Charmaz, 2006). This saturation point determines the appropriate sample size, rather than adhering to predetermined numbers (Corbin & Strauss, 2015). Having a small number of participants also aligns with the constructivist paradigm, which acknowledges the researcher's involvement in the construction of knowledge and recognizes the contextual and subjective nature of the research process (Mills et

al., 2006). Therefore, a smaller sample size is considered sufficient and justified in constructivist grounded theory methodology.

Data Collection and Data Analysis

In this research, a cyclical approach to data collection and analysis was employed, guided by the principles of constructivist grounded theory (Charmaz, 2014). The methodology inherent in grounded theory facilitated the acquisition of empirical data, emphasizing a recursive process between data collection and analysis (Charmaz, 2006). This iterative engagement with the data allowed for adjustments in the research questions at each stage of data collection through theoretical sampling. As part of the methodological framework, data were systematically collected from three distinct sources over the period from September to December 2023, following a sequential timeline that began with individual semi-structured interviews in September and October, proceeded with online questionnaires in November, and concluded with a focus group discussion in December. Each data source was collected once only. Following each phase of data collection, an analysis was conducted employing a theoretical coding scheme. This included the generation of initial codes (in vivo and open codes), the development of focused codes (categorizing these initial codes), and the drafting of analytical memos to articulate the reasoning behind and reflections on the focused codes identified. To enhance the reliability of the findings, a constant comparison of data and triangulation methods were applied. Upon completing the final data collection phase, a process of member checking was initiated, wherein summaries of the collected data were shared with participants for verification of transcripts and the accuracy of their response summaries across the data collection phases. With all three phases of data collection concluded, the data were synthesized to identify theoretical codes (core categories) and emerging themes, drawing from the conceptual framework and

literature review to address the research questions. A timeline of the data collection process is presented in Table 6.

Table 6

Summary of Data Collection Timeline

	September to October 2023	November 2023	December 2023
Data Collection	First phase	Second phase	Third phase
Data Source	Individual, semi-structured interview, 8 open-ended questions	Online questionnaire, 8 open-ended items	Focus group, 4 open-ended questions
Frequency	One time	One time	One time
Time Commitment	Approximately 45 minutes	Approximately 45-60 minutes	Approximately 60 minutes

Data Collection

The First Phase: Individual Semi-Structured Interview

The first phase of the data collection through individual interviews took place between September to October 2023. Four students engaged in a single, individual, semi-structured interview in a forty-five-minute block. Semi-structured interviews allow the collection of "deep, rich, individualized, and contextualized data that are centrally important to qualitative research" (Ravitch & Carl, 2016, p. 146). The interview sessions were scheduled individually through the Doodle poll link system to look for mutually agreeable times that could be arranged between each participant and me, and I conducted the individual interview virtually through Zoom. The virtual nature of the interview allowed the participants to join from any environment they felt comfortable, as each participant was not currently on campus due to their clinical practicum placements. Everyone's semi-structured interview had an additional process of verbal consent for

the audio being recorded before beginning the recording. Participants were notified at the beginning of the data collection process that they were allowed to take breaks or resume the interview at a different time upon request. A total of 8 open-ended questions were asked, to seek data to answer the research questions. A single interview was conducted for approximately 45 minutes for each participant. Only one interview was conducted. The full list of questions asked during the individual semi-structured interview can be found in Appendix D.

After all four individual interview data were collected, the concurrent data analysis began (Charmaz, 2014), while preparing for the second phase of data collection. After the audio recording had been transcribed into a text file, they were transferred to NVivo 14, to generate codes. The initial codes were created through two different methods, in vivo coding and open coding. The in vivo codes focused on using the lived words and phrases of what participants stated during data collection, whereas the open coding generated concepts of their responses. Then, the focused codes were created on NVivo to generate categories of responses. Analytical memos were taken during focus code generation, to provide any rationale or reflections that occurred during the coding processes (Saldana, 2021).

The Second Phase: Online Questionnaire

The second phase of data collection occurred in November 2023. Participants were provided with an online questionnaire via Qualtrics, allowing them to answer open-ended questions without a time constraint. According to their submission timestamps, participants spent between 45 to 60 minutes completing the questionnaire. Before starting, participants were informed that they could take breaks and save their progress to return to the questionnaire later. This one-time individual online questionnaire comprised 8 open-ended questions, mirroring the structure of the initial data collection phase but included two additional questions aimed at

clarifying their sources of motivation for cultural competence, which had been ambiguous in the initial data set, and more directly probing into any reflective practices they might engage in. These additions of questions were performed as theoretical sampling, which allowed for richer data to be collected in subsequent data collection phases (Charmaz, 2014). Each question was accompanied by a sub-question asking for specific examples. Upon completion, the researcher was automatically notified of the submissions via the Qualtrics platform. The comprehensive list of questionnaire items is available in Appendix E.

Following the completion of this phase, data analysis commenced in line with constructivist grounded theory methodologies. The text responses were imported into NVivo 14 for analysis, employing the same coding scheme used in the first data analysis phase, which included initial coding, focused coding, and the drafting of analytical memos. A constant comparison was conducted between the two data sets to identify similarities or differences. After concluding the analysis of the second phase, participants were invited via another Doodle poll to schedule a mutually convenient time for all four participants and the researcher to convene virtually for the final data collection phase—a focus group.

The Third Phase: Focus Group

The third and final phase of data collection, consisting of a focus group session, was conducted in December 2023. Drawing on Anderson's definition, a focus group is identified as a qualitative data collection technique that involves a discussion among individuals sharing specific characteristics, focused on a particular issue or topic (1990). The inherent social dynamics of a focus group facilitate a setting where participants can exchange and learn from each other in a manner resembling their usual social interactions (Casey & Krueger, 2000). Despite all research participants being enrolled in the same entry-level physical therapy program,

their diverse backgrounds, cultures, and experiences enrich the data collected in a group setting, uncovering insights potentially unattainable through individual interviews.

A single-session focus group was organized and carried out, aligning with the participants' and my availability. Participants indicated their availability via a Doodle poll, and I organized their responses using a Google spreadsheet. The questions for this session were refined based on the need to elaborate on findings from the second phase or to fill gaps identified in earlier data collection rounds, with a particular emphasis on various aspects of cultural competence and their experiences in developing cultural competence within the physical therapy program (APTA, 2019; Campinha-Bacote, 1998). The session, lasting around 60 minutes, was audio-recorded with additional consent from participants, who were informed they could take breaks or request a postponement. Comprising four prepared questions, the focus group aimed to delve into each research question and its sub-questions, along with facilitating ongoing participant discussions. All recordings were transcribed using NVivo 14 for analysis, employing the same coding scheme from earlier phases to generate initial and focused codes, along with analytical memos for identified categories. A constant comparison method was applied to analyze this third dataset with the first and second, identifying any similarities or discrepancies. Further details on the focus group questions are provided in Appendix F.

Upon completion of the third data collection phase, all data were compiled and analyzed in NVivo 14 to derive theoretical codes, core categories, and emerging themes, leveraging the constant comparison method to discern patterns across the datasets (Creswell & Poth, 2018). Documents summarizing each participant's responses throughout the data collection phases were created and shared electronically for member checking, enhancing the data's credibility by involving participants in the validation process (Harper & Cole, 2012). This case study,

incorporating constructivist grounded theory methods, facilitated a cyclical and concurrent approach to data collection and analysis (Charmaz, 2006), enabling comprehensive insights into participants' understanding of cultural competence. Through iterative data collection, analysis, and employing strategies like triangulation, constant comparison, and member checking (Candela, 2019; Harper & Cole, 2012), the study achieved data saturation and provided a thorough analysis of the data. Table 7 shows the summary of the main research questions, corresponding data collection, and data collection dates.

Table 7

Summary of Data Collection Per Research Question

Research Question	Data Collection	Dates of Collection
1. What is the understanding of cultural competence by the student physical therapists enrolled in an entry-level Doctor of Physical Therapy program?	Individual, Semi-Structured Interview Online Questionnaire Focus Group	September to October 2023; and November 2023 to December 2023
2. What is the perception of learning cultural competence by the student physical therapists enrolled in an entry-level Doctoral of Physical Therapy program?	Individual, Semi-Structured Interview Online Questionnaire Focus Group	September to October 2023; and November 2023 to December 2023

Data Analysis

In this study, the data analysis process was rooted in the constructivist grounded theory method, aligning with the principles described by Charmaz (2014, 2016) and complemented by insights from Strauss and Corbin (1990, 1998). The constructivist grounded theory approach emphasizes a flexible and interactive engagement with the data, where analysis and data collection proceed concurrently. This simultaneous process is instrumental in uncovering gaps in the data, thereby informing subsequent recruitment and data collection to delve deeper into emerging categories (Charmaz, 2014). As Strauss and Corbin (1990) state the efficacy of data

analysis in grounded theory hinges on the researcher's analytical judgment and creativity, emphasizing the significance of coding as a critical bridge from data collection to theory development (Charmaz, 2006). As previously mentioned, data analysis was performed immediately after the initial individual interview, employing NVivo 14 for data organization and analysis. The process began with an open reading to familiarize myself with data, and initial coding of interviews through in vivo and open codings, evolving into focused coding to synthesize initial codes into cohesive categories. The rigorous application of initial and focused coding, continuous comparison, and the emergence of distinct categories for research questions were then merged into the final data set, to generate theoretical codes and the resulting theme per research question.

It is important to note that the analysis of the collected data in the study was viewed with a foundational lens of my conceptual framework which emphasizes the interconnected areas within cultural competence, alongside the constructs of cultural competence as defined by the APTA. served as a foundational lens to guide this research. This dual perspective was crucial in guiding the interpretation of findings, ensuring that each piece of data was considered concerning the broader constructs of cultural awareness, knowledge, skill, encounters, and desire, which APTA identifies as key to cultural competence (APTA, 2014; Campinha-Bacote, 2002). The analysis process, rooted in constructivist grounded theory, allowed for an iterative engagement with the data, where emerging themes were continually cross-referenced with the APTA's guidelines, the intricacies of my conceptual framework, and the existing literature on cultural competence in healthcare education.

Coding Process

In my research, I employed the constructivist grounded theory approach as outlined by Charmaz (2014), which involves a multi-step coding process to analyze qualitative data. This process begins with initial coding, progresses through focused coding, and culminates in theoretical coding. Each step played a crucial role in the development of my understanding and interpretation of cultural competence within the context of entry-level physical therapy education.

Initial Coding. During the initial coding phase, I engaged with the data line-by-line, assigning codes to segments of text to categorize the information based on its content through NVivo 14. This stage was exploratory, allowing me to remain open to the data's nuances without imposing preconceived categories or theories (Charmaz, 2006, 2014). I aimed to identify actions, thoughts, and occurrences within the data, staying close to the participants' words (Charmaz, 2014). I took an inductive approach, generating a wide array of codes to capture the richness of the participants' experiences. This phase was instrumental in familiarizing myself with the data and beginning to see patterns and themes emerge (Charmaz, 2014).

Focused Coding. As I moved into focused coding, I honed in on the most significant and frequent initial codes, using them to sift through large amounts of data more systematically (Bryant & Charmaz, 2007). This stage required making decisions about which initial codes were most relevant to my research questions and which ones captured the essence of the data (Bryant & Charmaz, 2007). Focused coding allowed me to begin synthesizing and explaining larger segments of data, identifying key categories and their properties (Thornberg & Charmaz, 2014). I was particularly attentive to how these categories related to the construct of cultural competence, integrating insights from the literature and theoretical frameworks relevant to my study.

Theoretical Coding. Finally, theoretical coding was the stage where I integrated my codes into a coherent theoretical framework that explained the processes, relationships, and phenomena observed in my data. This involved identifying the core categories and exploring how they related to each other, guided by the constructivist grounded theory's emphasis on the interconnections between categories. Theoretical coding was not about forcing the data into a pre-existing theory but rather allowing a grounded theory to emerge from the data itself (Charmaz, 2006, 2014). Through this iterative process, I was able to construct a theory of how cultural competence is understood and developed by students in an entry-level physical therapy program, grounded in the empirical evidence collected through my research (Thornberg & Charmaz, 2014).

Analytical Memo

The creation and utilization of analytical memos played an important role throughout the coding process, especially during the generation of focused and theoretical codes. Analytical memos were composed not only after the establishment of initial codes but also in the intervals between data collection phases and following the final data-gathering session. These memos contained detailed reflections on my thought processes, the rationale behind the categorization of data, and reflections on the overall research process. Such reflective practice facilitated a deeper engagement with the data, enabling me to identify patterns, similarities, and differences more effectively.

The use of analytical memos is a critical strategy in constructivist grounded theory, as they serve as a vital tool for developing a deeper understanding of the data and the emerging theory (Birks & Mills, 2015). These memos provide a space for theoretical contemplation and reflection, which is essential for the iterative process of theory construction (Charmaz, 2014).

Memo-writing allows the researcher to document the evolution of their thinking and the development of the study's conceptual framework, making it an indispensable part of the grounded theory method (Thornberg, 2012). Furthermore, the practice of writing analytical memos contributes significantly to the trustworthiness and rigor of qualitative research. By systematically documenting the analysis process, researchers create a transparent trail of evidence that links their theoretical insights back to the original data (Saldaña, 2013). This process not only enhances the credibility of the research findings but also allows for critical engagement with the data, encouraging reflexivity and self-awareness in the researcher (Birks, Chapman, & Francis, 2008).

As a result, the use of analytical memos in this research was instrumental in bridging the gap between each data, and by continuously engaging in memo-writing, I was able to critically reflect on my analytical decisions, understand the complexities of the data, and ultimately, contribute to the development of emerging themes to answer the research questions.

Data Saturation

Throughout the data analysis process, ensuring data saturation was an important part of the research process, particularly during the iterative cycles of data analysis and code development. In this study, data saturation was reached when no new information or themes emerged from the data, indicating that the analysis had comprehensively captured the existing data. This was carefully monitored by conducting thorough and repeated analyses of the data after each round of coding. As I moved through initial, focused, and theoretical coding stages to answer both research questions and their sub-questions, I continuously compared new data against existing codes and categories, looking for repetitive patterns, themes, and variations. This iterative approach allowed for the refinement and elaboration of categories, ensuring that the

emerging themes were robust and grounded in the data. Also, by engaging in constant comparison and seeking theoretical saturation, I was able to confirm that the research findings were reflective of my data and that the themes developed were a true representation of the participants' experiences. This process was able to enhance the credibility and trustworthiness of the research outcomes (Charmaz, 2014).

Researcher Positionality, Reflexivity, and Ethics

Positionality

I am a licensed physical therapist, physical therapy educator, and researcher. This unique combination of roles and experiences positions me in a distinct place within the academic and clinical landscape of physical therapy. Engaging in research through the lens of constructivist grounded theory (Charmaz, 2014), I bring a rich, nuanced understanding of the physical therapy discipline, including the intricacies of patient care, the pedagogical challenges and opportunities in physical therapy education, and the current research gaps within this domain.

Given the constructivist grounded theory approach, which emphasizes the co-construction of knowledge between the researcher and participants (Charmaz, 2014), my background as a physical therapist and educator played an important role in exploring the students' understanding of cultural competence. This background not only provided a deep foundational understanding of the subject matter but also facilitated the development of research questions that were both relevant and grounded in the realities of physical therapy practice and education. My insider perspective also enhanced the depth of inquiry, enabling a more nuanced exploration of cultural competence within the physical therapy domain. Again, this positioning allowed me to interpret findings with a level of insight and empathy that might be less accessible to someone outside the field (Charmaz, 2006).

However, this insider status also necessitated a heightened level of reflexivity throughout the research process. The dual identity of being both a practitioner and an educator within physical therapy meant that I had to critically reflect on how my experiences, biases, and assumptions might have influenced the research process, from the formulation of research questions to data collection, analysis, and interpretation (Birks & Mills, 2015).

As a result, my positionality in this study offered both affordances and limitations. On one hand, my comprehensive understanding of and familiarity with the field facilitated a richer data collection and analysis of the data. I was able to foster trust and openness among the participants who were also within the physical therapy community. On the other hand, there was the potential for preconceived notions or biases related to the profession to color the research findings. This was addressed specifically through practicing reflexivity, adhering to research ethics, and incorporating elements of rigor or trustworthiness for qualitative research.

Reflexivity

Reflexivity, a cornerstone of ethical qualitative research, requires the researcher to continually examine and articulate their positionality and how it impacts the research (Etherington, 2004). In conducting this research, I engaged in a thorough reflexivity process, keenly aware of the multiple hats I wore as a licensed physical therapist and an educator in the field. These roles undoubtedly shaped my perspectives and could have influenced the way I approached, analyzed, and interpreted my data. Recognizing my biases and values was crucial, as they were embedded within my personal and professional experiences (Malterud, 2001). This self-awareness served as a foundation for addressing how these influences might have impacted the research process and its outcomes. For example, there were times during the data analysis when it was tough for me to separate my role as a researcher from my role as the educator of the

participants. To make sure I kept the data from the participants as accurate as possible, I wrote detailed analytical memos explaining my thought process for each coding process, so it was clear how I was interpreting what the participants said. Furthermore, I performed member checking to triangulate the data by double-checking with the participants to ensure that I had accurately captured what they said when I was collecting the data (Lincoln & Guba, 1985).

Furthermore, the power dynamics present in my position as both a researcher and a faculty member directly involved in the learning experiences of participants required careful navigation. I was acutely aware of the potential implications these dynamics had on the research process, particularly in terms of how participants might respond to my inquiries or the information they chose to share. Actively reflecting on these dynamics allowed me to mitigate their impact, fostering an environment where authentic, uninhibited dialogue could flourish (Merriam et al., 2001). Throughout the study, I strived to continuously recognize and question my roles, potential biases, and their possible effects on the research. This ongoing critical self-examination was essential not only for the integrity of the research process but also for ensuring that the findings were a valid and accurate representation of the phenomena under investigation (Finlay, 2002).

Ethical reflexivity had also been a cornerstone of my approach, guiding me to uphold the confidentiality and privacy of participants throughout the research process. This ethical commitment underscored the importance of treating the information provided by participants with the utmost respect and care, ensuring that their identities were protected, and their contributions were valued (Guillemin & Gillam, 2004). In sum, my reflexivity process was integral to navigating the complexities inherent in my dual roles as a researcher and a practitioner. By critically examining my influence on the research, I aimed to enhance the

credibility and authenticity of my findings, contributing meaningful insights into the field of physical therapy education.

Ethics

The ethical integrity of this research study was rigorously maintained, beginning with obtaining approval from the Institutional Review Board (IRB) to ensure compliance with all university and IRB guidelines. Respect for participants was paramount, and ethical and legal considerations were adhered to throughout the study. Before their involvement, participants provided signed informed consent forms, underscoring the voluntary nature of their participation. This consent was also verbally reaffirmed before any data collection activities. At every interaction with participants, I presented detailed information about the study, including its scope and the participants' right to withdraw at any time. Additionally, all sensitive data was securely stored on a university-managed Google Drive, accessible only to me, the researcher. Any identifiers were removed during the data analysis phase, and pseudonyms were assigned to ensure confidentiality.

Elements of Rigor

Obtaining a high level of validity for the research study can be maintained by increasing the rigor of the research. Creswell and Poth (2018) argue that researchers should consider incorporating multiple validation strategies in their studies to enhance rigor. In this study, data triangulation was employed as a key strategy to increase the validity and credibility of the qualitative analysis. Data were systematically collected from individual interviews, online questionnaires, and focus group discussions. This multifaceted approach allowed for the cross-verification of information across different data sources, thereby enriching the depth and breadth of the study's findings (Carter et al., 2014; Creswell & Poth, 2018).

Moreover, member checking was utilized as an additional strategy to ensure the accuracy and reliability of the data interpretation (Harper & Cole, 2012). By soliciting participants' views on the credibility of the findings and their reflections on the presented interpretations, this method served to validate the research findings from the perspective of those who provided the data. This iterative feedback process not only enhanced the trustworthiness of the research but also ensured that the participants' voices were accurately represented in the study's conclusions (Creswell & Poth, 2018; Harper & Cole, 2012).

Elements of rigor in qualitative research, such as data triangulation and member checking, are fundamental in establishing the study's validity and reliability. These strategies align with the broader principles of qualitative validity as discussed by Lincoln and Guba (1985) who emphasized incorporating validation strategies to not only adhere to established methodological standards but also significantly contribute to the overall integrity and robustness of the research findings.

Recognizing and decreasing biases through rigorous reflexivity practices was essential to maintain the integrity and trustworthiness of the research (Finlay, 2002). By actively engaging my reflexivity and communicating with someone outside the field (my advisor), I was questioned about these affordances and limitations, leveraging my background to enrich the study while ensuring that the research remained ethical and grounded in the participants' experiences rather than my preconceptions, and considering alternative conceptualizations of the data.

Challenges and Limitations

In the process of conducting this research, I encountered several challenges and limitations that influenced the scope and depth of the study's findings. A primary difficulty was the scarcity of literature specific to cultural competence in physical therapy education (Alvizu-

Calzada & Durham, 2021; Doyle & Bliss, 2008; Hayward & Li, 2014; Kawathekar & Campbell, 2023). The low number of literature specific to physical therapy education required me to extend my literature review to encompass research from adjacent disciplines, including nursing (Choi & Kim, 2018; Loftin et al., 2013; Sharifi et al., 2019), medicine (Lee et al. 2020; Mews et al., 2018; Ring et al., 2018; Truong et al., 2014), clinical counseling (Owen et al., 2011; Tormala et al., 2018), social work (Jansson, 2018; Nadan, 2017), clinical psychology (Hall et al., 2016; Sue et al., 2009), and public health (Larson et al., 2014; Marmot et al., 2008). While these fields offer valuable insights into cultural competence, the direct applicability of their findings to physical therapy education may not always be straightforward, potentially limiting the specificity of the conclusions drawn for this particular discipline.

Another significant limitation was the homogeneity of the study's participants, who were predominantly white female students. This demographic composition mirrors the broader workforce in physical therapy but also constrains the diversity of perspectives explored in the study (Lazaro & Umphred, 2007). While the single case study design and constructivist grounded theory methods facilitated in-depth data collection from a homogeneous sample, the inclusion of more students of color could have further broadened and enriched the narratives and insights generated, offering a more comprehensive understanding of cultural competence across diverse student experiences (Lazaro & Umphred, 2007).

Additionally, the reliance on self-reported data presents a potential challenge (Gonyea et al., 2020. Self-report methods can introduce bias, as participants may provide responses they perceive as socially desirable or reflective of self-perception rather than their actual beliefs or behaviors (Paulhus & Vazire, 2007). This limitation might affect the authenticity and reliability

of the data concerning participants' understanding and enactment of cultural competence (Montoya & Hayes, 2017).

Furthermore, another challenge encountered during this study was the issue of recollection among participants. Given that the curriculum spans three years and participants were in their penultimate semester, students faced difficulties recalling specific details and experiences from their first year. This temporal gap posed a significant hurdle in gathering comprehensive data on their longitudinal development of cultural competence throughout the entirety of the program. The reliance on participants' memory for events that occurred up to two years prior introduced an element of uncertainty in the accuracy of the recounted experiences (National Academies of Sciences, Engineering, and Medicine, 2017). This limitation not only affected the depth of the data collected but also raised questions regarding the reliability of retrospective accounts, thereby complicating the analysis and interpretation of how cultural competence evolved throughout their education.

These challenges and limitations underscore the need for a cautious interpretation of the study's findings. They also highlight areas for future research, such as the exploration of cultural competence in physical therapy education across a more diverse range of programs and the inclusion of broader participant demographics to capture a more comprehensive array of experiences and perspectives. More on the limitations and next steps are discussed in Chapter 5.

Chapter 4: Findings

The purpose of this chapter is to describe the findings of the study. After the data were collected and analyzed continuously through the constructivist grounded theory approach (Charmaz, 2014), findings emerged from the analysis of data from individual interviews, online questionnaires, and focus group data. The findings in this chapter are organized by the two research questions and their sub-questions.

Research Question 1

1. What is the understanding of cultural competence by student physical therapists enrolled in an entry-level Doctor of Physical Therapy program?
    a. What constructs of the APTA's *Blueprint for Cultural Competence* can be found in student physical therapists' understanding of cultural competence?
    b. What constructs of the PCC Model can be found in student physical therapists' understanding of cultural competence?
2. What is the perception of learning cultural competence by the student physical therapists enrolled in an entry-level Doctor of Physical Therapy program?
    a. What learning experiences do physical therapist students believe facilitated their understanding of cultural competence?
    b. What do student physical therapists believe is the most effective way to learn cultural competence?

Understanding Students' Cultural Competence:

The Constructs of the APTA's *Blueprint for Cultural Competence*

This section presents findings on the first research question and its first sub-question, revolving around the APTA's *Blueprint for Cultural Competence*. The inquiry explored the essence of cultural competence within physical therapy, posing questions to explore the APTA's three foundational constructs: consumer-centricity, access/equity, and advocacy (Table 1, p. 21). To recite, consumer-centricity emphasizes patient empowerment and active participation in their care plan, access/equity aims at fostering societal change toward greater inclusivity, and advocacy is dedicated to representing patients' interests while ensuring the provision of superior care standards (APTA, 2014).

Purpose of Cultural Competence

When I asked about their understanding of the purpose of cultural competence in physical therapy, participants uniquely responded with diverse aspects, yet unanimously acknowledged two key constructs highlighted by the APTA: consumer-centricity and advocacy. Their responses collectively highlighted a commitment to ensuring patient perspectives are integral to care planning and providing effective treatments to the patients. Riley responded: "Just making the patients feel seen, heard, and understood to include the patient and build the plan of care together, including all aspects of their life, like everything, because there is a right treatment option for everyone." She underscored the importance of acknowledging patients' needs and inclusively creating a plan of care that considers all facets of the patients' lives. Similarly, Terry noted the value of extended interaction times with patients in physical therapy practice, to bolster patient inclusion:

> So as a physical therapist, the best part about the job in general is that you have so much more one-on-one time with your patients. So if you could understand them and their background, that just makes your relationship with them stronger, and that makes your ability to provide a solid plan to care together.

Terry described that a profound understanding of her patients and their cultural backgrounds significantly contributes to building rapport, which, in turn, enhances the quality of the plan of care. This emphasis on patient inclusion in healthcare services is indicative of a strong commitment to consumer-centricity, as outlined by the APTA in their *Blueprint for Cultural Competence* (2014).

Another construct that was evident in the participants' responses was the idea of advocacy, placing significance on representing their patients individually as well as collectively. Dakota described how the purpose of cultural competence was ultimately related to the clinical outcome: "I'd say the purpose is to be able to give the highest standard of care." To describe the purpose of cultural competence, Dakota drew a direct connection between cultural competence and clinical outcomes (Troung et al., 2014). This focus on providing the most effective care for improved clinical outcomes continued with Noel, as she stated:

> The purpose is to provide the best treatment … and it [the purpose] should apply to all healthcare providers, not just physical therapists. Being culturally competent benefits everyone in the system. So, healthcare professionals are obligated to do better and make patients feel comfortable.

Noel also mentioned the potential impact of cultural competence, which can be directly related to the health outcomes of the patients (Troung et al., 2014). Further, she claimed that not just physical therapy disciplines, but all healthcare disciplines must be culturally competent to

provide the best care. Through her purpose, Noel demonstrated a strong sense of advocacy to commit her effective healthcare service to her patients, and she expanded her responsibility not only at an individual level as a physical therapy clinician but also as a collective, healthcare professional. As a result, Dakota and Noel shared their understandings related to the construct of advocacy, as described in the APTA's *Blueprint for Cultural Competence*.

In contrast to the more prominently discussed constructs of consumer-centricity and advocacy, the theme of access/equity was less pronounced among participant responses regarding cultural competence's purpose. Among the respondents, only Dakota drew a direct correlation between the concept of cultural competence and its broader societal implications, attributing this insight to her firsthand observations of unintentional health disparities encountered during her ongoing clinical practicum. Dakota's placement was in an acute care hospital, specifically within a neurological unit designated for patients suffering from brain injuries, strokes, and spinal cord injuries. This unit predominantly served Black and Hispanic individuals from lower socioeconomic backgrounds. She described her clinical practicum environment as being replete with unexpected encounters, including a significant number of patients presenting with untreated, chronic conditions that she had not anticipated, highlighting the educational and practical implications of such disparities:

> Yes, so actually, now that I'm in an acute care hospital rotation in a different [lower] socioeconomic background that, like I'm not familiar with, I think I've seen, like more and more health conditions and things that may affect people of different cultures.

During her clinical practicum experience at an acute care hospital, Dakota observed a significant number of patients whose symptoms had been neglected for an extended period. She acknowledged the influence of social determinants of health, such as low socioeconomic status

and less access to healthcare, to underscore the potential connection between these factors and patient health conditions (USDHHS, 2013). In contrast, other study participants prioritized direct patient communication and treatment approaches as their primary interpretation of cultural competence. Riley, another student who was similarly placed in an acute care hospital setting, although at a different hospital from Dakota, focused on a different perspective. She emphasized her commitment to delivering effective interventions to "each patient that I see on a daily basis," highlighting a more individualized approach to cultural competence.

The discourse on enhancing care accessibility for underserved communities, engaging in community collaboration, or advocating for policy reforms to extend the benefits of physical therapy was notably absent from the participants' discussions, which challenged the notion of the existing construct of access/equity within the participants' understanding of cultural competence (APTA, 2014).

Defining Students' Cultural Competence

Following their responses to questions regarding the purpose of cultural competence, participants were then invited to provide their definitions of cultural competence. Additionally, they were prompted to discuss the experiences that informed these definitions, revealing a range of unique insights. Dakota and Riley, for instance, both highlighted that cultural competence involves the ability to understand and establish connections with patients. This understanding allows clinicians to actively involve patients in their plan of care. However, their paths to this shared definition varied. Dakota attributed her understanding to her hands-on experiences during her clinical practicum, stating, "My definition is from working in healthcare and serving a variety of patients with different cultural backgrounds that differ from my own." Conversely, Riley traced her definition back to her academic learning, noting, "The main driver for my

definition is my coursework. I didn't know how many people were struggling because of the unfair system. I honestly had not heard of the term [cultural competence] prior to my coursework." Despite the different origins of their definitions, both emphasized a patient-centered approach, underlining the importance of building connections and rapport with patients and positioning them at the heart of the care process. This similarity in their underlying rationale showcased the integration of consumer-centricity within their conceptualization of cultural competence, although reached through diverse experiential pathways.

Contrasting Dakota and Riley's perspectives, both Noel and Terry identified the essence of cultural competence as the capability to adapt to their patients' needs. Noel recounted her family's challenges in navigating the U.S. healthcare system as immigrants from Poland. She expressed gratitude for healthcare providers who could tailor their care plans to accommodate her family's traditions. Noel specifically remarked:

> I have seen difficulty for my parents, grandparents, and myself to adjust to the American culture. When my family picks healthcare providers, they always try to pick someone who is Polish because it is easier for them to communicate due to no language barrier; nothing needs to be adjusted.

Similarly, Terry shared insights from her personal life, noting that being in a relationship with someone from an Arabic background necessitated significant adjustments. She observed that her partner and their Arabic friends faced obstacles within the U.S. medical system due to cultural differences, leading her to conclude the importance of cultural competence in physical therapy for adapting to the diverse backgrounds of patients. The narratives from Noel and Terry highlighted the importance of adaptability in healthcare, advocating for personalized care that addresses the unique needs of everyone.

The APTA defines cultural competence as "the process in which the healthcare professional continually strives to achieve the ability and availability to effectively work within the cultural context of the client—family, individual, or community" (Campinha-Bacote, 2002, p. 181). Despite the variance in how each participant arrived at their definition, it's clear that all definitions align with the APTA's framework to some extent. Dakota and Riley focused on being able to connect to the patient to build rapport and include them in the care process, and Noel and Terry emphasized the ability to adapt to different cultural backgrounds to advocate for the most effective care that they can provide. This collective insight underscored a broad consensus on the significance of cultural competence in healthcare, highlighting both constructs of consumer-centricity and advocacy as critical components.

Distinct Motivation and Development Processes of Cultural Competence

In the progression of exploring the constructs of cultural competence as delineated by the APTA's *Blueprint for Cultural Competence*, participants were asked about their motivational drivers and the developmental process for cultural competence within the domain of physical therapy. Questions were directed towards explaining personal motivation and the developmental process that promotes enhancing cultural competence, and sample questions included, "What is your personal motivation for providing care that is culturally competent?" and "In your opinion, how does cultural competence develop in the physical therapy profession?". These questions were designed to explore their individual experiences, examine the sources of motivation to enhance cultural competence, and develop the participants' conceptualizations within the profession.

The findings showed variability in personal motivations among the participants, each showing unique drivers behind their desire towards cultural competence. Similarly, variations

were evident in their perspectives on the process through which cultural competence grows within the physical therapy field. Despite these differences in motivational factors and perceived developmental processes, a unifying finding emerged: all participants were actively engaged in a process of self-directed learning aimed at improving their cultural competence.

Motivation to Improve Cultural Competence

In the section on the motivation to enhance cultural competence, the interview questions probed the reasons behind the participants' desire to improve their cultural competencies, should they choose to do so. Dakota quickly responded, revealing her belief that all individuals should receive the kind of care one would want for their own family:

> Every time I'm seeing a patient, I always think to myself, like, okay, what if that was my friend, or my mom, or somebody I know? How would I want them to be treated? And so that [idea] motivates me to want to understand any cultural barrier.

Her answer encapsulated advocacy as her primary motive for grasping cultural competence. She aspired to extend familial levels of care to all her patients, emphasizing her approach with a desire for inclusivity and understanding.

Riley, similarly, was driven by advocacy but with a nuanced focus. Rather than aiming for a universally equitable treatment, she was spurred by the goal of clinical precision. Her motivation stemmed from a desire to ensure accurate diagnoses and individualized interventions, aiming for optimal clinical outcomes and minimal medical errors. She expressed, "I don't want them to have a poor experience with me because I was not competent," highlighting her dedication to professional excellence and patient satisfaction.

Noel articulated her motivation through the lenses of consumer-centricity and advocacy, reflecting on personal and familial experiences with healthcare. She voiced a commitment to

preventing her patients from enduring the disheartening experiences her family faced, emphasizing the importance of culturally sensitive care to mitigate feelings of self-consciousness and frustration in non-English speaking patients: “Now my mom feels a little bit more self-conscious, like my mom when she goes to healthcare professionals, she actively seeks to make sure that she would prefer to go to someone who is Polish because she does not speak English too well. She is just so tired of bad experiences.”

Terry underscored the profession’s responsibility as the cornerstone of her motivation. She advocated for a personalized approach to physical therapy, asserting the necessity of tailoring patient care to individual needs and objectives. Her motivation is deeply rooted in the belief that physical therapists should avoid a one-size-fits-all methodology in favor of a patient-centric approach: “No physical therapist should give the exact same exercises to everyone and instead apply differences between patients and their goals.” Her perspective emphasized the critical role of consumer-centricity, prioritizing the integration of patients’ goals into their care plans.

This section vividly illustrated the varied yet deeply personal motivations driving student physical therapists toward improving their cultural competence, each anchored by a common desire to enhance patient care through the lens of consumer-centricity and advocacy.

Development Process for Cultural Competence

The exploration of how participants develop cultural competence within the physical therapy profession revealed diverse perspectives. One of the sample questions, “In your opinion, how does cultural competence get developed in the physical therapy profession?” aimed to understand how participants believed they developed their cultural competence.

Dakota credited good mentorship as a pivotal part of her learning journey, particularly in

dealing with challenging patients or diagnoses, emphasizing her growth through experiences with a clinical instructor at the hospital. In contrast, Riley highlighted the significance of classroom learning as foundational, stating, "I think the classroom introduces the concepts and how to be more culturally competent even before we go out for the real-life experience." She argued that theoretical knowledge is essential before engaging in clinical practice, believing that without a solid understanding of cultural competence, practical application is hindered.

Noel presented a different viewpoint, valuing the exposure to a diverse patient population through clinical practicum experiences more, rather than the classroom experience. She noted, "Unlike other healthcare providers, we [as physical therapists] see the same patient multiple times a week, so one might argue that our longer interactions make a longer-lasting impression on our patients." Noel posited that repeated and extended contact with patients enhances the development of cultural competence, making a more substantial impact on both the provider and the patient.

Lastly, Terry stressed the importance of consumer-centricity and highlighted the importance of the personalization of care to develop cultural competence:

> And that's, that modifying your program to meet what's important to them, while achieving their goals or understanding that something might be difficult for them to do, and showing them moral support, verbal support, or whatever support, means you're getting better.

She explained the importance of adjusting treatment programs to align with patients' needs and values, suggesting that the ability to customize a plan of care facilitates the development of cultural competence.

The analysis of how participants perceive the development of cultural competence revealed varied approaches, yet a consistent theme emerged across the responses, emphasizing the principles of consumer-centricity and advocacy. Notably absent from the dialogue, however, was the concept of access/equity. Participants did not address issues such as recognizing current health inequities, engaging in community collaboration, or efforts to enhance awareness—all integral elements of the access/equity construct as outlined by the APTA (2014).

Actively Engaging in Self-Directed Development of Cultural Competence

The analysis and collection of data uncovered a consistent theme among participants regarding their motivations and approaches to developing cultural competence. Despite the varied paths they took, a shared commitment to enhancing their understanding of cultural competence was evident. Each participant, driven by a personal motivation to improve, engaged in unique methods to expand their cultural competence. These methods included actively questioning clinical instructors, reflecting on personal encounters with patients, and consciously moving beyond a mere textbook understanding of cultural competence. This practice of inquiry was common across all participants, underscoring the importance of a proactive learning stance. Terry, during a focus group discussion, emphasized the critical role of asking questions, stating, "Learning cultural competence is important to students, but at the end of the day, we are still students." She advocated for a more dynamic learning process, urging students to engage directly with clinical instructors rather than waiting passively for information. Riley supported Terry's viewpoint, reinforcing the idea that continuous inquiry is vital:

> So, I think, as a student, it's really important to like, keep it on the front of your mind and kind of keep asking those questions to find out . . . what if we didn't have the clinical instructor at the moment, what would we do in that situation?

Terry highlighted an active engagement with the learning process, where questioning and reflection are instrumental in developing a deeper understanding of cultural competence.

Noel concurred with the significance of proactively questioning to enhance learning, noting a common tendency among students to rely heavily on textbooks for processing clinical information, at the expense of considering the patient more holistically. She emphasized her practice of initially reviewing the patient's medical record to gain a preliminary understanding, followed by a deliberate effort to look beyond mere clinical data. By focusing on the broader context of the patient's life, Noel aims to grasp the entirety of the clinical encounter in a holistic manner, ensuring that no critical aspect of the patient's culture is overlooked. Dakota also contributed to the discussion by highlighting the value of open communication with her colleagues. She described her approach to reflecting on patient interactions and actively engaging with coworkers and clinical instructors, advocating for a collaborative, team-based method in treatment planning and execution.

In summary, while the motivations and developmental methods varied among participants, their commitment to developing cultural competence was unified by actively engaging in self-directed learning activities and showing a personal drive to improve, underscoring the multifaceted nature of learning in the context of cultural competence within physical therapy.

Understanding Students' Cultural Competence: The Constructs of the PCC Model

The second sub-question for research question 1 was formulated to collect the evidence of five constructs of the PCC Model, which are namely, cultural awareness, cultural knowledge, cultural skill, cultural encounter, and cultural desire, from the participants' understanding of

cultural competence (Campinha-Bacote, 2002). The sample questions included "How do you learn about your patient's health-related beliefs?," "how do you assess your own cultural competence?" and more. During the data analysis process, it was shown that students collectively demonstrated three of the five constructs—the evidence of cultural awareness, cultural encounters, and cultural desire. These three constructs were part of their understanding of cultural competence. However, the last two constructs—cultural knowledge and cultural skill--were difficult to find from the data.

Exploring Five Constructs of the PCC Model

Cultural Awareness

Campinha-Bacote (2002) emphasizes the importance of cultural awareness as the acknowledgment and understanding of one's own inherent cultural biases and prejudices towards others. When the participants were asked about their cultural backgrounds and their experiences sharing these with patients, their responses highlighted their journeys toward cultural awareness. Dakota expressed her ease in discussing her cultural identity with others, including patients, noting that engaging with classmates on topics of bias had deepened her self-understanding and helped her navigate personal biases. Similarly, Riley felt comfortable sharing her cultural background with patients, but she specified that such exchanges occurred only when patients were open to discussing cultural matters. She attributed her ease with these discussions to classroom activities that explored biases, prejudices, and assumptions among peers, which facilitated her comfort with the subject. Additionally, Noel considered that demonstrating cultural competence could enhance patients' comfort levels, suggesting a link between provider transparency in cultural matters and improved patient rapport:

> I think it makes it feel more comfortable, especially when I know that a patient is also from a different cultural background like myself. I feel like, it makes them feel a little bit more comfortable too, knowing that I am not from this country and sensitive to their experiences.

Building on Noel's insights about enhancing patient comfort, Terry also noted the importance of patient comfort in fostering a strong rapport between physical therapists and their patients. Each participant discussed the significance of sharing their own cultural experiences as a means to connect with patients, highlighting how classroom discussions about personal biases, assumptions, and prejudices have been instrumental in developing their cultural awareness. These discussions provided a safe space for open dialogue, which, in turn, facilitated a deeper understanding of their perspectives and how these can influence patient care. The four participants demonstrated a commitment to integrating the principles of cultural awareness into their clinical practice, actively engaging in conversations with both peers and patients at their respective practicum sites. This approach to cultural exchange and reflection was shown to be a valuable component of their daily interactions, contributing to a more inclusive and understanding healthcare environment.

Cultural Knowledge

The exploration of cultural knowledge encompassed the process of seeking and learning the foundations of various cultures, along with "understanding the knowledge about health-related beliefs, disease prevalence, and treatment efficacy" (Campinha-Bacote, 2002, p.182). In the course of individual interviews, students were explicitly asked to describe how they acquired health-related beliefs, share their knowledge on disease prevalence, and explain their understanding of the efficacy of treatments within culturally-based assessments and

interventions. A prevalent observation concerning this particular construct was the absence of proactive efforts by any participant to incorporate the patient's cultural beliefs into their standard assessments. However, certain students, notably Dakota and Riley, indicated that they would engage in discussions about a patient's beliefs if the situation naturally presented itself. Dakota's response to the query highlighted a lack of formal assessment: "Let me think about this one. Um, I wouldn't say, I wouldn't say like I formally assess it." In a vein similar to Dakota's, Riley also stated:

> I do not necessarily formally, like, I won't ask them off the jump. But if there's something that's a little bit different [from my own health-related beliefs], maybe I'll try … asking more questions to get a better image of [it].

Furthermore, Noel and Terry, through their interviews, echoed the sentiment that actively assessing health-related beliefs is not a practice they engage in unless initiated by the patient.

Another question was asked to determine if participants possessed knowledge regarding the incidence and prevalence of diseases among individuals from diverse cultural backgrounds. While recognizing the significance of understanding the disease prevalence specific to different cultures as a crucial aspect of cultural competence (Campinha-Bacote, 2002), participants expressed a basic awareness of cultural differences in disease prevalence. During discussions on their familiarity with the prevalence of certain diseases linked to race and ethnicity, Dakota mentioned in her interview: "I am aware that they [disease incidence prevalence tied to certain populations] exist, but I definitely am still learning." Similarly, Riley acknowledged her awareness but admitted to a lack of confidence: "But I'm not confident. I just started to see a bit more [of specific prevalence] at the hospital." Riley also elaborated on her experiences in her clinical practicum, noting an increased observation of disease incidence and prevalence among

different cultural groups. Situated in a hospital serving predominantly Black and Hispanic communities, Dakota observed a pattern of recurrent diagnoses. Noel and Terry's reactions paralleled this sentiment; Noel confessed: "[I] feel not educated enough to make any statement about the incidence and prevalence," whereas Terry admitted: "I'm somewhat aware of culture-specific incidences, like type 2 diabetes and certain respiratory diseases." Despite the higher incidence of type 2 diabetes among Black and American Indian/Alaska Native adults compared to White adults, Terry could not provide further details on which group has a higher prevalence.

The effectiveness of treatments grounded in cultural considerations constituted another facet of cultural knowledge, with participants being specifically inquired about their comprehension regarding the efficacy of such treatments. Dakota and Riley offered cautious perspectives, suggesting that treatments tailored to diverse cultural backgrounds could be advantageous for patients from varying cultures. Conversely, Noel and Terry admitted to a lack of awareness concerning the differential outcomes of treatments based on cultural methodologies. Noel articulated her uncertainty by stating: "I don't think I can tie different treatment methods that are more effective for specific patients." This overarching sentiment indicated a minimal grasp of the nuances within the domain of cultural knowledge, yet each participant conveyed an eagerness to expand their understanding and recognized the significance of this knowledge.

Cultural Skill

Centered on the competency to gather pertinent cultural information from patients, this construct necessitates the utilization of cultural knowledge to devise interventions that resonate with the cultural context of the individuals being served (Campinha-Bacote, 2002; Leininger, 1978). The participants' feedback mirrored the difficulty in identifying instances of cultural skill,

paralleling the previously discussed challenge with the construct of cultural knowledge. Although all participants expressed a sense of comfort in collecting relevant cultural data from their patients when deemed necessary, this practice was neither uniformly adopted nor prioritized within their treatment approaches. Dakota remarked, “Yeah, that’s something I don’t really think I’ve done it before. But yeah, I would feel comfortable if I were to do so,” indicating a theoretical openness to incorporating such data collection into her practice, despite its absence from her current methodologies. Riley, while acknowledging her sporadic efforts to gather her patients’ cultural data, admitted, “Honestly, it’s not my top priority.” In contrast, Noel frequently sought opportunities to collect pertinent cultural information from her patients, specifying her comfort in doing so primarily when the patient shared her gender or a similar cultural background.

> Do I feel comfortable? I think it depends on what culture. Because, if I know that someone is like Eastern European descent, I feel a little bit more comfortable approaching that. That culture, well, because I come from that culture, especially. I think also, if it’s a woman, I feel a little bit more comfortable approaching that but I wouldn’t say, say, every, yeah, I don’t. I’d say like 75% of the time, I don’t feel comfortable because I might offend them because of my ignorance.

Noel identified a potential reason for her discomfort when interacting with patients who differ from her in terms of culture or gender. She highlighted the pressures associated with her role as a student physical therapist, specifically the need to accurately diagnose and propose interventions under the scrutiny of her clinical instructor to ensure her performance met the requirements of her clinical practicum and to successfully pass the course. Moreover, she expressed concern about the possibility of making an inappropriate comment, stating, “I might just say the wrong

thing and be disrespectful, and I really really don't want that." Noel also reflected on the gap between academic learning and practical application, observing, "Like in school, we learn so much, and then you go out into the field, and you're like, 'oh my god, that [diagnosis or treatment] was never taught to me.' That's also because there's just so much out there." Consequently, during her assessments, she focused primarily on her clinical evaluations, compiling an accurate list of diagnoses and interventions, while the collection of relevant cultural data was not treated as an immediate priority.

While Terry acknowledged not actively pursuing the collection of culturally relevant data as a means to develop cultural skills, she noted how this information often comes to her without direct inquiry. She expressed concern about potentially causing discomfort to her patients, stating, "I feel like I get that information somehow, anyway, and like, I don't want to step on someone's toes, you know? I also don't want to make it seem like, well, you need to answer this." Her hesitancy was coupled with a preference for allowing such exchanges to occur naturally, rather than forcing them. This attitude reflected a broader trend among participants, who, despite recognizing the value of gathering culturally relevant data, did not prioritize it in their practice. This led to a noticeable gap in cultural skills among all participants.

Cultural Encounter

The construct of cultural encounter involved actively engaging in interactions across different cultures or refining or modifying pre-existing perceptions about a cultural group. This construct emphasized the importance of recognizing intra-ethnic diversity and addressing the linguistic requirements of clients (Campinha-Bacote, 2002). Participants reported that their encounters with patients led to adjustments in their preconceived notions and enhanced their comfort level in dealing with intra-ethnic variations and linguistic needs. Although some

participants shared a specific event where they had challenges practicing this construct, the findings of this construct were evident throughout their responses. For example, in her interview, Dakota shared insights into how her interactions with patients frequently led her to reconsider or alter her cultural beliefs. She recounted a specific instance during her clinical practicum in an acute care hospital situated in a region of lower socioeconomic status. Here, she experienced a shift in her viewpoint regarding individuals who delay seeking medical treatment for their conditions, revealing:

> And so, after I work with individuals with other cultural backgrounds, I kind of take like a step back after, and start to think things over. And a lot of the times, I think about how, like, initially their health condition, or dysfunction, or whatever, could have been prevented, or how they could have got treatment earlier . . . because nobody like really cared enough to give them the effort to prevent it.

Dakota provided an instance where her pre-existing perceptions were altered following interactions with patients from lower socioeconomic backgrounds, who demonstrated limited health literacy and faced barriers to accessing quality healthcare. She expanded on her observation, noting that the significant delay these individuals experienced before seeking medical attention was rooted in systemic barriers hindering their access. This experience led Dakota to recognize the link between health disparities and social determinants of health, reshaping her understanding of the challenges faced by these populations.

Conversely, Riley highlighted her approach to cross-cultural interactions not as altering her existing beliefs but as refining her comprehension of individuals from diverse backgrounds. She perceived these encounters as educational opportunities that enhanced her understanding without fundamentally shifting her perspective, allowing her to view patients more holistically:

> It's like an educational opportunity, and instead of changing my cultural beliefs, it increases the level of understanding, you know, instead of completely changing my perspective. It still helps me to view the patient holistically.

Similarly, Noel and Terry indicated that their experiences did not lead to a change in beliefs but rather to a deeper understanding of others' cultural beliefs. Noel articulated this by saying, "It's not about disregarding my old belief, but just being more open-minded."

The process of engaging with patients' linguistic needs was another aspect of cultural encounters. Dakota and Riley employed various strategies to overcome language barriers, including the use of language interpreters and translation technologies. Dakota shared an instance where, despite having the assistance of a family member for translation, she opted for a professional interpreter to ensure a comprehensive understanding and care for her patient, stating:

> Although the family member was helping with translating and we can technically, do the eval[uation] and treatment, I still wanted to get the full experience, and like don't miss anything for the patient, so [I] requested a professional interpreter at the hospital.

This proactive step demonstrated her commitment to fully addressing the patient's linguistic needs during a cultural encounter.

Riley also expressed her comfort in treating patients who speak languages other than English, attributing her confidence to the hospital's translation technology. She remarked, "The translation technology we use at the hospital is great. I'm learning how to incorporate this [technology] into my sessions." Her proactive approach to learning and employing technological solutions highlights her commitment to facilitating cultural encounters and effectively communicating with her patients.

During her interview, Noel was working in a pediatric setting. She shared that verbal communication was not her primary method for interacting with her young patients due to language barriers. Specifically, she mentioned, “A lot of my patients cannot speak English, or any language at all, so I look for something different, like tactile, visual, whatever that gets me to deliver my messages.” Further elaborating on her approach, Noel shared a personal insight, saying, “And I also feel very comfortable because I do come from a different culture where I had grandparents who didn’t speak English at all.” This background provided her with a unique perspective, enabling her to navigate the linguistic hurdles encountered in clinical settings from both the healthcare provider’s and the patient’s standpoint.

Terry revealed that her relationship with her significant other had been instrumental in exposing her to numerous cultural experiences and learning opportunities. This exposure was not only enriching personally but also professionally beneficial. She actively sought to understand the cultural backgrounds of her patients, stating:

> I’ll look it up [what I did not know about my patient’s culture] or talk to them about it. And then I learn general techniques that I can kind of carryover from patient to patient when verbal communication isn’t too easy to achieve.

The narrative further unfolded as participants recounted their experiences across various clinical practicum settings, highlighting instances of either refining their pre-existing beliefs or adapting their approaches to meet the linguistic and cultural needs of their patients. As a result, the construct of cultural encounters was present through the cross-cultural interactions that participants were involved in.

Cultural Desire

Cultural desire, identified as the final element within the PCC Model, was intricately linked with the other four constructs of the model, serving as a bridge that enabled the learner to transition seamlessly among these constructs (Campinha-Bacote, 2002). The author elaborated on this construct, by emphasizing its role in inspiring healthcare providers to actively pursue cultural competence out of genuine interest rather than participating due to a sense of obligation or coercion. While Dakota initially expressed feeling obligated to attain cultural competence, she also conveyed a strong inclination toward ensuring her patients receive the highest standard of care. She further emphasized that cultural barriers should not impede the delivery of care, advocating for the necessity of all physical therapists to actively pursue cultural competence.

Riley underscored her commitment to cultural competence by emphasizing its fundamental purpose: “Because ignoring the cultural context will result in people being unseen and unheard.” She aimed to ensure that her patients felt acknowledged and valued, fostering an environment where they could actively engage in their healthcare decisions. Her dedication to patient-centered care extended beyond her professional duties, as evidenced by her investment in learning translation technology outside of her regular working hours. Noel similarly articulated a deep-rooted desire to achieve cultural competence, focusing on the importance of clear communication with patients and their caregivers: “I just want them to feel comfortable, when they are in physical therapy or any healthcare services.” She highlighted her efforts to create a welcoming atmosphere by adopting a gentler tone and avoiding medical terminology, aiming to make her patients and their caregivers feel at ease. Terry shared a perspective that resonates with Noel’s, viewing the development of cultural competence as integral to her growth as a clinician. She expressed this as a daily learning process that enhances her ability to meet her patients’ needs effectively: “It [being culturally competent] allows me to be better. It’s about accepting

and modifying to meet their [patient's] needs, and like having that respect and confidence for my patients." Terry also stressed the significance of treating patients with the utmost respect, likening her approach to caring for family members, which underscores her commitment to fostering a respectful and understanding healthcare environment.

Therefore, the presence of cultural desire was consistently evident among all participants, as highlighted by their responses. Their discussion of cultural desire underscored a genuine commitment to ensuring the well-being and respect of their patients.

Continuous Nature of Cultural Competence

The study uncovered a key insight regarding the perpetual nature of cultural competence, highlighted through iterative processes of data collection and analysis. Participants emphasized that cultural competence is an ongoing journey, acknowledging the dynamic nature of interactions that preclude a definitive endpoint. For instance, Dakota observed the fluidity in patient encounters, remarking that patients can present differently from one day to the next, saying, "They are like completely different people." Similarly, Noel experienced variability in patient behavior during her pediatric clinical practicum placement, noting, "You just don't know what to expect. I mean, patients can love you one day, and then they cry throughout the entire session the next time." She further recognized the importance of monitoring emotional well-being, especially among children and teenagers with chronic disabilities, as they are more susceptible to depression (CDC, n.d.), underscoring the need for frequent emotional check-ins. Additionally, the concept of culture's evolving nature emerged as a prominent theme from the discussions. Participants, including Dakota, pointed out the significance of understanding cultural shifts, such as generational differences, which were specifically mentioned during a

focus group session. This recognition of culture as a dynamic entity complements the understanding of cultural competence as a continuous, ever-evolving process.

> The tension between generations can only be explained by the friction of those differences, right? Because culture is not just about different countries, or where they are from, but it's about the contextual, contextual considerations that we need to include.

The theme of continuous reflection and self-improvement in pursuit of cultural competence was further reinforced by participants. Dakota's insights on the ongoing nature of cultural learning prompted agreement from Riley, who highlighted her reflective practice. Riley detailed her approach:

> I reflect back on every session, like by myself, but at the end of the day, I'm just becoming my own toughest critic. I question myself and try to answer, and then come up with some goals, sometimes I write it down, sometimes I just think about it, but tries to remember them in the following visit.

Similarly, Terry echoed this sentiment of introspection, succinctly stating, "I just think about what could have been better. And do better. Move on. Repeat."

The above reflections by the participants indicated a shared commitment among the participants to continually evaluate and enhance their cultural competence through ongoing self-assessment and goal setting. Consequently, the concept of this ongoing self-reflection was a recurring theme throughout the data collection process, which mirrors the perpetual character of the PCC Model, underscoring the notion that culture is an evolving concept.

Intentional Learning Experience in Cultural Competence

In exploring the participants' interpretations of cultural competence within the framework of the PCC Model, a notable observation emerged. Each participant acknowledged their efforts

to enhance their cultural competence, highlighting the importance of intentional learning experiences in this journey. Riley and Terry observed that long-standing clinicians sometimes lack cultural competence in their practice, leading to the realization that cultural competence does not naturally progress without effort. Riley, during her interview, recounted witnessing patients leave the clinic due to their cultural needs being overlooked, commenting, “It was not the best care, and I would hate to see people turning away from our profession.” This underscored the critical need for proactive engagement in cultural competence development, as learning does not occur automatically.

Terry also shared an instance where a patient faced difficulties as her explicit cultural needs were overlooked. She described a scenario involving a patient in a long-term care facility who was becoming increasingly agitated due to care that failed to meet her cultural needs. The cycle of inadequate care and the patient’s growing frustration were eventually attributed to the facility’s oversight in assigning male aides to assist her with tasks like showering, which was contrary to her cultural needs. The complication arose partly because the patient, due to her medical condition, could not verbally communicate with the staff members. Unfortunately, the clinical team persistently scheduled male aides for her care, exacerbating the issue. Terry noted, “And then [after the resident aide was switched to a female aide] it worked out for the patient, and she didn’t physically attack the clinicians anymore. It was a simple change, but [it] was exactly what the patient needed,” highlighting how acknowledging their cultural needs significantly improved the patient’s experience.

Participants understood that the concept of cultural competence does not automatically improve based on the number of years that healthcare providers practice. Instead, they described the necessity of purposeful learning and looked for improvement. As participants already

expressed their motivation and desire to improve their cultural competence, they were constantly looking for potential opportunities to learn more about becoming a culturally competent clinician. Noel added to the conversation by stating: “I want to get better so I have to think about what needs to be done next, instead of just showing up to work and repeating the same thing over and over again.”

Similarly, Dakota described her experience of making a mistake in her clinical practicum setting. In her story, she shared:

> I reviewed the chart, and I realized the patient was born in Georgia and speaks Georgian. I didn’t know that [it] was a country. I thought that it was a state [in the United States]. This patient had a stroke, and she did not respond to our verbal communication, and she would get super aggressive and impulsive, and then I had to block her to prevent her from falling from her bed, and it was difficult. The next day, I learned that she was Filipino and speaks fluent Tagalog.

Dakota saw Georgian as the patient’s default language on the medical chart and did not know that Georgia is a country at the intersection of Europe and Asia and a former Soviet republic, and not a southern state in the United States. After discussing the case with her clinical instructor and reflecting on the experience herself, she had a learning moment, and she shared: “We all make mistakes. But instead of just forgetting about it, I want to make it, make this, something that I can get something out of it.” She acknowledged that she assumed the patient did not speak any other language other than the primary language that was listed in her medical chart. Further, she did not try to seek more information about the patient’s cultural or linguistic needs.

After Dakota shared her story, Noel responded by saying: “Thank you so much for sharing that. I would not have thought of that, honestly. No.” The ongoing conversation during

the focus group confirmed that the participants reflect and learn from their experiences. Riley also added to the conversation by reiterating that being a student physical therapist is a learning process. Her comments were:

> I had some tough cases too, and, honestly, yea, honestly, I could have done better. But then I asked a bunch of questions to my CI [clinical instructor], looked up some stuff, and even asked my peers to figure things out. Instead of just feeling embarrassed, we should actually think about it [the mistakes] and make it clear that we learned something from this.

Riley then emphasized the importance of purposeful reflection and utilization of resources, including her clinical instructor and peers. Furthermore, she drew the connection between her classroom learning and clinical practicum learning by addressing: "Classroom knowledge needs to be further developed and connected to clinical education. I feel like we need to actually think about it [the connection between classroom and clinical practicum], otherwise, it's a shot in the dark."

Participants all agreed with Riley's comments that their learning experiences in both the classroom setting and the clinical practicum setting helped them to grow as more culturally competent clinicians. However, their discussions made it evident that their learning experiences need to be intentionally translated into the process of cultural encounters with patients; otherwise, learning of cultural competence would not automatically occur, and patient care would also not be at the highest standard of care that they desired.

Research Question 2

2. What is the perception of learning cultural competence by the student physical therapists enrolled in an entry-level Doctor of Physical Therapy program?

a. What learning experiences do physical therapist students believe facilitated their understanding of cultural competence?
b. What do student physical therapists believe is the most effective way to learn cultural competence?

Classroom Learning and Clinical Practicum Learning Experiences

Classroom Learning Experiences

The investigation extended into the participants' learning experiences of cultural competence, particularly focusing on the "where" and "how" aspects within their educational curriculum. The integration of the PCC Model's constructs into the curriculum was not confined to specific courses. Instead, these constructs were dispersed variably across the curriculum. Cultural awareness and cultural knowledge received more attention in non-clinical courses, while the constructs of cultural skill and cultural encounter were emphasized more in clinical settings. Cultural desire, as a construct, was woven throughout the entire curriculum, reflecting its foundational importance. The following section provides further details on how clinical and non-clinical courses approached these topics. Participants were also asked about their perceptions of where within the curriculum they encountered the PCC Model's constructs, asking them to reflect on which segments of their classroom experiences introduced them to these critical topics. A summary of their responses, detailing their attribution of learning to various courses within the physical therapy program, is presented in Table 8.

Table 8

List of Courses for the Placement of the PCC Model by Participants

Participants	Constructs of the PCC Model				
	Cultural Awareness	Cultural Knowledge	Cultural Skill	Cultural Encounter	Cultural Desire
Dakota	Psychosocial aspects of PT	Contemporary Issues	Psychosocial aspects of PT & Ethics	All system courses	All courses
Riley	Psychosocial aspects of PT	All clinical courses	Contemporary issues	All system courses	All courses
Noel	Psychosocial aspects of PT	Ethics	All clinical courses	All system courses	All courses
Terry	Psychosocial aspects of PT	All courses	Complex patient management	All system courses	All courses

Note. This table summarizes the list of courses that participants located for their learning for each construct of the PCC Model. For the full title of each course see Appendix G.

Upon exploring each construct of the PCC Model via the second phase of data collection, an online questionnaire consisting of 8 questions and a follow-up question for the students to elaborate and provide examples. Students were prompted to identify the parts of their curriculum that corresponded to their experiences related to the model's constructs. For instance, in questioning students about their practices for gathering culturally relevant data from patients, a follow-up question inquired, "What part of the curriculum, if any, do you believe you have experienced these contents." Detailed questions are available in Appendix E.

Clinical courses denote those with direct clinical relevance, such as patient evaluation and treatment methodologies. In contrast, *non-clinical courses* encompass areas not directly

related to clinical practice, including psychology, sociology, ethics, documentation, leadership, and business management. Specifically, within the clinical courses, *system courses* refer to those concentrating on three principal bodily systems in physical therapy: "*Management of the Musculoskeletal System*," "*Management of the Nervous System*," and "*Management of the Cardiopulmonary System*." In clinical courses, these system courses within the curriculum stand out due to their multi-semester duration and substantial credit allocation. In contrast, the other clinical courses and non-clinical courses are structured to conclude within a single semester and typically have a lower credit weight in the program. A summary of the curriculum's credit distribution is presented in Table 9. Further details on the full range of courses are provided in Appendix G.

Table 9

Distribution of Clinical and Non-Clinical Courses in the Curriculum

Category	Credits
Classroom Learning Setting	92 Credits
Clinical Courses	62 Credits
System Courses	34 Credits
Non-System Courses	28 Credits
Non-Clinical Courses	30 Credits
Clinical Practicum Learning Setting	37 Credits
Total	129 Credits

All participants agreed that the constructs of cultural awareness, cultural encounter, and cultural desire featured prominently within similar courses across the curriculum. Conversely, experiences related to cultural knowledge and cultural skills varied significantly among participants, being associated with different courses. This variation mirrored the participants'

understanding of cultural competence, which showed less pronounced evidence of these two constructs, reflecting the disparate distribution of learning experiences across the curriculum.

Cultural Awareness

All participants consistently reported that their understanding of cultural awareness was primarily developed through the "*Psychosocial Aspects of Physical Therapy*" course. They further described how this course facilitated their growth in cultural awareness through extensive small-group and large-group discussions throughout the term. Riley shared that this was her initial exposure to the concept of cultural competence, expressing, "I honestly did not hear about it." This sentiment was echoed by Terry, who acknowledged his pre-existing biases for the first time in a shared space: "Although I kinda knew about my own bias, it was my first time openly discussing it with someone else." The course material, centered on the psychological and sociological aspects of physical therapy, was especially recognized by the students for its strong focus on fostering open discussions regarding cultural biases and assumptions. This objective was met by engaging in the analysis of various case studies that depicted a wide range of patient demographics. Such activities compelled the students to investigate and devise strategies that would effectively meet the diverse needs of patients.

Cultural Knowledge

Earlier, it was noted that participants reported being introduced to cultural knowledge across various courses without significant overlap. Cultural knowledge encompasses understanding different beliefs, behaviors, and needs relating to health, illness, and wellness, as well as emphasizing the significance of the cultural context in patient health beliefs (Campinha-Bacote, 2002). Dakota and Noel indicated their belief that these concepts were presented in particular non-clinical courses. Conversely, Riley mentioned that her exposure to cultural

knowledge constructs occurred in all clinical courses. Terry, alternatively, felt that her learning about this concept spanned the entire curriculum. These varied responses highlight a discrepancy among participants regarding the timing and context in which these constructs were introduced. The observed inconsistency in the introduction of content is similarly identified in the subsequent constructs, cultural skill.

Cultural Skill

Participants provided varying accounts of where they believed the constructs of cultural skill were introduced in their curriculum. For instance, Dakota and Riley reported learning about it during non-clinical courses, while Noel and Terry identified clinical courses as the source. Dakota highlighted how the "*Psychosocial Aspects of the Physical Therapy*" course and the "*Ethics*" course were instrumental in exposing her to the existence of different cultural beliefs among diverse populations. Riley noted that it was the "*Contemporary*" course that introduced her to the topic, yet she could not recall specific learning activities or content from this course. Similarly, Noel and Terry mentioned learning about cultural skills in either all or a specific clinical course but faced challenges recalling any particular activities or content related to cultural skills. Triangulated from her responses to the interview questions, Noel remarked during her interview: "I don't think I can tie different treatment methods that are more effective for specific patients." Noel expressed also her difficulty in remembering when cultural skill was covered: "The first semester. No, the second semester. Actually, [I] can't really remember those semesters too well." Terry's memory was similarly vague: "I know it was one of those, complex patients [management course], maybe? I just can't, hmm, can't really remember about those courses too well." These findings indicated that students struggled to pinpoint how the construct of cultural skill was presented in their curriculum.

Cultural Encounter

Both cultural encounter and cultural desire yielded similar findings across participants. The cultural encounter predominantly emerged within the framework of various clinical system courses, notably including "*Management of the Musculoskeletal System*," "*Management of the Nervous System*," and "*Management of the Cardiopulmonary System*." Participants consistently reported that their engagement with laboratory exercises during these clinical system courses facilitated their understanding of cultural encounters. These exercises involved prescribing and applying interventions to each other and participating in case scenarios aimed at addressing linguistic needs. For instance, Riley recalled, "I remember in Neuro class [*"Physical Therapy Management of the Nervous System"*], going over non-verbal cues and communication for patients with stroke." Through these hands-on skill acquisition activities embedded within the clinical systems courses, all participants converged on the significance of these experiences for developing cultural encounter competencies. Recognizing the inherent requirement of patient interaction within diverse populations for cultural encounter development, participants frequently cited laboratory exercises where they interacted with classmates enrolled in system courses.

Cultural Desire

The collective responses from each participant indicated that cultural desire was distributed in every aspect of their coursework. As articulated by Noel: "It was like sprinkled, in all classes, honestly." She elaborated on how the shared passion for physical therapy and patient care among her peers was evident, highlighting their collective motivation to help others. She emphasized their genuine commitment to serving the broader community, stating: "Otherwise, we wouldn't be here [in the physical therapy program]." The data underscored the pervasive presence of a caring nature among the participants, aligning closely with the essential tenets of

cultural desire as outlined by Campina-Bacote (2002). Additionally, other participants corroborated the prevailing theme of passion and authentic concern among their peers, emphasizing its continual presence throughout the program rather than being confined to a single course or classroom setting.

Summary

Thus, it became apparent that students presented with evidence of understanding and identifying cultural awareness, cultural encounters, and cultural desire within specific segments of the curriculum in a cohesive manner. However, the attribution of cultural knowledge and cultural skills to various courses and learning activities posed challenges for all participants in recollecting their learning experiences related to these two constructs. This trend mirrored the findings of the initial research question and its second sub-question, indicating that evidence of cultural awareness, cultural encounter, and cultural desire were discernible within their comprehension of cultural competence, while cultural knowledge and cultural skill proved elusive from their responses. Thus, various data from the study highlighted a consistent theme of vague comprehension of cultural knowledge and skill throughout the curriculum.

Clinical Practicum Learning Experiences

In conjunction with the classroom learning experiences, participants also discussed what aspects of the clinical practicum learning experience helped improve their cultural competence. When participants were asked to describe their past and current clinical practicum experiences, three out of four participants (Dakota, Riley, and Noel) mentioned that learning from their own mistakes and reflecting on cases were the most helpful learning moments. During the focus group, Dakota shared that she had a patient who had a stroke, was admitted to the hospital, and was incapable of verbal communication. She described how three different physicians went into

the patient's room, but they were unsuccessful in diagnosing the correct linguistic dysfunction. She stated:

> A lot of providers talked it up to like, Oh, he has Aphasia. Oh, he has Apraxia. Whatever. And then, one of the speech-language pathologists entered the room, and she did the whole initial evaluation. And after like twenty minutes, she goes, "Oh my god, he doesn't have a slurred speech, he can talk. He's just speaking a different language."

Dakota expressed how shocked she was because none of the healthcare providers with multiple years of experience who evaluated the patient did not consider that he could be fluent and speak a different language. Still reflecting on that moment, Dakota had her hand on her forehead the entire time she shared the story in the focus group. She further elaborated on how it was an eye-opening and valuable lesson to her and the team.

After showing gratitude to Dakota for sharing the story, Riley also shared a mistake that she learned from. She said that she is currently working at the burn unit, and she recently had a patient who fell during India's Holi festival, a celebration of the spring season after a long winter, which symbolizes the victory of good against evil. Riley shared that the patient was admitted to the hospital due to a fracture and a burn injury. Since other participants were unfamiliar with the treatment process in the burn unit, Riley summarized the process of a patient with a severe burn injury taking a bath in a special shower tank. Riley's patient usually went to the shower tank with her children, and she did not express any severe pain during the shower. One day, however, none of her children were present during the treatment session involving her shower, and the patient started to scream and panic when the shower tank started to operate. Riley explained her moment:

> She started screaming, and I started screaming, and I honestly just had to hold onto her to make sure she doesn't get hurt. I didn't know how much she was emotionally relying on her children that much. The team then made sure to coordinate her care together, so that her use of the shower tank was only scheduled when her family members were able to be present to allow her more peace.

Riley then expressed that although it was a tough moment, she learned so much after reflecting on what happened during her plan of care. She noted that: "I feel like I didn't put the patient in the center of her plan of care, because there were so many moving pieces." She mentioned that she now tries to assess the patient's support system as well as their emotional balance before entering any burn-related treatments that may expose them to a vulnerable situation [like taking a shower]. Riley emphasized the significance of her reflection from this experience, as she began to think about her cultural competence from this specific patient case and onward.

Although Terry did not mention the connections between her reflective practice and any challenging case, she shared: "I reflect on a daily basis and see what could have been better, you know. Even with the smaller cases, I feel like there's room for improvement, like all the time." Throughout the data, no specific reflective tool or process was identified except for self-reflection after the patient encounter. However, it was evident that participants attributed their learning of cultural competence to reflection tied to the challenging cases or mistakes during their clinical practicum learning experiences.

Finding the Most Effective Way to Learn Cultural Competence

In the pursuit of addressing research question 2 and its second sub-question, participants were prompted to share their perspectives on the content that they believe is essential to be included in the physical therapy program concerning cultural competence. Furthermore, they

were invited to explain the most effective methods for acquiring cultural competence within the framework of their entry-level program.

Exploring Students' Interest in Cultural Competence Topics

Throughout the second and third phases of data collection, participants were asked about the specific topics about cultural competence that they believed should constitute part of the curriculum. Their responses were diverse and individualized and summarized in Table 10.

Table 10

List of Topics of Interest by Participants

Participant	List of Topics
Dakota	Effects of cultural competence in the healthcare system
Riley	Different prevalence of integumentary presentations from diverse patients
Noel	The notion that cultural competence is more than just race and ethnicity
Terry	Specific skills of asking sensitive questions to patients

During the second and third phases of data collection, which encompassed an online questionnaire and focus group sessions, participants were prompted with a specific inquiry regarding the optimal methods for delivering the identified topics within the curriculum. The emerging findings from these phases indicated that interest among participants in acquiring knowledge related to cultural competence was particularly in the context of their clinical practicum settings. Given that each participant was assigned to a distinct clinical practicum environment, characterized by unique patient demographics and medical conditions, their educational priorities varied accordingly. For instance, Dakota's exposure to health disparities among Black and Hispanic populations, as well as those with low socioeconomic status, fueled her interest in understanding the implications of cultural competence within the healthcare

system. Riley's placement in a burn unit within an acute care facility prompted her curiosity to explore diverse presentations of integumentary-related issues to better serve patients with varying skin tones. In her pediatric setting, which focused on neuromuscular disorders, Noel elaborated on her shifting understanding of cultural competence, initially focusing on equitably providing healthcare services across all racial and ethnic groups. However, her experiences in her current clinical practicum placement led her to recognize that culture extends beyond just race and ethnicity. She advocated for an expanded understanding of culture, encompassing additional dimensions such as ableism and sexism in classroom learning. Lastly, Terry shared that she was often engaged in challenging conversations with her patients, involving considerations such as relocating to more supportive environments due to declining function, lack of support system, or safety concerns. These real-life encounters with diverse populations and their associated narratives directly influenced the participants' ideas of what should be included in the physical therapy curriculum to develop cultural competence.

Enhancing Learning Through Continuous Discussion and Reflection

In the third phase of data collection, specifically during the focus group session, all participants acknowledged the significance of both classroom instruction and clinical practicum experiences in fostering cultural competence. Moreover, there was a consensus among participants regarding the necessity for a cyclical approach to presenting cultural competence topics in both educational settings. For instance, Dakota articulated how discussions initiated in the classroom setting laid the groundwork for understanding. Yet, the practical application of these concepts gained significance only upon immersion in their clinical practicum environments. Dakota underscored the pivotal role of open discourse in classroom learning, highlighting its facilitative function in the educational process.

> Okay, so we all clearly made some mistakes here and there in our own [clinical] settings. But even this focus group is teaching so much, so I really think the open discussion back in the classroom should discuss those topics too. Like classroom learning gave us a good baseline, because we weren't afraid to talk about it to each other.

Additionally, Riley agreed with Dakota's comments and shared:

> Like, nobody wants to be a jerk, and that's not what we are trying to do. But I felt safe and sharing and learning these topics really hit home for me. So, I really think we should have more open discussions, and maybe add other people too, maybe like people with more experience?

Participants attributed significant importance to open discussions, wherein they felt safe enough to articulate their internal biases and explore diverse approaches to navigating the complexities of cultural competence.

After agreeing with both participants, Noel also emphasized the role of open discussion but reiterated the importance of intentional design. She mentioned:

> Discussions [can] help for sure, but our cohort was really small. But it was very diverse, so it was an advantage, and feels lucky to have those diverse classmates. Maybe a panel discussion sounds like a great idea. They handled some tough situations with mistakes, and if students can talk about it, it'll be really, really helpful.

Noel characterized her classmates as diverse, noting the presence of a range of cultural backgrounds encompassing different religious beliefs, sexual orientations, and age demographics, many of whom were pursuing their second careers. Additionally, she observed that her cohort is more diverse than the national average. According to data from the APTA (2020), the national average of White students alone within the student population stood at

84.3%. In contrast, Noel's cohort comprised five students of color out of twenty students, resulting in White students alone constituting 75% of the cohort. Noel perceived this composition as indicative of greater diversity within her cohort.

Further, Terry contributed to the discussion by underscoring the importance of establishing a safe environment for discussing these topics: "Nobody wants to be embarrassed because they are not culturally competent. But we all respected each other." Terry emphasized her belief in the potency of storytelling, suggesting that open dialogue in classroom settings could serve as a valuable adjunct to the insights shared by other participants. However, Terry also underscored the significance of clinical practicum experiences. Echoing Dakota's sentiments, Terry affirmed that clinical practicum opportunities are crucial in improving cultural competence. She elaborated on how reflecting on uncomfortable situations afterward consistently enabled her to enhance her performance in subsequent encounters: "It doesn't get worse. It just gets better."

Noel also disclosed that she had not routinely reflected until an error occurred during her clinical placement. However, she expressed gratitude for adopting reflective practices and reviewing her past performances. Moreover, she expressed a desire for exposure to a diverse array of reflective tools earlier in her education, stating: "...more practical ones that I can use, like back in school too, so that I have some experiences of doing that." Following Noel's remarks regarding her quest for a specific reflective tool, all participants agreed that integrating a reflection component into the curriculum during clinical practicum experiences would be highly beneficial.

Expanding on the earlier themes of open discussion in classroom settings and reflective practice during clinical practicum, another prominent theme that emerged was the perception

among students that the learning process for cultural competence follows a cyclical trajectory. All participants agreed that effective learning experiences regarding cultural competence should be continuous and cyclical. Riley remarked, “I feel like that would just be better and better, with more practice,” underscoring the notion that cyclical learning experiences would enhance the depth and efficacy of cultural competence education. She emphasized the value of a cyclical approach, wherein students openly discuss their experiences, collectively reflect on case studies, and iteratively share their insights to deepen their understanding of the subject matter.

Dakota echoed Riley’s statements and expressed her willingness to engage in discussions with current first- and second-year physical therapy students in the classroom. She remarked, “I don’t mind going on campus at night and talking to the second or first-year students. It would be fun, and they would enjoy my stories.” Dakota offered her time because she believed that open discussions involving personal reflections could enhance the current students’ learning experiences regarding cultural competence. Following the agreement on the benefits of the cyclical model, all participants expressed their availability to contribute to the learning experiences of first- and second-year students in the program. Furthermore, Terry proposed, “We could be their sandbox. Like we wouldn’t judge at all. We went through what they went through. We can definitely understand their concerns,” underscoring her willingness to participate in their meaning-making processes and contribute to the learning community.

Thus, the student physical therapists’ understanding of the most effective approach to improve cultural competence in the entry-level physical therapy program entailed open discussions within a classroom environment and reflection during clinical practicum experiences. Moreover, establishing a cyclical learning model between these two settings, while fostering an environment conducive to open discourse concerning biases, assumptions, and mistakes, and

facilitating reflection on clinical encounters with practical instruments, emerged as essential aspects of their cultural competence learning journey.

Chapter 5: Discussion, Implications and Conclusion

This chapter focuses on the comprehensive discussion of the findings derived from the research data and analysis, guided by the constructivist grounded theory by Charmaz (2014). To review, the purpose of this research study was to understand how cultural competence is understood by students in an entry-level physical therapy program, and what part of the learning experiences affect the development of their idea of cultural competence. As a reminder, the research questions of this study were:

1. What is the understanding of cultural competence by student physical therapists enrolled in an entry-level Doctor of Physical Therapy program?
    a. What constructs of the APTA's *Blueprint for Cultural Competence* can be found in student physical therapists' understanding of cultural competence?
    b. What constructs of the PCC Model can be found in student physical therapists' understanding of cultural competence?
2. What is the perception of learning cultural competence by the student physical therapists enrolled in an entry-level Doctor of Physical Therapy program?
    a. What learning experiences do physical therapist students believe facilitated their understanding of cultural competence?
    b. What do student physical therapists believe is the most effective way to learn cultural competence?

In the previous chapter, findings from the individual semi-structured interview, online questionnaire, and focus group were narrated to disseminate their understanding of cultural competence. This discussion of learning about the students' understanding of cultural competence holds important practical implications for curriculum development, pedagogical

strategies, and ultimately, the improvement of patient care in diverse cultural contexts (Campinha-Bacote, 2002; CAPTE, 2019; Govere & Govere, 2016; Horvat et al., 2014; Thompson et al., 2019). Furthermore, the IOM illustrates how improving the clinicians' cultural competence is intrinsically linked to addressing existing health disparities (APTA, 2014; 2019; Betancourt et al., 2003; Hill & Winter, 2007; IOM, 2015). Despite the recognized importance of cultural competence in fostering equitable patient care (Troung et al., 2014), there remains a significant gap in our understanding of the most effective curriculum and pedagogical approaches for cultivating such competencies within physical therapy programs (Bryson, 2011; Jones & Pinto-Zipp, 2017). This gap underscores the urgency and relevance of the current study, aiming to shed light on educational strategies that can effectively enhance cultural competence among physical therapy students. Once the major findings are presented, I discuss each one through the lens of the conceptual framework and current literature. This is done successively to address each research question. After that, I provide the findings' practical implications, the study's limitations, and the conclusion.

Major Findings

Four major themes consistently emerge throughout the data collection and analysis phases: (1) The Boundary of Cultural Competence, (2) Motivated, Aware, and Afraid, (3) Learning from Discussion and Reflection, and (4) Intentional Learning of Cultural Competence. These themes serve as the pillars of the discussion of this research study, guiding the exploration of how learning the participants' understanding of cultural competence can be integrated into physical therapy education in a meaningful and impactful manner.

The Boundary of Cultural Competence

The first major finding concerns a disparity in students' understanding of cultural competence; they grasp its importance on an individual basis yet struggle to extend their understanding to encompass societal dimensions. According to the APTA, cultural competence is described as "the process in which the healthcare professional continually strives to achieve the ability and availability to effectively work within the cultural context of the client—family, individual, or community" (Campinha-Bacote, 2002, p. 181). The APTA (2014) further delineates cultural competence into three key constructs: consumer-centricity, access/equity, and advocacy, as detailed in the *Blueprint for Cultural Competence* (Table 1, page 26). Analysis of participant feedback across all data collection phases reveals proficiency in consumer-centricity and advocacy. However, the aspect of access/equity remains elusive within their narratives, indicating a limited application of cultural competence beyond individual interactions to address broader societal issues of access and equity.

Participant narratives richly illustrate the constructs of consumer-centricity and advocacy, aligning with their expressed aims and motivations regarding cultural competence. The APTA emphasizes the goal of cultural competence to acknowledge diversity, enhance patient experiences, and improve community health (2019). Participants, such as Riley and Terry, demonstrate a commitment to ensuring patients feel understood, seen, and heard, thereby facilitating active patient participation in their care. This focus reflects a deep engagement with consumer-centricity, as the APTA suggests in its *Blueprint for Cultural Competence* (2014). Further, their argument of patient inclusion is pivotal, as there are concerns regarding individuals of lower socioeconomic status often feel not included in their treatments, and ultimately feel excluded from their healthcare journeys (Betancourt et al., 2003; Hill & Winter, 2007; Troung et

al., 2014). Additionally, the narrative of Dakota and Noel, highlighting a dedication to delivering superior care and meeting professional obligations, resonates with the APTA's advocacy principle (2014; 2019). Their motivations, primarily intrinsic, suggest a sustainable and effective approach to fostering cultural competence, without external rewards (Betancourt et al., 2019; Sue et al., 2019). This intrinsic motivation, underscored by a shared desire to improve patient care through consumer-centricity and advocacy, mirrors the conceptual frameworks proposed by Campinha-Bacote (2002) and Banks (1993), emphasizing the need for passion and commitment to cultural competence.

In discussing the essence of cultural competence, students likewise exhibit a focus on consumer-centered care and advocacy in formulating their definitions of cultural competence. While their definitions reflect these constructs, discrepancies still exist among them. This variation in understanding cultural competence mirrors the diversity of definitions among licensed physical therapists in the field, leading to a challenge for the profession in articulating a cohesive stance (Starr & Wallace, 2009). For instance, research by Starr and Wallace (2009) revealed that a significant number of licensed physical therapists equate cultural competence solely with gender and language, a perspective divergent from that of the APTA (2014) and the frameworks endorsed (Campinha-Bacote, 2002; Cross, 1989). This divergence is critical, especially given findings indicating that graduates from entry-level physical therapy programs do not meet the established standards for cultural competence (Jones & Pinto-Zipp, 2017). Although Jones and Pinto-Zipp noted a marked improvement in students' scores on the Global Worldview Cultural Competence Survey from entry to graduation, the benchmarks set are still not achieved, and the detailed learning outcomes remain underexplored due to the quantitative nature of their study. Therefore, it is essential to acknowledge not only the students' lack of engagement with

the access/equity construct as outlined by the APTA (2014) but also their divergent definitions from the profession's accepted models (Campinha-Bacote, 2002; Cross, 1989).

To enhance the understanding and integration of access/equity and a unified definition of cultural competence, researchers and educators should consider deliberately incorporating this knowledge of access/equity into the curriculum. The intentional inclusion of diverse educational materials could underscore the importance of cultural knowledge and skills, offering students increased opportunities to grasp and articulate the often-overlooked construct of access/equity (Banks, 1993; Campinha-Bacote, 2002) and to align more closely with a unified conceptualization of cultural competence (Betancourt et al., 2002; Like & Steiner, 2006).

Furthermore, the concept of access/equity demands acknowledgment of health inequities and disparities, underscoring the necessity for healthcare professionals to address social determinants of health and to "serve as a point of entry to the healthcare system" (APTA, 2014, p. 2). Dakota is the sole participant to report direct observations of these disparities during her clinical practicum, providing her with a unique insight through her encounters with a diverse patient base (Butler et al., 2016; Gay, 2010; Govere & Govere, 2016; Horvat et al., 2014), which is a significant contrast to her peers who either lacked exposure to diverse environments or did not prioritize patients from diverse cultural backgrounds. Consequently, in addition to curricular reforms, educators might also consider the strategic selection of clinical practicum sites. Experiences and exposure to a broader range of patient demographics can facilitate a deeper understanding of the access/equity construct (Beach et al., 2005; Butler et al., 2016).

Motivated, Aware, and Afraid

The second major finding concerns how the students recognize the importance of cultural competence and their motivation towards it; however, they also show hesitation in applying their

acquired knowledge in patient interactions. As outlined by Campinha-Bacote and the PCC Model, five core constructs are integral to cultural competence: Cultural awareness, knowledge, skill, encounter, and desire (Table 2, page 38). Analysis of student narratives during the data collection and analysis phase reveals that while students exhibit an understanding of cultural awareness, encounter, and desire, it is challenging to discern substantial evidence of cultural knowledge and skill in their conceptualization of cultural competence.

Campinha-Bacote (2002) stresses the imperative of cultural awareness, encouraging student physical therapists to develop self-awareness and acknowledge the impact of their cultural backgrounds. This reflects the broader discourse in multicultural education, which emphasizes the need for both pre-service and in-service educators to reflect on their cultural identities to effectively engage with multicultural education principles (Banks & Banks, 2019; Cochran-Smith, 1995; Gay, 2010). Participants in this study demonstrated their engagement in cultural awareness through open discussions, facilitating an environment for confronting and reflecting upon their biases, thereby fostering a deeper understanding of cultural competence. Despite the general tendency among healthcare professionals to shy away from discussions on race or ethnicity due to a perceived lack of competence in facilitating such dialogues (Burgess et al., 2010), students in this study express their ability to discuss and reflect on their biases and assumptions through peer discussions (Van Ryan et al., 2011). This leads to a comfortable exchange of their cultures and biases, highlighting their capacity for introspection (Hall et al., 2015).

The development of cultural encounters is promoted through laboratory and clinical practicum experiences. Participants note the value of laboratory activities, such as creating care plans for non-verbal patients, and how these experiences are applicable in clinical settings

(Aggarwal et al., 2010; Cook et al., 2011). These encounters facilitate a reassessment and refinement of pre-existing beliefs about the cultural and linguistic needs of patients, evidencing the presence of the cultural encounter construct through their cross-cultural interactions.

Cultural desire is evident in students' narratives as well, particularly when discussing their motivation and the purpose behind acquiring cultural competence. Driven by genuine interest, students describe their active participation in learning activities to enhance their cultural competence, echoing Campinha-Bacote's sentiment that cultural desire, unlike other constructs, emerges from an innate willingness to appreciate and embrace cultural differences (2002). This intrinsic motivation is further illustrated through their expressions of empathy, a critical facilitator in the learning of cultural competence (Thompson et al., 2019; Winseman et al., 2021), marking the prevalence of cultural desire in their understanding.

Conversely, the presence of cultural knowledge and skill, as defined by the PCC Model, is notably less evident in student responses. Issues with recalling specific courses and the application of cultural knowledge and skills suggest these elements may not have been clearly articulated or emphasized within the curriculum, potentially due to the absence of explicit guidelines (Denton et al., 2016; Nixon-Cave & Meadows, 2014). Furthermore, participants express difficulties in demonstrating these constructs, often de-prioritizing them in favor of other clinical assessments and interventions. This gap is highlighted by Noel and Terry's admission of not having an understanding and efficacy in culturally-based assessments, despite literature supporting their importance in improving patient outcomes (Alpers & Hanssen, 2014; Doorenbos et al., 2016).

One strategy to integrate cultural knowledge and skills into the curriculum could involve incorporating guest speakers and case studies into participants' learning experiences. For

instance, Noel and Terry observed a lack of recognition regarding the varying efficacy of treatments based on culture, despite evidence to the contrary in the literature (Alpers & Hanssen, 2014; Doorenbos et al., 2016). Introducing patient case studies during clinical courses and illustrating how different treatment approaches can lead to diverse patient outcomes can underscore the significance of culturally tailored interventions, thereby highlighting the necessity of cultural competence in decision-making processes. Moreover, enhancing the prominence of cultural skill within the curriculum could be achieved through the effective utilization of guest speakers in participants' learning experiences. Participants acknowledge the importance of cultural skill, yet they currently hold low priority in their practice. Thus, facilitating critical reflections prompted by guest speakers and encouraging students to share their experiences alongside the speaker's discussions can offer valuable opportunities for refining cultural competencies by reinforcing the importance of cultural skill (Campinha-Bacote, 2002).

An additional concern is how students navigate the language surrounding race and ethnicity in their narratives, indicating a prevalent issue of 'colorblindness' in healthcare where the significance of race and racism is minimized (Hardeman & Medina, 2016). Often opting for code words like "diverse population" rather than directly addressing race or ethnicity such as Black and Hispanic populations (Crandall & Vukovich, 2018; Perry et al., 2021), students express fear of appearing ignorant or racist when addressing cultural issues in healthcare settings (Stepanikova & Oates, 2021) throughout all forms of patient data collection. Addressing this through a curriculum infused with critical pedagogy and direct engagement with cultural knowledge and skill can empower students to confidently and effectively navigate cultural nuances in their practice (Banks, 1993; Campinha-Bacote, 2002; Bleakley et al., 2011; Lamont et al., 2019).

Further, investigating the actual understanding of participants regarding the constructs of both the APTA model and the PCC model presented a significant challenge, primarily due to the reliance on self-identified responses for data collection, rather than assessments conducted by faculty members, clinical practicum instructors, or researchers. Enhancing the credibility of claims regarding the interpretation of student comprehension necessitated a thorough approach during the data collection phase. Specifically, participants were prompted to elaborate on their responses and provide concrete examples, thereby offering additional insight into the rationale behind their initial answers. This methodological strategy facilitated a more robust triangulation process, enabling the identification of disparities in the understanding of cultural competence constructs between students and the presented models from the APTA (2014) and the PCC model (Campinha-Bacote, 2002).

Consequently, participant responses are rich in instances of cultural awareness, encounter, and desire, yet the aspects of cultural knowledge and skill are notably absent in their understanding of cultural competence. Additionally, an inclination towards colorblindness is observed among the participants. It is recommended that the curriculum explicitly incorporate these diverse topics, enabling students to grasp the variation in disease prevalence across different populations (Nunez et al., 2016) and the significance of gathering pertinent cultural data to enhance health outcomes (Hahn et al., 2018). The search for effective and impactful strategies for cultural competence training must persist, aiming to bridge the idea of health disparities evident in physical therapy education (Campinha-Bacote, 2002; IOM, 2003). It seems that the current learning opportunities in the physical therapy program lack direct exposure to diverse patients and settings. Additionally, there is a need to address the efficacy of treatment connected to different cultures or multicultural perspectives by using critical pedagogy. To improve the

program outcomes, physical therapy programs must reassess and implement the changes mentioned above.

Learning from Discussion and Reflection

The third major finding concerns the students' recognition of the value of discussion and reflection as pivotal learning experiences for enhancing cultural competence in the curriculum. When questioned about their exposure to each construct of the PCC Model, the results reveal consistent course locations for cultural awareness, cultural encounters, and cultural desires. Conversely, cultural knowledge and cultural skills elicit varied responses from the participants. The response to the question is summarized in Table 8 (p. 109).

Cultural awareness is consistently associated with the "*Psychosocial Aspects of Physical Therapy*" course by all respondents. This course emphasizes the psychosocial dimensions of patient care and incorporates traditional lectures, group discussions, and student presentations as learning methods (Mann et al., 2009). The participants highlight the utility of classroom discussions in fostering an understanding of cultural awareness (Sue et al., 2007). They value the opportunity to share their internal biases and assumptions and to collaboratively analyze case studies during group discussions (Hook et al., 2013). This open exchange in a classroom setting, where personal biases and assumptions could be freely discussed, is greatly appreciated by the participants. Reflecting critically on both conscious and unconscious beliefs, as advocated by Banks (1993) and Gay (2010) for multicultural education, is deemed essential for professionals working in diverse environments, including physical therapy. The importance of intentionally creating a safe space in healthcare education to facilitate positive learning outcomes is well-documented in the literature (Foronda et al., 2016; Hook et al., 2013; Wear & Zarconi, 2008).

The inconsistent citation of cultural knowledge and cultural skills by participants underscores the need for curriculum redesign to deliberately emphasize these elements, as discussed in the previous major finding. Meanwhile, cultural encounters and cultural desire receive consistent acknowledgment from the participants. In the context of system courses, students find reflective practice particularly beneficial for the clinical encounter construct. They express a desire for an early introduction to reflective tools and ample practice opportunities in the classroom, enabling effective utilization of these tools during their clinical practicum. The healthcare field's adoption of various reflective tools to improve clinical outcomes and enhance cultural competence is supported by research (Dube et al., 2018; Horvat et al., 2014). Schön (1987) emphasizes reflection as a continuous process crucial for critiquing one's actions and identity development. The significance of reflective practice is also highlighted by multicultural educators through diverse frameworks, advocating for critical reflection in both clinical practice and the classroom (Banks, 1994; Brookfield, 1995; Gay, 2000; Mensah, 2009; Soto-Manning, 2013; Sealey-Ruiz, 2011). For instance, Mensah (2022) and Kinsella and Pitman (2018) discuss the effectiveness of pre- and post-journaling as a reflective practice, a sentiment echoed by Mann et al. (2009) regarding the value of journaling in science education and healthcare education. The acknowledged benefits of reflective practice in physical therapy (APTA, 2014; Cleaver et al., 2016; Lattanzi & Pechak, 2012) call for a deliberate integration of reflective practices to improve cultural competence within the program.

Finally, cultural desire is perceived not as a teachable or learnable construct, but as one that is nurtured through inspiration, relating closely to intrinsic motivation and authentic enthusiasm (Campinha-Bacote, 2002). Students observe that cultural desire should permeate the entire curriculum, with Noel characterizing its presence as "sprinkled" throughout the program.

This widespread incorporation of cultural desire, as advocated by the integrative reflection mechanism (Banks, 1993) and sustained by ongoing practice (Schön, 1983), is consistently acknowledged by all participants, leading to a unified narrative regarding cultural desire.

While the efficacy of current entry-level physical therapy programs in fostering students' cultural competence remains uncertain (Jones & Pinto-Zipp, 2017), the unanimous feedback from participants underscores the benefits of integrating open discussions and reflective practices into physical therapy education. Consequently, their recommendations for discussion and reflection represent feasible strategies for facilitating the continuous learning and development of cultural competence in entry-level physical therapy programs, meriting consideration by educators for curriculum inclusion.

Intentional Learning of Cultural Competence

The fourth principal discovery emphasizes the critical role of an intentionally designed learning framework for cultural competence within physical therapy education. Campinha-Bacote (2002) posits that mere exposure to a diverse patient demographic does not inherently foster a clinician's or student's cultural competence due to the extensive variability within ethnic groups and the complex process of assimilating cultural concepts (Sue et al., 2007). This notion is reinforced by the consensus among study participants. The development of cultural competence necessitates a structured approach to learning experiences in both academic and clinical contexts. Throughout individual interviews and group discussions, participants recount instances of perceived cultural incompetence, leveraging these moments as pivotal learning opportunities (Henderson et al., 2018; Raddawi, 2015; Weisskirch et al., 2013). Notably, Dakota highlights the significant learning impact of participating in a focus group session with fellow participants, underscoring the need for educational spaces conducive to sharing, comfort, and

mutual appreciation of the learning pathway (Mensah, 2022). The advocacy for the deliberate inclusion of open classroom dialogues and reflective exercises, facilitating a seamless transition between theoretical knowledge and clinical application, is a recurrent theme.

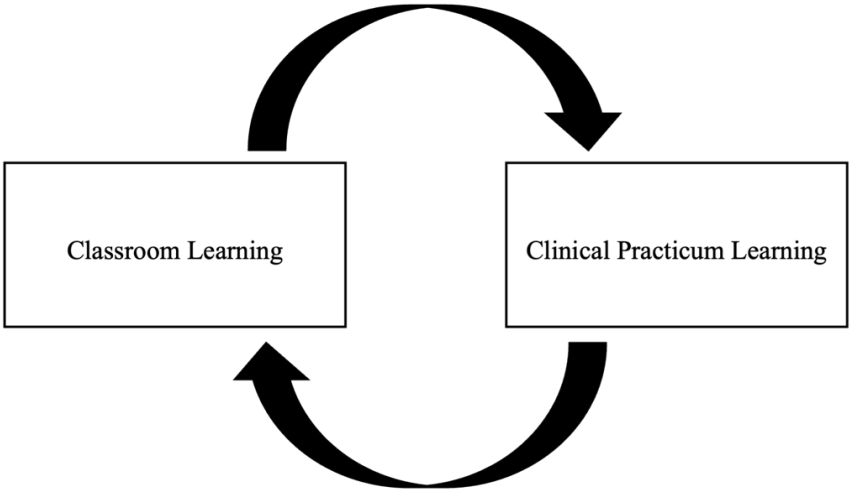
A prominent theme derived from participant feedback is the essential ongoing and purposeful nature of cultural competence education, resonating with the APTA's view of cultural competence as a dynamic skill rather than a static achievement (2014). The call for continuous enhancement of cultural competence among physical therapy practitioners as a cornerstone for delivering superior, effective patient care is underscored by Sue et al. (2007). Observations by Riley and Terry as clinicians with substantial experience, yet needing more understanding in cultural competence, result in negative patient interactions. This further emphasizes the need for targeted efforts in cultural competence education. This perspective is supported by literature in other fields, such as education (Banks, 2008; Gay, 2010) and nursing (Weisskirch et al., 2013), indicating no direct correlation between years of professional practice and cultural competence, contrary to the notable advancement in cultural competence observed in nurses with specific classroom training (Culhane-Pera et al., 2010; Lovern et al., 2012).

The importance of a cyclical process in acquiring cultural competence, encompassing academic and clinical settings, is particularly emphasized by Dakota and echoed by other participants. This cyclical learning model is depicted in Figure 3, illustrating how both classroom and clinical environments uniquely contribute to cultural competence development. For instance, Dakota credits her clinical experiences as foundational to her understanding of cultural competence, while Riley highlights the critical role of classroom settings in establishing her foundational knowledge. This is aligned with Beach et al. (2005) and Phillips and Coffin (2014),

who advocate for the enhancement of cultural competence across all settings of healthcare education.

Figure 3

Cyclical Model of Cultural Competence Development



Participants identify specific courses and learning activities, such as open discussions, as instrumental in their understanding of cultural competence. Riley and Noel point to the efficacy of classroom discussions as a basis for further development in clinical settings, suggesting that clinical practicums offer opportunities to reflect on and share learning experiences. This approach is consistent with Jensen's (2011) methodology, emphasizing the value of experiential learning in developing professional skills in physical therapy students. The suggestion to enrich classroom discussions with insights from students with extensive clinical experience, as supported by Romanello (2007) and Goodman and Nugent (2020), illustrates the perceived value of integrating practical experiences into academic learning.

The research highlights the continuous nature of cultural competence acquisition, supported by Homan et al. (2015) and Sue et al. (2009), who discuss the evolving nature of multicultural organizational frameworks. It portrays cultural competence as an ongoing journey,

fostered through perpetual learning, self-reflection, and engagement with diverse cultures (APTA, 2014). The findings underscore the potential for developing cultural competence through both academic and clinical pathways, advocating for the establishment of a sustainable educational model that facilitates this integration. Thus, the role of educators and researchers in supporting students' journey toward cultural competence is deemed crucial (Billings & Halstead, 2019; Bowen et al., 2020). It calls for the intentional design of learning opportunities that bridge academic coursework with clinical practice experiences, aiming to mitigate health disparities persistently rooted in systemic discrimination and racism. This commitment to fostering health equity through intentional educational practices is echoed across various fields. Borrowing from Mensah (2022, p. 195) who talks about educating teacher educators of color and recognizing the valuable contributions they make to educational equity, she states that this work, and I argue the same is true for physical therapy education, that "The *intention* is noble; the *impact* is huge; the *work* is deliberate." The major findings of this study collectively communicate that cultural competence in physical therapy education can have a greater impact if it is intentional.

Implications

The findings of this study have significant implications for physical therapy practice, education, research, and policy. By demonstrating the value of a comprehensive, reflective (Brookfield, 1998; Gibbs, 1988; Johns, 1995; Kolb, 1984), experiential (Jensen, 2011), continuous (Thompson et al., 2019), and intentional (Winseman et al., 2021) approach to learning cultural competence, this study advocates for curriculum reforms that prioritize the above elements. Such reforms could include the development of policies that mandate ongoing cultural competence education for physical therapy educators/faculty and clinicians alike, ensuring that the principles of equity and patient-centered care are consistently upheld in

practice, guided by the central voice generated by the APTA, by updating their *Blueprint for Cultural Competence* to reflect the rapidly changing demographic changes of the society (2014).

However, implementing substantive curricular changes within an institution poses a potential challenge, given the requisite layers of approval within each institution's framework, particularly concerning curriculum adjustments. While institutions present with pedagogical and institutional autonomy, it remains evident that CAPTE imposes specific content requirements across curricula, with cultural competence often relegated to a lower priority. Compounding this issue, the FSBPT does not assess students on cultural competence-related content, further complicating efforts to effect significant curriculum modifications (2024). As a result, initiatives aimed at comprehensive curriculum overhauls frequently encounter resistance from departmental or curriculum committees.

Given that physical therapy programs have the freedom of curriculum and pedagogy (APTA, 2019), educational practitioners and researchers have an essential role of continuously looking for opportunities to create curriculum and practice the most effective teaching practices for developing culturally competent physical therapist educators and clinicians. Theoretical collaboration with the domain of multicultural science education can be beneficial, as the benefits of multicultural science education curriculum and practice include an equitable approach to developing culturally diverse teachers (Atwater, 2022; Mensah, 2011), which is also crucially needed in the physical therapy workforce. The study advocates for curricular changes that emphasize these critical components, suggesting the introduction of policies for continuous cultural competence education for both educators and clinicians. Such initiatives aim to maintain the standards of equity/access and patient-focused care, which are in line with updates from the APTA that reflect societal shifts. The study's implications have been summarized into a policy

brief suitable for dissemination to professional organizations like APTA, CAPTE, or FSBPT (Appendix H).

Limitations and Next Steps

In addressing the current study's limitations, it is important to acknowledge several key constraints that bear implications for the generalizability and interpretive depth of the findings. Firstly, the study was conducted at a single institution, involving participants drawn from a homogenous cohort. This methodological choice limits the extrapolation of the results to broader, more diverse populations, as the institution's unique environmental and cultural characteristics are limiting in some ways. The lack of variability among participants might have influenced the outcomes in ways not representative of other settings or groups (Ahmad et al., 2019; Rankin, 2003).

Secondly, without diversity among study participants, this further constrains the applicability of the findings across different demographic and cultural backgrounds. Diversity in research among its participants is critical for the generalizability of study outcomes, enabling a more comprehensive understanding of how varied populations may perceive, react to, and benefit from the interventions or phenomena under investigation (Carpi et al., 2017; Museus & Liverman, 2010; Page, 2007). The homogeneity of the sample in terms of demographics, professional backgrounds, or educational levels may limit the study's relevance to broader, more varied populations.

Lastly, the study faced challenges related to the issue of recollection among participants. Given that some individuals are asked to recall experiences and perceptions from several years prior to the study, the accuracy and reliability of these recollections could be questioned. Memory degradation over time, along with the potential for retrospective bias, introduces an

element of uncertainty in the data collected, possibly affecting the validity of the findings (Conflict & Health, 2020). This limitation is particularly pertinent when considering the implications of reflective practices and their impact over time, as some participants' failed memory and recollection of past events or feelings could skew the study's conclusions.

Together, these limitations underscore the need for caution in interpreting the study's findings, suggesting that future research should seek to address these gaps. Expanding the study to include multiple institutions, ensuring a diverse participant pool, and employing methodologies that mitigate the challenges of relying on long-term memory recall are essential steps toward enhancing the validity and applicability of future research in this domain.

The next step after this study is to explore the efficacy of the learning experience through the implementation of open discussions and reflective practices compared to traditional classroom learning to promote cultural competence. Further, another research question, "How does the intentional incorporation of cultural competence learning activities into the physical therapy curriculum impact students' perceived readiness to engage with diverse patient populations in clinical settings?" will allow me to concentrate on intentional strategies aimed at enhancing students' engagement in diverse environments, equipped with cultural knowledge and cultural skills in building their confidence and cultural competence.

In conjunction with the future research agenda, the practical application of these modifications can be realized within my institution. For instance, an in-depth exploration into the specific locations of cultural competence acquisition could involve soliciting exit slips from students following each class session. This method enables the mitigation of recollection issues highlighted in the current study by capturing immediate and vivid reflections from students engaged in their learning endeavors and shared with faculty toward curriculum input.

Conclusion

In conclusion, this dissertation has illustrated the intricate dimensions of how cultural competence is perceived and developed among students in an entry-level Doctor of Physical Therapy program. Through a qualitative case study that employed a constructivist grounded theory approach, this research examined students' conceptualizations of cultural competence, drawing from the APTA's *Blueprint for Cultural Competence* (2014) and the PCC Model by Campinha-Bacote (2002). The investigation into students' understanding and perceptions of learning cultural competence reveals a nuanced landscape of motivations, definitions, and variances in knowledge and skills related to cultural competence within the curriculum.

The first research question uncovers the depth of students' understanding of cultural competence and their perceptions through the lens of two models: the APTA's three cultural competence constructs and the PCC Model's five constructs. Findings indicate that, while there is a shared motivation and basic understanding of cultural competence among students, disparities in their understanding of access and equity, cultural knowledge, and cultural skill are notable. Furthermore, the second research question explores the "where" and "how" students develop cultural competence within the physical therapy program curriculum, and this study underscores the significance of integrating theoretical knowledge with practical clinical experiences, advocating for a continuous and intentional learning approach to enhance cultural competence among physical therapy students.

Significantly, this research highlights the essential role of cultural competence in healthcare, marking it as a pivotal skill in addressing and alleviating health disparities. The study's outcomes suggest a pressing need for curricular reforms prioritizing cultural competence education, ensuring that future physical therapists are adept at serving an increasingly diverse

society. It calls for an educational framework that equips students with the necessary cultural knowledge and skills and instills confidence in their ability to apply these competencies in diverse clinical settings.

As the field of physical therapy progresses, incorporating these findings into educational practices and curricular design becomes imperative. This adaptation will enable the cultivation of culturally competent practitioners capable of delivering equitable and effective care, thereby contributing to the reduction of health disparities. Therefore, this dissertation contributes to the academic discourse on cultural competence in physical therapy education and lays the groundwork for tangible improvements in healthcare delivery, promoting a more inclusive and equitable healthcare system for all.

References

Ahmad, A. S., Sabat, I., Trump-Steele, R. C., & King, E. (2019). Evidence-based strategies for improving diversity and inclusion in undergraduate research labs. *Frontiers in Psychology, 10*, 1305. https://doi.org/10.3389/fpsyg.2019.01305

Alvy, L. M., McKirnan, D. J., Mansergh, G., Koblin, B., Colfax, G. N., Flores, S. A., & Hudson, S. (2011). Depression is associated with sexual risk among men who have sex with men, but is mediated by cognitive escape and self-efficacy. *AIDS and Behavior, 15*(6), 1171-1179.

American Board of Physical Therapy Specialties. (n.d.). *Maintain your certification*. https://specialization.apta.org/maintain-certification

American Dental Association. (2010). *ADA diversity and inclusion statement*. https://www.ada.org/about/principles/diversity-and-inclusion

American Nursing Association. (2009). *Establishing a culturally competent master's and doctorally prepared nursing workforce*. https://www.nursingworld.org/practice-policy/nursing-excellence/official-position-statements/id/establishing-a-culturally-competent-masters-and-doctorally-prepared-nursing-workforce

American Physical Therapy Association. (2008). *Blueprint for teaching cultural competence in physical therapy education*. Alexandria, VA: Committee on Cultural Competence.

American Physical Therapy Association. (2021). *The allied health workforce diversity act* (H.R. 3637/S. 2747). https://www.apta.org/contentassets/af7e53cb658b4f09af2f86296f64cda5/apta-position-paper-diversity-act.pdf

American Physical Therapy Association. (n.d.). *Cultural competence in physical therapy*. https://www.apta.org/patient-care/public-health-population-care/cultural-competence

American Speech-Language-Hearing Association. *Cultural competence*. https://www.asha.org/practice-portal/professional-issues/cultural-competence/

Anderson, L. M., Scrimshaw, S. C., Fullilove, M. T., Fielding, J. E., & Normand, J.; Task Force on Community Preventive Services. (2003). Culturally competent healthcare systems: A systematic review. *American Journal of Preventive Medicine, 24*(3S), 68-79.

Andrulis, D. P., Siddiqui, N. J., Purtle, J., & Duchon, L. (2010). *Patient protection and affordable care act of 2010: Advancing health equity for racially and ethnically diverse populations*. https://drum.lib.umd.edu/handle/1903/24679

APTA. (2020, October 6). *Resources for teaching cultural competence in physical therapy education*. American Physical Therapy Association. December 23, 2021, from https://www.apta.org/patient-care/public-health-population-care/cultural-competence/teaching-cultural-competence

Atwater, M. M. (1996). Equity for black Americans in precollege science. *Science Education, 84*(2), 154-179.

Atwater, M. M. (2000). Social constructivism: Infusion into the multicultural science education research agenda. *Journal of Research in Science Teaching, 33*(8), 821-837.

Atwater, M. M., Freeman, T. B., Butler, M. B., & Draper, C. R. (1999). A case study of science teacher educators' beliefs and practices about multicultural education. *Journal of Research in Science Teaching, 36*(7), 748-769.

Atwater, M. M., Russell, M., & Butler, M. B. (Eds.). (2014). *Multicultural science education: Preparing teachers for equity and social justice*. Springer Netherlands.

Bailey, Z. D., Krieger, N., Agénor, M., Graves, J., Linos, N., & Bassett, M. T. (2017). Structural racism and health inequities in the USA: evidence and interventions. *Lancet, 389*(10077), 1453-1463.

Baker, A. M., & Brookins, C. C. (2014). Toward the development of a measure of sociopolitical consciousness: Listening to the voices of Salvadoran youth. *Journal of Community Psychology, 42*(8), 1015-1032.

Bamidis, P. D. (2017, September). Affective learning: principles, technologies, practice. In *International Conference on Brain Function Assessment in Learning* (pp. 1-13). Springer, Cham.

Banks, J. A. (1993). *Multicultural education: Historical development, dimensions, and practice*. Review of Research in Education, 19, 3-49.

Banks, J. A. (1993). The canon debate, knowledge construction, and multicultural education. *Educational Researcher, 22*(5), 4-14.

Banks, J. A. (1996). *Multicultural education, transformative knowledge, and action: Historical and contemporary perspectives*. Teachers College Press.

Banks, J. A. (2004). *Diversity and citizenship education: Global perspectives*. Jossey-Bass.

Banks, J. A. (2008). *An introduction to multicultural education*. Pearson.

Banks, J. A., & Banks, C. A. M. (Eds.). (2019). Multicultural education: Issues and perspectives. John Wiley & Sons.

Baptiste-Roberts, K., Oranuba, E., Werts, N., & Edwards, L. V. (2017). Addressing health care disparities among sexual minorities. *Obstetrics and Gynecology Clinics, 44*(1), 71-80.

Barrows, H. S. (1996). Problem-based learning in medicine and beyond: A brief overview. *New Directions for Teaching and Learning, 1996*(68), 3-12. https://doi.org/10.1002/tl.37219966804

Bassey, M. O. (2016). Culturally responsive teaching: Implications for educational justice. *Education Sciences, 6*(4), 35.

Baxter, P., & Jack, S. (2008). Qualitative case study methodology: Study design and implementation for novice researchers. *The Qualitative Report, 13*(4), 544-559.

Beagan, B. L. (2003). Teaching social and cultural awareness to medical students: "It's all very nice to talk about it in theory, but ultimately it makes no difference." *Academic Medicine, 78*(6), 605-614.

Benuto, L. T., Singer, J., Gonzalez, F., Casas, J., & Ruork, A. (2021). How do clinicians define cultural sensitivity?: A mixed methods study. *International Journal of Mental Health, 50*(2), 151-167.

Benuto, L. T., & O'Donohue, W. (2010). The many problems of cultural sensitivity. *Scientific Review of Mental Health Practice, 7*(2).

Ber Berlin, E. A., & Fowkes Jr, W. C. (1983). A teaching framework for cross-cultural health care application in family practice. *Western Journal of Medicine, 139*(6), 934.

Betancourt, J. R., & Green, A. R. (2013). Defining cultural competence: A practical framework for addressing racial/ethnic disparities in health and health care. *Public Health Reports, 118*(1), 293-302.

Betancourt, J. R., Green, A. R., & Carrillo, J. E. (2002). *Cultural competence in health care: Emerging frameworks and practical approaches*. Field Action Report, New York: Commonwealth Fund.

Betancourt, J. R., Green, A. R., Carrillo, J. E., & Ananeh-Firempong, O., 2nd. (2003). Defining cultural competence: A practical framework for addressing racial/ethnic disparities in health and health care. *Public Health Reports, 118*(4), 293-302.

Bezrukova, K., Spell, C. S., Perry, J. L., & Jehn, K. A. (2016). A meta-analytical integration of over 40 years of research on diversity training evaluation. *Psychological Bulletin, 142*(11), 1227-1274.

Barksdale, C. L., Rodick, W. H., Hopson, R., Kenyon, J., Green, K., & Jacobs, C. G. (2017). Literature review of the national CLAS standards: Policy and practical implications in reducing health disparities. *Journal of Racial and Ethnic Health Disparities, 4*, 632-647.

Barton, A. C., & Yang, K. (2000). Culturally responsive pedagogy in science education: Can we make it work? *Urban Education, 35*(5), 563-578.

Bassey, M. O. (2016). Culturally responsive teaching: Implications for educational justice. *Education Sciences, 6*(4), 35.

Benuto, L. T., Casas, J., & O'Donohue, W. T. (2018). Training culturally competent psychologists: A systematic review of the training outcome literature. *Training and Education in Professional Psychology, 12*(3), 125.

Berlin, E. A., & Fowkes Jr, W. C. (1983). A teaching framework for cross-cultural health care application in family practice. *Western Journal of Medicine, 139*(6), 934.

Betancourt, J. R., Green, A. R., Carrillo, J. E., & Ananeh-Firempong, O., 2nd. (2003). Defining cultural competence: A practical framework for addressing racial/ethnic disparities in health and health care. *Public Health Reports, 118*(4), 293-302.

Brach, C., & Fraser, I. (2000). Can cultural competency reduce racial and ethnic health disparities? A review and conceptual model. *Medical Care Research and Review, 57*(suppl 1), 181-217.

Brascoupé, S., & Waters, C. (2009). Cultural safety—Exploring the applicability of the concept of cultural safety to Aboriginal health and community wellness. *Journal of Aboriginal Health, 5*(2), 6-41.

Braveman, P., Egerter, S., & Williams, D. R. (2011). The social determinants of health: Coming of age. *Annual Review of Public Health, 32*, 381-398.

Bryant, A., & Charmaz, K. (Eds.). (2007). *The SAGE handbook of grounded theory*. Sage.

Burgess, D. J., Warren, J., Phelan, S., Dovidio, J., & van Ryn, M. (2010). Stereotype threat and health disparities: What medical educators and future physicians need to know. *Journal of General Internal Medicine, 25*(Suppl 2), 169–177. https://doi.org/10.1007/s11606-009-1241-4

Butani, Y., Weintraub, J. A., & Barker, J. C. (2008). Oral health-related cultural beliefs for four racial/ethnic groups: Assessment of the literature. *BMC Oral Health, 8*, 26.

Butler, J. 3rd, Fryer, C. S., Garza, M. A., Quinn, S. C., Thomas, S. B. (2018). Commentary: Critical race theory training to eliminate racial and ethnic health disparities: The Public Health Critical Race Praxis Institute. *Ethnography Dissertation, 28*(Suppl 1), 279-284. https://pubmed.ncbi.nlm.nih.gov/30116099

Butler, M., McCreedy, E., Schwer, N., Burgess, D., Call, K., Przedworski, J., Rosser, S., Larson, S., Allen, M., Fu, S., & Kane, R. L. (2016). Improving cultural competence to reduce health disparities. *Agency for Healthcare Research and Quality (US)*, Report No.: 16-EHC006-EF. https://www.ncbi.nlm.nih.gov/books/NBK361126

Caffrey, R. A., Neander, W., Markle, D., & Stewart, B. (2005). Improving the cultural competence of nursing students: Results of integrating cultural content in the curriculum and an international immersion experience. *Journal of Nursing Education, 44*(5), 234-240.

Campinha-Bacote, J. (1998). Cultural diversity in nursing education: Issues and concerns. *Journal of Nursing Education, 37*(1), 3-4.

Campinha-Bacote, J. (2002). The process of cultural competence in the delivery of healthcare services: A model of care. *Journal of Transcultural Nursing, 13*(3), 181-184.

Candela, A. G. (2019). Exploring the function of member checking. *The Qualitative Report, 24*(3), 619-628.

Carlone, H. B., Haun-Frank, J., & Kimmel, S. C. (2010). Tempered radicals: Elementary teachers' narratives of teaching science within and against prevailing meanings of schooling. *Cultural Studies of Science Education, 5*(4), 941-965.

Carpi, A., Ronan, D. M., Falconer, H. M., & Lents, N. H. (2017). Cultivating minority scientists: Undergraduate research increases self-efficacy and career ambitions for underrepresented students in STEM. *Journal of Research in Science Teaching, 54*(2), 169-194. https://doi.org/10.1002/tea.21341

Caty, M. È., Kinsella, E. A., & Doyle, P. C. (2015). Reflective practice in speech-language pathology: A scoping review. *International Journal of Speech-Language Pathology, 17*(4), 411-420.

Centers for Disease Control and Prevention. (2013). *Recommended adult immunization schedule – United States*, 2013. Washington, DC: CDC.

Centers for Disease Control and Prevention. (2021). *COVID-19 Guideline* – United States, 2021. Washington, DC: CDC.

Charmaz, K. (2006). *Constructing grounded theory: A practical guide through qualitative analysis*. Sage.

Charmaz, K. (2014). *Constructing grounded theory*. Sage.

Charmaz, K. (2016). *Theoretical sampling, saturation, and sorting. In C. Bryant & D. Charmaz (Eds.)*, The SAGE Handbook of Current Developments in Grounded Theory. Sage.

Choi, J., & Kim, J. (2018). Effects of cultural education and cultural experiences on the cultural competence among undergraduate nursing students. *Nurse Education in Practice, 29*, 159-162.

Chrisman, N. J., & Maretzki, T. W. (1982). Anthropology in health science settings. *Clinically Applied Anthropology* (pp. 1-31). Springer, Dordrecht.

Commission on Accreditation in Physical Therapy Education. (2019). *CAPTE Requirements*. http://www.capteonline.org/home.aspx

Commission on Accreditation in Physical Therapy Education. (2020, November 3). *Standards and required elements for accreditation of physical therapy education programs*. https://www.capteonline.org/globalassets/capte-docs/capte-pt-standards-required-elements.pdf

Conflict and Health. (2020). *Addressing recall bias in (post-)conflict data collection and analysis: lessons from a large-scale health survey in Colombia*. https://conflictandhealth.biomedcentral.com

Creswell, J., & Poth, C. (2018). *Qualitative inquiry & research design: Choosing among five approaches (4th edition).* SAGE.

Cross, T., Bazron, B., Dennis, K., & Isaacs, M. (1989). Towards a culturally competent system of care: A monograph on effective services for minority children who are severely emotionally disturbed: volume I. Georgetown University Child Development Center.

Diller, J., & Moule, J. (2005). Cultural competence: A primer for education. *Canada: Thompson.*

Doherty, D. (2017). Perceptions of cultural competency in doctor of physical therapy students introduction. *Journal of Cultural Diversity, 24*(2), 31-38.

Donaghy, M. E., & Morss, K. (2000). Guided reflection: A framework to facilitate and assess reflective practice within the discipline of physiotherapy. *Physiotherapy Theory and Practice, 16*(1), 3-14.

Donkin, A., Goldblatt, P., Allen, J., Nathanson, V., & Marmot, M. (2017). Global action on the social determinants of health. *BMJ Global Health, 3*(Suppl 1), e000603.

Doyle, K. E., Zarb, L., Wilkey, K., Sale, K., Pitt, C., & Vindigni, D. (2020). Embedding cultural competence in faculty: A mixed-methods evaluation of an Applied Indigenous Proficiency Workshop. *Cultural Competence and the Higher Education Sector*, 277-293.

Edwards, I., Delany, C. M., Townsend, A. F., & Swisher, L. L. (2011). New perspectives on the theory of justice: implications for physical therapy ethics and clinical practice. *Physical Therapy, 91*(11), 1642-1652.

Egede, L. E., & Walker, R. J. (2020). Structural racism, social risk factors, and Covid-19 — A dangerous convergence for Black Americans. *New England Journal of Medicine, 383*, e77.

Epner, D. E., & Baile, W. F. (2012). Patient-centered care: the key to cultural competence. *Annals of Oncology, 23*, iii33-iii42.

Figueroa, C. A., Manalo-Pedro, E., Pola, S., Darwish, S., Sachdeva, P., Guerrero, C., von Vacano, C., Jha, M., De Maio, F., Kennedy, C. J. (2023). The stories about racism and health: the development of a framework for racism narratives in medical literature using a computational grounded theory approach. *International Journal of Equity Health, 22*(1), 265. https://pubmed.ncbi.nlm.nih.gov/38129909

Finlay, L. (2002). "Outing" the researcher: The provenance, process, and practice of reflexivity. *Qualitative Health Research, 12*(4), 531-545.

Finlay, L. (2002). Negotiating the swamp: the opportunity and challenge of reflexivity in research practice. *Qualitative Research, 2*(2), 209-230.

Finlay, L., & Gough, B. (Eds.). (2003). *Reflexivity: A practical guide for researchers in health and social sciences*. Blackwell Science Ltd.

Foronda, C. L. (2008). A concept analysis of cultural sensitivity. *Journal of Transcultural Nursing, 19*(3), 207-212.

Foronda, C., Baptiste, D.-L., Reinholdt, M. M., & Ousman, K. (2016). Cultural humility: A concept analysis. *Journal of Transcultural Nursing, 27*(3), 210-217.

Freire, P. (1970). *Pedagogy of the Oppressed*. Continuum.

Goodman, X. Y., & Nugent, R. L. (2020). Teaching cultural competence and cultural humility in dental medicine. *Medical Reference Services Quarterly, 39*(4), 309-322.

Gonyea, J.G., Curran, P., & Wylie, A. (2020). The challenges of using self-report methods in research on older adults: Lessons from gerontological literature. *Journal of Gerontology, 75*(2), 432-439. https://doi.org/10.1093/geronb/gbz094

Gorski, P. C. (1999). *A brief history of multicultural education*. http://www.edchange.org/multicultural/papers/edchange_history.html

Govender, P., Mpanza, D. M., Carey, T., Jiyane, K., Andrews, B., & Mashele, S. (2017). Exploring cultural competence amongst OT students. *Occupational Therapy International, 2017*.

Govere, L., & Govere, E. M. (2016). How effective is cultural competence training of healthcare providers on improving patient satisfaction of minority groups? A systematic review of literature. *Worldviews on Evidence-Based Nursing, 13*(6), 402-410. https://doi.org/10.1111/wvn.12176

Grandpierre, V., Milloy, V., Sikora, L., Fitzpatrick, E., Thomas, R., & Potter, B. (2018). Barriers and facilitators to cultural competence in rehabilitation services: A scoping review. *BMC Health Services Research, 18*(1), 1-14.

Green, B. N., & Johnson, C. D. (2020). "Cultural competence and chiropractic care: A commentary on effective strategies for improving patient outcomes." *Journal of Chiropractic Education, 34*(1), 44-49.

Grote, G. (2008). Diagnosis of safety culture: A replication and extension towards assessing "safe" organizational change processes. *Safety Science, 46*(3), 450-460.

Guillemin, M., & Gillam, L. (2004). Ethics, reflexivity, and "ethically important moments" in research. *Qualitative Inquiry, 10*(2), 261-280.

Gupta, J., & Sullivan, C. (2013). The central role of occupational therapy in the facilitation of cultural competence: A call to action. *Occupational Therapy in Health Care, 27*(4), 263-273.

Hammell, K. W. (2020). Occupational therapy and cultural competence: Exploring the relationships with practice. *Canadian Journal of Occupational Therapy, 87*(2), 144-152.

Hankivsky, O. (2014). *Intersectionality 101*. The Institute for Intersectionality Research & Policy, SFU.

Hardeman, R. R., & Medina, E. M. (2016). Kicking the diversity and inclusion habit: How bias in healthcare perpetuates health disparities. *Institute for Equity & Inclusion Sciences*.

Hassali, M. A., Shafie, A. A., & Awaisu, A. (2009). A study on the impact of pharmacist's counseling on diabetes patient outcomes in a community setting. *Journal of Public Health, 17*(5), 305-309.

Healthy People 2030. (n.d.). Social determinants of health. *U.S. Department of Health and Human Services, Office of Disease Prevention and Health Promotion*. https://health.gov/healthypeople/objectives-and-data/social-determinants-health

Henderson, S., Horne, M., Hills, R., & Kendall, E. (2018). Cultural competence in healthcare in the community: A concept analysis. *Health & Social Care in the Community, 26*(4), 590-603.

Hogan, A. J. (2024). Accessibility in health professions education: The Flexner Report and barriers to diversity in American physical therapy. *Social Science & Medicine, 341*, 116519.

Hook, J. N., Davis, D. E., Owen, J., Worthington, E. L., & Utsey, S. O. (2013). Cultural humility: Measuring openness to culturally diverse clients. *Journal of Counseling Psychology, 60*(3), 353-366. https://doi.org/10.1037/a0032595

Hook, J. N., Farrell, J. E., Davis, D. E., DeBlaere, C., Van Tongeren, D. R., & Utsey, S. O. (2016). Cultural humility and racial microaggressions in counseling. *Journal of Counseling Psychology, 63*(3), 269.

Horvat, L., Horey, D., Romios, P., & Kis-Rigo, J. (2014). Cultural competence education for health professionals. *Cochrane Database of Systematic Reviews, 2014*(5), CD009405. https://doi.org/10.1002/14651858.CD009405.pub2

Huhn, K., Gilliland, S. J., Black, L. L., Wainwright, S. F., Christensen, N., & Graham, C. (2019). Clinical reasoning in physical therapy: a concept analysis. *Physical Therapy, 99*(4), 440-456.

Institute of Medicine. (2012). *Unequal Treatment: Confronting Racial and Ethnic Disparities in Health Care*. National Academies Press.

Jansson, B. S. (2018). *Becoming an effective policy advocate: From policy practice to social justice*. Cengage Learning.

Jeffreys, M. R. (2000). The Transcultural Self-Efficacy Tool: A new instrument for multicultural education. *Journal of Nursing Education, 39*(7), 327-333.

Jeffreys, M. R. (2015). *Teaching cultural competence in nursing and health care: Inquiry, action, and innovation*. Springer Publishing Company.

Jensen, G. M., & Mostrom, E. (2012). *Handbook of teaching for physical therapists*. Elsevier Health Sciences.

Jensen, G. M., & Richert, A. E. (2005). Reflection on the teaching of ethics in physical therapist education: integrating cases, theory, and learning. *Journal of Physical Therapy Education, 19*(3), 78-85.

Jensen, G. M., Nordstrom, T., Segal, R. L., McCallum, C., Graham, C., & Greenfield, B. (2016). Education research in physical therapy: visions of the possible. *Physical therapy, 96*(12), 1874-1884.

Jones, S., & Pinto-Zipp, G. (2017). Assessing health professional students' cultural competence using a global perspective. *Journal of Allied Health, 46*(2), 88-93.

Jette, D. U., Bacon, K., Batty, C., Carlson, M., Ferland, A., Jensen, G. M., & Richert, A. E. (2005). Reflection on the teaching of ethics in physical therapist education: integrating cases, theory, and learning. *Journal of Physical Therapy Education, 19*(3), 78-85.

Jensen, G. M., Nordstrom, T., Segal, R. L., McCallum, C., Graham, C., & Greenfield, B. (2016). Education research in physical therapy: visions of the possible. *Physical Therapy, 96*(12), 1874-1884.

Jette, D. U., Bacon, K., Batty, C., Carlson, M., Ferland, A., Hemingway, R. D., ... & Volk, D. (2003). Evidence-based practice: beliefs, attitudes, knowledge, and behaviors of physical therapists. *Physical Therapy, 83*(9), 786-805.

Jette, D. U., et al. (2020). Enhancing cultural competence in physical therapy education. *Journal of Physical Therapy Education*.

Jones, S., & Pinto-Zipp, G. (2017). Assessing health professional students' cultural competence using a global perspective. *Journal of Allied Health, 46*(2), 88-93.

Kaihlanen, A. M., Hietapakka, L., & Heponiemi, T. (2019). Increasing cultural awareness: Qualitative study of nurses' perceptions about cultural competence training. *BMC Nursing, 18*(1), Article 1.

Kawathekar, U. S., & Campbell, D. F. (2023). Cultural competence in physical therapy: The road less traveled. *Journal of Manual & Manipulative Therapy, 31*(3), 131-132.

Kinsella, E. A., & Pitman, A. (2018). A mixed-methods systematic review on the use of reflective practice in health professional education. *Journal of Advanced Nursing, 74*(7), 1456–1471. https://doi.org/10.1111/jan.13557

Kinsella, E. A., & Whiteford, G. E. (2009). Knowledge generation and utilisation in occupational therapy: Towards epistemic reflexivity. *Australian Occupational Therapy Journal, 56*(4), 249-258.

Kirmayer, L. (2012). Cultural competence and evidence-based practice in mental health: Epistemic communities and the politics of pluralism. *Social Science & Medicine, 75*(2), 249-256.

Klump, J., & Nelson, S. (2005). Cultural competency of schools and teachers in relation to student success. *Cultural Competence in the College Biology Classroom*.

Kraemer, T. J. (2001). Physical therapist students' perceptions regarding preparation for providing clinical cultural congruent cross-cultural care: a qualitative case study. *Journal of Physical Therapy Education, 15*(1), 36.

Kumas-Tan, Z., Beagan, B., Loppie, C., MacLeod, A., & Frank, B. (2007). Measures of cultural competence: Examining hidden assumptions. *Academic Medicine, 82*(6), 548-557.

Ladson-Billings, G. (1995). Toward a theory of culturally relevant pedagogy. *American Educational Research Journal, 32*(3), 465-491. https://doi.org/10.3102/00028312032003465

Ladson-Billings, G. (2021). Culturally relevant pedagogy: Asking a different question. *Teachers College Press*.

Lamont, S., Brunero, S., Woods, K., & Woods, K. (2019). Transformative learning for nurses: Building critical thinking. *Nursing & Health Sciences, 21*(4), 428–433.

Larson, K. L., Ott, M., & Miles, J. M. (2010). International cultural immersion: en vivo reflections in cultural competence. *Journal of Cultural Diversity, 17*(2).

Lazaro, R. T., & Umphred, D. A. (2007). Improving cultural diversity awareness of physical therapy educators. *Journal of Cultural Diversity, 14*(3), 121-125.

Lee, K. C., Winickoff, J. P., Kim, M. K., Campbell, E. G., Betancourt, J. R., Park, E. R., & Maina, A. W. (2020). Resident physicians' use of professional and nonprofessional interpreters: A national survey. *JAMA Internal Medicine, 180*(10), 1383-1390.

Leung, K., Ang, S., & Tan, M. L. (2014). Intercultural competence. *Annual Review of Organizational Psychology and Organizational Behavior, 1*(1), 489-519.

Like, R. C., & Steiner, R. P. (Eds.). (2006). Global perspectives on social issues: Education, health, and behavior (Vol. 1). *Lexington Books*.

Lindsey, R. B., Robins, K. N., & Terrell, R. D. (2009). Cultural proficiency: A manual for school leaders (3rd ed.). *Corwin Press*.

Loftin, C., Hartin, V., Branson, M., & Reyes, H. (2013). Measures of cultural competence in nurses: An integrative review. *The Scientific World Journal, 2013*, Article 289101.

Long, T. B. (2012). Overview of teaching strategies for cultural competence in nursing students. *Journal of Cultural Diversity, 19*(3).

Lovern, E., Barerra, P., Cohn, E. S., & Davis, A. (2012). Cultural competence education for professional nurses: Integrative review. *Journal of Transcultural Nursing, 23*(2), 137–144. https://doi.org/10.1177/1043659611434324

Lum, D. (2011). Culturally competent practice: A framework for understanding diverse groups and justice issues. *Brooks/Cole Cengage Learning*.

Malterud, K. (2001). Qualitative research: standards, challenges, and guidelines. *The Lancet, 358*(9280), 483-488.

Mann, K., Gordon, J., & MacLeod, A. (2009). Reflection and reflective practice in health professions education: A systematic review. *Advances in Health Sciences Education, 14*(4), 595-621. https://doi.org/10.1007/s10459-007-9090-2

Mason, J. L. (1995). Cultural Competence Self-assessment Questionnaire: A Manual for Users. *Portland, OR: Portland State University, Research and Training Center on Family Support and Children's Mental Health*.

Matthews, N. D., Rowley, K. M., Dusing, S. C., Krause, L., Yamaguchi, N., & Gordon, J. (2021). Beyond a statement of support: changing the culture of equity, diversity, and inclusion in physical therapy. *Physical Therapy, 101*(12).

Mensah, F. M., & Larson, K. (2017). A summary of inclusive pedagogies for science education. *Paper commissioned for the Committee on Science Investigations and Engineering Design Experiences in Grades 6-12*.

Mensah, F. M. (2022). Educating future teacher educators of color to talk about race in teacher education. *Handbook of Research on Teachers of Color and Indigenous Teachers, 181*.

Mensah, G. A., Mokdad, A. H., Ford, E. S., Greenlund, K. J., & Croft, J. B. (2005). State of disparities in cardiovascular health in the United States. *Circulation, 111*(10), 1233-1241.

Merriam, S. B., & Tisdell, E. J. (2015). Qualitative research: A guide to design and implementation. Jossey-Bass.

Merriam, S. B., Johnson-Bailey, J., Lee, M.-Y., Kee, Y., Ntseane, G., & Muhamad, M. (2001). Power and positionality: Negotiating insider/outsider status within and across cultures. *International Journal of Lifelong Education, 20*(5), 405-416.

Merriam, S. B. (2009). Qualitative research: A guide to design and implementation. *Jossey-Bass*.

Metzl, J. M., & Hansen, H. (2014). Structural competency: theorizing a new medical engagement with stigma and inequality. *Social Science & Medicine, 103*, 126-133.

Mews, C., Schuster, S., Vajda, C., Lindtner-Rudolph, H., Schmidt, L. E., Bösner, S., ... & Knipper, M. (2018). Cultural competence and global health: Perspectives for medical education–Position paper of the GMA committee on cultural competence and global health. *GMS Journal for Medical Education, 35*(3).

Miller, K. L., Re Cruz, A., & Ala'i-Rosales, S. (2019). Inherent tensions and possibilities: Behavior analysis and cultural responsiveness. *Behavior and Social Issues, 28*(1), 16-36.

Miller, P. W., Roofe, C., & García-Carmona, M. (2019). School leadership, curriculum diversity, social justice and critical perspectives in education. *Cultures of Social Justice Leadership, 931-119*.

Mills, J., Bonner, A., & Francis, K. (2006). The development of constructivist grounded theory. *International Journal of Qualitative Methods, 5*(1), 25-35.

Montgomery, B. (2018, January 28). Developing cultural competence in paradise. *American Occupational Therapy Association*. https://humanparts.medium.com/laziness-does-not-exist-3af27e312d01

Montoya, A.K., & Hayes, A.F. (2017). Two-condition within-participant statistical mediation analysis: A path-analytic framework. *Psychological Methods, 22*(1), 6-27. https://doi.org/10.1037/met0000086

Museus, S. D., & Liverman, D. (2010). High-impact educational practices: Examining the roles of fostering student success among racially diverse student populations. *Journal of Diversity in Higher Education, 3*(3), 164-175. https://doi.org/10.1037/a0019028

Musolino, G. M. (2006). Fostering reflective practice: Self-assessment abilities of physical therapy students and entry-level graduates. *Journal of Allied Health, 35*(1), 30-42.

Nadan, Y. (2017). Rethinking 'cultural competence' in international social work. *International Social Work, 60*(1), 74-83.

Naff, K. C., & Kellough, J. E. (2003). Ensuring employment equity: Are federal diversity programs making a difference?. *International Journal of Public Administration, 26*(12), 1307-1336.

Napholz, L. (1999). A comparison of self-reported cultural competency skills among two groups of nursing students: Implications for nursing education. *Journal of Nursing Education, 38*(2), 81-83.

National Academies of Sciences, Engineering, and Medicine. (2017). Developing a methodological research program for longitudinal studies. *National Center for Biotechnology Information*. https://www.ncbi.nlm.nih.gov/books/NBK447256

National Academies of Sciences, Engineering, and Medicine. (2017). Communities in action: Pathways to health equity. *Washington, D.C.: The National Academies Press*.

National Institute of Health. (2022). Minority health and health disparities: Definitions and parameters. https://www.nih.gov/health-information/minority-health-and-health-disparities

Ng, S. L., Kinsella, E. A., Friesen, F., & Hodges, B. (2015). Reclaiming a theoretical orientation to reflection in medical education research: A critical narrative review. *Medical Education, 49*(5), 461-475. https://doi.org/10.1111/medu.12680

Ngo-Metzger, Q., Telfair, J., Sorkin, D.H., Weidmer, B., Weech-Maldonado, R., Hurtado, M., & Hays, R.D. (2006). Cultural competency and quality of care: Obtaining the patient's perspective. *The Commonwealth Fund*.

Nieto, S., & Bode, P. (2008). Affirming diversity: The sociopolitical context of multicultural education (5th ed.). *Pearson*.

Nixon-Cave, K., & Meadows, J. (2014). Developing cultural competence in DPT students: Is there a best practice educational model to facilitate students achieving cultural competence?: Commentary on Wehbe-Alamah et al, Grzelak et al, and Hayward et al. *Journal of Physical Therapy Education, 28*(1), 37-38.

Núñez, A., González, P., Talavera, G. A., & Sánchez-Johnsen, L. (2016). Disease prevalence, treatment barriers, and treatment attitudes among Latinos with depressive symptoms. *Journal of Immigrant and Minority Health, 18*(4), 887–894.

Nyumba, T., Wilson, K., Derrick, C. J., & Mukherjee, N. (2018). The use of focus group discussion methodology: Insights from two decades of application in conservation. *Methods in Ecology and Evolution, 9*(1), 20-32.

O'Connell, M. B., Jackson, A. N., Karaoui, L. R., Rodriguez de Bittner, M., Chen, A. M. H., Echeverri, M., ... & Lee, S. (2013). Cultural competency in health care and its implications for pharmacy Part 3A: Emphasis on pharmacy education, curriculums, and future directions. *Pharmacotherapy, 33*(12), e347-e367.

O'Donohue, W., & Benuto, L. (2010). The many problems of cultural sensitivity. *Scientific Review of Mental Health Practice, 7*(2).

Office of Disease Prevention and Health Promotion. (2021, August 11). Healthy People 2020: Disparities. *U.S. Department of Health and Human Services*. August 13, 2021, from https://www.healthypeople.gov/2020/about/foundation-health-measures/Disparities

Ogbu, J. U. (1992). Understanding cultural diversity and learning. *Educational Researcher, 21*(8), 5-14.

Onwuegbuzie, A. J., Dickinson, W. B., Leech, N. L., & Zoran, A. G. (2009). A qualitative framework for collecting and analyzing data in focus group research. *International Journal of Qualitative Methods, 8*(3), 1-21.

Ortega, A. N., & Rodriguez, H. P. (2020). Cultural competence in health care: Emerging frameworks and practical approaches. *Field Action Report, New York: Commonwealth Fund*.

Owen, J., Tao, K. W., Leach, M. M., & Rodolfa, E. (2011). Early career psychologists' use of cultural concepts in psychotherapy. *Psychotherapy, 48*(1), 58-66.

O'Leary, E. S., Shapiro, C., Toma, S., Sayson, H. W., Levis-Fitzgerald, M., Johnson, T., & Sork, V. L. (2020). Creating inclusive classrooms by engaging STEM faculty in culturally responsive teaching workshops. *International Journal of STEM education, 7*, Article 1.

Page, S. E. (2007). The difference: How the power of diversity creates better groups, firms, schools, and societies. *Princeton University Press*. https://press.princeton.edu/books/hardcover/9780691138541/the-differencePaparella-Pitzel, S., Eubanks, R., & Kaplan, S. L. (2016). Comparison of teaching strategies for cultural humility in physical therapy. *Journal of Allied Health, 45*(2), 139-146.

Paris, D., & Alim, H. S. (2017). Culturally sustaining pedagogies: Teaching and learning for justice in a changing world. *Teachers College Press*.

Paulhus, D. L., & Vazire, S. (2007). The self-report method. In R.W. Robins, R.C. Fraley, & R.F. Krueger (Eds.), *Handbook of research methods in personality psychology* (pp. 224-239). New York, NY: Guilford Press.

Penman-Aguilar, A., Talih, M., Huang, D., Moonesinghe, R., Bouye, K., & Beckles, G. (2016). Measurement of health disparities, health inequities, and social determinants of health to support the advancement of health equity. *Journal of Public Health Management and Practice, 22*(Suppl 1), S33-S42.

Perry, S. P., Hardeman, R. R., Burke, S. E., Cunningham, B. A., & Burgess, D. J. (2021). The stigma of race and culture in health care: Evidence, strategies, and recommendations for understanding and addressing health care disparities. *Journal of Health Care for the Poor and Underserved, 32*(1), 129-140.

Phillips, C. B., & Coffin, J. A. (2014). Cultural competence in nursing education: From philosophy to practice. *Journal of Cultural Diversity, 21*(3), 89–95.

Plack, M. M., & Wong, C. K. (2002). The evolution of the doctorate of physical therapy: moving beyond the controversy. *Journal of Physical Therapy Education, 16*(1), 48-62

Psychology Today. (n.d.). Why naming race is necessary to undo racism. https://www.psychologytoday.com/us/blog/your-stereotypical-psychologist/202103/why-naming-race-is-necessary-undo-racism

Raddawi, R. (2015). Intercultural (Mis-) Communication in medical settings: Cultural difference or cultural incompetence?. In *Intercultural communication with Arabs: Studies in educational, professional and societal contexts* (pp. 179-195).

Rankin, S. R. (2003). Campus climate for gay, lesbian, bisexual, and transgender people: A national perspective. *National Gay and Lesbian Task Force Policy Institute*.

https://www.thetaskforce.org/campus-climate-for-gay-lesbian-bisexual-and-transgender-people-a-national-perspective/

Ravitch, S. M., & Carl, N. M. (2016). Validity: Process, strategies, and considerations. In *Qualitative research: Bridging the conceptual, theoretical, and methodological* (pp. 185-214).

Ravitch, S. M., & Riggan, M. (2016). Reason & rigor: How conceptual frameworks guide research. *Sage Publications*.

Razack, N. (1999). Anti-discriminatory practice: Pedagogical struggles and challenges. *The British Journal of Social Work, 29*(2), 231-250.

Rehman, S. S. U., Ahmad, S., & Yasmin, R. (2018). Study of curriculum of Doctor of Physical therapy programme based on World Federation of Medical Education standards.

Ricci, L., Lanfranchi, J. B., Lemetayer, F., Rotonda, C., Guillemin, F., & Coste, J., & Spitz, E. (2019). Qualitative methods used to generate questionnaire items: a systematic review. *Qualitative Health Research, 29*(1), 149-156.

Ring, J., Nyquist, J., & Mitchell, S. (2018). Curriculum for culturally responsive health care: The step-by-step guide for cultural competence training. *CRC Press*.

Robeznieks, A. (2021, November 1). Try these 7 equity-focused language options to engage patients. *American Medical Association*. https://www.ama-assn.org/delivering-care/public-health/try-these-7-equity-focused-language-options-engage-patients

Rodriguez, A. J., & Kitchen, R. S. (2005). Preparing math and science teachers for diverse classrooms: Promising strategies for transformative pedagogy. *Lawrence Erlbaum Associates*.

Romanello, M. L. (2007). Integration of cultural competence in physical therapist education. *Journal of Physical Therapy Education, 21*(1), 33-39.

Ross, E. F., & Haidet, P. (2011). Attitudes of physical therapy students toward patient-centered care, before and after a course in psychosocial aspects of care. *Patient Education and Counseling, 85*(3), 529-532.

Rothman, B. K. (2007). Part II: The sociology of a working bioethics: Private narratives. In *Bioethical Issues, Sociological Perspectives*. Emerald Group Publishing Limited.

Saldaña, J. (2021). The coding manual for qualitative researchers (4th ed.). *Sage Publications*.

Schim, S. M., Doorenbos, A. Z., Miller, J., & Benkert, R. (2003). Development of a cultural competence assessment instrument. *Journal of Nursing Measurement, 11*(1), 29-40.

Schinke, R.J., Stambulova, N.B., Si, G., & Moore, Z. (2018). International society of sport psychology position stand: Athletes' mental health, performance, and development. *International Journal of Sport and Exercise Psychology, 16*(6), 622-639.

Schön, D. A. (1987). Educating the reflective practitioner: Toward a new design for teaching and learning in the professions. *Jossey-Bass*.

Schön, D. A. (2017). The reflective practitioner: How professionals think in action. *Routledge*.

Seider, S., Graves, D., El-Amin, A., Soutter, M., Tamerat, J., Jennett, P., ... & Johannsen, J. (2018). Developing sociopolitical consciousness of race and social class inequality in adolescents attending progressive and no excuses urban secondary schools. *Applied Developmental Science, 22*(3), 169-187.

Sharifi, Adib-Hajbaghery, M., & Najafi, M. (2019). Cultural competence in nursing: A concept analysis. *International Journal of Nursing Studies, 99*, 103386.

Shepherd, S. M., Willis-Esqueda, C., Newton, D., Sivasubramaniam, D., & Paradies, Y. (2019). The challenge of cultural competence in the workplace: perspectives of healthcare providers. *BMC Health Services Research, 19*(1), Article 1.

Singh, G. K., Siahpush, M., & Kogan, M. D. (2013). Neighborhood socioeconomic conditions, built environments, and childhood obesity. *Health Affairs, 29*(3), 503-512.

Skinner, A. C., Ravanbakht, S. N., Skelton, J. A., Perrin, E. M., & Armstrong, S. C. (2018). Prevalence of obesity and severe obesity in US children, 1999–2016. *Pediatrics, 141*(3), e20173459.

Smith, T. B., Rodriguez, M. D., & Bernal, G. (2011). Culture. *Journal of Clinical Psychology, 67*(2), 166-175.

Sonn, I., & Vermeulen, N. (2018). Occupational therapy students' experiences and perceptions of culture during fieldwork education. *South African Journal of Occupational Therapy, 48*(1), 34-39.

Sparkes, V. J. (2002). Profession and professionalisation: part 1: role and identity of undergraduate physiotherapy educators. *Physiotherapy, 88*(8), 481-492.

Starr, S., & Wallace, D. C. (2009). Self-reported cultural competence of public health nurses in a Southeastern US Public Health Department. *Public Health Nursing, 26*(1), 48-57.

Steinkamp, L., Deuel, D., Lucre, M., & Zavala, P. (2021). The interplay of diversity, equity, and inclusion in addressing health inequities. *WMJ: Official Publication of the State Medical Society of Wisconsin*

Stepanikova, I., & Oates, G. R. (2021). Language matters: Examining microaggressions in health care settings using social media. *Qualitative Health Research, 31*(8), 1343–1355.

Strauss, A., & Corbin, J. (1990). Basics of qualitative research: Grounded theory procedures and techniques. *Sage Publications*.

Strauss, A., & Corbin, J. (1998). Basics of qualitative research: Techniques and procedures for developing grounded theory (2nd ed.). *Sage Publications*.

Suarez-Balcazar, Y., Mirza, M. P., & Hansen, A. M. (2019). Cultural competence in physical therapy practice. *Innovations in Physical Therapy Education, 2*(1), Article 1.

Sue, D. W., Capodilupo, C. M., Torino, G. C., Bucceri, J. M., Holder, A. M., Nadal, K. L., & Esquilin, M. (2007). Racial microaggressions in everyday life: Implications for clinical practice. *American Psychologist, 62*(4), 271–286. https://doi.org/10.1037/0003-066x.62.4.271

Sue, D. W., Rasheed, M. N., & Rasheed, J. M. (2019). Multicultural social work practice: A competency-based approach to diversity and social justice (4th ed.). *John Wiley & Sons*.

Sue, S., Zane, N., Nagayama Hall, G. C., & Berger, L. K. (2009). The case for cultural competency in psychotherapeutic interventions. *Annual Review of Psychology, 60*, 525-548.

Tan, D. L., Morris, L. A., & Romero, J. (2003). Workable strategies and effectiveness of diversity training. *Individual Diversity and Psychology in Organizations*.

Tanner, K., & Allen, D. (2007). Cultural competence in the college biology classroom. *Life Sciences Education, 6*(4), 251-258.

Taylor, M. J. (2016). The development of values through the school curriculum. In *Values Education for Citizens in the New Century* (pp. 107-131).

Tervalon, M., & Murray-Garcia, J. (1998). Cultural humility versus cultural competence: A critical distinction in defining physician training outcomes in multicultural education. *Journal of Health Care for the Poor and Underserved, 9*, 117-125.

Thackrah, R. D., & Thompson, S. C. (2013). Refining the concept of cultural competence: building on decades of progress. *Medical Journal of Australia, 199*(1), 35-38.

Thompson, B. M., Teal, C. R., Rogers, J. C., Paterniti, D. A., Haidet, P., & Chang, T. Y. (2019). The importance of role modeling in developing clinician–patient communication skills: A qualitative study of medical student perceptions. *Academic Medicine, 94*(6), 878-884.

Thornberg, R., & Charmaz, K. (2014). Grounded theory and theoretical coding. In *The SAGE Handbook of Qualitative Data Analysis* (pp. 153-169). Sage.

Tormala, T. T., Patel, S. G., Soukup, E. E., & Clarke, A. V. (2018). Developing measurable cultural competence and cultural humility: An application of the cultural formulation. *Training and Education in Professional Psychology, 12*(1), 54.

Truong, M., Paradies, Y., & Priest, N. (2014). Interventions to improve cultural competency in healthcare: A systematic review of reviews. *BMC Health Services Research, 14*, 99. https://bmchealthservres.biomedcentral.com/articles/10.1186/1472-6963-14-99

Tummala-Narra, P., Claudius, M., Letendre, P. J., Sarbu, E., Teran, V., & Villalba, W. (2018). Psychoanalytic psychologists' conceptualizations of cultural competence in psychotherapy. *Psychoanalytic Psychology, 35*(1), 46.

U.S. Census Bureau. (2021). QuickFacts. https://www.census.gov/quickfacts/fact/table/US/PST045221

U.S. Department of Health and Human Services, Office of Disease Prevention and Health Promotion. (n.d.). Social determinants of health. *Healthy People 2030*. https://health.gov/healthypeople/objectives-and-data/social-determinants-health

U.S. Department of Health and Human Services (USDHHS). (2018). Healthy People 2020. *Office of Disease Prevention and Health Promotion*.

United States Census Bureau. (2019). U.S. and world population clock. *U.S. Department of Commerce*. March 2022, from https://www.census.gov/popclock

United States Department of Health and Human Services (2013). National Standards for Culturally and Linguistically Appropriate Services in Health and Health Care: A Blueprint for Advancing and Sustaining CLAS Policy and Practice. *U.S. Department of Health and Human Services (USDHHS), Office of Minority Health*. Rockville, MD.

University of Rochester. (2007). Understanding diversity at the University of Rochester: Diversity engagement survey comprehensive report. https://www.rochester.edu/diversity/wp-content/uploads/2017/10/DES_Comprehensive-Report-FINAL.pdf

Van Ryn, M., Burgess, D. J., Dovidio, J. F., Phelan, S. M., Saha, S., Malat, J., & Perry, S. (2011). The impact of racism on clinician cognition, behavior, and clinical decision making. *Du Bois Review: Social Science Research on Race, 8*(1), 199–218. https://doi.org/10.1017/S1742058X11000191

Villegas, A. M., & Lucas, T. (2002). Preparing culturally responsive teachers: Rethinking the curriculum. *Journal of Teacher Education, 53*(1), 20-32.

Wasonga, T. A. (2005). Multicultural education knowledge base, attitudes, and preparedness for diversity. *International Journal of Educational Management*.

Watts, R. J., Diemer, M. A., & Voight, A. M. (2011). Critical consciousness: Current status and future directions. *New Directions for Child and Adolescent Development, 2011*(134), 43-57.

Wear, D., & Zarconi, J. (2008). Can compassion be taught? Let's ask our students. *Journal of General Internal Medicine, 23*(7), 948-953.

Weisskirch, R. S., Zamboanga, B. L., Ravert, R. D., Whitbourne, S. K., Park, I. J. K., Lee, R. M., & Schwartz, S. J. (2013). Cultural competence and mental health service delivery: A training manual. *Springer Science & Business Media*.

Whaley, A. L., & Davis, K. E. (2007). Cultural competence and evidence-based practice in mental health services: A complementary perspective. *American Psychologist, 62*(6), 563.

Whaley, A. L., & Davis, K. E. (2007). Cultural competence and evidence-based practice in mental health services: A complementary perspective. *American Psychologist, 62*(6), 563.

Williams, S. (2018). Developing the capacity of culturally competent leaders to redress inequitable outcomes: Increasing opportunities for historically marginalized students. *Administrative Issues Journal, 8*(1), 5.

Williams, J. N., Ford, C. L., Morse, M., & Feldman, C. H. (2020). Racial disparities in rheumatology through the lens of critical race theory. *Rheumatic Disease Clinics of North America, 46*(4), 605-612. https://pubmed.ncbi.nlm.nih.gov/32981638/

Winseman, J. S., Wilson, L., & Esquibel, K. (2021). Empathy training in medical education: A critical review. *Medical Education, 55*(5), 523-537.

Wlodkowski, R. J., & Ginsberg, M. B. (1995). *Diversity & motivation: Culturally responsive teaching*. Jossey-Bass Inc.

World Health Organization. (2021). Social determinants of health. https://www.who.int/health-topics/social-determinants-of-health#tab=tab_1

Yin, R. K. (2018). *Case study research and applications: Design and methods* (6th ed.). Sage Publications.

Ziebart, C., & MacDermid, J. C. (2019). Reflective practice in physical therapy: A scoping review. *Physical Therapy, 99*(8), 1056-1068.

Zuzelo, P. R. (2001). Describing the RN-BSN learner perspective: Concerns, priorities, and practice influences. *Journal of Professional Nursing, 17*(1), 55-65.

Appendix A

Recruitment Email

To Whom It May Concern,

My name is Dr. John Jonghyun Lee, and I'm a doctoral candidate in science education at Teachers College, Columbia University. As part of my research study, I am planning to explore how students enrolled in the entry-level physical therapy program understand the concept of cultural competence. As your qualification as a doctoral student meets the inclusion criteria of the research, I am inviting you to participate in my study: Developing Cultural Competence: Exploring the Students' Understanding of Cultural Competence in the Entry-level Physical Therapy Program.

If you agree to participate then you will help to explore the research questions by engaging in an online questionnaire, individual online interview, and online focus group sessions. The expected amount of time will be 30 to 45 minutes for the online questionnaire between January and February, 45 minutes for the individual interview in February, and 30 minutes for each focus group session in March and April 2023.

Please note that this is a voluntary process, providing an opportunity for me to learn from all of your experiences and opinions to inform the world of physical therapy education.

Thank you for your time and consideration. If you are interested in participating or have any questions, please contact me at the following phone number and email: (646) 820-6406 & jjl2250@tc.columbia.edu.

Sincerely,
John Jonghyun Lee
(Date)

Appendix B

INFORMED CONSENT

Protocol Title: Developing Cultural Competence: Exploring the Students' Understanding of Cultural Competence in the Entry-level Physical Therapy Program

Principal Researcher: Dr. John Jonghyun Lee, PT, DPT, OCS, Teachers College, Columbia University, 646-820-6406, jjl2250@columbia.edu

---

INTRODUCTION

You are invited to participate in this research study called *Developing Cultural Competence: Exploring the Students' Understanding of Cultural Competence in the Entry-level Physical Therapy Program*. You may qualify to take part in this research study because you are currently enrolled in an entry-level physical therapy program. Approximately six people will participate in this research study and it will take a total of 1 hour and 45 minutes of your time in three to four Zoom sessions, to complete over 4 months.

WHY IS THIS STUDY BEING DONE?

This study is being completed to learn the students' understanding of the concept of cultural competence and explore what type of learning experiences affect their development of cultural competence.

WHAT WILL I BE ASKED TO DO IF I AGREE TO TAKE PART IN THIS STUDY?

If you decide to participate, the primary researcher will ask that you complete a survey questionnaire, individually interview you, and request you to participate in focus group sessions.

First, you will be asked to fill out a survey questionnaire about the idea of cultural competence, based on your educational and professional experiences through the lens of physical therapy. The entire survey questionnaire will take about thirty minutes.

During the individual online interview, you will be asked to discuss your entry-level physical therapy program experience and your understanding of cultural competence. This is a semi-structured interview, and the interview will be audio-recorded. After the audio recording is written down (transcribed) the audio recording will be deleted permanently. If you do not wish to be audio-recorded, you will still be able to participate. The researcher will just take notes instead. The interview will take approximately forty-five minutes. Your response will be recorded anonymously and will be given a pseudonym in order to keep your identity confidential.

Lastly, there will be three rounds of focus group sessions, which take about 30 minutes per session. You will participate in two focus group sessions first, and if you are randomly selected then you will be asked to participate in the third round as well. Similar to the individual interview, all sessions will be audio recorded if the primary researcher has everyone's verbal consent. If you do not wish to be audio-recorded, you will still be able to participate. The researcher will just take notes instead. The interview will take approximately forty-five minutes.

Your response will be recorded anonymously and will be given a pseudonym in order to keep your identity confidential.

WHAT POSSIBLE RISKS OR DISCOMFORTS CAN I EXPECT FROM TAKING PART IN THIS STUDY?

This is a minimal-risk study, which means the harms or discomforts that you may experience are not greater than you would ordinarily encounter in daily life while taking routine physical or psychological examinations or tests. You do not have to answer any questions or share anything you do not want to talk about. You can stop participating in the study at any time without penalty. You might feel concerned that things you say might get back to your faculty members or peers; however, your information will be kept confidential.

The primary researcher is taking precautions to keep your information confidential and prevent anyone from discovering or guessing your identity, such as using a pseudonym (e.g. fake or fictitious name) instead of your name and keeping all information on a password-protected computer file and secured in the university-based cloud service.

WHAT POSSIBLE BENEFITS CAN I EXPECT FROM TAKING PART IN THIS STUDY?

There is no direct benefit to you from participating in this study. Participation may benefit the field of physical therapy education to better understand the best way to train student physical therapists.

WILL I BE PAID FOR BEING IN THIS STUDY?

You will not be paid to participate and there are no costs to you for taking part in this study.

WHEN IS THE STUDY OVER? CAN I LEAVE THE STUDY BEFORE IT ENDS?

The study is over when you have completed the survey questionnaire, individual interview, and focus groups. However, you can leave the study at any time even if you have not finished.

PROTECTION OF YOUR CONFIDENTIALITY

The primary researcher will keep all written materials locked in a desk drawer in a locked office. Any electronic or digital information (including audio (and video) recordings) will be stored on a computer that is password-protected. What is on the audio recording will be written down and the audio recording will then be permanently destroyed. There will be no record matching your real name with your pseudonym.

For quality assurance, the study team and/or members of the Teachers College Institutional Review Board (IRB) may review the data collected from you as part of this study. Otherwise, all information obtained from your participation in this study will be held strictly confidential and will be disclosed only with your permission or as required by U.S. or State law.

HOW WILL THE RESULTS BE USED?

This study is being conducted as part of the dissertation of the primary researcher. Further, the results of this study may be published in journals and presented at academic conferences. Your identity will be removed from any data you provide before publication or use for educational purposes. Your name or any identifying information about you will not be published.

CONSENT FOR AUDIO RECORDING

Audio recording is part of this research study. You can choose whether to give permission to be recorded. If you decide that you don't wish to be recorded, you will still be able to participate.

☐ I give my consent to be recorded

_____

Signature

☐ I **do not** consent to be recorded

_____

Signature

WHO MAY VIEW MY PARTICIPATION IN THIS STUDY

☐ I consent to allow written and/or audio-recorded materials viewed at an educational setting or at a conference outside of Teachers College, Columbia University

_____

Signature

☐ I **do not** consent to allow written and/or audio-recorded materials viewed outside of Teachers College, Columbia University

Signature

OPTIONAL CONSENT FOR FUTURE CONTACT

The primary researcher may wish to contact you in the future. Please initial below to indicate whether or not you give permission for future contact.

The researcher may contact me in the future for other research opportunities:

Yes _____ Initial No _____ Initial

The researcher may contact me in the future for information relating to this current study:

Yes _____ Initial No _____ Initial

WHO CAN ANSWER MY QUESTIONS ABOUT THIS STUDY?

If you have any questions about taking part in this research study, you should contact the primary researcher, Dr. John Jonghyun Lee, at 646-820-6404 or jjl2250@columbia.edu.

If you have questions or concerns about your rights as a research subject, you should contact the Institutional Review Board (IRB) (the human research ethics committee) at 212-678-4105 or email IRB@tc.edu or you can write to the IRB at Teachers College, Columbia University, 525 W. 120th Street, New York, NY 10027, Box 151. The IRB is the committee that oversees human research protection for Teachers College, Columbia University.

(Please proceed to the following page)

PARTICIPANT'S RIGHTS

- I have read the Informed Consent Form and have been offered the opportunity to discuss the form with the researcher.
- I have had ample opportunity to ask questions about the purposes, procedures, risks, and benefits of this research study.
- I understand that my participation is voluntary. I may refuse to participate or withdraw participation at any time without penalty to future student status or grades; services that I would otherwise receive.
- The researcher may withdraw me from the research at their professional discretion.
- If, during the course of the study, significant new information that has been developed becomes available which may relate to my willingness to continue my participation, the researcher will provide this information to me.
- Any information derived from the research study that personally identifies me will not be voluntarily released or disclosed without my separate consent, except as specifically required by law.
- Identifiers may be removed from the data. De-identified data may be used for future research studies, or distributed to another researcher for future research without additional informed consent from you (the research participant or the research participant's representative).
- I should receive a copy of the Informed Consent Form document.

My signature means that I agree to participate in this study:

Print name: _____ **Date:** _____

Signature: _____

Appendix C

Approved IRB Letter

Attachments:
- John Lee - Informed Consent Draft.pdf
- Exemption Notification - IRB ID: 23-139.pdf

TEACHERS COLLEGE
COLUMBIA UNIVERSITY

Teachers College IRB *Exempt Study Approval*

To: John Lee
From: Amanda O'Hara
Subject: IRB Approval: 23-139 Protocol
Date: 12/27/2022

Thank you for submitting your study entitled, "*Developing Cultural Competence: Exploring the Students' Understanding of Cultural Competence in the Entry-Level Physical Therapy Program;*" the IRB has determined that your study is **Exempt** from committee review (Category **2**) on 12/27/2022.

Please keep in mind that the IRB Committee must be contacted if there are any changes to your research protocol. The number assigned to your protocol is **23-139**. Feel free to contact the IRB Office by using the "Messages" option in the electronic Mentor IRB system if you have any questions about this protocol.

Please note that your Consent form bears an official IRB authorization stamp and is attached to this email. Copies of this form with the IRB stamp must be used for your research work. Further, all research recruitment materials must include the study's IRB-approved protocol number.

As the PI of record for this protocol, you are required to:

- Use current, up-to-date IRB approved documents
- Ensure all study staff and their CITI certifications are on record with the IRB
- Notify the IRB of any changes or modifications to your study procedures
- Alert the IRB of any adverse events

You are also required to respond if the IRB communicates with you directly about any aspect of your protocol. Failure to adhere to your responsibilities as a study PI can result in action by the IRB up to and including suspension of your approval and cessation of your research.

You can retrieve a PDF copy of this approval letter from Mentor IRB.

Best wishes for your research work.

Sincerely,
Amanda O'Hara

amanda.oharaa@gmail.com

Appendix D

Semi-Structured Individual Interview Script

Objectives	Questions
Opening	Good morning/afternoon/evening. Thank you for agreeing to participate in this interview. Throughout the research study, your identity will be removed from any data you provide before potential publication or use for educational purposes. Further, your name or any identifying information about you will not be published. This study is being conducted as part of the dissertation of the primary researcher, and this video call will be recorded as part of the data collection process. Do I have your permission to proceed? If you wish to take breaks or continue the process on any other days, you are allowed to stop the interview at any point. Also, you may stop participating in the research upon request. Do you have any questions or concerns at this time? When you answer the following questions, please elaborate with specific examples.
Cultural Awareness	We will begin the first set of questions. Are you aware of your own culture? Are you comfortable talking about your own culture with your peers? Are you aware of your own bias, prejudice, or assumptions related to different cultures? What part of the curriculum or learning experiences from this entry-level program do you believe you were introduced to this type of content? Follow-up questions: (Can you elaborate more and/or provide any examples?)
Cultural Knowledge	We will proceed to the next set of questions. Do you assess your patient or client's health-related beliefs? Are you aware of the disease incidence and prevalence for individuals from different cultures? Can you tie different treatment methods that are more effective for individuals with specific cultures?

	What part of the curriculum or learning experiences from this entry-level program do you believe you were introduced to this type of content? Follow-up questions: (Can you elaborate more and/or provide any examples?)
Cultural Skill	We will proceed to the next set of questions. Do you feel comfortable collecting relevant data from individuals from different cultures? What do you think culturally-based assessment means? Can you identify the explicit needs of individuals from different cultures? What part of the curriculum or learning experiences from this entry-level program do you believe you were introduced to this type of content? Follow-up questions: (Can you elaborate more and/or provide any examples?)
Cultural Encounter	We will proceed to the next set of questions. Do you change or modify your cultural beliefs after encountering individuals from different cultures? Do you feel competent in treating a patient or client who speaks a different primary language? Are you able to notice the differences between people from similar cultural backgrounds? What part of the curriculum or learning experiences from this entry-level program do you believe you were introduced to this type of content? Follow-up questions: (Can you elaborate more and/or provide any examples?)
Cultural Desire	We will proceed to the final set of questions. Do you want to learn about or do you feel like you have to learn about culturally competent healthcare? What is your personal motivation for providing care that is culturally competent? What do you think is the genuine purpose of cultural competence in the field of physical therapy?

	What part of the curriculum or learning experiences from this entry-level program do you believe you were introduced to this type of content? Follow-up questions: (Can you elaborate more and/or provide any examples?)
Closure	Do you have any additional comments at this time? Thank you very much for your participation today. Should you have any questions or concerns, please feel free to contact me at the contact information that was provided in the consent form.

Appendix E

Online Questionnaire (Qualtrics)

	Question	Student response
1a	Can you share about your own culture?	
1b	Can you share your own prejudices and biases?	
1c	In what part of the Physical Therapy (PT) program do you believe you experienced this type of content?	
2a	How do you assess and incorporate the health beliefs of your patients or clients?	
2b	How do you incorporate culture-specific knowledge into your clinical rationale?	
2c	In what part of the PT program do you believe you experienced this type of content?	
3a	How do you define culturally-based assessment?	
3b	How do you identify the explicit needs of individuals from different cultures?	
3c	In what part of the PT program do you believe you experienced this type of content?	
4a	Can you share how you modify your own cultural beliefs after each patient or client encounter?	
4b	How do you treat a patient or client who speaks a different language?	
4c	In what part of the PT program do you believe you experienced this type of content?	
5a	Can you elaborate on whether you feel that you want to learn about different cultures or have to learn about different cultures in healthcare?	
5b	What do you believe is the genuine purpose of cultural competence in the field of physical therapy?	
5c	In what part of the PT program do you believe you experienced this type of content?	

Appendix F

Focus Group Discussion Script

Questions are subject to change based on the result of concurrent data collection and data analysis.

Objectives	**Questions**
The PCC Model	Can you share examples of how cultural competence is relevant to your role as a student physical therapist? - (Potential follow-up) Can you describe a specific instance where you applied cultural competence principles in a clinical or academic setting? - (Potential follow-up) Can you share an experience where you feel like you were lacking cultural competence and wanting to know more about it?
Multicultural Education	What cultural competence training or education have you received in your physical therapy program? - (Potential follow-up) In your opinion, how well-prepared do you feel to address cultural diversity in a clinical setting? - (Potential follow-up) In what ways do you believe cultural competence should be further integrated into your education and training?
Reflective Practitioner	How do you personally assess your performance in cultural competence in clinical practice? - (Potential follow-up) Can you share an experience where self-reflection positively influenced your approach to patient care?

	- (Potential follow-up) What challenges, if any, have you encountered in applying cultural competence in your interactions with patients?

Appendix G

Curriculum of the Participants

Course Prefix	Course Title	Credit(s)
Year 1 – Summer		
DPT 6003	Human Gross and Surface Anatomy	7 credits
DPT 6010	Human Physiology	3 credits
DPT 6100	Foundational Aspects of Physical Therapy Practice	3 credits
	Total Credits per Semester	**13 credits**
Year 1 – Fall		
DPT 6110	PT Management of the Musculoskeletal System I	5 credits
DPT 6020	Clinical Neuroscience	4 credits
DPT 6120	Kinesiology and Biomechanics	3 credits
DPT 6200	Contemporary Issues in Healthcare	2 credits
DPT 6300	Clinical Grand Rounds I	1 credit
DPT 6600	Integrated Clinical Experience I	1 credit
	Total Credits per Semester	**16 credits**
Year 1 – Spring		
DPT 6111	PT Management of the Musculoskeletal System II	5 credits
DPT 6340	Research and Evidence-Based Practice I	3 credits
DPT 6130	Exercise Physiology	3 credits
DPT 6030	Pharmacology	2 credits
DPT 6140	Electrotherapeutic Modalities in Physical Therapy	2 credits
DPT 6310	Clinical Grand Rounds II	1 credit
DPT 6610	Integrated Clinical Experience II	1 credit
	Total Credits per Semester	**17 credits**
Year 2 – Summer		
DPT 6700	Clinical Practicum I	9 credits
DPT 6040	Applied Clinical Imaging	1 credit
DPT 6500	Doctoral Seminar I	1 credit
	Total Credits per Semester	**11 credits**
Year 2 – Fall		
DPT 6150	PT Management of the Nervous System I	5 credits
DPT 6160	PT Management of the Cardiopulmonary System	4 credits
DPT 6341	Research and Evidence-Based Practice II	3 credits
DPT 6250	Psychosocial Aspects of Physical Therapy	3 credits
DPT 6320	Clinical Grand Rounds III	1 credit
DPT 6620	Integrated Clinical Experience III	1 credit
	Total Credits per Semester	**17 credits**
Year 2 – Spring		
DPT 6131	Health Promotion and Wellness Through Education	3 credits
DPT 6151	PT Management of the Nervous System II	5 credits
DPT 6210	Ethics, Advocacy and Leadership in Healthcare	3 credits

DPT 6220	Clinical Practice Management	3 credits
DPT 6330	Clinical Grand Rounds IV	1 credit
DPT 6630	Integrated Clinical Experience IV	1 credit
	Total Credits	**16 credits**
Year 3 – Summer		
DPT 6170	Human Growth and Development	4 credits
DPT 6180	Integrative/Multisystem Physical Therapy	3 credits
DPT 6230	Independent Study	3 credits
DPT 6190	Critical Analysis of Complex Patient Management	2 credits
DPT 6240	Accountability and Documentation in Physical Therapy	1 credit
	Total Credits per Semester	**13 credits**
Year 3 – Fall		
DPT 6800	Clinical Practicum II	12 credits
DPT 6510	Doctoral Seminar II	1 credit
	Total Credits per Semester	**13 credits**
Year 3 – Spring		
DPT 6900	Clinical Practicum III	12 credits
DPT 6520	Doctoral Seminar III	1 credit
	Total Credits per Semester	**13 credits**
	Total Credits for Curriculum	**129 credits**

Appendix H

Policy Brief

Recipient
American Physical Therapy Association

Subject
Advocating for Curriculum Reforms to Prioritize Cultural Competence in Physical Therapy Education

Introduction
The findings of recent research emphasize the crucial necessity for comprehensive integration of cultural competence within physical therapy education and practice. This policy brief advocates for strategic reforms that prioritize a multifaceted approach to cultural competence learning, ensuring alignment with evolving demographic trends and promoting equitable, patient-centered care.

Key Findings
The study highlights the efficacy of a comprehensive, reflective, experiential, continuous, and intentional approach to cultural competence education. By emphasizing these elements supported by the most recent version of the *Blueprint for Teaching Cultural Competence in Physical Therapy Education* (APTA, 2014) as well as its theoretical framework–the Process of Cultural Competence in the Delivery of Healthcare Services (Campinha-Bacote, 2002)–the research underscores the need for curriculum reforms within physical therapy education.

Challenges
Currently, there is a lack of literature specific to physical therapy to develop curriculum, pedagogy, and assessment strategies. Implementing substantive curricular changes presents challenges due to institutional approval processes and external assessment criteria. Further, while physical therapy programs possess autonomy in curriculum development, regulatory bodies such as CAPTE and FSBPT impose constraints on content requirements, potentially hindering efforts to prioritize cultural competence.

Recommendations
Policy Mandates: Advocate for policies mandating ongoing cultural competence education for physical therapy educators and clinicians, such as updating the APTA's *Blueprint for Teaching Cultural Competence in Physical Therapy Education* with more concrete curricular, pedagogical, and assessment guidelines.

Collaborative Efforts: Encourage collaboration with the domain of other healthcare disciplines and multicultural science education to leverage developing effective streatgies for teaching practices for developing culturally competent physical therapist educators and clinicians.

Continuous Assessment: Create a plan to develop a more specific assessment instrument geared towards the physical therapy profession, to allow continuous assessment and adaptation of

cultural competence throughout curricula, to reflect evolving societal demographics and patient needs.

Conclusion

Prioritizing cultural competence within physical therapy education is essential for promoting equitable access to care and enhancing patient outcomes. By advocating for curriculum reforms that prioritize comprehensive cultural competence education, the profession can uphold its commitment to excellence in patient care and ensure alignment with evolving societal shifts.

Contact Information:
John Jonghyun Lee
JJL2250@tc.columbia.edu
Teachers College, Columbia University
Department of Mathematics, Science and Technology