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THE INFLUENCE OF LEADERSHIP APPROACH AND FOLLOWER SELF-
IDENTITY ON PATIENT OUTCOMES IN PHYSICAL THERAPY

By
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A DISSERTATION IN PRACTICE

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Abstract

Physical therapy is an important healthcare resource in the treatment of low back pain that seeks to improve patients’ function. However, the functional outcomes of patients are variable among providing physical therapists (PPTs). A novel approach to determine modifiable factors that help explain functional outcome variability is to examine leader behaviors and follower self-identity in the outpatient physical therapy clinical setting. A servant leadership approach maintains followers’ needs as the top priority, creating follower empowerment and self-efficacy. However, based on the social identity theory, followers must be open to the influence of their leader for such leadership to be cultivated, as measured by their work-related self-identity. Therefore, the purpose of this correlational study was to determine relationships among (a) servant leadership behaviors of clinic leaders, (b) work-related self-identity (interpersonal, group, and personal identities) of PPTs, and (c) functional outcomes of patients with low back pain in outpatient physical therapy. A convenience sample of 35 PPTs employed by a multistate corporate physical therapy organization completed an electronic survey on servant leadership behaviors of their clinic leaders and their work-related self-identity. Survey data for each participant were matched to their mean Focus on Therapeutic Outcomes (FOTO) scores for patients with low back pain over the past 12 months. Results demonstrated that servant leadership behaviors of clinic leaders significantly correlated with interpersonal \((r = .65, p = .001)\) and group identity \((r = .70, p < .001)\) of PPTs and that group identity of PPTs was predictive of patient outcomes, \(F(1,29) = 4.52, p = .04\). The study results were used to create a plan for a 12-month leadership development training program with an emphasis on building servant leadership behaviors and group
identity in leaders and followers, which will be implemented at the physical therapy clinical organization where the study took place.

Keywords: physical therapy, patient outcomes, leadership, social identity
Dedication

This dissertation is whole-heartedly dedicated to my family. To my children, Preston and Noralee Collier: May you always stay curious and full of wonder! Know that you can do hard things. To my husband, Kyle Collier: Thank you for your endless support of my endless pursuit of knowledge. I would not be the person I am today without you by my side. To my parents and grandparents: Thank you for showing me what is possible in this world and for your constant love and support. This dissertation demonstrates the important role of our social groups and I am proud and thankful to have each of you in my life.
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CHAPTER ONE: INTRODUCTION

A primary aim of physical therapy is to improve the function of patients in a holistic manner. Therefore, physical therapists play an integral role in the treatment of low back pain, a condition that is estimated to affect 50% to 80% of adults at least once in their lifetime (Rubin, 2007). This chapter will introduce the role of leadership in ensuring the quality of patient outcomes of physical therapists. Hypotheses are proposed about the relationship between servant leadership behaviors and the functional outcomes of patients with low back pain in outpatient physical therapy clinics. Key constructs from the social identity theory and self-categorization theory will be explored in this study as potential predictors of functional outcomes in physical therapy. Further, this chapter will present the problem, purpose, and aim of this study. A brief methodological overview will be presented as well as a discussion of study limitations, delimitations, and personal biases.

Statement of the Problem

The United States faces rising healthcare costs and inconsistent quality of care. According to the Commonwealth Fund’s 2021 report, the United States has the most expensive healthcare system in the world. At the same time, the U.S. healthcare system ranks last or nearly last in the areas of access, efficiency, equity, and health care outcomes relative to ten other countries with similar socioeconomic status (Schneider et al., 2021). New ideas are needed to improve the value of healthcare for patients in the United States. My specific interests lie in novel approaches to improve the quality of care for patients receiving care from a physical therapist.
Low back pain causes more global disability than any other condition and, thus, remains a taxing component to the U.S. healthcare system (Hoy et al., 2014). The role of physical therapy in treating low back pain is to provide conservative (non-surgical) treatment to reduce back pain, improve function, and teach patients how to prevent future low back problems. Although physical therapists have this role, their functional outcomes do not reflect consistent quality of care across the United States. Gozalo et al. (2016) explored the variation in functional outcomes in patients with low back pain and shoulder pain in physical therapy. Clinical and physical therapist effects accounted for 11.6% of the variation in functional outcomes. This significant finding suggests that differences exist among clinics and providing physical therapists that influence functional outcomes. Another study explored characteristics of physical therapists who achieve the top 10% of functional outcomes nationally. No consistent influence from years of experience or advanced clinical certification was identified (Resnik & Hart, 2003). This suggests that physical therapist knowledge, skills, and abilities do not directly account for the variation in functional outcomes. One possible explanation for the variation in functional outcomes among physical therapists is that the clinical environment, particularly (a) leadership approach and (b) follower self-identity, may influence how healthcare providers, like physical therapists, are able to utilize their knowledge, skills, and abilities, which may, in turn, influence patient outcomes (Mosadeghrad, 2014).

To understand the effects of leadership approach on functional outcomes, we must understand what behaviors and qualities are most desired to positively affect the care of patients by physical therapists. Physical therapists with excellent functional outcomes demonstrate specific qualities that are different from physical therapists with
average functional outcomes of patients with low back pain. Resnik and Jensen (2003) found that the primary goals of those with excellent functional outcomes are to empower and improve the self-efficacy beliefs of patients. Excellent physical therapists achieve these goals by providing care in collaboration with patients based on caring and respect for individuality. From a leadership perspective, these qualities of physical therapists with excellent functional outcomes are consistent with the behaviors of servant leadership, a leadership approach that includes characteristics of accountability, authenticity, courage, empowerment, forgiveness, humility, standing back, and stewardship (van Dierendonck and Nuijten, 2011).

Further, a primary tenet of servant leadership includes spreading servant leadership behaviors among the followers through leader behavior emulation (Greenleaf, 1970). Therefore, the servant leadership behaviors of physical therapists with excellent functional outcomes could be learned from servant leaders within clinics. However, followers must be open to the influence of their leader for such leadership to be cultivated.

In order to understand how followers become open to the influence of their leader, it is important to consider the relationship between leadership approach and follower self-identity. The social identity theory connects leadership to follower self-identity by understanding an individual’s internalized group membership (Haslam et al., 2011). Internalized group memberships shape attitudes, feelings, and behavior as individuals experience a merging of the self and the group (van Knipperberg & Hogg, 2003). The more individuals define themselves in terms of group membership, the more their attitudes, feelings, and behavior conform to the group prototype. The social identity
theory puts relationships between followers and other group members at the center of social influence. The social influence described by the social identity theory can occur at three levels. The self-categorization theory, a subconstruct of the social identity theory, describes these three levels of identity of self as interpersonal, group, and personal identity (Turner et al., 1987).

The first level of self-identity, interpersonal identity, describes the influence of a person’s (a) role, in this study as a providing physical therapist, and (b) relationship with one’s leader in contributing to the definition of self (Sluss & Ashforth, 2007). Within the context of their role, a providing physical therapist must balance (a) practicing as an autonomous provider for their respective patients and (b) participating as a team member in their contributions to the overall practice of the clinic and organization. Within the context of their relationships, providing physical therapists who strongly identify with their clinic leader may be more strongly influenced by their leader to behave in a particular manner when providing patient care. Ultimately, a clinic leader with significant influence may affect a providing physical therapist’s behavior and the quality of care provided.

Next, group identity, the second level of self-identity, is the extension of the self to include the perception of the self as interchangeable with a social category (Brewer, 1991). Group identity is formed through salient group memberships. Individuals establish relationships of comparison with group members and contrast to other groups (Turner et al., 1987). High levels of group identity have been associated with organizational citizenship behaviors like team collaboration and contribution (Janssen & Huang, 2008). Finally, the third level of self-identity, as described by the self-categorization theory, is
personal identity. Personal identity emphasizes the characteristics that differentiate individuals from others in a particular social context (Brewer, 1991). Individuals with high levels of personal identity define the self through their unique characteristics that set them apart from others. High levels of personal identity are linked to creative behavior and autonomy (Janssen & Huang, 2008). The term “optimal distinctiveness” is the demonstration of a balanced identity of inclusion and uniqueness as demonstrated by high levels of both group and personal identity (Brewer, 1991).

Figure 1

Framework of the Relationship of Servant Leadership and Identity Theory on Patient Outcomes in Physical Therapy

Therefore, to achieve improved patient outcomes, I propose that providing physical therapists should have strong relationships with clinic leaders who demonstrate
servant leadership behaviors. Further, a providing physical therapist should balance all three levels of self-identity of self as described by the self-categorization theory (i.e., interpersonal, group, and personal identity) within their environment of practice to provide high-quality care for patients. I am particularly interested in the ways in which leadership interacts with (a) follower interpersonal identity alone and (b) optimal distinctiveness as demonstrated by high levels of group and personal identity to influence functional outcomes of patients. Figure 1 demonstrates my proposed framework for leadership in physical therapy and how it leads to improved functional outcomes.

According to this framework, improving leadership and leader influence through relationships with followers may reduce the variability in patient outcomes and improve patients' quality of care. As Wong et al. (2013) note, the influence of leadership on patient safety and satisfaction has been explored in the context of nursing and medicine, and researchers have called for the progression of leadership research in healthcare contexts other than hospital-based acute care. However, relationships between physical therapists’ leadership approach, follower self-identity, and patient outcomes have not been studied to my knowledge. Wong et al. also called for a deeper exploration of the mechanisms by which leadership may influence patient outcomes. A physical therapist’s conceptualization of self-identity within their unique environmental context may be such a mechanism to explain the leadership approach effects on patient outcomes.

**Purpose of the Study**

The purpose of this quantitative, correlational study was to determine the relationships among the (a) servant leadership behaviors of clinic leaders as perceived by providing physical therapists, (b) follower self-identity (interpersonal, group, and
personal) of the providing physical therapists, and (c) functional outcomes of patients with low back pain in outpatient physical therapy. The three levels of follower self-identity were measured by the examining the extent to which the providing physical therapists identified with their clinic directors (interpersonal identity), the other physical therapists who work in their clinic (group identity), and their identity as being uniquely different from the other group members (personal identity). Secondarily, this study explored the extent to which (a) group identity alone and (b) group identity and servant leadership behaviors together are predictors of functional outcomes. Servant leadership is defined as a leadership philosophy in which a leader demonstrates the behaviors of accountability, authenticity, courage, empowerment, forgiveness, humility, standing back, and stewardship (van Dierendonck and Nuijten, 2011). Functional outcomes are defined as a patient’s ability to perform activities of daily living and participate in basic areas and roles of social life (World Health Organization, 2002).

**Research Questions**

The following research questions guided this correlational study. In the outpatient physical therapy clinics of a corporate multi-clinic organization in the United States:

1. What are the relationships among servant leadership behaviors of clinic leaders, self-identity of providing physical therapists, and functional outcomes of patients with low back pain?

2. To what extent does the group identity of providing physical therapists and the servant leadership behaviors of clinic leaders predict the functional outcomes of patients with low back pain?
The following hypotheses were tested in this study:

Research Hypothesis 1: There is a positive relationship between servant leadership behaviors of clinic leaders and the functional outcomes of patients with low back pain treated by providing physical therapists.

Research Hypothesis 2: There is a positive relationship between servant leadership behaviors of clinic leaders and a) interpersonal identity of the providing physical therapist with the clinic leader, b) the group identity with their clinical co-workers, and c) their unique personal identity.

Research Hypothesis 3: Servant leadership behaviors of clinic leaders and group identity of providing physical therapists significantly predict the functional outcomes of patients with low back pain.

**Aim of the Study**

The aim of this dissertation in practice is to provide recommendations for leadership development in physical therapy. Developing leadership practices for physical therapists that are associated with improved patient outcomes can benefit physical therapy clinical organizations, the patients that they serve, and the profession as a whole. McGowan and Stokes (2010) identified a dearth of leadership development resources in entry-level and post-professional physical therapy education. Servant leadership has been a proposed leadership approach for healthcare (Gersh, 2006), though quantitative research in this area remains limited. This dissertation in practice provides insight for fostering relationships between leaders and followers to strengthen the impact of leader influence. Importantly, identifying the relationship between leadership approach and patient outcomes would maximize the functional outcomes of all physical therapists in
the practice. As the primary goal of outpatient physical therapy is to improve patient function, the patient outcomes of outpatient physical therapists are different from healthcare providers in other settings (e.g., acute care, residential) in which outcomes focus on patient safety, patient morbidity and mortality, and patient satisfaction (Lazar et al., 2013). Therefore, the identification of factors that improve the quality of care provided by physical therapists can create positive changes in the overall health and wellness of patients.

Further, this dissertation in practice expands the growing body of research pertaining to servant leadership. The exploration of three levels of identity as influenced by servant leadership is a novel exploration. This work expands the findings of Janssen and Huang (2008) that demonstrated the mutually independent dimensions of group identity and personal identity. As practical leadership development aims to foster better teamwork, creativity, and innovation, understanding the outcomes and mechanisms of servant leadership may be additionally beneficial in fostering well-rounded team members.

**Definition of Relevant Terms**

The following terms were conceptually defined for this study as follows.

*Clinic leader:* the physical therapist who leads and manages individual clinics within the organization.

*Follower self-identity:* Self-identity is “…a dynamic process in which relative salience of one or another level of self-categorization (interpersonal, group, personal) actively changes self-perception and consequent behavior” (Tyler et al., 2012). In this
study, follower self-identity is relative to the self-identity of the providing physical therapist.

*Functional outcomes:* ability to perform activities of daily living and participate in basic areas and roles of social life (World Health Organization, 2002).

*Group identity:* the process by which individuals perceive themselves through the values, goals, attitudes, and behaviors that they share with other group members (Turner et al., 1987).

*Interpersonal identity:* how the leader-follower relationship extends the followers' definition of self (Yoshida et al., 2014).

*Leadership approach:* The perspective of leadership that informs the behaviors of a leader (Day & Harrison, 2007).

*Optimal distinctiveness:* An optimal balance in identity such that individuals are able to express their individuality (personal identity) while belonging to something greater than themselves (group identity) (Kreiner et al., 2006).

*Patient outcomes:* “actual results of implementing the plan of care that indicate the impact on functioning (body functions and structures, activities, and participation.” (American Physical Therapy Association, 2014, measuring outcomes, para 1)

*Personal identity:* definition of self-based on individual differences and personal uniqueness (Brewer & Gardner, 1996).

*Physical therapist:* “healthcare professionals who help individuals maintain, restore, and improve movement, activity, and functioning, thereby enabling optimal performance and enhancing health, well-being, and quality of life.” (American Physical Therapy Association, 2014, description of physical therapist practice, para 1)
Providing physical therapist: the physical therapists who directly provide care to patients and are followers of the clinical leader.

Servant leadership: a leadership theory and set of practices in which a leader puts service first to enrich the lives of others. Servant leaders demonstrate the behaviors of accountability, authenticity, courage, empowerment, forgiveness, humility, standing back, and stewardship (van Dierendonck & Nuijten, 2011).

Methodology Overview

In testing a hypothesis of relationships, this project used a correlational design. Data were collected from multiple outpatient clinics within a multi-site physical therapy clinical organization. This setting for data collection allowed me to study relationships among leadership approach, follower self-identity, and patient outcomes within the natural context of the clinics. Leadership approach included the servant leadership behaviors of accountability, authenticity, courage, empowerment, forgiveness, humility, standing back, and stewardship as measured by the Servant Leadership Survey (van Dierendonck & Nuijten, 2011). Follower self-identity included the variables of (a) interpersonal identity as measured by the Relational Identification Scale (Carmelli et al, 2011), (b) group identity as measured by the Group Identification Scale (Ellemers et al., 1999), and (c) personal identity as measured by the Individual Differentiation Scale (Janssen & Huang, 2008). Patient outcomes included the functional outcomes of patients with low back pain as measured by the difference between the patient-reported functional status change and the expected functional status change. Functional outcomes data were obtained from the Lumbar Computerized Adaptive Test (CAT) used in the Focus on
Therapeutic Outcomes (FOTO; https://fotoinc.com/) database of the physical therapy clinical organization from which the sample was drawn.

I invited all providing physical therapists who completed a minimum of 10 episodes of care for patients with low back pain in the 12 months prior to initiating the study to participate. Participants were asked to identify servant leadership behaviors of their clinic leaders and their self-assessed degree of interpersonal identity with the clinic leader, group identity with their work group, and personal identity in an electronically delivered survey. All electronic survey data were numerically coded and entered into SPSS software.

All data collected were matched at the individual level by name and then assigned a unique numerical code to maintain the confidentiality of the participants. Correlation and regression analyses were used to explore the relationships between servant leadership behaviors; follower interpersonal identity, group identity, personal identity; and functional outcomes.

**Delimitations, Limitations, and Personal Biases**

To obtain data related to functional outcomes, the recruitment of participants was limited to clinics that participate in an outcomes database, were willing to share data with the researcher, and agreed to dissemination at the completion of the study. Because of these factors, I used a sample of convenience from the accessible population. The use of a convenience sample limits the generalizability of the findings from this study (Creswell & Creswell, 2018). The participants in this study were recruited from a single organization with multiple clinical sites. The benefit of this sampling strategy is that other possible factors related to executive management and organizational culture are
consistent for the entire sample, controlling for potential organizational variables that could influence the quality of patient care.

Data related to functional outcomes were self-reported by patients. Self-report measures relay information about a patient’s perception about how an impairment is limiting their activities and participation (American Physical Therapy Association, 2014). However, these measures do not capture the actual abilities of a patient as measured with performance-based data. Therefore, data from self-report measures may limit the study because they do not always present a clear picture of a patient’s abilities; however, they do provide a picture of a patient’s life experience. Contrasting, data collected on servant leadership behaviors of clinical leaders were reported by providing physical therapists rather than self-reported by the clinic leaders themselves. Collecting data from followers is a strength of this study because it captured the behaviors of leaders as experienced by their followers. In this manner, the electronic surveys were able to present information about leadership behaviors rather than the intentions of leaders.

In this study, there were no measures that directly measure the behaviors of the providing physical therapists. Rather, there is an underlying assumption that because servant leadership begets servant leadership (Greenleaf, 1970), followers of servant leaders will adopt servant leadership behaviors. The measure of the effects of servant leadership behaviors of providing physical therapists on their patient followers is beyond the scope of this study, though it presents an opportunity for future research.

In the 12 months prior to this study, many clinics altered their patient interaction processes and staff management practices due to the COVID-19 pandemic. These exceptional circumstances may have influenced the results of this study. Further, this
study focused on the relationships between colleagues and omits many other factors that may influence patient outcomes, such as the structure of the healthcare system and organization, factors specific to the patient, or factors specific to the providing physical therapist.

Using a quantitative approach to the research question, the specificity of hypotheses, and clearly defined variables minimized bias in this study. However, as a correlational study, the results only identify relationships and do not suggest causation. A secondary predictive analysis was employed to deepen the understanding of the influence of servant leadership and group identity on functional outcomes. The use of standardized tools with established psychometric properties helps contribute to the validity and reliability of the data.

**Reflections of the Scholar-Practitioner**

The development of this dissertation in practice is a true reflection of my personal growth while participating in the Ed.D. program. Before beginning the program, I identified the traits of leaders whom I admired and worked to develop those traits in myself. However, the Ed.D. program has highlighted the importance of the relationship between people and the influence shared between them. Further, reflecting on the Jesuit values throughout the program has highlighted the intent of leadership as an opportunity to practice each of these values. The culmination of these ideas has led me to consider the philosophy of servant leadership. Once I was able to reflect on the leadership experiences through the lens of relationships and values, I identified the consistent elements of empowering others, demonstrating authentic caring and compassion, and ethical and moral behaviors, all of which are elements of servant leadership.
As another component of leadership, I have reflected on the willingness of followers to be influenced that enables a leader to be effective. The concepts of the social identity theory resonated with me as a valuable explanation for my observations of a spectrum of willingness to be influenced by others in the work environment. I have considered my own experience when working in a toxic environment as defining myself more strongly by my unique personal identity by feeling cognitively reassured that I could choose to act differently than others working in the same environment. I have also experienced leadership that empowered me to grow within myself as a part of growing within the collective so that I am different from others and still part of a team who cares for each other and embraces their differences.

**Summary**

This theory-based research project addresses the inconsistent quality of patient care in physical therapy and the gap in leadership research in physical therapy practice. The project draws on the theories of servant leadership and social identity. I propose positive relationships among the servant leadership behaviors of clinic leaders, follower self-identity, and functional outcomes of patients in physical therapy. I further propose that follower group identity and clinical leader servant leadership behaviors may serve as predictors of functional outcomes. Understanding the factors that improve functional outcomes may increase the overall health and wellness of society and reduce the costs and inefficiencies of the healthcare system.
CHAPTER TWO: LITERATURE REVIEW

This chapter will review the theoretical and empirical current literature related to health care quality and the treatment of patients with low back pain by physical therapists in the United States. Then, I will discuss the theory of servant leadership. I will present the social identity theory and self-categorization theory as key components of the study framework for viewing the role of leadership in physical therapy. Three levels of self-identity will be discussed, highlighting the concept of optimal distinction. Finally, I will review the empirical literature related to leadership in healthcare and physical therapy.

Literature on Significance

Healthcare Quality

As the United States healthcare system faces challenges of inefficiency, reduced quality, and poor cost-effectiveness, quality measurement is thought to be foundational for health system improvement (Burstin, 2016). However, the conceptual and operational definitions of healthcare quality remain vague (Allen-Duck et al., 2017). Most measurements of healthcare quality are based on the framework provided by Avedis Donabedian in 1996 that includes structure, process, and outcomes as domains that contribute to healthcare quality. Of these traditional metrics, Lazar et al. (2013) advocate that “outcomes are the ultimate measure of healthcare” in the modern medical system (p. 488). However, outcome measures represent a vast spectrum in that they include elements of patient mortality, morbidity, readmissions, functional status, and quality of life. In recent years, there have been efforts to distinguish between patient safety and outcomes of healthcare quality. To this end, patient safety can be defined as minimizing
undesired outcomes (patient morbidity and mortality) whereas quality is achieving a
desired endpoint (Lazar et al., 2013).

As the healthcare system continues to evolve, the emphasis will likely shift from a
patient safety focus to an increased weight on prevention and community health, making
measures of functional status and quality of life important to understand (Lazar et al.,
2013). The National Quality Strategy (NQS), from the U.S. Department of Health and
Human Services, identifies eight domains in which the healthcare system should focus to
improve the overall healthcare quality. Within these eight domains, “healthy living”
includes aspects of lifestyle modification, clinical preventative services, functional status
preservation, and rehabilitation. Based on 2018 data, 40% of the goals within “healthy
living” saw no improvement or worsening since 2012 (Agency for Healthcare Research
and Quality, 2018). To obtain a more holistic picture of healthcare performance,
especially related to healthcare quality in the domain of healthy living, providers have
increased the utilization of patient-reported outcome measures (PROMs) (Burstin et al.,
2016). PROMs capture the patient’s lived experience with pain and disability and include
elements of function and quality of life. As an example, the Lumbar Computerized
Adaptive Test (CAT) is an example of a PROM and will be used to measure functional
outcomes for low back pain patients in this study.

In an effort to construct a holistic definition of healthcare quality that incorporates
perspectives of multiple stakeholders within the healthcare system, Allen-Duck et al.
(2017) proposed that the definition of healthcare quality is “the provision of effective and
safe care, reflected in a culture of excellence, resulting in the attainment of optimal or
desired outcome” (p.6). Within this definition, the authors explicitly capture the role of
the context of the environment within which health services are provided. Multiple studies identify patient and provider perspectives of attributes that support the role of context in providing quality care, including themes of communication, emotional support, caring, and connectedness (Burhans & Alligood, 2010; Edwards et al., 2016). Kaplan et al. (2011) propose a framework of 25 contextual factors likely to influence quality improvement in organizations. Multi-level leadership and group culture are among these factors that likely influence quality improvement and, thus, the quality of patient care.

**Low Back Pain in the United States**

Low back pain causes more global disability than any other condition and, thus, remains a taxing component to the United States healthcare system (Hoy et al., 2014). Low back pain is also the main contributor to years lived with disability (U.S. Burden of Disease Collaborators, 2013). Low back pain is complex and multifaceted with clinical considerations ranging from physical, psychological, social, lifestyle, and non-modifiable factors (O’Sullivan et al., 2016). The complexity of understanding low back pain presents clinically with wide variations in the treatment and management of patients with low back pain (Gore et al., 2012). Gozalo et al. (2016) explored the variation in functional outcomes in physical therapy. In this study, clinical and physical therapist effects that accounted for 11.6% of the variation in functional outcomes in patients with low back pain and shoulder pain. Another study of physical therapists who achieve the top 10% of functional outcomes demonstrates no consistent influence from years of experience or advanced clinical certification (Resnik & Hart, 2003), suggesting that physical therapist knowledge and skills do not directly account for the variation in functional outcomes.
A modern understanding of low back pain recognizes the role of “non-specific factors,” such as therapeutic alliance between the provider and patient, therapist confidence, patient beliefs and expectations, and self-efficacy of the patient. These “non-specific factors” are more predictive of functional outcomes than interventions aimed at changing biology or body structure (O’Sullivan et al., 2016). Qualitative investigation of physical therapists demonstrating exceptional functional outcomes in treating patients with low back pain reveal that such physical therapists focus their goals on patient empowerment and increasing self-efficacy beliefs. These physical therapists provide collaborative care from the foundation of caring and respect for individuality, which was shown to be different than physical therapists with average functional outcomes (Resnik & Jensen, 2003). This suggests that the successful treatment of low back pain warrants an understanding of the relationship between a provider and a patient as well as the practice environment of the provider.

**Theory Review with Supporting Empirical Evidence**

**Servant Leadership**

Gersh (2006) suggested servant leadership as a philosophical foundation for professionalism in physical therapy. The philosophy of servant leadership was first introduced by Robert Greenleaf in the 1970s. Greenleaf (1977) explains that “the servant-leader is a servant first…It begins with the natural feeling that one wants to serve, to serve first. Then conscious choice brings one to aspire to lead.” Servant leaders put the needs of their followers first and emphasize follower development (Hale & Fields, 2007). They demonstrate moral behavior towards their followers (Graham, 1991), the
organization, and external stakeholders (Ehrhart, 2004). Yoshida et al (2014) describes servant leadership as

a holistic approach to leadership that encompasses the rational, relational, emotional, moral, and spiritual dimensions of leader-follower relationships such that followers enhance and grow their capabilities, as well as develop a greater sense of their own worth as a result. (p.1395)

While this leadership approach has been well-supported as different than other leadership styles and theories (Barbuto & Wheeler, 2006; Ehrart, 2004, Liden et al., 2008; Parolini et al., 2009; van Dierendonck, 2011), the conceptualization and operationalization of servant-leadership is lacking (van Dierendonck, 2011; Coetzer et al., 2017). Rather, researchers have explored servant leadership based on Greenleaf’s descriptions of servant leaders. Greenleaf identified servant leaders as demonstrating genuine concern with serving followers over organizational well-being to the end of followers growing as individuals and becoming servant-leaders themselves (Greenleaf, 1977).

A recent review of servant leadership by Coetzer et al. (2017), supports the operationalization of servant leadership by van Dierendonck and Nuijten (2011). These authors operationally define servant leadership with the behaviors of accountability, authenticity, courage, empowerment, forgiveness, humility, standing back, and stewardship.
**Servant Leadership Behaviors**

**Accountability.**

Servant leaders clearly communicate expectations to their followers (Laub, 1999). They may also customize direction to facilitate a follower’s abilities, needs, interests, or creativity. Followers are offered the necessary amount of accountability that is grounded in values and convictions (Russell & Stone, 2002). A servant leader creates an environment to enhance followers’ well-being and performance and trust followers to do what is necessary to achieve a shared vision (Stone et al., 2004).

**Authenticity.**

A leader demonstrates authenticity by being true to themselves by publicly and privately expressing outwardly their internal states, intentions, and commitments (Peterson & Seligman, 2004). Authentic leader behavior may involve acting on their promises, being honest, acting with integrity, and sustaining a strong moral code (Russell & Stone, 2002). Authenticity is also described as demonstrating consistent behavior and remaining open to criticisms (Sendjaya & Cooper, 2011).

**Courage.**

Servant leaders demonstrate moral courage in which they demonstrate high ethical conduct and stand up for what is morally right (Coetzer et al., 2017). Courage is also demonstrated in a servant leader’s willingness to take calculated risks.

**Empowerment.**

Empowering people aims to develop self-determination in followers as they aim to reach their fullest potential. Servant leaders believe each person has intrinsic value and, therefore, empowers each person to realize their abilities while recognizing what
they can still learn (Greenleaf, 1998). Servant leaders empower others by encouraging self-directed decision making, information sharing, and coaching for innovative performance (Konczak et al., 2000). Empowering and developing people is similar to the dimensions of individualized consideration, intellectual stimulation, and supportive behavior as part of transformational leadership. However, in that the primary allegiance of transformational leadership is the organization (Graham 1991; Parolini et al., 2009). Transformational leaders act from the intent of developing others to support the organization rather than servant leaders who act with the intent of developing people because of their own intrinsic value (van Dierendonck, 2011).

**Forgiveness.**

Forgiveness, as operationalized by van Dierendonck and Nuijten (2011), includes elements of empathy and the ability to understand other people’s perspectives and feelings. It includes the ability to forgive others by letting go of perceived wrongdoings. Forgiveness is strongly associated with a servant leader’s desire to cultivate a culture of trust in which people feel able to make mistakes without fear of rejection.

**Humility.**

Humility is described by Patterson (2003) as the ability to put personal accomplishment and talent in a proper perspective. In demonstrating humility, servant leaders recognize that they can benefit from the expertise of others, put the interests of others first and support their performance, and withdraw into the background when a task has been successfully accomplished (van Dierendonck, 2011). Humility also involves being stable and modest with a strong sense of self-awareness of personal strengths and needed areas of improvement (DeSousa & van Dierendonck, 2014)
Standing Back.

Servant leaders prioritize the interests of others and provides support. Once a task has been accomplished, servant leaders stay in the background so that followers receive recognition for their successes (van Dierendonck & Nuijten, 2011).

Stewardship.

Stewardship is closely related to social responsibility, loyalty, and teamwork (van Dierendonck, 2011). It is a willingness to take responsibility for carefully leading the people and organizations for which they have been entrusted (Northouse, 2019). Leaders lead the larger group from a place of service rather than control and self-interest (Block, 1993; Spears, 1995).

Servant leaders spend time with followers working to understand their needs, goals, potential, and mental models to ultimately create and share knowledge. The relationships of servant leaders promote a sense of psychological safety and affective, rather than cognitive, trust through the focus on nurturing the well-being of others and building a sense of community for group members (Yoshida et al., 2014).

Outcomes of Servant Leadership

Past research on servant leadership has demonstrated outcomes at the individual, group, and organizational levels which have been summarized in a review by Coetzer et al. (2017). Individually, servant leadership is positively correlated to work engagement, organizational citizenship behavior, innovative behavior, organizational commitment, trust, follower self-efficacy, job satisfaction, person-job fit, person-organization fit, leader-member exchange, and work-life balance. Servant leadership is negatively correlated with burnout and turnover intention at the individual level. At the group level,
servant leadership is positively correlated with group organizational citizenship behavior, group identification, service climate and culture, and procedural justice climate. At the organization level, servant leadership is positively related to customer service and sales performance. This study will explore the outcomes of servant leadership at the organizational level in the form of functional outcomes of patients with low back pain and interpersonal identity and optimal distinctiveness of providing physical therapists.

**Social and Relational Identity Models**

The Social Identity Model of Organizational Leadership (SIMOL) demonstrates the relationships between leaders, followers, and the collective group as variables that determine the effectiveness of leadership, highlighting the mediating effects of self-identifications (van Knippenberg and Hoog, 2003). Self-identifications (how people define themselves) influence behaviors, which, in the context of organizations, influence key outcomes such as effort, cooperation, and organizational citizenship behaviors (Cooper & Thatcher, 2010). Self-identification exists on 3 levels: the relational self, the collective self, and the personal self. Identification describes the extent to which individuals define themselves through their relationship with others, through their membership in a group, and as a uniquely different individual (Cooper & Thatcher, 2010). Initially, social identity theory described these identities as antagonistic in that a highly individualistic person would demonstrate low identity with a group and vice versa (Turner et al., 1987). The evolution of the social identity theory and self-categorization theory demonstrates that identification with any of the three levels of self is not mutually exclusive (Ashforth & Johnson, 2001). However, individuals generally identify more strongly with one level than another in a given context (van Dick et al., 2008). Further,
when group members develop norms that value individuality and diversity, individualistic behaviors of differentiation may reinforce collective identity rather than diminish it (Bettencort & Sheldon, 2001; Jetten et al., 2002; Swann et al., 2003).

**Interpersonal Identity**

Interpersonal identification is the extent to which individuals define themselves in terms of their role relationships with other individuals in the workplace (Sluss & Ashforth, 2007). A particularistic form of interpersonal identification is specific to one other person, such as a direct supervisor, includes identity with the characteristics of the work-role and of the individuals themselves (Sluss & Ashforth, 2007). This level of identification is associated with acting on behalf of the needs of others and adopting the perspective of another person (Cooper & Thatcher, 2010), fostering empathy, liking, and cooperation (Yoshida et al., 2014). In the workplace, interpersonal identification may manifest as helping behaviors, understanding, and co-worker support (Sluss & Ashforth, 2007). Strong particularistic interpersonal identity with servant leaders in Indonesian and Chinese workgroups demonstrates a mediation of increased employee creativity, especially when occurring in a climate that supports innovation (Yoshida et al., 2014). Sluss and Ashforth (2007) propose that interpersonal identity increases the strength of both personal and group identity due to the influence from a work-role and the relationship with others.

**Group Identity**

According to the social identity theory, group identification is the process by which individuals perceive themselves through the values, goals, attitudes, and behaviors that they share with other group members (Turner et al., 1987). Strong group identity is a cognitive, evaluative, and emotional process that elicits a “oneness” with the group that
results in individuals perceiving group norms as their own (van Knippenberg, 2000). In turn, group members are motivated to behave in group-typical ways to promote their social identity as a group member (Haslam et al., 2000).

Key underlying concepts from the social identity theory that influence group identity include prototypicality and salience. Prototypicality is the extent to which an individual demonstrates the thoughts, actions, attitudes, and beliefs of the group. Van Knippenberg & Hogg (2003) posit that a group leader tends to be one of high prototypicality and that leader effectiveness increases if the leader is perceived by followers to be group prototypical and act with the group’s best interest in mind. The concept of salience of identity describes the extent to which self-identities are cognitively activated (Turner & Haslam, 2001), which is fluid based on situational context. Social identification and salience mutually affect each other so that people are more likely to identify with salient groups and high identification is likely to increase the salience of group membership (van Knippenberg & Hogg, 2003).

Generally, people aim to balance a need for belongingness and a desire to be distinct from others (van Knippenberg & Hogg, 2003). Membership in relatively small groups is more likely to facilitate a balance between personal and group identities and therefore more likely to elicit group identification. For this reason, group identification in this study will focus on membership at the clinic level within a larger physical therapy clinical organization. High group identification in workgroup contexts has been positively associated with job satisfaction, reduced turnover intentions, job engagement, and motivation (van Knippenberg & van Schie, 2000). Riketta and van Dick (2005) further demonstrated positive associations between high levels of workgroup identity and group
climate, group extra-role behavior, and group satisfaction. In physical therapy, I propose that organizational citizenship behaviors, an outcome of servant leadership at the group level, resulting from high group identity may improve patient care through the sharing of knowledge and resources as physical therapists within a particular clinic may share responsibilities of patient care.

**Personal Identity**

Personal identity in the context of the social identity theory refers to the extent to which individuals perceive themselves to be different from other team members in their thoughts, feelings, and behaviors (Turner et al., 1987). Individuals with high personal identity may demonstrate divergence and question the assumptions underlying group norms. Creative behavior within teams has been correlated to high levels of personal identity (Janssen & Huang, 2008), especially when leaders demonstrate individual-focused behaviors of transformational leadership, such as individualized consideration and intellectual stimulation (Tse & Chiu, 2014). In physical therapy, personal identity may be salient as physical therapists autonomously provide care to patients, often drawing on creativity to develop personalized plans of care for individuals.

**Optimal Distinctiveness**

Self-categorization highlights the three distinct levels of self and demonstrates that the different salient identities may result in particular behaviors. When identities present with competing demands, the individual and/or the group can face conflict and tension (Kreiner et al., 2006). However, when identities are compatible, they may enhance one another (Ramarajan, 2014).
Along with identity compatibility, the strength of identification with each level of the self influences individual actions. Over-identification with any one level of the self can result in negative consequences. For example, overidentification with our personal identity may result in feelings of loneliness and isolation, whereas overidentification with a group may lead to depersonalization of an individual and may result in groupthink, which is detrimental to creativity and decision-making (Kreiner et al, 2006). Rather, individuals strive to find an optimal balance in identity such that they are able to express their individuality while belonging to something greater than themselves (Kreiner et al., 2006). Brewer’s (1991) model of “optimal distinctiveness” demonstrates a dual function of inclusion and uniqueness to achieve a balanced identity, which will reduce stress and conflict and improve overall well-being and satisfaction.

Negotiating identity tensions and achieving optimal distinctiveness requires identity work, which involves multiple strategies aimed to integrate or differentiate identity based on individual and situational factors (Kreiner et al, 2006). One strategy that meets the needs of both integration and differentiation by involving other people to negotiate identity demands (Larson & Pepper, 2003). Brewer (2007) suggests that the strength of identity at the three levels of self may influence one another to meet the needs of belonging and differentiation. She suggests that strong interpersonal identity with a member of the collective in-group may strengthen the group identity. As a means to balance the belonging from interpersonal and group identity, the personal level may, in turn, demonstrate high levels of individual differentiation.
Empirical Literature Review

I conducted an initial search on Academic Search Premier to explore the topics of servant leadership, physical therapy, and patient outcomes. Alternative terms included healthcare, leadership, and functional outcomes. I read the abstracts of the articles identified in the initial searches and read the full texts of the abstracts that directly included topics of interest to this study. This initial search yielded 11 articles of empirical research. Then, I consulted with a research librarian at Creighton University to conduct an in-depth search for empirical research related to the research questions. The research librarian conducted searches in the CINAHL and Medline databases using key search terms including: “servant and leader* OR servant-leader” AND “physical therapy+ OR physical therap*” yielding 2 articles. Further searches more broadly included terms “leadership” and “treatment outcomes” or “functional outcomes.” The literature search strategy is attached in Appendix A. The final search resulted in 21 potential articles. After reading the abstracts of each new article identified, I read the full-text for articles that directly included topics of interest related to this study. The final result yielded four additional articles to be included as empirical support for this study. This review includes four systematic reviews, one cohort study, eight cross-sectional studies, and three expert opinions (Appendix B).

Leadership and Outcomes in Healthcare

The relationship between leadership and patient outcomes has been studied extensively by the nursing profession, and less in other specific healthcare professions or interprofessionally (Sfantou et al., 2017). A systematic review by Wong et al. (2013) demonstrates an important role of “effective leadership” on patient outcomes of nurses,
but the specificity of leadership style or behaviors and type of patient outcome measured is widely varied. After reviewing studies related to transformational leadership, transactional leadership, task-oriented leadership, and relational leadership, Sfantou et al. and Wong et al. demonstrate that interpersonal leadership styles of nurses improve patient outcomes in the form of reduced adverse events and patient mortality. Alilyyani et al. (2018) and Puni and Hilton (2020) demonstrate that authentic leadership of nurses, an interpersonal leadership style, is positively associated with patient satisfaction and patient-perceived service delivery and negatively associated with patient falls, pressure ulcers, and hospital-acquired infections. Further, a constructive leadership style in surgeons includes some relational leadership characteristics and has been shown to be associated with reduced adverse events in patients after bariatric surgery (Shubeck et al., 2019). Van Dierendonck (2011) posits that authenticity and authentic leadership is one aspect of servant leadership and should be incorporated into servant leadership theory.

A problem with many of the studies exploring the role of leadership in healthcare is the conceptualization of leadership styles as being mutually exclusive. Rather, given the role of a leader in healthcare, transformational, transactional and laissez-faire leadership may be present within an individual but with varying degrees at various times (Doucet et al., 2015). Therefore, identifying a specific style of leadership that is more effective in producing improved patient outcomes may be an unrealistic endeavor. Rather, it may be of greater benefit to explore the way a leader influences their followers and how their leadership approach may influence the overall group culture and individual behavior.
Leadership and Outcomes in Physical Therapy

While the examination of leadership in healthcare has grown since the early 2000s, there remains a dearth of research in the area of leadership in physical therapy (Desveaux, 2012; McGowan & Stokes, 2015). However, leadership is considered a core component of physical therapy practice (World Confederation for Physical Therapy, 2019). Existing research specific to leadership in physical therapy has largely focused on perceptions of leadership characteristics by existing leaders. For example, an older study by Lopopolo (2004) found that physical therapy managers perceive communication, professional involvement and ethical practice, delegation and supervision, stress and time management, healthcare industry scanning, and knowledge of reimbursement resources to be the most important skills for a new graduate in the domain of “leadership, administration, management, and professionalism.” Unfortunately, the authors failed to distinguish between improvement from management that aims to maintain standardization, consistency, and order and leadership that aims to create change (McGowan & Stokes, 2017). The view of leadership as management is further corroborated as physical therapy managers in Ireland discuss their leadership capabilities primarily through the structural and human resources frames of the Bolman and Deal Leadership framework (McGowan et al., 2018).

Other studies by physical therapists have identified the characteristics of communication and professionalism as most important for leadership as perceived by physical therapists (Desveaux, 2012; McGowan & Stokes, 2017). In an effort to more objectively understand the behaviors of peer-nominated leaders in physical therapy, Chan et al. (2015) explored the profile of strengths based on the Clifton Strengthsfinders. This
study demonstrated a leader profile of learner, achiever, responsibility, input, and strategic based on the frequency of responses. However, the authors found similarities in a leader profile and the profiles of non-leaders in physical therapy. Also, this study did not attempt to relate the leader behaviors to leadership effectiveness or associated outcomes, such as quality of care.

Rasmussen-Barr et al. (2019) identified clinical leadership behaviors of physical therapists as establishing resonant relationship with patients, engaging patients to build self-efficacy, drawing on authority, and building on professionalism. However, this study did not explore the influence of leadership behaviors on patient outcomes or the influence of leadership of clinic leaders. A literature review by McGowan and Stokes (2015) demonstrate that, at that time, there were no studies that explore the effect of leadership on patient outcomes in physical therapy and none were found in the years since.

Resnik and Jensen (2003) introduced a unique perspective on expertise in physical therapy as they utilized a grounded theory approach to explore the qualities specific to physical therapists with improved patient outcomes. While their framework was not directly tied to leadership, their findings support that common leadership behaviors employed by physical therapists may lead to improved patient outcomes. Specifically, these authors identified that physical therapists with improved patient outcomes value individualization of care which is seen clinically in a patient-centered approach that emphasizes patient empowerment. Physical therapists with improved patient outcomes perceive their professional role as an educator serving to teach patients to build self-efficacy. Further, these physical therapists demonstrate characteristics of humility and curiosity as they posture themselves with a willingness to reflect and learn
(Resnik & Jensen, 2003). In the framework of servant leadership, these physical therapists with improved patient outcomes demonstrate the behaviors of accountability, authenticity, empowerment, humility, and stewardship.

**Summary**

Physical therapists are uniquely positioned within the healthcare system to facilitate “healthy living.” However, physical therapists, like many other healthcare providers, face identity tensions in their roles as group members in a for-profit healthcare system and autonomous professionals who desire to provide care and empower patients (Martin, 2020). Because identity influences individual behaviors, these identity tensions may influence patient outcomes in physical therapy. However, as a strategy to negotiate identity demands, physical therapists may develop relationships with a servant leader, whose characteristics and competencies may aid the follower in achieving optimal distinctiveness, to ultimately improve patient outcomes.
CHAPTER THREE: METHODOLOGY

This chapter will discuss the specific methodological choices of this dissertation in practice. Population and sampling strategies will be discussed along with specific data collection tools and procedures and data analysis strategies. Finally, this chapter will discuss the ethical considerations anticipated during this study.

Research Questions

The following research questions guided this correlational study. In the outpatient physical therapy clinics of a corporate multi-clinic organization in the United States:

1. What are the relationships among servant leadership behaviors of clinic leaders, self-identity of providing physical therapists, and functional outcomes of patients with low back pain?

2. To what extent does group identity of providing physical therapists and the servant leadership behaviors of clinic leaders predict the functional outcomes of patients with low back pain?

The following hypotheses were tested in this study:

Research Hypothesis 1: There is a positive relationship between servant leadership behaviors of clinic leaders and the functional outcomes of patients with low back pain treated by providing physical therapists.

Research Hypothesis 2: There is a positive relationship between servant leadership behaviors of clinic leaders and a) interpersonal identity of the providing physical therapist with the clinic leader, b) the group identity with their clinical co-workers, and c) their unique personal identity.
Research Hypothesis 3: Servant leadership behaviors of clinic leaders and group identity of providing physical therapists significantly predict the functional outcomes of patients with low back pain.

**Method**

To test the hypotheses, this study used a correlational design. Established questionnaires with demonstrated reliability and validity were used for data collection. Sampling from multiple outpatient clinics within a multi-state physical therapy organization allowed me to study relationships among leadership approach, follower self-identity, and patient outcomes within the natural context of the clinics.

**Research Design Overview**

This correlational study explored the relationships between leadership approach, follower self-identity, and patient outcomes in physical therapy practice. Secondarily, this study explored the extent to which servant leadership behaviors and group identity predicted functional outcomes.

Babbie (2017) supports the use of survey research to fulfill the intent of generalizing from a sample to a population, as in this study. Surveys allow researchers to collect information on a number of variables in a time-efficient and cost-efficient manner (Creswell & Creswell, 2018). Sue and Ritter (2012) recommend digital administration of surveys when the sample size is fairly large and geographically dispersed. I used an electronic survey to collect information on all study variables except patient outcomes from up to 253 providing physical therapists practicing in outpatient physical therapy clinics across five states within the United States. Providing physical therapists provided information about the servant leadership behaviors of one of approximately 100 clinical
leaders in the organization with whom they work. Patient outcome data were obtained from the FOTO outcomes database of the physical therapy clinical organization. Retrospective review of existing data in an outcomes database allows researchers to learn from real patient populations rather than only learning from patients who qualify for specific clinical trials (Zhang, 2014).

Table 1 provides an overview of the concepts, variables, operational definitions, and measurements that were used in this study. The independent variable was servant leadership behaviors of clinic leaders as reported by their followers: the providing physical therapists. The dependent variables were the functional outcomes of patients with low back pain who were treated by the providing physical therapists, the interpersonal, group, and personal identity of providing physical therapists.

**Table 1**

*Overview of Concepts, Variables, & Measurement*

<table>
<thead>
<tr>
<th>Term/Concept/Variable</th>
<th>Operational Definition</th>
<th>Measurement; Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Follower self-identity</td>
<td>An individual’s self-perception influenced by the relationships of an individual to a salient group based on the strength of interpersonal identity, group identity, and personal identity (Tyler et al., 2012)</td>
<td></td>
</tr>
<tr>
<td>-  Interpersonal identity</td>
<td>Relational Identification Scale (Carmelli et al., 2011); PPT electronic survey</td>
<td></td>
</tr>
<tr>
<td>-  Group identity</td>
<td>Group Identification Scale (Ellemers et al., 1999); PPT electronic survey</td>
<td></td>
</tr>
<tr>
<td>Leadership approach</td>
<td>Patient outcomes</td>
<td>Role</td>
</tr>
<tr>
<td>---------------------</td>
<td>-----------------</td>
<td>------</td>
</tr>
<tr>
<td>- <strong>Personal identity</strong></td>
<td>- Functional outcomes</td>
<td><strong>Clinic leader</strong></td>
</tr>
<tr>
<td>Individual Differentiation Scale (Janssen and Huang, 2008); PPT electronic survey</td>
<td>The difference between (a) the patient’s self-reported change in functional status after an episode of care and (b) the expected change in functional status after completing an episode of care. This difference is called the mean residual difference. Calculated from the functional status change field and the expected functional status change field from the Lumbar CAT; FOTO database</td>
<td>The physical therapist who serves in the role of the Clinic Director at the clinic of the PPT</td>
</tr>
<tr>
<td>- <strong>Optimal distinctiveness</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High levels of both personal identity and group identity in a PPT (Brewer, 1991)</td>
<td>Higher scores on Individual Differentiation Scale (Janssen and Huang, 2008) and Group Identification Scale (Ellemers et al., 1999) as determined by profile analysis.</td>
<td></td>
</tr>
<tr>
<td><strong>Leadership approach</strong></td>
<td></td>
<td></td>
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<tr>
<td>- <strong>Servant leadership</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Servant leadership behaviors of clinic leader as observed by PPT, which are: accountability, authenticity, courage, empowerment, forgiveness, humility, standing back, and stewardship (van Dierendonck and Nuijten, 2011)</td>
<td>Servant Leadership Survey (van Dierendonck &amp; Nuijten, 2011); PPT electronic survey</td>
<td></td>
</tr>
</tbody>
</table>
Providing physical therapist | All physical therapists in the organization who are not clinical leaders and who completed a minimum of 10 episodes of care\(^a\) for patients with low back pain in the past 12 months | Completed episodes of care for low back pain field; FOTO database

*Note.* PPT= Providing physical therapist; CAT= Computer Adaptive Technology; FOTO= Focus on Therapeutic Outcomes

\(^a\) An episode of care is defined as “managed care for a specific problem or condition during a set time period” and usually includes more than one clinic visit (American Physical Therapy Association, 2014). A patient may have more than one episode of care in a year.

**Setting**

The physical therapy organization from which the convenient sample was recruited started in the early 2000s in the Midwest as a single outpatient physical therapy clinic. The organization has since grown to having outpatient physical therapy clinics in a total of five states across the midwestern and the southern United States. As of 2020, the organization managed 101 clinics in total across these five U.S. states. The organization grew their clinic sites in a partial ownership model; a physical therapist partners with the organization as a partial owner and clinic director of their clinic. However, the organization maintains majority ownership of each site. The organization provides guidelines to each physical therapist clinic director regarding policies and structure, though the clinic director has the flexibility to lead and manage their staff autonomously. This organizational structure standardizes many of the management practices specific to outpatient physical therapy, while allowing for a diversity of leadership practices specific
to the individual clinic directors. Each clinic is generally staffed with one clinic director and approximately 3 providing physical therapists. As of 2020, the total organization employed approximately 400 physical therapists.

**Sample**

For the purpose of this study, all providing physical therapists employed by the organization with a minimum of 10 completed episodes of care for patients with low back pain in the past 12 months were eligible to participate in the study. An episode of care refers to the “managed care for a specific problem or condition during a set time period” (American Physical Therapy Association, 2014). Setting a minimum of 10 episodes of care for participants was selected because of a FOTO recommendation based on a reliability analysis for the lumbar region (*Frequently asked questions*, 2020). A total of 35 providing physical therapists participated in the study.

Before the study commenced, a power analysis was conducted for a multi-level model using danielsoper.com a-priori sample size calculator. The power was set to .8, alpha level at .05, with a medium effect size. The sample size calculator produced a minimum required sample number of 87 participants. The original study design included hierarchical multi-level models and latent profile analysis. However, due to the low survey response rate (13.8%), the study design was adapted to explore simple correlations and an exploratory regression analysis. A second sample size analysis was performed for the new study design. Power, alpha levels, and effect size remained the same. The new minimum sample size required was 37 participants.
Data Collection

This section will discuss the data collection tools and procedures that were used in this study.

**Data Collection Tools: Electronic Survey for Providing Physical Therapists**

Electronic survey items asked participants to rate servant leadership behaviors of their clinic director, and their individual assessment of identity with their clinic group, leader, and self. The electronic survey included 62 items in total.

**Servant Leadership Behaviors.** Servant leadership behaviors were measured with the Servant Leadership Survey (SLS) of van Dierendonck and Nuijten (2011). This 30-item survey measures eight behaviors (called attributes by van Dierendonck and Nuijten) of servant leadership including accountability, authenticity, courage, empowerment, forgiveness, humility, standing back, and stewardship. Respondents were asked to rate the extent to which they agree with item statements on a six-point Likert scale ranging from fully disagree to fully agree. Sample items include “my manager encourages me to use my talents” and “my manager learns from the different views and opinions of others.” Higher scores indicate an increased presence of servant leadership behaviors.

Van Dierendonck and Nuijten (2011) used a deductive approach through literature review and interviews with experts to initially identify the eight behaviors of servant leadership. The authors then conducted three studies for factor analysis in a Dutch population, which resulted in an initial tool measuring 99 items that was reduced to a 30-item tool with eight subscales that measures the eight hypothesized behaviors of servant leadership. Internal consistency was good with Cronbach’s alphas of 0.69 to 0.91 for the
total score and each of the subscales. A fourth study was conducted on an English-
translated version of the tool with participants in the United Kingdom. This study
confirmed content validity and criterion-related validity of the scale. The SLS correlated
highly with the Servant Leadership Questionnaire (SLQ) of Liden et al. (2008), with the
exception of the added behaviors of accountability and forgiveness, providing deeper
understanding of servant leadership (van Dierendonck and Nuijten, 2011). The SLS also
demonstrated the overlap of servant leadership with transformational leadership theory,
ethical leadership, authentic leadership, and leader-member exchange theory, its multi-
dimensional nature highlights a unique and distinct approach to leadership. The SLS has
demonstrated strong cross-cultural validity across more than eight countries (van
Dierendock et al., 2017). See Appendix C for specific items of the SLS by behavior.

The SLS was used in this study due to its evidence of good reliability and validity,
as reviewed above. In addition, based on a review of instruments by Coetzer et al. (2017),
the SLS has the greatest breadth measurement of servant leadership behaviors as
explained in Chapter 2.

**Interpersonal Identity.** Interpersonal identity with the leader was measured
using a six-item Relational Identification Scale adapted from Mael and Ashforth (1992)
as listed in Appendix C. Mael and Ashforth’s original scale measured organizational
identification. However, Carmeli et al. (2010) adapted the original scale to explore
interpersonal relationships by replacing the word “organization” with “manager.”
Respondents assess the extent to which they identify with their manager on a 1 (not at all)
to 5 (to a large extent) scale. Higher scores indicate a stronger influence of a leader-
follower relationship on interpersonal identity formation.
A sample item of this scale includes “When someone criticizes my manager, it feels like a personal insult.” Carmeli et al. demonstrated discriminant validity between organization identification and relational identification, \( \chi^2 (44) = 73.1 \). The Cronbach’s alpha for this scale was 0.88.

**Group Identity.** Group identity was measured with ten items from Ellemers et al.’s (1999) Social Identification Scale as listed in Appendix C. Ellemers et al. identified three factors of group identity: group self-esteem, self-categorization, and commitment to the group. These three factors respectively represent the evaluative, cognitive, and affective components of social identity. Participants are asked to indicate the degree to which they agree with the items on a 1 (totally disagree) to 7 (totally agree) scale. Higher scores indicate a stronger formation of social identity based on a person’s relationship with a particular group. An example of a question exploring self-categorization includes, “My group is an important reflection of who I am.” Cronbach’s alpha for this scale was 0.87 as reported by Janssen & Huang (2008).

**Personal Identity.** Levels of personal identity was measured by a providing physical therapist’s amount of individualized differentiation in a seven-item measure developed and validated by Janssen and Huang (2008) found in Appendix C. Janssen and Huang extended an original 3-item measure of personal identification proposed by Ellemers et al. (1999) to a 7-item scale. The scale assesses the extent to which an individual perceives himself/herself as different from other members in his/her group based on knowledge, skills, abilities, roles, thoughts, feelings, and behaviors. Participants respond to a series of questions that ask to what extent the individual is different from other members of their team on a 1 to 7 scale with 1 representing “not at all” and a 7
representing “to a very large extent.” Higher scores indicate a stronger formation of personal identity. The measure explores aspects of “personal opinions and beliefs” and “remarkable skills and abilities.” This scale demonstrated good discriminant validity from team identification, including self-categorization, team self-esteem, and team commitment \( \chi^2 (1) = 614.9 \). The Cronbach’s alpha for this scale was 0.90 as reported by Janssen & Huang (2008).

**Data Collection Tools: Physical Therapy Organization’s Database**

**Functional Outcomes.** In this study, functional outcomes were measured by existing data in the FOTO database. FOTO is a national outcomes database that collects a standardized set of data directly from patients at intake and discharge, including their demographic information and general functional status or specific functional status based on a given body region impairment. In this study, the functional outcomes data was collected by retrospectively reviewing the patient-reported change in functional status and the expected functional status change scores calculated from the Lumbar Computerized Adaptive Test (CAT) in the FOTO database.

The Lumbar CAT is a patient-reported outcome measure, consisting of 25 items that assess patients’ perceived functional ability. As part of the Lumbar CAT, nine items from the Back Pain Functional Scale ask patients to rate their ability to perform activities on a six-level scale from “unable to perform activity” to “no difficulty.” Additionally, 16 physical functional items ask patients to rate their ability to perform a different set of activities on a three-level scale from “yes, limited a lot” to “no, not limited.” For the total score, the summed ordinal score is automatically converted to an interval score from 0-100 in the FOTO database with higher scores indicating better functional ability. The
functional status items of the Lumbar CAT have good internal consistency reliability, person reliability (0.92) and person separation (3.42) (Hart et al. (2009). The Lumbar CAT has been tested and validated in many previous outcomes-based studies in physical therapy (Hart et al., 2010). Wang et al. (2010) explored the responsiveness, sensitivity to change, construct validity, and clinical interpretation of the functional status measures of the Lumbar CAT and reported them as strong.

Clinically, patients with low back pain reporting to outpatient physical therapy for an initial visit self-report their functional status by completing a Lumbar CAT within the FOTO database. After completing an episode of care, typically several visits, the patients again self-reports their functional status by completing another Lumbar CAT in the FOTO database. FOTO calculates a patient’s change in functional status by subtracting the patient-reported functional status score at discharge from the functional status score at their initial visit.

The FOTO system also produces an expected functional status change score that is risk-adjusted based on patient history and comorbidities. This is the functional status score that the patient is expected to achieve in the course of treatment based on demographic and medical information provided by the patient. The FOTO system’s expected functional status change score considers individual characteristics that may influence a patient’s prognosis, such as age, gender, acuity, severity level, medical complexity, payer type, surgical history, exercise history, medication use, and history of previous treatment.

The patient-reported functional status change score is subtracted from the expected functional status change score as calculated by FOTO to produce a residual
difference score. A positive residual difference score indicates that the functional outcome is successful. A higher positive residual difference score indicates the degree to which actual functional outcomes exceed the expected functional outcomes. Consistent with the methods of Resnik and Jensen (2003), I used the mean residual difference scores of the Lumbar CAT of providing physical therapists as a measure of functional outcomes.

**Data Collection Procedures**

First, the Chief Operations Officer (COO) of the physical therapy organization provided me with an Excel file containing all of the providing physical therapists’ names, work-related email addresses, and clinic site affiliations. In addition, the COO provided me with a second excel file containing the names of each providing physical therapist, their functional outcome data, and the number of completed episodes of care for patients with low back pain for the prior 12 months.

To determine which providing physical therapists were eligible to participate in the study, I sorted the list of providing physical therapists in the excel file based on the number of completed episodes of care for patients with low back pain. Any providing physical therapist with less than 10 completed episodes of care of patients with low back pain in the past 12 months was excluded from participation. I invited all 253 eligible providing physical therapists within the physical therapy to participate in this study.

One day prior to sending the initial recruitment email, the Chief Operations Officer (COO) sent an email to all company employees informing them of the organization’s agreement to participate in this study. He informed employees that they would be receiving an email from me with a description of the project and an invitation to participate. Sue and Ritter (2012) advise that responses to digital surveys are the greatest
when respondents are pre-notified of an upcoming survey request. An initial recruitment email was sent to all eligible physical therapists to include the background information of the study, explain privacy practices, and how results would be utilized. A link to the electronic survey was included in the recruitment email. An electronic informed consent form was included as the first question of the electronic survey. The informed consent form stated that by completing the survey, the potential participant consented to participate in the study. Participants were asked to complete the electronic study and allow me access to their functional outcomes data as provided by their physical therapy organization. While the executive leadership agreed to provide patient-reported functional status data for all employees, it was made apparent that individuals have the choice to not participate in the study.

After consenting to participate, participants were asked to provide their names to allow the researcher to match the physical therapist-reported electronic survey data and the functional outcome measure data. Participants were asked to provide basic demographic information, including age, gender, years of experience as a physical therapist, length of employment at current clinic, and participation in post-professional education programs. Next the participants completed each tool to measure their perceptions of servant leadership behaviors in their clinic leader and their own self-identity. An automatically generated thank you message was included at the completion of the electronic survey.

In an effort to maximize participation, weekly reminder emails were sent on Tuesday or Wednesday mornings. I considered that potential participants may have extra email to sort through on Mondays since most physical therapists in an outpatient clinic do
not work on the weekend. Further, many physical therapists work short days on Friday or
do not work in the clinic on Fridays at all. Therefore, Tuesdays and Wednesdays were
determined to be the days with the most potential for reaching potential participants.
Emails were sent early in the mornings before typical patient care hours in hopes of
reaching physical therapists before they started clinical care or encouraging them to
complete the survey during a break throughout the day. After three weeks, I added a
drawing for a $50 Amazon gift card as an incentive to increase participation. Anyone
who completed the survey was entered in the drawing. The drawing was performed with
a random number generator and the recipient was provided with an electronic gift card by
email after completing data collection.

The electronic survey remained open for a four-week period. Survey distribution
followed the recommendations of Sue and Ritter (2012). I invited 253 providing physical
therapists to participate in this study via recruitment email (Appendix D). The initial
recruitment email was distributed on Tuesday June 29, 2021 at 8:00am Eastern Standard
Time. Between June 29 and July 6, 12 providing physical therapists returned the
electronic survey, 8 of which were complete (3.1%). A second recruitment email was
distributed on Wednesday July 7 at 7:25 am Eastern Standard Time. Over the next 7
days, 9 more surveys were returned for a total of 17 completed surveys (6.7%). A third
recruitment email was distributed on July 13 at 10:07 am Eastern Standard Time. Six
more surveys were returned between July 13 and July 19 for a total of 23 surveys (9.1%).
The final recruitment email was sent on July 20 at 8:27am Eastern Standard Time with an
added opportunity to be entered for a $50 gift card drawing as an incentive to participate.
Over the next 7 days, 12 more surveys were returned for a total of 35 (13.8%).
The rate of return for this study was very low. Qualtrics reports an average response rate of 20-30%. Many factors likely contributed to the low response rate. As a third-party to the physical therapy organization, the email survey was sent from an external email address. There is potential that email filters sorted the email into a junk or spam folder and was never received by potential participants. Also, the healthcare system has been overwhelmed with patients experiencing symptoms of the coronavirus and post-COVID syndrome. Healthcare providers have experienced added stresses in the past year that may deter participation in an additional work. Specific to the survey itself, participants were asked to provide their names to participate while also reporting on behaviors of their clinic leaders and their relationships with the co-workers. It is possible that people did not want to participate due to fear of retribution despite assurances of the confidentiality of the data.

Data Analysis

Data analysis was conducted in SPSS 27. The alpha level for all hypothesis testing was set at $p < .05$.

Data Preparation

Once data collection was completed, survey data was exported from Qualtrics into an Excel file. Items from the Servant Leadership Survey and Group Identification Scale that required reverse scoring were manually adjusted. Participant names were matched to the FOTO outcomes database and scores were manually entered into the Excel file. Once the outcomes data was combined with the survey data, names were removed and an identification number was assigned to each participant. A master list was created that matched the participants names to the identification number in case of a discrepancy in
data in the future. The Excel file was then imported into SPSS 27 for analysis and variables were defined. Missing data was manually coded with a 9 and defined in SPSS. Mean values were calculated within SPSS for overall servant leadership, each servant leadership subscale, interpersonal identity, group identity, and personal identity. Manual visual inspection of the data revealed an invalid entry for one participant that reported more years at the current location than total years as a physical therapist. It was decided that this data point would be removed when performing data analysis related to years as a physical therapist or years at the current location.

*Descriptive Statistics of Participants*

First, descriptive statistics of the demographic information of participating providing physical therapists of the physical therapy clinical organization were performed to explore the sample. To assess for a response bias, I used an independent samples t-test to compare the means of patient functional outcomes scores between the providing physical therapists who responded to the electronic survey and the eligible providing physical therapists who did not respond to the electronic survey. Further, I used an independent samples t-test to compare the mean functional outcome scores between participating providing physical therapists who reported completing post-professional residency or fellowship training to those who had not completed additional formal training.

*Reliability and Descriptive Statistics of the Instruments*

Survey data were analyzed to identify means, standard deviations, and internal consistency reliabilities (Cronbach’s alpha) for each instrument.
Research Question 1

For the first research question, I used a simple correlation to test the relationships among the servant leadership behaviors of clinic leaders, follower self-identity, and patient functional outcomes. I used a Spearman’s rank-order correlation since data were measured primarily through Likert scale.

Research Question 2

In consultation with a University statistician, I used the proposed framework in Chapter 1 (Figure #) to guide the data analysis associated with research question 2. Since self-identity was proposed as a mediator in the framework, I first used a simple regression analysis to explore the role of group identity alone as a predictive variable for patient outcomes. Both group identity and functional outcomes were treated as continuous data and all assumptions for regression were met. Next, I used a multiple regression analysis with block entry to explore the predictive effect of servant leadership behaviors and group identity of providing physical therapists together. The multiple regression included an interaction term to account for interaction effects between servant leadership and group identity. Mean-centered variables were used in the multiple regression to meet the assumption of multicollinearity.

Ad-hoc Analysis

In addition to hypothesis testing, an ad-hoc analysis explored the relationships between demographic characteristics of the sample (age, years as a PT, years at the current location) and the study variables. This analysis was performed to explore the influence of time on each of the variables. Time was observed through age of providing physical therapists, total years of experience as a physical therapist, and the time spent as
an employee at their current clinic location. A Spearman rank-order correlation was used for ad-hoc analysis.

The original data analysis plan included a latent profile analysis to measure optimal distinctiveness as described in the proposed framework outline in Table 1. Due to the limited number of participants, this data analysis was not performed.

**Ethical Considerations**

Ethically, this study was submitted for review through the Creighton University Institutional Review Board (2001898; Appendix E). Executive leadership at the partnering organization submitted a letter of support to the IRB to allow recruitment of providing physical therapists for this study and access to necessary clinic data. Each participant was required to consent to participation in the study. Because the proposed sampling strategy requires project initiation through a member of the organization’s executive team, and the study requires subordinates to report on the behaviors of their leader, I was mindful that no participant felt coerced to participate. I sent an email to each clinic employee to request participation and disclosed privacy practices.

Privacy of all data was of the utmost importance. While some clinics within the organization publicize patient outcome data among clinical staff, some clinics treat outcomes data as private to the manager and the individual therapist. Regardless of the policies of the clinic, the researcher-maintained confidentiality of physical therapist’s outcome data with the use of an assigned participant identification code. Likewise, because providing physical therapists were asked to report on the perceptions and behaviors of their managers, the survey results needed to remain confidential to protect the employment security of participants. Initially, I intended to use employee ID numbers
as a way to match data across the survey and patient outcomes database, however, the Creighton IRB determined that the use of employee ID numbers would create a false sense of privacy for participants and required the use of names instead. Participants were informed that no individual data would be provided to their clinic leaders or organization management and that any presentations or publications would only contain group data. Further, conclusions highlight the flexibility of leadership qualities such that servant leadership can be developed, further ensuring employment security for participants.

**Summary**

This chapter presented an outline of the anticipated methods to explore the relationships among servant leadership, follower self-identity, and functional outcomes of patient with low back pain. The chapter reviewed the research question and associated hypotheses, the research design, survey tools, sampling, and data analysis. The next chapter will discuss the results of this study.
CHAPTER FOUR: RESULTS AND FINDINGS

The purpose of this quantitative, correlational study was to determine the relationships among the (a) servant leadership behaviors of clinic leaders as perceived by providing physical therapists, (b) follower self-identity (interpersonal, group, and personal) of the providing physical therapists, and (c) functional outcomes of patients with low back pain in outpatient physical therapy. Secondarily, this study explored the extent to which (a) group identity alone and (b) group identity and servant leadership behaviors together are predictors of functional outcomes. This chapter includes a description of the study participants and the instruments used in the study. Further, this chapter presents the quantitative, correlational research results that determine and explore the relationships between the aforementioned variables.

Research Questions and Hypotheses

The following research questions guided this correlational study. In the outpatient physical therapy clinics of a corporate multi-clinic organization in the United States:

1. What are the relationships among servant leadership behaviors of clinic leaders, self-identity of providing physical therapists, and functional outcomes of patients with low back pain?

2. To what extent does group identity of providing physical therapists and the servant leadership behaviors of clinic leaders predict the functional outcomes of patients with low back pain?
The following hypotheses were tested in this study:

- **Research Hypothesis 1:** There is a positive relationship between servant leadership behaviors of clinic leaders and the functional outcomes of patients with low back pain treated by providing physical therapists.

- **Research Hypothesis 2:** There is a positive relationship between servant leadership behaviors of clinic leaders and a) interpersonal identity of the providing physical therapist with the clinic leader, b) the group identity with their clinical co-workers, and c) their unique personal identity.

- **Research Hypothesis 3:** Servant leadership behaviors of clinic leaders and group identity of providing physical therapists significantly predict the functional outcomes of patients with low back pain.

**Results**

I began the quantitative analysis by using SPSS version 27 to obtain descriptive statistics of the sample and variables. Next, reliability of the instruments was analyzed. Simple correlation analysis between variables was then performed. Finally, a regression analysis was performed.

**Participants**

The sample of 35 providing physical therapists was 82.9% Caucasian and 65% female. The average age was 33 ($SD = 6.26$) years. The average years of experience for the group was 7.56 years ($SD = 6.71$). Five participants (14.7%) reported participating in a post-professional residency or fellowship program.

In comparing the participants to the non-participants within the organization ($n = 218$), there was no significant difference in the number of patient episodes ($t (251) = .81,$
p = .42) or mean functional outcomes (t (251) = -.56, p = .58) between groups. There was also no statistically significant difference in functional outcomes between those who have and have not participated in a post-professional residency or fellowship program (t (32) = -.10, p = .92).

**Reliability and Descriptive Statistics of the Instruments**

The study variables included servant leadership, interpersonal identity, group identity, personal identity, and functional outcomes. This quantitative correlational study used the Servant Leadership Survey (SLS) to measure servant leadership behaviors of clinic directors (van Dierendonck & Nuijten, 2011), the Relational Identification Scale to measure interpersonal identity of the providing physical therapist in regards to the clinic director (Carmeli et al., 2010), the Group Identification Scale to measure the group identity of the providing physical therapist in regards to their co-workers (Ellemers et al., 1999), and the Individual Differentiation scale to measure the personal identity of the providing physical therapists (Janssen & Huang, 2008). Descriptive statistics and Cronbach’s alpha were calculated for each subscale of servant leadership and self-identity scale as shown in Table 2.
Table 2

Reliability and Descriptive Statistics of the Instruments

<table>
<thead>
<tr>
<th>Subscale</th>
<th>Cronbach’s Alpha</th>
<th>n</th>
<th>M</th>
<th>SD</th>
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<tr>
<td><strong>Servant Leadership</strong></td>
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<tr>
<td>Total Servant Leadership</td>
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<td>4.35</td>
<td>.77</td>
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<td>Empowerment</td>
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<td>4.94</td>
<td>.97</td>
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<td>Standing Back</td>
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<td>4.39</td>
<td>1.29</td>
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<tr>
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<td>29</td>
<td>5.14</td>
<td>.76</td>
</tr>
<tr>
<td>Forgiveness</td>
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<td>29</td>
<td>4.62</td>
<td>1.04</td>
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<tr>
<td>Courage</td>
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<td>30</td>
<td>3.62</td>
<td>1.17</td>
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<tr>
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<td>4.25</td>
<td>.85</td>
</tr>
<tr>
<td>Humility</td>
<td>.95</td>
<td>29</td>
<td>4.43</td>
<td>1.15</td>
</tr>
<tr>
<td>Stewardship</td>
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<td>1.14</td>
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<td><strong>Self-Identity</strong></td>
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<tr>
<td>Interpersonal Identity</td>
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<td>3.09</td>
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<td>Group Identity</td>
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<td>6.29</td>
<td>.62</td>
</tr>
<tr>
<td>Personal Identity</td>
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<td>4.31</td>
<td>.97</td>
</tr>
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<td><strong>Patient Outcomes</strong></td>
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<td></td>
<td></td>
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<tr>
<td>Functional Outcome</td>
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<td>35</td>
<td>2.44</td>
<td>4.75</td>
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</table>

Research Question 1

In the outpatient physical therapy clinics of a corporate multi-clinic organization in the United States, what are the relationships among servant leadership behaviors of
physical therapist clinic leaders, self-identity of providing physical therapists, and functional outcomes of patients with low back pain?

Table 3 provides the results of the Spearman’s rank order correlation ($r_s$). The relationship between servant leadership behaviors and functional outcomes was not significant. Therefore, hypothesis 1 is not supported.

There was a positive correlation between the total servant leadership behaviors of clinic leaders and interpersonal and group identity of providing physical therapists. There was also a positive correlation between interpersonal identity and group identity. Hypothesis 2a and 2b are both supported. Hypothesis 2c is not supported.

Upon further investigation of the servant leadership behavior subscales, all behaviors were positively correlated with interpersonal identity except for forgiveness and courage. Similarly, all behaviors were positively correlated with group identity except for forgiveness, courage, and authenticity. The Cronbach’s alpha coefficients for the authenticity and courage subscales were below the recommended threshold for ensuring reliability, so these results must be interpreted with caution. Of note, the forgiveness subscale demonstrated the next lowest Cronbach’s alpha coefficient, only nearly surpassing the recommended threshold for reliability.
Table 3

*Correlations Between Servant Leadership, Follower Self-Identity and Patient Outcomes*

<table>
<thead>
<tr>
<th>Variable</th>
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<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
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<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
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<tbody>
<tr>
<td>1. Servant Leadership</td>
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<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
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<td>2. Empowerment</td>
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<td>-</td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<td></td>
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</tr>
<tr>
<td>3. Standing Back</td>
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<td>.77*</td>
<td>-</td>
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<td></td>
</tr>
<tr>
<td>4. Accountability</td>
<td>.80*</td>
<td>.77*</td>
<td>.69*</td>
<td>-</td>
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<td></td>
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<td>5. Forgiveness</td>
<td>.29</td>
<td>.42*</td>
<td>.48*</td>
<td>.31</td>
<td>-</td>
<td></td>
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</tr>
<tr>
<td>6. Courage</td>
<td>.47*</td>
<td>.33</td>
<td>.25</td>
<td>.29</td>
<td>.09</td>
<td>-</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>7. Authenticity</td>
<td>.82*</td>
<td>.63*</td>
<td>.62</td>
<td>.49*</td>
<td>.13</td>
<td>.31</td>
<td>-</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>8. Humility</td>
<td>.88*</td>
<td>.82*</td>
<td>.68*</td>
<td>.71*</td>
<td>.46*</td>
<td>.33</td>
<td>.69*</td>
<td>-</td>
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<tr>
<td>9. Stewardship</td>
<td>.90*</td>
<td>.86*</td>
<td>.68*</td>
<td>.66*</td>
<td>.45*</td>
<td>.50*</td>
<td>.70*</td>
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<td>10. Interpersonal Identity</td>
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<td>.68*</td>
<td>.51*</td>
<td>.58*</td>
<td>.38</td>
<td>.33</td>
<td>.57*</td>
<td>.60*</td>
<td>.72*</td>
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<td>11. Group Identity</td>
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<td>.63*</td>
<td>.74*</td>
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<td>.28</td>
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<td>.48*</td>
<td>.62*</td>
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<td>12. Personal Identity</td>
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<td>13. PPT Functional Outcomes</td>
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<td>.10</td>
<td>.33</td>
<td>-.20</td>
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</table>

*Note. *p < .05 (2-tailed)*
Research Question 2

In the outpatient physical therapy clinics of a corporate multi-clinic organization in the United States, to what extent do servant leadership behaviors of physical therapist clinic leaders and the self-identity of providing physical therapists predict the functional outcomes of patients with low back pain?

A simple linear regression was performed to determine the extent to which group identity may explain the variance in functional outcomes in patients with low back pain. First, I analyzed the assumptions associated with performing a linear regression analysis as described by Laerd Statistics (2013).

Assumption 1 and 2 require that the dependent and independent variables be continuous in nature. Group identity and functional outcomes are both continuous variables, therefore, I was able to continue the linear regression analysis. Assumption 3 requires a linear relationship between the dependent and independent variable. Figure 2 demonstrates the positive linear relationship between the group identity of providing physical therapists and the functional outcomes of patients with low back pain.

Table 4 contains the results of the simple linear regression analysis, which contains the information needed to explore other assumptions. Assumption 4 requires independence of observations. There was an independence of residuals, as assessed by a Durbin-Watson statistic of 2.05. There were no outliers reported through case wise diagnostics, meeting assumption 5.
Figure 2

Scatterplot of Group Identity and Functional Outcomes

Note. There is a positive linear relationship between group identity and functional outcomes.

Table 4

Regression model with group identity

<table>
<thead>
<tr>
<th></th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of Estimate</th>
<th>Durbin Watson</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.37</td>
<td>.14</td>
<td>.11</td>
<td>4.49</td>
<td>2.05</td>
</tr>
</tbody>
</table>

Note. Predictor (Group identity)
Assumption 6 requires data to demonstrate homoscedasticity. A visual inspection of a plot of standardized residuals versus standardized predicted values as seen in Figure 3 confirms homoscedasticity.

**Figure 3**

*Scatterplot of Standardized Residuals and Standardized Predicted Values*

*Note.* The relatively equal spread of residuals across the fitted values is acceptable for homoscedasticity.

Finally, assumption 7 requires that the residuals of the regression be normally distributed. Figure 4 demonstrates normally distributed residuals.
Group identity of providing physical therapists statistically significantly predicted functional outcomes of patients with low back pain, $F(1,29) = 4.52, p = .04$, accounting for 14% of the variation in functional outcomes with adjusted $R^2 = 11\%$, a medium effect size according to Field (2018).

A second multiple regression was performed to explore the predictive effect of servant leadership and group identity together on functional outcomes. There was linearity as assessed by partial regression plots and a plot of studentized residuals against the predicted values. There was independence of residuals, as assessed by a Durbin-Watson statistic of 1.88. There was homoscedasticity, as assessed by visual inspection of
a plot of studentized residuals versus unstandardized predicted values. There was
evidence of multicollinearity, so the mean-centered values were used to complete the
regression analysis, which resolved the presence of collinearity. There were no
studentized deleted residuals greater than ±3 standard deviations, no leverage values
greater than .2, and values for Cook’s distance above 1. The assumption of normality was
met, as assessed by a Q-Q plot.

The resulting multiple regression model was not significantly predictive of
functional outcomes, $F(3,23) = 1.23, p = .32$. Therefore, the additional factor of servant
leadership with group identity was no longer significantly predictive of functional
outcomes of patients with low back pain. Hypothesis 3 is partially supported.

Ad-hoc Testing

In addition to hypothesis testing, the relationships between demographic
characteristics of the sample (age, years as a physical therapist, years at the current
location) and the study variables were explored (Table 5). There was a positive
correlation between years as a physical therapist and servant leadership behaviors,
meaning that servant leadership behaviors of clinic leaders were reported to be more
likely by providing physical therapists with more years of experience. Years of physical
therapy experience was significantly negatively correlated with functional outcomes. As
providing physical therapists gain years of experience, functional outcome scores reduce.
Table 5

Correlations Between Participant Demographics, Servant Leadership, Follower Self-Identity and Patient Outcomes

<table>
<thead>
<tr>
<th>Variable</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Age</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Years as a PT</td>
<td>.89*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Years at current location</td>
<td>.41*</td>
<td>.38*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Episodes</td>
<td>.17</td>
<td>.23</td>
<td>.35*</td>
<td></td>
</tr>
<tr>
<td>5. Servant Leadership</td>
<td>.29</td>
<td>.41*</td>
<td>.07</td>
<td>-.01</td>
</tr>
<tr>
<td>6. Interpersonal Identity</td>
<td>.21</td>
<td>.26</td>
<td>.07</td>
<td>-.24</td>
</tr>
<tr>
<td>7. Group Identity</td>
<td>.07</td>
<td>.15</td>
<td>-.06</td>
<td>-.04</td>
</tr>
<tr>
<td>8. Personal Identity</td>
<td>.33</td>
<td>.26</td>
<td>.18</td>
<td>.08</td>
</tr>
<tr>
<td>9. PPT Functional Outcomes</td>
<td>-.31</td>
<td>-.35*</td>
<td>.05</td>
<td>.004</td>
</tr>
</tbody>
</table>

Discussion

The proposed framework in Chapter 1 (Figure 1) guided the analysis and interpretation of this study’s findings. I first explored correlations among leadership approach, follower self-identity, and patient outcomes. Then, I used regression analysis to explore the predictive effects of group identity as a variable of follower self-identity and servant leadership as the leadership approach variable.

The sample was reflective of the national physical therapy population, which was reported to be 84% Caucasian, 65% female, and an average age of 40 based on 2019 data.
from the American Physical Therapy Association (2020). Nationally, only 3.9% of physical therapists have completed residency or fellowship training. In this study, 14.7% of participants had completed residency or fellowship training, so this population is slightly over-represented in the sample.

In this study, servant leadership behaviors of clinic leaders strongly correlated with increased interpersonal and group identity of their followers, providing physical therapists. These high levels of identification with the leader and workgroup mean that those entities have a strong influence on the behaviors of providing physical therapists (Turner et al., 1987). This supports Greenleaf’s (1977) original proposal that servant leadership behaviors of leaders facilitate followers growing as individuals and mimicking leader behaviors by becoming servant-leaders themselves. Further, interpersonal identity strongly and significantly correlated with group identity. Grounded in the social identity theory, this supports the idea that a relationship with a prototypical group leader reinforces follower membership and identity with the salient group (Turner et al., 1987). Sluss and Ashforth (2007) proposed that interpersonal identity should increase the strength of both personal and group identity due to the influence from a work-role and the relationship with others. However, this study only supported an increase in group identity associated with interpersonal identity. The lack of support for a positive relationship between interpersonal identity and personal identity could be due to the relatively homogenous sample (82.9% Caucasian and 65% female). Further, the group sizes ranged from 2 to 8 people. It is thought that membership in relatively small groups is more likely to facilitate a balance between personal and group identities and therefore more likely to elicit group identification (van Knippenberg & Hogg, 2003).
Nonetheless, the lack of positive correlation between personal identity and servant leadership, interpersonal or group identity was surprising. Based on Brewer’s (1991) concept of optimal distinctiveness, this demonstrates a loss of the individual identity at work, while highly identifying with other group members. Overtime, the strong identification with the group and low personal identity could lead to negative consequences, such as group think (Kreiner et al., 2006). Relevant to this study, group think may result in defensiveness against the reasoning or influence of external knowledge or beliefs, resulting in resistance to incorporate new practices among the group members (Korte, 2007). This process can stifle creativity, innovation, and decision-making (Kreiner et al., 2006). All of these aforementioned factors are important in adapting to new healthcare knowledge and best practice over time.

Group identity alone served as a significant predictor of functional outcomes of patients with low back pain. High levels of group identity may be necessary for many reasons in physical therapy practice. Haslam and Reicher (2007) explain that when group members share a collective and salient identity, they provide each other with more social support. Further, Riketta and van Dick (2005) demonstrated positive associations between high levels of workgroup identity and group climate, group extra-role behavior, and group satisfaction. In healthcare, providers view implementing innovative practices, such as incorporating new best practice recommendations, as extra-role behavior outside of routine patient care responsibilities (Nembhard et al., 2009). Organizational citizenship behavior, shown to be an outcome of high group identity, includes engaging in extra-role behavior. Therefore, providing physical therapists with high group identity may facilitate increased adoption of updated practice guidelines and thus result in improved quality of
care. The findings from this study suggest that there are group-level processes that influence individual outcomes of providing physical therapists. Therefore, a solution to improve patient outcomes in physical therapy practice must address both individual and group-level factors.

When group identity and servant leadership behaviors were assessed together as predictors of functional outcomes, the model was not significant. However, servant leadership behaviors significantly positively correlated with group identity. This may mean that the particular leadership approach may be less important than a leader’s ability to cultivate group identity. Servant leadership is one approach that does positively correlate with group identity, so it is an option that may be appropriate in certain circumstances. As described in Chapter 2, identifying a specific style of leadership that is more effective in producing improved patient outcomes may be an unrealistic endeavor. Rather, there may be other mechanisms by which leaders influence the overall group culture, social norms, and associated individual behavior.

Ad-hoc testing demonstrated that years of experience as a physical therapist negatively correlate with the functional outcomes of patients with low back pain. As physical therapists gain years of experience, their patient’s self-reported functional outcomes lessen. While this finding was surprising, this phenomenon is consistent with the literature in the medical field that demonstrates that physicians with more years of experience possess less factual knowledge, are less likely to adhere to recommended standards of care, and have higher patient mortality rates (Choudhry et al., 2005, Tsugawa et al., 2017). Despite a formal continuing education structure, many physicians fail to change practice behaviors over time as new knowledge is introduced (Regehr &
Mylopoulus, 2008). Cleland et al. (2008) found that physical therapists were similarly unlikely to integrate new knowledge from a continuing education course into lasting behavior changes in the clinic. These findings inform a target population for implementing a solution to improve patient outcomes in physical therapy practice. A solution must address physical therapists of all experience levels to successfully improve the functional outcomes of patients in physical therapy. Further, a solution must be able to translate into the realities of clinical practice.

**Limitations**

Anticipated limitations were identified prior to the study as identified in Chapter 1. These included the sampling strategy, the use of self-report measures, and influences of the COVID-19 pandemic. In particular, the use of a convenience sample from the accessible population was expected to limit the generalizability of the findings. Additionally, the COVID-19 pandemic continued to alter traditional clinic practices in physical therapy clinics at the time of data collection and may have influenced the relationships between clinic leaders, providing physical therapists, and the group as a whole for better or worse.

An unanticipated limitation occurred as a result of the Creighton Institutional Review Board’s required use of participant names instead of employee identification numbers in the electronic survey for data matching. Prospective participants may have chosen not to participate in the survey given the nature of the questions asked and the required use of names, despite the additional efforts to protect privacy of the data. This may have contributed to non-response bias, which could have influenced results. Although I compared the functional outcomes scores of participants and non-participants
and no significant differences were noted, the possibility of non-response bias decreases generalizability of the findings.

The low response rate of this study was also unanticipated and is an additional limitation to the generalizability of the findings. It is possible that the reduced overall participation rate was influenced by participants being required to enter their full names in the electronic survey. Further, clinical adaptations due to the COVID-19 pandemic altered workloads of providing physical therapists. Thus, lack of time due to greater workloads may have contributed to the low response rate.

Due to the low response rate and potential for non-response bias, the study results are best applied to only the study participants. For this reason, the resulting proposed solution discussed in Chapter 5 will be specific to the participating physical therapy clinical organization. The external validity of the study results could be increased through additional follow-up research with a larger and more representative sample from the physical therapy clinical organization in the future.

**Summary**

The results of this quantitative, correlational study serve to determine the relationship among servant leadership behaviors of clinic leaders, the self-identity of providing physical therapists, and functional outcomes of patients with low back pain in outpatient physical therapy. These findings support further exploration of group identity of providing physical therapists and how self-identity influences the functional outcomes of patients with low back pain. These findings can be utilized to inform evidence-based strategies to provide leadership development in physical therapists that can improve patient outcomes for patients with low back pain. Chapter 5 will further explore the
implications of these research findings in the context of a proposed solution to the complex, real-world problem surrounding the quality of care for patients with low back pain in physical therapy.
CHAPTER FIVE: PROPOSED SOLUTION AND IMPLICATIONS

While the results and findings of this quantitative, correlational study were presented in Chapter 4, this chapter will further discuss the implications of the study findings and provide recommendations for leadership development in physical therapy that can influence the outcomes of patients with low back pain. Supporting evidence for the proposal will be discussed, as well as anticipated challenges and considerations for implementation. Additionally, a plan for evaluating the success of the proposal will be presented along with the practical, theoretical, and research implications will be discussed.

Aim Statement

This dissertation in practice aimed to provide recommendations for leadership development in physical therapy. Developing leadership practices for physical therapists associated with improved patient outcomes can benefit physical therapy clinical organizations, the patients they serve, and the profession as a whole. Further, this dissertation in practice aimed to expand the growing body of research on servant leadership. The exploration of three levels of identity as influenced by servant leadership was a novel exploration.

Proposed Solution

The following proposed solution offers a mechanism in which leadership training of physical therapists can address the two factors of this study that were correlated with or predictive of functional outcomes of patients with low back pain: providing physical therapist years of experience and follower group identity (Table 6). I propose a 12-month leadership development training grounded in transformational learning that targets
clinical practice workgroups for the organization where the study took place. Offered through a clinical-academic partnership, this training will include not only servant leadership as was studied in this study, but also distributed leadership and adaptive leadership. Each participant will engage individually and as a group in the “IDENTIFY” process, a novel reflective exercise created by me based on this study that brings attention to the three levels of self-identity. I will serve as an external facilitator and coach the workgroup and individuals throughout the 12-month process to reinforce the foundational concepts and encourage integration into daily practice. Next, each aspect of the proposed solution is discussed in detail.

**Distributed Leadership**

The concept of distributed leadership is a foundational concept that situates leadership as a fluid process rather than as a position. A leader is anyone who works to influence the motivation, knowledge, affect, or behavior of other group members (Spillane, 2006). Each group member can serve as a leader or a follower at any given time, depending on the context of the situation. In this manner, the workshop will frame the idea that each person is a leader and a follower and that the concepts that will be presented as part of the workshop are pertinent to all group members, not only the titled clinic leader.

**Servant Leadership**

Servant leadership will be discussed based on the original works of Robert Greenleaf and the current review of servant leadership by Coetzer et al. (2017) as described in Chapter 2. While servant leadership does not serve as a predictor of functional outcomes of patients based on this study, it is highly correlated with group
identity, which does serve as a predictor for functional outcomes. Reicher et al. (2005) describe leaders as “entrepreneurs of identity.” Servant leadership is one leadership approach that can build group identity among group members that could positively influence patient outcomes in physical therapy. Further, because servant leadership begets servant leadership (Greenleaf, 1977), it is an approach that reinforces the distributed leadership concept previously described.

**Adaptive Leadership**

In medicine, Cutrer et al. (2017) has proposed a Master Adaptive Learner model to address the correlation of functional outcome degradation with years of clinical experience. This learning model for healthcare providers teaches learners how to learn, adapt, and thrive in a constantly changing environment of practice. I believe that this model of learning could also be used in physical therapy education to address the declining patient functional outcomes that correlate with increasing years of physical therapists' experience. However, to make personal changes as described by the Master Adaptive Learner model, the workgroup must provide an environment that is supportive of new knowledge and behavior change (Korte, 2017).

The adaptive leadership approach embraces change, diversity, and innovation. Adaptive leadership can facilitate the development of a learning culture among a group. This leadership approach also embraces the distribution of leadership among group members. Heifetz (2009) defines adaptive leadership as “the practice of mobilizing people to tackle tough challenges and thrive.” The four main principles of adaptive leadership include emotional intelligence, organizational justice, development, and character. A learning culture is essential to encourage the continued learning and
changing practice behaviors required over time to ensure the highest quality of care for patients.

Table 6

Association of Study Finding to Proposed Solution

<table>
<thead>
<tr>
<th>Framework Element</th>
<th>Finding</th>
<th>Solution</th>
</tr>
</thead>
</table>
| Leadership Approach     | Servant leadership behaviors of clinic directors positively correlated with interpersonal and group identity of providing physical therapists | - Servant leadership as a tool to increase interpersonal and group identity  
                          |                                                                         | - Distributed leadership: a result of servant leadership in that followers are empowered to become leaders  
                          |                                                                         | - Coaching as an element of servant leadership                          |
| Follower Self-Identity  | Group Identity of providing physical therapists was a predictor of patient outcomes | - IDENTIFY reflections as a means of attending to self-identity and group roles  
                          |                                                                         | - Collaborative training as a group rather than traditional individual focused training and development |
| Patient Outcomes        | Patient outcomes negatively correlated with years of experience as a physical therapist | - Adaptive leadership: lays the groundwork at a group level for the Master Adaptive Learner model  
                          |                                                                         | - Transformational Learning: builds adaptive capacity through the explicit articulation of values |
Transformational Learning

While most continuing education courses focus on epistemological perspectives that focus on knowledge, ontological learning incorporates the essence of “being.” Ontological perspectives that are revisited over time may have a more significant influence on behavior change than knowledge alone (Korte, 2017). Challenges of change and adaptation require unlearning old assumptions, attitudes, and behaviors as well as learning new ways of knowing, doing, and being (Heifetz & Linsky, 2002). Transformative learning is a process that transforms our often-covert perspectives, habits, and mindsets to make them more inclusive, open, and capable of change to form new knowledge, action, or being (Nicolaides & McCallum, 2013). The adaptive capacity of healthcare providers is built through the explicit articulation of values and practices that acknowledge and support their needs (Kuluski et al., 2021).

“IDENTIFY” Reflections

I developed IDENTIFY reflections to be iterative in nature in that the process remains ongoing. The four components of IDENTIFY include: Take Inventory, Design, Integrate and Evaluate, and Modify. This process is designed to occur at the group and individual levels.

Take Inventory

This component of the reflective process asks learners to reflect on their current state. Sample prompts for reflection include:

- What are the current attitudes towards learning? Change? Safety?
  - Tolerance for ambiguity? Inclusion? Diversity?
LEADERSHIP APPROACH AND FOLLOWER SELF-IDENTITY

- How would you describe current relationships between yourself and your coworkers?
- How would you define the identity of your workgroup? What does it mean to be a member of your group? What are common group behaviors? Attitudes? Beliefs?
- How would you define your role within the group based on your relationships with others?
- Do these behaviors, attitudes, and beliefs positively or negatively influence patient care and quality improvement processes?

Design

This component of the reflective process asks individuals and the group to project a vision of identity. Discussions should include ideas of what could or should be in the future.

Sample prompts for reflection include:

- Do you notice a shift or change in group/personal vision or values? *of the local workgroup, not the organization
- What behaviors or attitudes may need to be unlearned for development? What behaviors or attitudes may need to be added to group norms?
- How could we communicate our group norms to others?
- How could we receive unique contributions from others?

Integrate and Evaluate

This component of the reflective process asks learners to take action on their reflections. This process may require group and/or individual-level behavior changes.
The group should regularly and openly discuss behavior modifications to evaluate how behavior changes are being adopted. Social support will be necessary for the successful implementation of change.

**Modify**

Based on individual and group experiences, modifications may be necessary. Experimentation will be required to overcome unforeseen challenges and changing group dynamics. An inability to meet the designed action during the integration phase should not be seen as a failure but rather as an expected part of the process that requires modification. After each change, the reflective process should continue circularly back to taking inventory of the current state.

**Coaching**

According to the International Coach Federation (2018), coaching is a thought-provoking and creative process that inspires people to maximize their personal and professional potential. It is a mechanism by which concepts can be contextualized to meet the specific needs of a group or individual and can be reinforced over time. Significant system-wide changes are often not successful because they are not tailored to the needs of a local context (Votova et al., 2019). Votova et al. support that there is a disconnect between having awareness and acting to support change. Coaching has been shown in physical therapy to increase behavior change after participating in a continuing education course (Cleland et al., 2008). Further, Kreiner et al. (2006) have demonstrated involving other people as a strategy for identity negotiation as individuals may need encouragement to find their specific balance between group and personal identities. The long-term nature of the coaching relationship in a 12-month program also reinforces the adaptive nature of
the development program so that the emphasis on coaching may reflect the changing context of the situation.

**Evidence that Supports the Solution**

In a review of healthcare leadership training programs, Sonnino (2016) summarizes that healthcare leadership training is most effective when it occurs over time, is comprehensive, and incorporates individual and institutional level opportunities to apply training concepts immediately. Further, Blumenthal et al. (2012) summarize the elements of an effective leadership program as reinforcing or building a supportive culture, incorporating various learning methods including mentorship or coaching, employing extended learning periods with sustained support, encouraging ownership of self-development, and committing to continuous improvement. The leadership development program proposed in this study incorporates many of these elements. The extended learning period is seen in the 12-month duration of the program, with the potential for continued development as needed past the 12-month period. Ownership of self-development is demonstrated through the use of IDENTIFY reflections and transformational learning. The opportunity to immediately apply leadership development concepts is presented through coaching and situating the leadership development training within the work-group, which will also help develop a supportive work-group culture. Finally, the commitment to continuous improvement is demonstrated through the concepts of adaptive and distributed leadership.

An organizational change intervention similar to that proposed in this study was implemented at the Mayo Clinic Care Network in 2014 (Curry et al., 2018). The 2-year program, Leadership Saves Lives, focused on creating a learning environment,
psychological safety, senior management support, commitment to the organization, and time for improvement efforts. At the end of the 2-year program, organizations that noted a shift in the social norms highlighted through the interventions also reported decreased patient mortality rates. In this case study, the focus was on behavior change, which improved six of the ten organizations that participated. Based on the results of this dissertation in practice, including the development of group identity as part of the behavior change efforts may yield even more outstanding results.

Haslam et al. (2000) used a needs-based approach to explore the role of self-identity in work-related motivation. These authors empirically demonstrated that when social identity with the work group was more salient and produced feelings of pride and respect, individuals were motivated towards group-level behavior such as organizational citizenship behaviors and group loyalty. The proposed solution offers opportunities for groups to verbalize those elements of the organization that spark feelings of pride and respect, which will build self-identity with the salient work group. Ellemers et al. (2004) explain that developing group identity is only the first step toward improving group performance. The social context, specifically the group norms, will then direct group members' behaviors, attitudes, and beliefs. This supports the multi-pronged approach of this solution that builds group identity and calls attention to the specific behaviors associated with improving patient outcomes.

**Evidence that Challenges the Solution**

The proposed solution is grounded in data that is specific to one organization in the United States. This organization already demonstrates a general acceptance for distributed leadership as demonstrated by their business model that allows physical
therapists to partner as clinic owners. This proposed solution may not be as well received in organizations or cultures in which a sense of collectivism is not accepted. In a study that explored the international presence of distributed leadership in schools, the author acknowledges that principals in countries that revere power distance and place less value on in-group collectivism would find it challenging to adopt a distributed leadership model (Liu, 2020). In healthcare, countries and organizations with high power distance may not accept the foundational concepts of this proposed solution.

**Implementation of the Proposed Solution**

Implementing the proposed solution to improve functional outcomes of patients with low back pain at the physical therapy organization will require the engagement of multiple stakeholders. The solution will require ongoing feedback and collaborative decision-making, and the timeline will remain flexible based on the needs of the group and the participants.

**Stakeholders**

The creation and facilitation of content will be provided by me as the Director of Post-professional Education at a university that hosts a Doctor of Physical Therapy program and Community of Lifelong Learning and Innovation. The content will be created in consultation with the partnering clinical organization. The clinical-academic collaboration model demonstrates principles of workplace learning in which the participants learn through participation (O’Brien, 2011). The initial implementation will begin with the partnering organization from this study. The organization will recommend clinics to participate based on the current clinical outcomes of the providing physical therapists. Those clinics with multiple providing physical therapists whose functional
outcomes are below expected outcomes levels in the FOTO database will be considered first. Once the clinics have been identified, an invitation to participate in the program will be sent to the clinic leaders of each clinic. Those who are interested in participating and willing to engage in the program will be admitted.

**Timeline**

The timeline for the leadership development training can be seen in Figure 5. An initial meeting with the clinic group will lay the foundation for the leadership development training. The group culture, perceptions about leadership, and willingness to change will be assessed. Foundational concepts will be introduced in an initial 2-day discussion-based workshop. The group will work to develop psychological safety and trust to encourage all participants to share their perspectives. Participants will practice the IDENTIFY reflections and will be encouraged to revisit their reflections monthly. Formal group coaching sessions will occur at 1-month, 3-months, and 6-months after the workshop. These pre-determined 90-minute formal coaching sessions will revisit reflections and goals from the workshop and previous coaching sessions. Individual coaching sessions will be established on a one-to-one basis and will be scheduled as determined by the coach and the participant over the course of the year. Twelve months after the initial workshop, the group will engage in a half-day session with the external facilitator to discuss long-term changes that the group has experienced over the course of the year. Goals will be revisited, and the group will establish a plan to continue moving forward that may or may not include ongoing coaching sessions and formal group facilitation.
Resources

I will create and implement the leadership development training workshops and coaching sessions as part of my faculty role at a University. I serve as the Director of Post-professional Education within a University-based Department of Physical Therapy. The Department of Physical supports a Community of Lifelong Learning and Innovation group as part of their post-professional education offerings. The proposed solution will be offered through the Community of Lifelong Learning and Innovation. Because of this structure, faculty time will be required to create and facilitate the workshops and coaching sessions. Time investment will also be required of the participants to attend the workshop, coaching sessions, and engage in the INDENTIFY reflections on their own time. The time needed from clinicians will need to be balanced with patient care, so thoughtful scheduling will be critical for participants to actively engage in discussion.
Financial resources will also be required to cover the cost of my effort to facilitate the workshops and provide group and individual coaching. Travel expenses may also be considered if the organization opts for an in-person workshop. However, the workshops and coaching sessions could be delivered through a virtual space. Because this solution is novel and addresses a significant problem in the physical therapy profession, there is a possibility of pursuing grant funding to offset these costs, such as the Center on Health Services Training and Research (CoHSTAR) annual grants.

**Evaluating the Outcome of the Solution**

The solution will be evaluated using a multi-dimensional approach that explores the effects of the program on leadership approach, self-identity, and patient outcomes. First, the goal of the leadership development program is to promote servant leadership and adaptive leadership behaviors across all participants. This will be evaluated through 360-degree feedback including feedback from the clinic/organization leader, participant self-reflection exercises, and peer feedback that specifically highlights servant leadership and adaptive leadership behaviors.

The second goal of the leadership development program is to increase all three levels of self-identity, specifically focusing on increasing group identity. This will be evaluated through the group and individual responses to the IDENTIFY reflections. I will also monitor behavioral outcomes associated with increased group identity, such as sharing of professional knowledge and the willingness to implement new skills/knowledge in clinical practice. The extent to which these group behaviors become social norms of the group will be evaluated through the assessment of group culture.
Finally, the third goal of the leadership development program is to improve the functional outcomes of patients. This will be evaluated through the tracking of FOTO data of participating providing physical therapists over time.

**Implications**

**Practical Implications**

Improving patient outcomes has been a principal theme in physical therapy research. The Academy of Orthopaedic Physical Therapy has sponsored the publication of Clinical Practice Guidelines that provide best practice recommendations. However, the implementation of these guideline recommendations into clinical practice has been challenging. This dissertation in practice demonstrates the gap between research that may shift practice recommendations over time and clinicians who may be reluctant to change their clinical practice. The master adaptive learner and adaptive leadership approaches may be strategies to support the lifelong professional development and learning required to achieve improved patient outcomes. The National Study of Excellence and Innovation in Physical Therapist Education (Jensen et al., 2017) recommends instituting “…leadership development that reinforces the value of shared leadership, effective teams, innovation, and cultures of excellence. This development must begin in professional education and continue across a professional's career.” While the proposed solution in this dissertation in practice focuses on licensed providers in clinical practice, the principles outlined in the leadership development program have a role in entry-level education as well.
Implications for Future Research

The initial intent for this study was to explore a multi-level model that included leadership, group culture, and aspects of the individual providing physical therapists. While the number of participants in this study did not allow for such analysis, future studies should explore the multi-level relationships and influences on functional outcomes of patients. Implementation of the proposed solution also serves as a possibility for future research. The effect of leadership development training on functional outcomes of patients could be explored using an interventional pre-post design. By collecting outcome measures of group culture and group behavior, this future research could explore potential explanatory mechanisms associated with the relationships between leadership, group culture, self-identity, and patient outcomes.

Further, previous studies and this current study analyze the three levels of identity as separate variables. However, future research should consider exploring identity profiles that may reflect optimal distinctiveness to understand better how the three levels of identity interact with each other.

Implications for Leadership Theory and Practice

Social Identity Model of Leadership

Early leadership research focused on the traits of leaders to explain leadership effectiveness or influence. However, leadership research has shifted to emphasize the relational nature of leadership between leaders and followers (Haslam et al., 2011). Social identity theory has served as a frame for explaining the influence of a leader on an individual or group. Sluss and Ashforth (2007) proposed that interpersonal identity increases the strength of personal and group identity due to the influence of a work-role
and the relationship with others. The current study quantitatively supports the hypothesized relationship between interpersonal identity with a group leader and group identity. However, the present study did not support the hypothesized positive relationship between interpersonal identity and personal identity. This leaves space to explore further the complex interactions among levels of identity, group size, group diversity, and group culture.

**Leadership in Physical Therapy**

From a leadership perspective, this dissertation in practice demonstrates the importance of establishing a meaningful relationship between leaders and followers to strengthen interpersonal identity. The servant leadership approach places the care of the individual at the center of the relationship rather than the needs or goals of the organization. Based on the results of this study, the servant leadership approach is supported in physical therapist practice as one leadership approach option that can successfully increase leader-follower relationships. Additionally, this dissertation in practice highlights the importance of considering the context and situation in which the individual is placed. Current continuing education and professional development practices are largely centered around the needs of an individual. Development efforts should also include group-level considerations to effect lasting change. Further, the efforts in development should emphasize ongoing strategies to be adaptive and flexible in a work environment that is constantly changing. Professional development must include skills in how to learn and un-learn throughout a lifetime.
Summary of the Dissertation in Practice

The purpose of this quantitative, correlational study was to determine the relationship among servant leadership behaviors of clinic leaders, the self-identity of providing physical therapists, and functional outcomes of patients with low back pain in outpatient physical therapy. Secondarily, this study explored the influence of servant leadership and group identity as predictors of functional outcomes. Thirty-five providing physical therapists participated in an electronic survey that explored their perceptions of the servant leadership behaviors of the clinic leaders and their interpersonal, group, and personal identity, based on their relationships in their work environment. These electronic survey data were paired with functional outcomes of patients with low back pain who the providing physical therapists treated. Data analysis revealed a significant negative correlation between years of experience as a physical therapist and their patients’ functional outcomes. Group identity served as a significant predictor of functional outcomes scores. Further, there was a positive correlation among servant leadership behaviors of clinic directors, interpersonal identity, and group identity.

Results from this study informed the proposal of a 12-month leadership development training program for clinical groups in physical therapy. The concepts of distributed leadership, servant leadership, and adaptive leadership will be foundational in the leadership development training program and reinforced with IDENTIFY reflections and group and individual coaching throughout the year. This study contributes to the social identity model of leadership and servant leadership theory. Practically, this dissertation in practice provides guidance to evolve the current approach to continuing education and leadership development across the career span of physical therapists to
include considerations at the group and individual level. Life-long leadership
development of physical therapists with an emphasis on building self-identity and
adaptability is critical to improve patient outcomes and the quality of physical therapy
care in the United States.
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https://doi.org/10.1177/00131640021970420


https://doi.org/10.1108/03090590710739250


http://fau.digital.flvc.org/islandora/object/fau%3A9478

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https://doi.org/10.15171/ijhpm.2014.65


*Academy of Management Perspectives, 23*(1), 24-42.

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https://doi.org/10.1177/1541344614540333


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https://www.who.int/classifications/icf/training/icfbeginnersguide.pdf

https://doi.org/10.1016/j.jbusres.2013.08.013

### Appendix A

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### Appendix B

#### Summary of Evidence

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<td>Lopopolo (2004)</td>
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<td>Importance of leadership style towards quality of care measures in healthcare settings: A systematic review</td>
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<td>Votova, K., Laberge, A., Grimshaw, J. M., &amp; Wilson, B. (2019)</td>
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Appendix C

SLS Survey Items (van Dierendonck and Nuijten, 2011)

**Assessment Item**

**Empowerment**

My manager gives me the information I need to do my work well.

My manager encourages me to use my talents.

My manager helps me to further develop myself.

My manager encourages his/her staff to come up with new ideas.

My manager gives me the authority to make decisions which make work easier for me.

My manager enables me to solve problems myself instead of just telling me what to do.

My manager offers me abundant opportunities to learn new skills.

**Standing Back**

My manager keeps himself/herself in the background and gives credit to others.

My manager is not chasing recognition or rewards for the things he/she does for others.

My manager appears to enjoy his/her colleagues’ success more than his/her own.

**Accountability**

My manager holds me responsible for the work I carry out.

I am held accountable for my performance by my manager.

My manager holds me and my colleagues responsible for the way we handle a job.

**Forgiveness**

My manager keeps criticizing people for the mistakes they have made in their work. (r)
My manager maintains a hard attitude towards people who have offended him/her at work. (r)

My manager finds it difficult to forget things that went wrong in the past. (r)

**Courage**

My manager takes risks even when he/she is not certain of the support from his/her own manager.

My manager takes risks and does what needs to be done in his/her view.

**Authenticity**

My manager is open about his/her limitations and weaknesses.

My manager is often touched by things he/she sees happening around him/her.

My manager is prepared to express his/her feelings even if this might have undesirable consequences.

My manager shows his/her true feelings to his/her staff.

**Humility**

My manager learns from criticism.

My manager tries to learn from the criticism he/she sees happening around him/her.

My manager admits his/her mistakes to his/her superior.

My manager learns from the different views and opinions of others.

If people express criticism, my manager tries to learn from it.

**Stewardship**

My manager emphasizes the importance of focusing on the good of the whole.

My manager has a long-term vision.

My manager emphasizes the societal responsibility of our work.
Relational Identification (Carmeli et al, 2010)

When someone criticizes my manager, it feels like a personal insult
I am very interested in what others think about my manager
When I talk about my manager, I usually say ‘we’ rather than ‘he’ or ‘she’
My manager’s successes are my successes
When someone praises my manager, it feels like a personal compliment

Group Identification (Ellemers et al., 1999)

I identify with other members of the team (self-categorization).
I am like other members of my team (self-categorization).
My team is an important reflection of who I am (self-categorization).
I think my team has much to be proud of (team self-esteem).
I feel good about my team (team self-esteem).
I have little respect for my team (reversed; team self-esteem).
I would rather not tell that I belong to this team (reversed; team self-esteem).
I would like to continue working with my team (team commitment).
I dislike being a member of my team (reversed; team commitment).
I would rather belong to another team (reversed; team commitment).

Individual Differentiation (Janssen & Huang, 2008)

To what extent are you different from the members of your team:
Owing to your personal opinions and beliefs.
Owing to your remarkable skills and abilities
Owing to your unique say in the matter.
Owing to your unique view on problems.
Because you think, feel, and behave in different ways.
Owing to your vigorously individual contribution.
Because you fulfill your role in a very personal manner.
Appendix D

Dear Participant,

I would like to invite you to participate in “Servant Leadership Behaviors in Physical Therapy,” a survey-based research study (2001898). The purpose of this research is to determine the relationship between servant leadership behaviors and the functional outcomes of patients with low back pain in physical therapy.

If you agree to participate, you will be asked to complete an electronic survey in which you will be asked to describe the leadership behaviors of your clinic director and relationships among you and your colleagues. The survey should take 15 minutes or less to complete.

By participating in this survey, you are also giving permission for the primary investigator to use your FOTO outcomes scores for patients with low back pain for the past year. Participation in this study is voluntary and you may withdraw at any time.

Participating or not participating in this study will have no effect on your employment or relationship with employers. Participant names will not be shared with employers. Any individual information obtained in this study that indicates bad outcomes will not be shared with employers.

The potential risks to be in this study are no more risk than is encountered in everyday life. This research may benefit physical therapy practice by providing recommendations for leadership behaviors that best support improved patient outcomes. No direct benefits to the participant can be expected.

Data obtained from the study will only be accessed by the primary investigator and her dissertation committee. Participant names will be used to match the electronic survey responses with the FOTO data. Immediately after matching survey responses and FOTO data, all data files will be immediately deidentified by removing participant names. Data will be stored in a password protected flash drive for the duration of the project and up to 3 years after project completion. The results of this study may be disseminated, but only in an aggregated form so that all potential identifying data remains private.

Participants who complete the survey will be entered into a drawing for a $50 Amazon gift card that will be sent electronically by email at the termination of data collection.

For answers to questions about the research, please contact Beth Collier at 770-654-6849. If you have questions about research participants’ rights, you may contact Creighton University’s Institutional Review Board at 402-280-2126.

You may access the survey here:
https://blueq.co1.qualtrics.com/jfe/form/SV_3BKco1mvWYRTqmO

Sincerely,
LEADERSHIP APPROACH AND FOLLOWER SELF-IDENTITY

Beth Collier, PT, DPT
Primary Investigator
Ed.D. candidate, Creighton University Interdisciplinary Leadership

Creighton University’s Bill of Rights for Research Participants
Thank you for your submission of Response to IRB Requests materials for this project. The following items have been reviewed with this submission:

☐ Creighton University HS eForm~

You have satisfied the concerns of the Board as expressed in the letter dated 20-Apr-2021 from the IRB. Therefore, this project is fully approved. This approval is based on an appropriate risk/benefit ratio and a project design wherein the risks have been minimized. All research must be conducted in accordance with this approved submission.

The consent requirement has been waived as per 45 CFR 46.116, because the research involves no more than minimal risk to the subjects, the waiver or alteration will not adversely affect the rights and welfare of the subjects, and the research could not practicably be carried out without the waiver.

A waiver of HIPAA authorization is approved to allow access to PHI by the research team however, sharing or releasing identifiable data to anyone other than the study team is not permitted without additional IRB approval. No identifiable data may be reported on the data
collection sheets. Please refer to the information that is considered identifiable at http://www.creighton.edu/fileadmin/user/ResearchCompliance/IRB/Policies_and_Procedures/119.3_Deidentified_Information_Under_HIPAA.pdf

- Please remember that informed consent is a process beginning with a description of the project and insurance of participant understanding. Informed consent must continue throughout the project via a dialogue between the researcher and research participant. Federal regulations require that each participant receives a copy of the consent document.
- Please note that any revision to previously approved materials must be approved by this committee prior to initiation. Please use the appropriate revision forms for this procedure.
- All UNANTICIPATED PROBLEMS involving risks to subjects or others (UPIRSOs) and SERIOUS and UNEXPECTED adverse events must be reported promptly to this office. Please use the appropriate reporting forms for this procedure. All FDA and sponsor reporting requirements should also be followed.
- All NON-COMPLIANCE issues or COMPLAINTS regarding this project must be reported promptly to this office.
- If this project has been determined to be a Minimal Risk (risks no greater than one would encounter in daily life) project it will require continuing review by this committee on an annual basis. The Annual/Continuing Review/Project Termination form must be received with sufficient time for review and continued approval before the expiration date.

If you have any questions, please contact the IRB Office at 402-2802126 or irb@creighton.edu. Please include your project title and reference number in all correspondence with this committee.