PREDICTIVE CORRELATION BETWEEN LEADER SELF-EFFICACY, EMOTIONAL INTELLIGENCE, YEARS OF EXPERIENCE, AND TRANSFORMATIONAL LEADERSHIP OF PHYSICIAN ASSISTANT PROGRAM DIRECTORS

by

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Liberty University

A Dissertation Presented in Partial Fulfillment

Of the Requirements for the Degree

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ABSTRACT

The purpose of this quantitative, predictive correlational study was to investigate the relationship between leader self-efficacy, emotional intelligence, years of experience, and transformational leadership practices of physician assistant (PA) program directors. This study is important in providing a greater understanding of the internal determinants and factors that influence the program directors' beliefs in their success and effectiveness as leaders. Participants for this study included a sample of 86 PA program directors across the United States. Data were collected using the Leader Efficacy Questionnaire, Wong and Law Emotional Intelligence Scale, Leadership Practices Inventory, and a demographic questionnaire administered via a survey. Multiple linear regression was used to examine the predictive relationship between the variables. The findings revealed that there was a statistically significant predictive relationship between transformational leadership practices and the linear combination of leader self-efficacy, emotional intelligence, and years of experience ($F(3, 82) = 15.40$, $p < .001$, $R^2 = .36$). This study's findings can be used to develop more targeted professional development to enhance PA program directors' leadership effectiveness. Recommendations for future research include conducting qualitative research to gain a deeper understanding of program directors' use of transformational leadership, examining other demographic variables as predictors, and replicating the study in other health professions programs.

Keywords: transformational leadership, leader self-efficacy, emotional intelligence, years of experience, physician assistant program directors

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List of Abbreviations

Accreditation Review Commission on Education for the Physician Assistant (ARC-PA)

American Academy of Physician Assistants (AAPA)

Association of American Medical Colleges (AAMC)

Bureau of Labor Statistics (BLS)

Emotional Intelligence (EI)

Leader Efficacy Questionnaire (LEQ)

Leadership Practices Inventory (LPI)

National Commission on Certification of Physician Assistants (NCCPA)

Physician Assistant (PA)

Physician Assistant Education Association (PAEA)

Variance Inflation Factor (VIF)

Wong and Law Emotional Intelligence Scale (WLEIS)

CHAPTER ONE: INTRODUCTION

Overview

The purpose of this quantitative, predictive correlational study was to determine if there is a relationship between leader self-efficacy, emotional intelligence, years of experience, and transformational leadership practices of physician assistant program directors. Chapter One provides a background for the topics of transformational leadership, leader self-efficacy, and emotional intelligence from a historical, social, and theoretical context. Included in the background is an overview of the theoretical frameworks for this study. The problem statement examines existing literature on leader self-efficacy and emotional intelligence and their relationship with transformational leadership. The purpose of this study is followed by the significance of the current study in physician assistant education programs. Finally, the research question is introduced, and definitions of terms that are pertinent to this study are provided.

Background

The physician assistant (PA) profession is among the top 20 fastest-growing occupations in the United States and is projected to grow by 27% between 2022 and 2032 (Bureau of Labor Statistics [BLS], 2023). As a result of this demand, the number of PA education programs has been growing exponentially in the past two decades totaling 306 accredited programs across the United States in 2023. The Accreditation Review Commission on Education for the Physician Assistant (ARC-PA, 2024) projected that there will be 352 programs by 2027. With this growth comes the need for qualified faculty and program directors to teach in and lead PA education programs. There is, however, a high rate of attrition within the profession with 47.3% of program directors and 43.1% of faculty having considered leaving academia for another position (Physician Assistant Education Association [PAEA], 2020). A recent study found several

reasons for faculty attrition including ineffective leadership, inadequate mentorship, wrong expectations of the faculty role, and returning to clinical practice (Graham-Burnet, 2023). It is worth noting that ineffective leadership was the most cited reason.

According to Lussier and Achua (2016), the success of an organization depends on the objectives the leader sets, the leadership style, and the ability to motivate others. Effective leadership is vital for an organization to achieve its vision and goals (Lussier & Achua, 2016; Northouse, 2022). Transformational leadership (TL) is one of the most effective leadership styles (Ali et al., 2018; Anderson, 2017; Breevaart & Zacher, 2019; Sadeghi & Pihie, 2012) and is associated with high levels of performance and satisfaction among followers (Nicdao, 2019; Worthy et al., 2020). In a review of the literature, Sun et al. (2017) found that self-efficacy and emotional intelligence (EI) are antecedents of transformational leadership. Indeed, research by Cobanoglu and Yurek (2018) found that leaders with a high level of self-efficacy tend to use transformational leadership style. The historical, social, and theoretical contexts of physician assistant education, transformational leadership, leader self-efficacy, and emotional intelligence are discussed in the following sections to lay the foundation for this study.

Historical Overview

Physician assistants are licensed practicing clinicians who work collaboratively with physicians in various specialties and settings to expand access to care and improve health outcomes (American Academy of Physician Assistants [AAPA], 2023). The first PA education program was established in 1965 at Duke University to train new types of clinicians and expand health care services (Cawley, 2007). There was a proliferation of programs in the 1990s with programs more than doubling from 53 in 1990 to 126 by 2000 (Cawley & Hooker, 2022). This growth in programs was motivated by grant funding, changes in public policy, and a projected

shortage of physicians (see also Cawley et al., 2016). By 2010, there were 154 programs and 200 programs by 2015 (Cawley & Hooker, 2022). By the end of 2023, there were 306 accredited programs across the U.S. (ARC-PA, 2024). PA education programs have a significant role in preparing highly qualified PAs, and this growth in programs requires an increase in qualified faculty (Zaweski et al., 2019).

The PA profession has, however, had challenges with attracting and retaining faculty because of ineffective leadership, burnout, unsupportive institutional environments, inadequate mentorship, wrong expectations of the faculty role, and returning to clinical practice (Beltyukova & Graham, 2017; Coniglio & Akroyd, 2015; Forister & Blessing, 2007; Graham-Burnet, 2023). Ineffective leadership was the most reported reason for faculty attrition with study participants noting that some program directors had little to no experience in PA education (Graham-Burnet, 2023). Results from the 2019 faculty and directors survey showed that 15.5% of program directors have been in PA education for four years or less and 32.5% have been program directors for one year or less (PAEA, 2020). Thus, in an effort to ensure that PA programs are led by experienced educators, the fifth edition of the accreditation standards for PA education that went into effect in September 2020 stipulates that the program director must have at least three years of full-time experience in higher education (ARC-PA, 2020). It is possible that using transformational leadership might enhance the leadership practices of PA program directors as it has been associated with effective leadership (Ali et al., 2018; Anderson, 2017; Breevaart & Zacher, 2019; Sadeghi & Pihie, 2012).

Transformational leadership was first conceived by Burns (1978, 2010), who connected the roles of leadership and followership noting that leaders seek to transform others and help them to reach their fullest potential. Bass (1985, 1990) expanded Burns' (1978, 2010) work on

transformational leadership to focus more on the needs of followers as opposed to the leader's needs. In addition, the author identified four characteristics of transformational leadership, namely, idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration (see also Bass & Avolio, 1994; Bass & Riggio, 2006). In a meta-analysis of 89 studies, Garad et al. (2022) found that transformational leadership fosters organizational commitment, increases employee performance, and enhances job satisfaction.

Kouzes and Posner (1995) further extended the work on transformational leadership through conducting extensive mixed-methods research. They surveyed and interviewed middle- and senior-level managers in various fields on "experiences that they believe are their individual standards of excellence" (Kouzes & Posner, 2017, p. 11). Based on the findings, they developed a model of transformational leadership that comprises five practices that exemplary leaders use including, 1) model the way, 2) inspire a shared vision, 3) challenge the process, 4) enable others to act, and 5) encourage the heart. Some benefits of using these practices include creating higher-performing teams, enhancing motivation and willingness to work hard, fostering higher organizational commitment, and reducing turnover rates (Kouzes & Posner, 2017). Using these five transformational leadership practices could enhance the leadership effectiveness of PA program directors.

Society-at-Large

Effective leadership in PA education programs has national implications. The medical profession will face a dramatic shortage in its workforce because of an aging population, increase in health care needs of an aging population, and expansion in health care coverage (Zhang et al., 2020). In addition, the shortage of physicians in the U.S. is estimated to be between 54,100 and 139,000 by 2033 (Association of American Medical Colleges [AAMC],

2020; Zhang et al., 2020). This indicates the increasing need for PAs. While the number of certified PAs has been increasing steadily over the years from 95,583 in 2013 to 168,318 in 2022 (National Commission on Certification of Physician Assistant [NCCPA], 2023), there is still a shortage of clinicians nationwide. Thus, there is a need for qualified faculty and program directors to teach in and lead PA education programs.

PA faculty have the responsibility to educate and produce highly trained clinicians who are entrusted to treat patients. PA program directors have an important role in leading programs effectively to ensure that the goals and objectives of the program are met. High leader self-efficacy and emotional intelligence are associated with transformational leadership which is espoused as one of the most effective leadership styles (Ali et al., 2018; Anderson, 2017; Breevaart & Zacher, 2019; Sun et al., 2017). If program directors adopt transformational leadership practices, it will benefit PA student education and faculty retention, which will in turn help to address the health care workforce shortage problem. Additionally, it will benefit the entire U.S. society that will be served by PAs when they start practicing clinically in the health care system.

Theoretical Background

According to Gall et al. (2007), grounding research studies in theory allows researchers to explain the relationship between the independent and dependent variables and to make predictions (see also Creswell & Creswell, 2018). This study was be guided by the theories of self-efficacy (Bandura, 1977, 1982) and emotional intelligence (Mayer & Salovey, 1993; Salovey & Mayer, 1990). An overview of the theoretical background of these two theories is presented in the following paragraphs.

Self-Efficacy

The construct of self-efficacy is rooted in social cognitive theory, which emphasizes human agency where individuals seek to control what happens to them (Bandura, 1986). Self-efficacy is a person's belief in their capability to perform a certain task (Bandura, 1977, 1982). The strength of people's belief in themselves determines how much effort they will exert in accomplishing a task and how long they will persist. Self-efficacy develops from four main sources including enactive mastery experiences, vicarious experiences, verbal persuasion, and physiological/emotional arousal (Bandura, 1977, 1982, 1997). People with high self-efficacy perform at a higher level compared to those with low or medium self-efficacy (Bandura, 1982).

The theory of self-efficacy is relevant to this study as it frames the construct of leader self-efficacy, which is the perceptions that leaders have in their leadership capabilities (Hannah et al., 2008, 2012; Paglis & Green, 2002). Studies have found that leader self-efficacy is a major predictor of transformational leadership (Cobanoglu & Yurek, 2018; Fitzgerald & Schutte, 2010; Gulmez & Negis Isik, 2020). The self-efficacy of PA program directors is critical to the success of PA faculty, students, and the program as a whole. This is the only study in the literature to date that has addressed leader self-efficacy among PA program directors.

Emotional Intelligence

The theory of emotional intelligence was developed by Salovey and Mayer (1990). The authors developed the ability model of EI that consists of four branches, which include, from basic to complex, the ability to perceive emotion, facilitate thought using emotion, understand emotions, and manage emotions (Mayer et al., 2016). Each of the four branches comprises a set of abilities that progress from simple to complex skills. For example, perceiving emotion entails one being able to identify emotions and thoughts while managing emotions involves being able

to effectively manage other people's emotions to attain a desired outcome (Mayer et al., 2016). Caruso and Salovey (2004) asserted that leaders with inadequate EI are likely to face many challenges when trying to empower and inspire their followers. The theory of emotional intelligence is relevant to this study because several studies have demonstrated that there is a positive association between emotional intelligence and transformational leadership (Baba et al., 2021; Dabke, 2016; Frias et al., 2021).

Problem Statement

Physician assistants work collaboratively with physicians to provide health care services in a variety of specialties. The BLS (2023) projected that between 2022 and 2032, the PA profession will grow by 27%. With the estimated growth of PA programs to 352 by 2027 (ARC-PA, 2024) and 358 programs by 2035 (Hooker et al., 2022) comes the need for qualified faculty and program directors to teach in and lead the programs. There is, however, a high rate of faculty turnover and attrition, which research has found is due to ineffective program leadership, unsupportive institutional environments, and lack of mentorship (Beltyukova & Graham, 2017; Coniglio & Akroyd, 2015; Graham-Burnet, 2023). These researchers called for more studies focusing on leadership in PA education programs.

As previously discussed, effective leadership impacts the success of an organization with regard to achieving its vision and goals (Lussier & Achua, 2016; Northouse, 2022). Transformational leadership is one of the most successful leadership styles and is positively associated with a leader's self-efficacy and emotional intelligence (Baba et al., 2021; Cobanoglu & Yurek, 2018; Fitzgerald & Schutte, 2010; Frias et al., 2021; Gulmez & Negis Isik, 2020). Past studies focused on either leader self-efficacy or emotional intelligence, whereas this study focused on a combination of both these constructs. Additionally, past research investigated the

Full Range Model of Leadership that includes transformational leadership, transactional leadership, and passive avoidant leadership (Bass & Avolio, 1994; Bass & Riggio, 2006) while this study examined Kouzes and Posner's (2017) five practices of exemplary leadership.

This study also examined whether a relationship exists between years of experience and transformational leadership practices. While new PA program directors are now required to have at least three years of experience in higher education, there is inconsistent evidence in the literature pertaining to the relationship between a leader's years of experience and their use of transformational leadership (Buck & Doucette, 2015; Echevarria et al., 2017; Herman et al., 2017; Komariyah, 2022). The relationship between leader self-efficacy, emotional intelligence, years of experience, and transformational leadership has not been studied in depth in PA education. Thus, it is unclear how leader self-efficacy, emotional intelligence, and years of experience of PA program directors influence their leadership practices. The problem is that literature has not fully addressed the relationship between leader self-efficacy, emotional intelligence, years of experience, and transformational leadership practices of PA program directors (Frias et al., 2021; Komariyah, 2022; Singh & Spadaro, 2022).

Purpose Statement

The purpose of this quantitative, predictive correlational study is to determine if there is a relationship between leader self-efficacy, emotional intelligence, years of experience, and transformational leadership practices of physician assistant program directors. The predictor variables in this study are leader self-efficacy, emotional intelligence, and years of experience. The criterion variable is transformational leadership practices. Leader self-efficacy is one's belief in his or her ability to lead others successfully (McCormick, 2001). Emotional intelligence is the ability for people to effectively identify and manage their emotions as well as others' emotions

(Salovey & Mayer, 1990). Years of experience refers to the number of years of full-time employment as a PA program director (PAEA, 2020). The criterion variable—transformational leadership practices—is defined as the extent to which program directors use the five practices of exemplary leadership including, model the way, inspire a shared vision, challenge the process, enable others to act, and encourage the heart (Kouzes & Posner, 2017). The study population consisted of PA education program directors across the United States.

Significance of the Study

Effective leadership is essential for an organization to meet its goals and objectives. Transformational leadership has been studied extensively and shows that the self-efficacy and emotional intelligence of leaders may influence their use of transformational leadership (Sun et al., 2017). Transformational leaders motivate and inspire confidence in their team members as well as set a good example for them (Kouzes & Posner, 2017). In addition, they create an environment of mutual trust, foster relationships, and develop their team members' competence. The use of transformational leadership plays an important role in employees being satisfied with their jobs as well as being more productive (Worthy et al., 2020). Given the high rate of faculty turnover and attrition in PA education programs, it might behoove program directors to use transformational leadership.

Daniels et al. (2019) called for more research on leadership and leadership skills in different contexts. This study addressed the gap in research on the relationship between leader self-efficacy, emotional intelligence, years of experience, and transformational leadership as it pertains to PA program directors. This study also has significance in the growing body of literature on leadership in PA education programs (Alexander et al., 2018) as well as contributes to the existing research on self-efficacy, emotional intelligence, and transformational leadership

in health professions programs (Echevarria et al., 2017; Frias et al., 2021; Worthy et al., 2020). Many studies have been conducted in nursing education but not in PA education.

This study was guided by the theory of emotional intelligence (Salovey & Mayer, 1990) and the self-efficacy theory (Bandura, 1977, 1986). Caruso and Salovey (2004) asserted that emotional intelligence is an essential element for effective leadership (see also Caruso et al., 2002; Goleman, 1995, 1998). Research has also found that self-efficacy plays a crucial role in leadership effectiveness (Adewale & Ghavifekr, 2019; Ali et al., 2018; Baroudi & Hojeij, 2020; Dwyer, 2019). Emotional intelligence speaks to the ability of PA program directors to monitor their own and others' emotions while leader self-efficacy speaks to program directors' perceived capability to lead others. The results of this study expand the understanding of emotional intelligence and self-efficacy and add to the base of the theoretical literature.

Understanding the self-efficacy and emotional intelligence of PA program directors might provide a greater understanding of the internal determinants and factors that influence their beliefs in their success and effectiveness as leaders. It also helps to determine whether there is a professional development need for enhancing the program directors' use of transformational leadership. Leadership development might in turn help to alleviate the problem with the high rate of attrition and turnover of PA faculty. In addition, other health professions programs such as medicine, nursing, dentistry, and pharmacy, among others may benefit with regard to enhancing their leaders' transformational leadership skills.

Research Question

RQ1: How accurately can transformational leadership practices be predicted from a linear combination of leader self-efficacy, emotional intelligence, and years of experience for physician assistant program directors?

Definitions

1. *Challenge the Process* – When leaders take risks and experiment with innovative ways of doing things to make the process better, they generate opportunities for small wins and learn from their failures (Kouzes & Posner, 2017).
2. *Emotional Intelligence* – Mayer and Salovey (1997) defined EI as "the ability to perceive emotions, to access and generate emotions so as to assist thought, to understand emotions and emotional knowledge, and to reflectively regulate emotions so as to promote emotional and intellectual growth" (p. 5).
3. *Enable Others to Act* – This entails leaders creating an environment of mutual trust, fostering relationships, and developing team members' competence by allowing them to take initiative and control (Kouzes & Posner, 2017).
4. *Encourage the Heart* – When leaders create an organizational culture of recognition and celebrations to appreciate their followers and reward their contributions and accomplishments (Kouzes & Posner, 2017).
5. *Inspire a Shared Vision* – When leaders envision an exciting future full of possibilities and communicate the vision to their team members with excitement and enthusiasm and enlist them to share the vision (Kouzes & Posner, 2017).
6. *Leader Self-efficacy* – McCormick (2001) defined leader self-efficacy as "one's self-perceived capability to perform the cognitive and behavioral functions necessary to regulate group process in relation to goal achievement" (p. 30).
7. *Model the Way* – When leaders are clear about their values and guiding principles and set a good example for others to follow by modeling behaviors they expect of their team members (Kouzes & Posner, 2017).

8. *Self-efficacy* – The belief in one's ability to perform a certain task (Bandura, 1977).
9. *Transformational Leadership* – Leadership style where the leader motivates others to do more than what is expected of them and develops their leadership potential (Bass & Avolio, 1994).
10. *Years of Experience* – This refers to the number of years of full-time employment as a PA program director (PAEA, 2020).

CHAPTER TWO: LITERATURE REVIEW

Overview

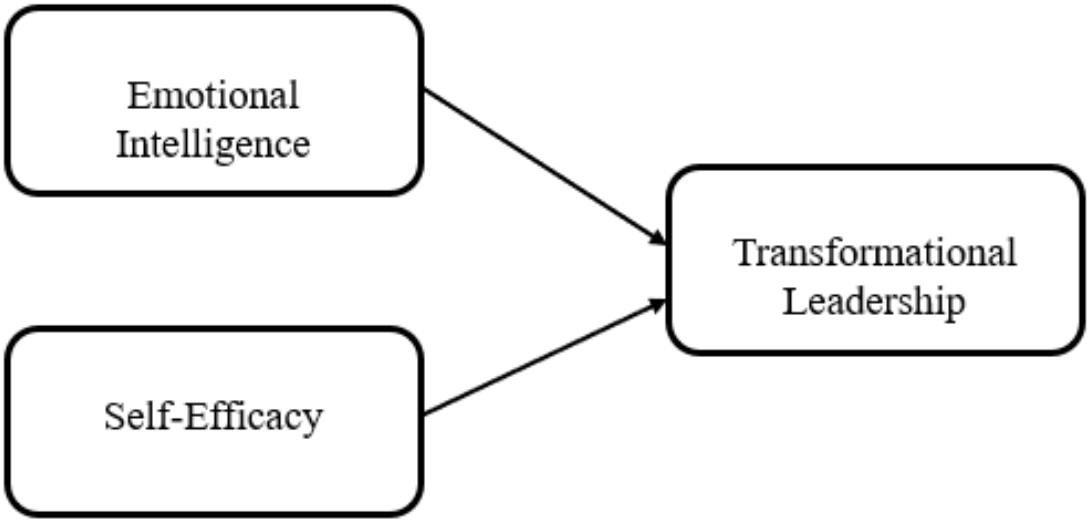
The purpose of this literature review is to present an overview of the research conducted on the relationship between transformational leadership, leader self-efficacy, emotional intelligence, and years of experience. The chapter opens with a discussion of the two theoretical frameworks in which the study is grounded including the theory of emotional intelligence (Salovey & Mayer, 1990) and the self-efficacy theory (Bandura, 1977, 1982). This is followed by the related literature section which discusses research pertinent to transformational leadership, leader self-efficacy, emotional intelligence, and years of experience. Lastly, a gap in the literature is identified, justifying the need for more research on transformational leadership, leader self-efficacy, emotional intelligence, and years of experience of PA program directors. The chapter concludes with a summary of the literature review.

Theoretical Framework

Creswell and Creswell (2018) noted that theories, in quantitative research, describe the relationships among the independent and dependent variables with regard to magnitude or direction. The theoretical framework for this study is based on the theory of emotional intelligence (Mayer & Salovey, 1993; Salovey & Mayer, 1990) and Bandura's (1977, 1982) self-efficacy theory. The integration of these two theories helps in understanding the influence of a leader's emotional intelligence and self-efficacy on their transformational leadership practices. These two theories specifically provided the framework for examining the emotional intelligence and self-efficacy of PA program directors. As shown in the visual depiction of the theoretical framework in Figure 1, emotional intelligence and leader self-efficacy influence transformational leadership practices.

Figure 1

Theoretical Framework of the Study



Theory of Emotional Intelligence

Several theories of emotional intelligence have been developed but the most common theories discussed in the literature include the ability model, the mixed model, and the trait model. These three models are discussed in turn in the following paragraphs.

Ability Model

The ability model of EI was developed by Salovey and Mayer (1990). In their seminal article, Salovey and Mayer (1990) defined EI as "the ability to monitor one's own and others' feelings and emotions, to discriminate among them and to use this information to guide one's thinking and actions" (p. 189). The authors initially conceptualized EI as involving three mental processes: appraising and expressing emotions in the self and others, regulating emotion in the self and others, and using emotions in adaptive ways. First, emotionally intelligent individuals appraise and express their own emotions accurately because they "can more quickly perceive and respond to their own emotions and better express those emotions to others" (Salovey & Mayer,

1990, p. 193). In addition, they skillfully recognize other people's emotions and respond empathetically to them. Emotions can be appraised and expressed through verbal or nonverbal communication.

Second, the regulation of emotion is included in the construct of EI "because it may lead to more adaptive and reinforcing mood states" (Salovey & Mayer, 1990, p. 198). While most people regulate their and others' emotions, emotionally intelligent people are especially skillful at this process and do so to achieve specific goals. For example, they can manage others' emotions and motivate them to perform a worthwhile goal. Lastly, using emotions in adaptive ways entails creative thinking, flexible planning, motivating emotions, and mood-directed attention. Thus, emotionally intelligent people will arrive at possible alternative solutions to problems more creatively and flexibly. In addition, they are more likely to integrate emotional considerations when choosing among alternate solutions.

In subsequent years, Mayer and Salovey (1997) noted that the earlier definition of EI only entailed perceiving and regulating emotions and did not include thinking about feelings. They revised the definition and conceptualization of EI, defining it as "the ability to perceive emotions, to access and generate emotions so as to assist thought, to understand emotions and emotional knowledge, and to reflectively regulate emotions so as to promote emotional and intellectual growth" (p. 5). The authors postulated that emotional abilities fall on a continuum from lower level to higher level skills, thereby developing the ability model of EI, also known as the four-branch model (Mayer & Salovey, 1997). The ability model differentiates "four areas of problem-solving necessary to carry out emotional reasoning" (Mayer et al., 2016, p. 293).

The four branches include, from basic to complex, perceiving emotion, using emotions, understanding emotions, and managing emotions (see also Mayer et al., 2004). Perceiving

emotions entails being able to recognize emotions in the facial and postural expressions of others. Using emotions involves the ability to utilize emotions to facilitate thinking, planning, and solving problems. Understanding emotions is the ability to analyze emotions and how they change over time as well as their outcomes. Managing emotions refers to the self-regulation of emotions and responding appropriately to one's and others' emotions (Mayer & Salovey, 1997; Mayer et al., 2004, 2016).

Each branch includes a set of skills ranging from simple to sophisticated. For example, the simplest skill in perceiving emotions is "identify emotions in one's own physical states, feelings, and thoughts" and the most complex skill in managing emotions is "effectively manage others' emotions to achieve a desired outcome" (Mayer et al., 2016, p. 294). Several instruments have been developed to measure the ability model of EI. The most commons ones are the Mayer-Salovey-Caruso Emotional Intelligence Test (Mayer et al., 2003), the Schutte Self-Report Emotional Intelligence Test (Schutte et al., 1998), and the Wong and Law's Emotional Intelligence Scale (Wong & Law, 2002). This study utilized Salovey and Mayer's (1990) ability model as it is concerned with emotion-related cognitive abilities.

Mixed Model

Other researchers expanded the ability model of EI by including people's nonability traits, which led to the inception of the mixed model of EI (Bar-On, 2000; Goleman, 1995). This model differs significantly with the ability model because it mixes people's personality characteristics with their mental ability (Mayer et al., 2000). There are two mixed models of EI, one developed by Goleman (1995) and the other by Bar-On (2000). In the number one best seller book titled *Emotional Intelligence: Why it can matter more than IQ*, Goleman (1995) described EI as consisting of "abilities such as being able to motivate oneself and persist in the face of

frustrations; to control impulse and delay gratification; to regulate one's moods and keep distress from swamping the ability to think; to empathize and to hope" (p. 34).

Goleman (1998) examined extensively the relationship between EI and performance at work, particularly among leaders and noted that most effective leaders have a high degree of EI. In fact, EI differentiates between effective leaders and merely good ones. The author further contended that while leaders' cognitive abilities and technical skills are important, these are mostly "threshold capabilities" that are "entry-level requirements for executive positions" (Goleman, 1998, p. 94). Not only does EI distinguish outstanding leaders, but it is also attributed to strong performance. The author's mixed model includes five EI skills (a) self-awareness, (b) self-regulation, (c) motivation, (d) empathy, and (e) social skills.

Self-awareness is the ability to recognize one's feelings, strengths, weaknesses, goals, drives, and values as well as being able to monitor them from moment to moment and how they affect other people. Self-regulation is the ability to handle one's feelings appropriately by not acting on impulse, thinking before acting, and controlling disruptive emotions or channeling them to other useful tasks. Motivation refers to being passionate about work and having an internal drive to achieve goals beyond one's own and others' expectations. Thus, individuals direct their emotions to a goal and delay gratification until it is accomplished. Motivated people are more effective and highly productive in anything they take on. Empathy denotes the ability to understand others' emotions and putting their feelings in consideration during the decision-making process. Empathetic people are selfless and are more likely to understand what others want or need. Lastly, social skills refers to the ability to interact with others well, manage relationships, and build networks among people. Also, being able to influence others to move in a certain direction to accomplish a task collaboratively.

Using these five skills, effective leaders maximize their own performance as well as their team members. Goleman (1998) noted that everyone is born with some levels of EI abilities which can be strengthened through extended practice, feedback from others, and persistence. While EI can be learned, it takes time and commitment, but it is worthwhile because it benefits both the individual and the organization (Goleman, 1998). The Goleman's mixed model of EI is measured using the Emotional Competency Inventory 2.0, Emotional Intelligence Questionnaire, and Emotional Intelligence Appraisal (Bru-Luna et al., 2021).

Bar-On (2000) also developed a mixed model of EI that he called the Bar-On model of emotional-social intelligence (ESI). He argued that emphasis is placed on increasing people's cognitive abilities, which can be measured by intelligence quotient (IQ) scores, however, IQ is a weak predictor of non-cognitive abilities such as interpersonal skills and coping with daily problems (Bar-On, 2006). The author defined emotional-social intelligence as "a cross-section of interrelated emotional and social competencies, skills and facilitators that determine how effectively we understand and express ourselves, understand others and relate with them, and cope with daily demands" (Bar-On, 2006, p. 14).

The Bar-On model of ESI includes five major components, each consisting of various skills, competencies, and facilitators (Bar-On, 2000, 2003, 2006). The five components are: (a) intrapersonal skills, (b) interpersonal skills, (c) adaptability, (d) stress management, and (e) general mood. Intrapersonal skills include self-regard, emotional self-awareness, assertiveness, independence, and self-actualization. These skills entail the ability to be cognizant of oneself, understand one's strengths and weaknesses as well as being able to express one's emotions and thoughts. Interpersonal skills refer to the ability to be cognizant of others' needs and emotions,

relate well with others, and build relationships that are mutually beneficial. They include empathy, social responsibility, and interpersonal relationships.

Adaptability refers to the ability to adjust one's emotions and thinking to new circumstances as well as being able to solve personal and interpersonal problems and make decisions. The competencies that fall under adaptability are reality-testing, flexibility, and problem-solving. Stress management is the ability to manage and control emotions effectively and constructively, and it comprises stress tolerance and impulse control. General mood refers to being optimistic and self-motivated and being happy with oneself, others, and with life as a whole. The facilitators for general mood include optimism and happiness (Bar-On, 2000, 2003, 2006). Similar to Goleman (1998), Bar-On (2003) noted that EI can be learned so as to improve performance. This model of EI is measured using a self-report instrument called the Emotional Quotient Inventory 2.0 (EQ-i 2.0), which consists of 133 questions that measure socially and emotionally intelligent behavior (Bar-On, 2000, 2003, 2006; Bru-Luna et al., 2021).

Trait Model

The trait model of EI, developed by Petrides (2001), is concerned with people's behavioral dispositions and emotional perceptions. According to Petrides (2010), trait EI is "a constellation of emotional self-perceptions located at the lower levels of personality hierarchies" (p. 137). While Mayer and Salovey's (1997) ability model deals with cognitive abilities that are related to people's emotions, the trait model of EI, also referred to as trait emotional self-efficacy, "encompasses the emotion-related facets of personality" (Petrides et al., 2007, p. 287). Trait EI posits that emotional experiences are inherently subjective and socially constructed, and thus, certain emotions will be conducive in some contexts, but not in others (Petrides, 2010, 2011; Petrides & Furnham, 2000, 2001).

The trait model consists of 15 elements organized under four higher-order factors, namely, (a) emotionality, (b) sociability, (c) well-being, and (d) self-control. The elements under emotionality include emotion perception, emotion expression, relationships, and trait empathy whereas the elements under sociability include social awareness, emotion management, and assertiveness. For the well-being factor, the elements comprise self-esteem, trait happiness, and trait optimism, and self-control consists of emotion regulation, impulse control, and stress management. Adaptability and self-motivation are global elements that do not fall under any specific factor (Petrides, 2011). Trait EI is measured using the Trait Emotional Intelligence Questionnaire (TEIQue). The instrument consists of 153 questions measuring the 15 elements, four factors, and global trait EI (Bru-Luna et al., 2021; Petrides, 2011).

Research in Emotional Intelligence

Empirical research on emotional intelligence has been conducted over the years in many fields. In recent research, Hourani et al. (2021) conducted a qualitative study to explore the state of EI in 27 public school leaders. They found that while school leaders exhibited self-awareness, motivation, empathy, social skills, and self-regulation to some extent, they faced some challenges such as lack of constant motivation and therefore being unable to motivate others. Another challenge was being unable to self-regulate their emotions when faced with unanticipated changes. This study considers challenges that may impede leaders from using their EI skills and reiterates the importance of professional development in EI.

In another quantitative study with 312 higher education educators, Khassawneh et al. (2022) investigated the impact of emotional intelligence on performance. The findings showed that the relationship between EI and performance was not statistically significant. These findings were inconsistent with Khan's (2023) study, which found that there was a significant positive

relationship between a leader's EI and job performance of employees. Similarly, research by Gómez-Leal et al. (2022) found that a leader's EI enhanced teacher collective self-efficacy and job satisfaction as well as improved instructional practices. The authors concluded that EI is an essential element of effective leadership.

In a predictive correlational study with 313 nurse leaders and nurses, Majeed and Jamshed (2021) found an inverse relationship between the emotional intelligence of nurse leaders and the turnover intention of nursing staff. Results showed that the nurse leaders' emotional intelligence had a significant positive role in reducing the nursing staff's intent to leave their jobs. This study's findings are very important given the high rate of attrition in PA programs. However, it is unclear whether these findings might generalize to PA programs.

In several of these studies, the researchers concluded that there is a need for enhancing the emotional intelligence of leaders. The authors noted that academic institutions should invest in professional development in EI in order to better serve their students and employees (Gómez-Leal et al., 2022; Hourani et al., 2021; Khan, 2023; Khassawneh et al., 2022). While there is an abundance of research on EI of leaders in various fields, no studies have examined EI in PA program directors. Goleman (1998) asserted that "IQ and technical skills are important, but emotional intelligence is the sine qua non of leadership" (p. 93). With the finding that ineffective leadership was the most reported reason for PA faculty attrition (Graham-Burnet, 2023), it is important to understand the emotional intelligence of PA program directors as it may provide insights into how EI influences their leadership practices.

Self-Efficacy Theory

The construct of self-efficacy is grounded in social cognitive theory, which emphasizes human agency where people intentionally make things happen and seek to influence what

happens to them (Bandura, 1986, 1997). Human agency is affected by several factors including goals, outcomes expectations, self-reflection, self-regulation, and self-efficacy (Bandura, 1986). According to Bandura (1982), self-efficacy is the “judgements of how well one can execute courses of action required to deal with prospective situations" (p. 122). Bandura (1977) conceptualized self-efficacy as having two expectations: an outcomes expectation and an efficacy expectation. An outcome expectation is "a person's estimate that a given behavior will lead to certain outcomes" and "an efficacy expectation is the conviction that one can successfully execute the behavior required to produce the outcomes" (p. 193). The strength of people's convictions in their effectiveness determines how much effort they will put into a task and how long they will persist in case they encounter any obstacles.

Bandura (1977) noted that efficacy expectations has three dimensions: magnitude, strength, and generality. Magnitude denotes the degree of task difficulty that people believe they can achieve, strength refers to people’s degree of perseverance based on whether their expectations are weak or strong, and generality denotes the extent to which the efficacy expectation is generalized across contexts. Expectations of one's ability to perform a task come from four main sources: performance accomplishments (enactive mastery experiences), vicarious experience (modeling), verbal persuasion, and physiological/emotional arousal (Bandura, 1977, 1982). These four sources are discussed below in turn.

Performance Accomplishments

Performance accomplishments are the most influential source of efficacy because they are based on personal mastery experiences (Bandura, 1977, 1982, 1997). The level and strength of self-efficacy predict behavior change. The higher the level of self-efficacy, the greater the performance accomplishments. Similarly, the stronger the perceived efficacy, the more likely

people will persist in their efforts to succeed. Thus, success elevates people's self-efficacy and repeated failure lowers it. Self-efficacy, once established, can generalize to other similar situations that were previously unattainable.

Vicarious Experience

Self-efficacy is also influenced by vicarious experiences that are mediated through modeling. When people watch others perform a task successfully, their self-efficacy can increase because they feel that they can also perform the task (Bandura, 1977, 1982, 1997). Conversely, observing others fail despite great effort can lower one's self-efficacy. While vicarious experience is a less dependable source of self-efficacy compared to performance accomplishments, watching people with diverse characteristics succeed enhances the likelihood that observers might increase their self-efficacy.

Verbal Persuasion

Verbal persuasion is used to strengthen people's beliefs that they have the capabilities to perform a task (Bandura, 1977, 1982, 1997). Verbal persuasion is aimed at raising outcome expectations but, like vicarious experience, it is not as strong as performance accomplishments. Verbal persuasion used in conjunction with performance aids is likely to encourage people to try harder to accomplish a task. Raising unrealistic beliefs of people's capabilities or using verbal persuasion without providing the necessary tools to facilitate performance and ensure success will highly likely lead to failure.

Physiological/Emotional Arousal

In judging their capabilities to perform a task, people might interpret their emotional reaction in stressful and difficult situations as a lack of the required skill. People are more likely to expect success in performing a task when they are not feeling stressed, anxious, tense, afraid,

or agitated because high arousal hinders performance which in turn results in people avoiding doing activities that elicit negative emotions (Bandura, 1977, 1982, 1997). Diminishing physiological arousal, for example, through modeling can minimize people's avoidance to perform tasks and increase their self-efficacy.

According to Gist and Mitchell (1992), self-efficacy is formed through three processes. First is analyzing the task requirements through which people evaluate what it entails to do the task at different levels. Second is attributional evaluation of experience where people analyze the factors that caused a particular performance level to occur. Third, people assess their personal and situational resources as well as constraints for doing the task at different levels. The authors purported that each of the sources of self-efficacy has external and internal determinants that can influence it, with external determinants being under the organization's control and internal determinants being under an individual's control. Hence, they proposed a model of self-efficacy determinants based on locus of causality (external and internal), variability (over time and occasions), and controllability (low and high) of the causal influence.

Low variability external determinants include the attributes, complexity, number, and sequencing of tasks whereas high variability external determinants include interpersonal and task environments. On the other hand, low variability internal determinants include a person's ability, physical condition, and personality whereas high variability internal determinants include performance strategies and motivation to put in more effort which is affected by goals, interests, priorities, and mood. These determinants should be considered when developing interventions to increase people's self-efficacy (Gist & Mitchell, 1992). The construct of self-efficacy and its major sources and determinants have been studied in various fields including psychology, medicine, education, and leadership (Jiao et al., 2021).

Leader Self-Efficacy

Leaders achieve organizational success as well as face difficulties and challenges that test their knowledge, skills, abilities, and perceptions of their leadership capabilities (Hannah et al., 2008). Several researchers have extended the construct of self-efficacy in leadership and developed the concept of leader self-efficacy, which appears to have started in the early 2000s. A study by Chemers et al. (2000) examining the effects of leader self-efficacy and optimism on the performance of cadet leaders found that leader self-efficacy was a significant predictor of leadership performance. The authors concluded that leader self-efficacy "may be one of the most active ingredients in successful leadership and team performance" (p. 276).

There are several definitions of leader self-efficacy in the literature. McCormick (2001) defined leader self-efficacy as "one's self-perceived capability to perform the cognitive and behavioral functions necessary to regulate group process in relation to goal achievement" (p. 30). In their study, Paglis and Green (2002) defined leader self-efficacy as "a person's judgment that he or she can successfully exert leadership by setting a direction for the work group, building relationships with followers to gain commitment to change goals, and working with them to overcome obstacles to change" (p. 217). Hannah et al. (2008) argued that previous studies focused on only leader self-efficacy and overlooked leaders' beliefs in the extent to which other environmental factors such as people and resources can facilitate or inhibit their leadership. They offered their definition of leader efficacy as "leaders' beliefs in their perceived capabilities to organize the positive psychological capabilities, motivation, means, collective resources, and courses of action required to attain effective, sustainable performance across their various leadership roles, demands, and contexts" (p. 670).

Consequently, Hannah et al. (2008, 2012) developed the concept of leader self and means efficacy (LSME), which includes two domains that interact to facilitate effective performance: leader self-efficacy and leader means efficacy. Leader self-efficacy further has two components, namely, self-regulatory and action. The self-regulatory domain entails “leaders’ level of self-efficacy to regulate their thinking and self-motivation;” (p. 147) the action domain denotes “leaders’ beliefs they can direct, inspire, coach, administer rewards, and otherwise gain follower commitment and enhance follower performance;” whereas means efficacy is the "leaders’ beliefs in the utility of the means available for performing” (p. 148). Hannah et al. (2012) noted that leaders’ self-efficacy to regulate thoughts is key to their ability to come up with effective solutions, and action self-efficacy is determined by how effectively they can influence their team. Further, leaders rely on various means to enhance their performance, for example, software, budgets, managers, supervisors, and team members.

Perceptions of leadership capabilities are typically reflected in the leader’s self-efficacy (Hannah et al., 2008). Self-efficacy can also influence one’s desire to assume a leadership role (Dwyer, 2019). In a study by McCormick et al. (2002), the association between leader self-efficacy and the attempt to assume a leadership role was examined. The authors conjectured that people with high leader self-efficacy will attempt to lead more frequently than people with low leader self-efficacy. The findings showed that leader self-efficacy had a significant correlation with attempted leadership and there was a significant difference in attempted leadership between individuals with high leader self-efficacy compared with those with low leader self-efficacy. Therefore, one’s belief in their capability to lead might be a critical element for leadership (McCormick, 2001; McCormick et al., 2002).

Research in Leader Self-Efficacy

Researchers have investigated the construct of leader self-efficacy in different settings. For example, Goddard et al. (2021) examined the relationship between the principal's self-efficacy for instructional leadership and teachers' collective efficacy. They conjectured that the higher a principal's self-efficacy the higher the teachers' collective efficacy, which would in turn positively influence student achievement. The authors found a significant positive relationship between the principal's self-efficacy and teachers' collective efficacy.

In another study with 400 higher education faculty, Almutairi (2020) investigated the effect of leader self-efficacy on organizational commitment. The author hypothesized that high leader-efficacy would enhance commitment to the organization, which would also influence job satisfaction and improved performance. The findings showed that leader self-efficacy had a significant positive correlation with organizational commitment. Similarly, research by Adewale and Ghavifekr (2019) examined the influence of leader self-efficacy on the organizational citizenship behavior of employees and found a significant positive association.

Cobanoglu and Yurek (2018) investigated the level of 93 school administrators' self-efficacy and the relationship between their self-efficacy and leadership style. The authors found that the school administrators had a high level of self-efficacy and there was a positive and significant relationship between self-efficacy and transformational leadership which, is one of the most effective leadership styles (Ali et al., 2018; Bass & Avolio, 1994; Breevaart & Zacher, 2019). Baroudi and Hojeij (2020) asserted that self-efficacy plays a critical role in leadership effectiveness and performance. Indeed, Ali et al. (2018) investigated the relationship between leader self-efficacy and leadership effectiveness. Using regression analysis, the authors found that leader self-efficacy had a significant positive relationship with leadership effectiveness.

With regard to leaders' demographic characteristics, it appears that the level of academic degree does not have an impact on their level of self-efficacy. For instance, Moran et al. (2021) investigated the relationship between leader efficacy and the academic degree of 217 nursing professionals. They compared three levels of academic degrees (masters, research doctorate, and practice doctorate) and found that the level of overall leader self-efficacy among participants was high, but there was no significant difference in self-efficacy between the three groups.

The findings in these studies show the important role that leader self-efficacy plays in employees' collective efficacy, job satisfaction, commitment to the organization, organizational citizenship behavior, and leadership effectiveness. Thus, it is important for organizations to enhance leader self-efficacy by providing adequate professional development (Adewale & Ghavifekr, 2019; Baroudi & Hojeij, 2020; Cobanoglu & Yurek, 2018; Goddard et al., 2021). To enhance leader self-efficacy, leadership development programs can include cognitive modeling, executive coaching and mentoring, and training in positive, constructive self-reflection (Dwyer, 2019). For the present study, understanding the leader self-efficacy of PA program directors could provide insights into the internal determinants and factors that influence their beliefs in their success and effectiveness as leaders.

Related Literature

This review of related literature provides an in-depth understanding of what is currently known about transformational leadership and the influence of emotional intelligence, leader self-efficacy, and years of experience. While research has been conducted on the relationship between these variables, most of the research was conducted in K-12 schools and business settings. Research conducted specifically in higher education settings is scarce, especially in health professions programs. In reviewing the health professions literature, transformational

leadership, leader self-efficacy, emotional intelligence, and years of experience have mainly been studied in nursing education. There is a gap in the literature in research on transformational leadership, leader self-efficacy, emotional intelligence, and years of experience in physician assistant education. With the number of PA programs growing exponentially coupled with the high rate of faculty attrition, there is a need to examine the influence of emotional intelligence, leader self-efficacy, and years of experience on the transformational leadership practices of program directors.

Transformational Leadership

Northouse (2022) defined leadership as "a process whereby an individual influences a group of individuals to achieve a common goal" (p. 6). Effective leadership is vital for an institution to achieve its vision and goals. A critical aspect of effective leadership is leadership style which "is the combination of traits, skills, and behaviors leaders use as they interact with followers" (Lussier & Achua, 2016, p. 70). Over the years, leadership styles have been categorized in different ways although there is no agreement on one best leadership style that can be applied in all situations (Lussier & Achua, 2016; Northouse (2022). For example, Lewin et al. (1939) established three major leadership styles: autocratic (authoritarian), democratic (participative), and laissez-faire, Burns (1978, 2010) classified leadership styles into transformational and transactional, while Bass (1990) described leadership styles on a single continuum consisting of laissez-faire, transactional, and transformational (see also Bass & Avolio, 1994; Bass & Riggio, 2006). Transformational leadership, which is the focus of this study, is discussed in the following paragraphs.

Transformational leadership was first articulated by Burns in 1978 which he referred to as transforming leadership in his award-winning book titled *Leadership*. He connected the roles

of leadership and followership and wrote that “leadership over human beings is exercised when persons with certain motives and purposes mobilize, in competition or conflict with others, institutional, political, psychological, and other resources so as to arouse, engage, and satisfy the motives of followers” (Burns, 1978, p. 27). He differentiated leadership with power noting that while leadership is an aspect of power, it is a distinct and important process in itself. Leaders tap into their followers' motives to achieve the goals of both followers and leaders. Burns (1978, 2010) made a distinction between transactional and transformational leadership. Transactional leadership focuses on the economic and social exchanges that happen between leaders and followers while in transformational leadership, the leader engages with others and they work collaboratively to raise each other’s levels of motivation. The leader seeks to change and transform others and helps them to reach their full potential.

Bass (1985, 1990) expanded on the work on transformational leadership by focusing more on the followers’ needs rather than the needs of the leader. In contrast to Burns (1978, 2010), Bass (1990) described leadership on a single continuum from transformational to transactional to laissez-faire leadership (see also Bass & Avolio, 1994; Bass & Riggio, 2006). He identified four characteristics of transformational leadership referred to as the “four I’s:” idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration.

Characteristics of Transformational Leadership

The focus of transformational leaders includes to inspire others, improve performance, build trust, encourage innovation, mentor and coach others, and develop people to use their abilities to their fullest potential (Bass & Avolio, 1994; Bass & Riggio, 2006; Lussier & Achua, 2016; Northouse, 2022). Transformational leaders rally team members around a common vision

and work with them to achieve the goal. They achieve excellent results by using one or more of the "four I's" described below.

Idealized Influence. Transformational leaders are strong role models for others and consider others' needs over their own needs. They exhibit high ethical and moral standards and others can count on them to do the right thing. Followers admire, respect, and trust them as well as want to emulate them. Idealized influence has two aspects: behaviors which refer to leader behaviors as observed by followers, and attributes which refer to the attributions that are made of the leader by followers and other acquaintances (Bass & Avolio, 1994; Bass & Riggio, 2006).

Inspirational Motivation. Transformational leaders communicate high expectations to followers and inspire them by motivating them to be part of the organization's shared vision. They provide meaning and challenge to their followers' work arousing team spirit. With enthusiasm and optimism, they use visionary explanations and emotional appeals to describe what the team can accomplish and focus everyone's efforts to achieve more than expected of them (Bass & Avolio, 1994; Bass & Riggio, 2006).

Intellectual Stimulation. Transformational leaders stimulate team members to be innovative, curious, and creative, encouraging them to try to solve organizational problems with new approaches. The leader solicits new ideas from team members, challenges them, and does not criticize their ideas if they are different from the leader's ideas nor are team members criticized in public when they make mistakes. Of note is leaders support team members and engage them in problem-solving (Bass & Avolio, 1994; Bass & Riggio, 2006).

Individualized Consideration. Transformational leaders serve as coaches and mentors to their team members. They are kin on finding out each member's unique needs for growth and achievement and provide opportunities and a supportive environment to develop members to

higher levels of potential. The leader recognizes individual differences and personalizes interactions with team members. Tasks are delegated to develop team members (Bass & Avolio, 1994; Bass & Riggio, 2006).

Research found that of the "four I's," idealized influence was the highest predictor of job satisfaction (Worthy et al., 2020). Other studies found that idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration were all significant predictors of leadership effectiveness (Sadeghi & Pihie, 2012), had significant high correlations with employee creativity (Çekmecelioğlu & Özbağ, 2016), leader self-efficacy (Gulmez & Negis Isik, 2020), and job satisfaction (Siswanto & Yuliana, 2022).

Kouzes and Posner's Model of Transformational Leadership

Kouzes and Posner (2017) noted that leadership is about behavior and not the leader's personality. The authors expanded Burns' (1978, 2010) and Bass' (1985, 1990) work on transformational leadership by conducting research on Personal-Best Leadership Experiences in which they surveyed and interviewed middle- and senior-level managers since the early 1980s on "what they did when they were at their 'personal best' in leading others" (Kouzes & Posner, 2017, p. 10). Their findings revealed specific actions and behaviors that leaders engage in to get extraordinary things accomplished in organizations.

The authors subsequently developed a model of transformational leadership and coined it, *The Five Practices of Exemplary Leadership*®, which entails five essential practices that exemplary leaders implement to accomplish extraordinary things in organizations. The practices include 1) model the way, 2) inspire a shared vision, 3) challenge the process, 4) enable others to act, and 5) encourage the heart (Kouzes & Posner, 1995, 2017). Each practice has two "commitments" describing actions and behaviors that exemplary leaders engage in. The impact

of using these five practices includes, creating higher-performing teams, enhancing motivation and willingness to work hard, fostering higher organizational commitment, and reducing turnover rates, among other benefits (Kouzes & Posner, 2017). The five practices are discussed below in turn.

Model the Way

Exemplary leaders are clear about their values and guiding principles and set a good example for others to follow by modeling the behaviors they expect of team members, keeping their commitments, and doing what they promised to do. They provide opportunities for people to discuss their values with colleagues and build consensus around the shared values and standards that all members will be responsible for upholding. In addition, they hold themselves and their team members accountable to the shared values. When people have shared values, they care about their work which makes a positive and significant difference in their performance and attitudes. Exemplary leaders publicly solicit feedback on how their actions affect others and make changes based on the feedback (Kouzes & Posner, 2017).

Inspire a Shared Vision

To be able to lead others effectively, exemplary leaders are clear about their vision. They listen deeply to their team members' voices, dreams, aspirations, and hopes, and involve them in creating a shared vision as opposed to having a top-down process (Kouzes & Posner, 2017). When people see their hopes and dreams in the shared vision, they commit fully and perform their best. Exemplary leaders communicate the vision to team members with excitement and enthusiasm, showing them how the shared vision will serve their interests in the long term. Fitzpatrick et al. (2019) noted that one way leaders can share their wisdom and inspire others is through storytelling. Leaders breathe life into their visions, enlist other people, and inspire them

to share the vision of the future full of exciting possibilities. Most importantly, they believe in what they are saying because their team members will follow them only when they believe that the leader believes (Kouzes & Posner, 2017).

Challenge the Process

Exemplary leaders are proactive in looking for opportunities to change the status quo. They take risks and experiment with innovative ways to do things to make processes better, and to grow and improve the organization (Kouzes & Posner, 2017). They create new initiatives as well as encourage initiative in their team members. They ask questions, solicit advice, and listen to others' perspectives and ideas. Because exemplary leaders know that change is frightening and overwhelming to some people, they set short-term goals and break down big projects into achievable steps to build momentum and commitment to the mission. Since taking risks and experimentation involve failures and mistakes, exemplary leaders create a learning climate in which team members feel safe to share their failures and successes (Kouzes & Posner, 2017).

Enable Others to Act

Exemplary leaders foster collaboration because they know that they cannot make things happen by themselves (Kouzes & Posner, 2017). To sustain effective teamwork, they create an environment of mutual trust and facilitate long-lasting relationships among team members. They understand that without trust, they cannot lead or get their team to believe in them or each other. Exemplary leaders frequently create opportunities for face-to-face interactions for their team members to promote cohesiveness. In addition, they strengthen others by giving them freedom and providing choices for how to do their jobs, which makes people feel powerful and enables them to fully exercise their capabilities. Leaders who enable others to act foster an environment of innovation, collaboration, respect, and inclusion (Buck & Doucette, 2015). They develop their

team members' competence and confidence to increase their effectiveness, capabilities, and leadership potential.

Encourage the Heart

Exemplary leaders recognize and reward the accomplishments and contributions of their team members. This uplifts people's spirits making them strive to perform even better as well as to remain committed to the shared vision and values (Kouzes & Posner, 2017). Leaders believe in the team members' abilities to perform tasks and have positive expectations of them. They provide motivating feedback and reinforcement to rekindle and focus people's drive. Additionally, they get to learn everyone's motivations and personalize recognition accordingly. Exemplary leaders also create an organizational culture of recognition and celebration to foster community and team spirit. They celebrate accomplishments and recognize people publicly to appreciate their contributions and to encourage others to emulate them.

Research in Transformational Leadership

There are several studies that support the positive effects of transformational leadership. For example, Kouni et al. (2018) examined teachers' perceptions on their principal's use of transformational leadership and whether it influenced their job satisfaction. They conducted a mixed methods study through a survey and interviews and found that the teachers had a high level of job satisfaction. Similarly, a study of 770 nurses by Labrague et al. (2020) found that transformational leadership had a positive influence on job satisfaction as well as decreased the intent to leave the profession. The authors suggested that attrition of nurses might be reduced by developing transformational leadership of nurse managers through training. It might be possible to apply this in PA education as well to reduce the rate of attrition of faculty by providing professional development in transformational leadership to program directors. Indeed, research

found that participants' scores on transformational leadership increased significantly after professional development (Frias et al., 2021; Wheeler & Beaman, 2018).

In a similar study, Worthy et al. (2020) examined the relationship between leadership styles of deans and job satisfaction of nursing faculty and found a positive correlation between transformational leadership and job satisfaction (see also Cansoy, 2018). This results were supported in subsequent studies in different settings. For instance, Siswanto and Yuliana (2022) investigated the relationship of the four characteristics of transformational leadership with job satisfaction and whether team cohesiveness and trust mediated this relationship. They surveyed 405 teachers and school staff and found that idealized influence, inspirational motivation, and individualized consideration all had a significant positive effect on job satisfaction while intellectual stimulation did not have a significant effect.

The literature also discusses the effect of transformational leadership on work engagement. Research by Enwereuzor et al. (2018) with 224 nurses found that transformational leadership was a significant predictor of work engagement. This finding is consistent with the results in Shaughnessy et al.'s (2018) study which investigated the relationship between work engagement and transformational leadership practices with 128 nurse leaders. The authors found that each of the five transformational leadership practices had a significant positive relationship with work engagement. Besides work engagement, transformational leadership has also been found to have a significant positive correlation with work motivation (Lee & Kuo, 2019).

It appears that having motivated employees who are highly engaged at work could result in enhanced organizational performance. Ali and Islam (2020) developed a conceptual model, from a review of the literature, showing that transformational leadership has a positive association with organizational performance. Indeed, research by Onorato (2013) found that

most survey respondents used transformational leadership to help increase employee productivity while Chan (2020) found a significant positive relationship between transformational leadership and performance. Besides increasing their productivity, employees have more trust in leaders when they use transformational leadership and perceive them to be more effective (Breevaart & Zacher, 2019; Sadeghi & Pihie, 2012).

In another study, Hilton et al. (2023) investigated the relationship between transformational leadership and organizational performance and whether it was mediated by job satisfaction. They found that each of the four characteristics of transformational leadership had a significant positive relationship with organizational performance, and job satisfaction significantly mediated this relationship. Similarly, Ardiansyah et al. (2022) investigated the relationship between transformational leadership and organizational commitment and their influence on performance. They hypothesized that transformational leadership leads to job satisfaction which in turn leads to an increase in performance. The authors also hypothesized that job satisfaction leads to organizational commitment. The findings showed that all the relationships were statistically significant. It appears that not only are employees satisfied with their jobs and increase their productivity with a transformational leader but they also become more committed to the organization.

Another positive effect associated with using transformational leadership is employee creativity. Mittal and Dhar (2015) investigated the relationship between transformational leadership and employee creativity in 348 employee-manager dyads and found a positive significant relationship. This finding was supported in a quantitative study conducted with 275 participants to investigate the relationship between the four characteristics of transformational leadership and individual creativity. The findings showed that individual creativity had

significant high correlations with all four characteristics: idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration (Çekmecelioğlu & Özbağ, 2016). Thus, using transformational leadership can help advance the creative skills of employees who in turn might create effective solutions to organizational challenges (Mittal & Dhar, 2015).

In an effort to explore the high attrition rate of early career teachers, Thomas et al. (2020) investigated how school-level factors such as transformational leadership influence job attitudes of first-year teachers. They found that transformational leadership had a significant positive relationship with teachers' job satisfaction, intrinsic motivation to teach, and affective organizational commitment. Given this study's findings, it is unclear whether the use of transformational leadership by PA program directors might increase faculty's job satisfaction and organizational commitment, thereby reducing the attrition rate. Understanding the transformational leadership practices of PA program directors will provide insights into current practice and identify whether there is a need for professional development.

Emotional Intelligence and Transformational Leadership

As discussed previously, Salovey and Mayer's (1990) initial conceptualization of EI had three branches: appraising and expressing emotions, regulating emotion, and using emotion. The construct of EI was later expanded to four branches to include understanding and analyzing emotions (Mayer & Salovey, 1997). Each of the branches has a set of abilities that progress developmentally from basic to advanced tasks. Individuals with high EI master more of the abilities and progress through them quickly. Given the recent unprecedented COVID-19 crisis, Dasborough et al. (2022) asserted that "today, more so than ever before, we need emotionally intelligent leaders to guide us" (p. 11).

Similar to leader self-efficacy, a review of the literature on the antecedents of transformational leadership found that EI had a strong and positive relationship with transformational leadership (Sun et al., 2017). These results are consistent with findings from other studies that found emotional intelligence is a significant predictor of transformational leadership (Baba et al., 2021; Barbuto, & Burbach, 2010; Kim & Kim, 2017). Several studies have also examined the relationship between emotional intelligence and transformational leadership in non-academic settings. For example, Spano-Szekely et al. (2016) examined the relationship between emotional intelligence and transformational leadership of nurse managers and found a significant positive correlation (see also Tyczkowski et al., 2015). In another study with 148 nurse managers, Echevarria and colleagues (2017) investigated whether there was a relationship between emotional intelligence, leadership experience, level of education, and transformational leadership. The authors found a significant positive correlation between EI and transformational leadership. In addition, EI was the only predictor of transformational leadership among the three predictor variables.

More recently, a review of the literature by Munir et al. (2023) focusing on the relationship between transformational leadership and emotional intelligence found that leaders who use transformational leadership style generally have higher emotional intelligence. In addition to being a significant predictor of transformational leadership, emotional intelligence has been found to be a critical element of effective leadership (Dabke, 2016; Parrish, 2015; Prezerakos, 2018). The studies examining the relationship between transformational leadership and emotional intelligence found consistent results across different disciplines including education, healthcare, government, and industry. However, no studies have been conducted in physician assistant education.

Leader Self-Efficacy and Transformational Leadership

A number of studies have investigated the relationship between leader self-efficacy and transformational leadership. In a review of the literature, Dwyer (2019) found that leader self-efficacy has a positive association with transformational leadership and leader effectiveness. Leader self-efficacy has been identified in the literature as an antecedent of leadership behaviors, leading of change, leadership effectiveness, and transformational leadership. In a review of educational leadership research on the antecedents of transformational leadership, Sun et al. (2017) found that leader self-efficacy was the most reported predictor of transformational leadership, with leader self-efficacy being one of the major predictors of transformational leadership. These findings were consistent with previous findings (Hannah et al., 2012).

Similarly, Carleton et al. (2018) conducted a quantitative research study to investigate whether and how transformational leadership is influenced by trait mindfulness. The authors hypothesized that leader self-efficacy and positive affect would mediate the relationship between transformational leadership and trait mindfulness. They found that leader self-efficacy predicted transformational leadership. In another study, Fitzgerald and Schutte (2010) conducted an experimental study with 118 managers to investigate whether participants increased their transformational leadership self-efficacy and behavior after participating in an intervention to enhance their self-efficacy. They found that the experimental group had significantly higher transformational leadership self-efficacy and behavior than the control group, suggesting that leader self-efficacy is a critical element of transformational leadership.

Gulmez and Negis Isik (2020) examined the influence of principals' self-efficacy on transformational leadership and whether self-efficacy is an antecedent of transformational leadership. They analyzed the relationship between self-efficacy and each of the four

characteristics of transformational: idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration. They found a positive significant relationship between the variables. Further, self-efficacy was a significant antecedent of transformational leadership.

In another study, Chan (2020) found that self-efficacy was a significant mediator in the relationship between transformational leadership and job performance. This finding was not supported by Mesterova et al.'s (2015) study. The authors investigated the relationship between transformational leadership, leader self-efficacy, and leader effectiveness and hypothesized that leader self-efficacy influences transformational leadership and leader effectiveness. They found that self-efficacy neither had a relationship with the four characteristics of transformational leadership nor leader effectiveness. Mesterova et al. (2015), however, found that transformational leadership had a significant association with leader effectiveness. This study used the general Self-Efficacy Scale as opposed to an instrument that specifically measures leader self-efficacy, which may explain the inconsistent findings.

While numerous studies have been conducted on the relationship between leader self-efficacy and transformational leadership, most of the research was conducted in K-12 schools and corporate settings, and no research exists concerning transformational leadership and leader self-efficacy in PA education. Research is needed to explore this relationship among PA program directors. The number of PA education programs has been increasing exponentially over recent years (ARC-PA, 2024) necessitating further research on how directors can best lead these programs. The current study could contribute to the literature on the association between leader self-efficacy of PA program directors and their use of transformational leadership.

Emotional Intelligence, Leader Self-Efficacy, and Transformational Leadership

There is a paucity of recent studies that have examined EI and leader self-efficacy simultaneously as predictors of transformational leadership. Isa (2019) conducted a quantitative correlational research study to investigate whether leader self-efficacy and EI predicted transformational leadership in business organizations. The study included 133 leaders in Indonesia and data were analyzed using multiple regression. The author found that leader self-efficacy and EI were significant predictors of transformational leadership, with EI being the best predictor. In a similar quantitative research study with 53 higher education leaders in Louisiana, Yang (2020) found that leader self-efficacy and EI significantly predicted transformational leadership separately. When the two predictors were examined simultaneously, only EI was a significant predictor. The author concluded that compared with self-efficacy, EI is a better predictor of transformational leadership.

Years of Experience and Transformational Leadership

Various demographic factors such as gender, age, years of experience, and highest level of education are typically included in research on leadership. A number of studies have been conducted to investigate whether there is a relationship between a leader's years of experience and their use of transformational leadership, among other variables. For instance, Shaughnessy et al. (2018) investigated the relationship between work engagement and transformational leadership practices of 128 nurse leaders. They collected demographic data on race, gender, age, education, years of leadership experience, among other variables. They found no significant relationship between years of leadership experience and transformational leadership. These findings are consistent with Echevarria et al.'s (2017) study that found no significant relationship between leadership experience and transformational leadership.

In contrast, research by Buck and Doucette (2015) found that the relationship between transformational leadership and years of experience for chief nurse officers was statistically significant. In another study, Herman et al. (2017) investigated the effect of age, years of experience as a nurse, and years of leadership experience on transformational leadership practices of nurses. They found that participants who had 0-9 years of leadership experience had significantly lower transformational leadership practices scores than participants with more leadership experience. The authors concluded that a leader's use of transformational leadership develops over time, and professional development can be provided to enhance the transformational leadership practices of less experienced leaders.

In another study, Komariyah (2022) investigated the effect of years of experience and transformational leadership on organizational effectiveness. The author used structural equation modeling to examine the effect of the independent variables on the dependent variable individually and simultaneously. The findings revealed that transformational leadership had no significant relationship with organizational effectiveness. However, years of experience had a significant positive effect on organizational effectiveness. Interestingly, when both transformational leadership and years of experience were examined simultaneously, the results were significant.

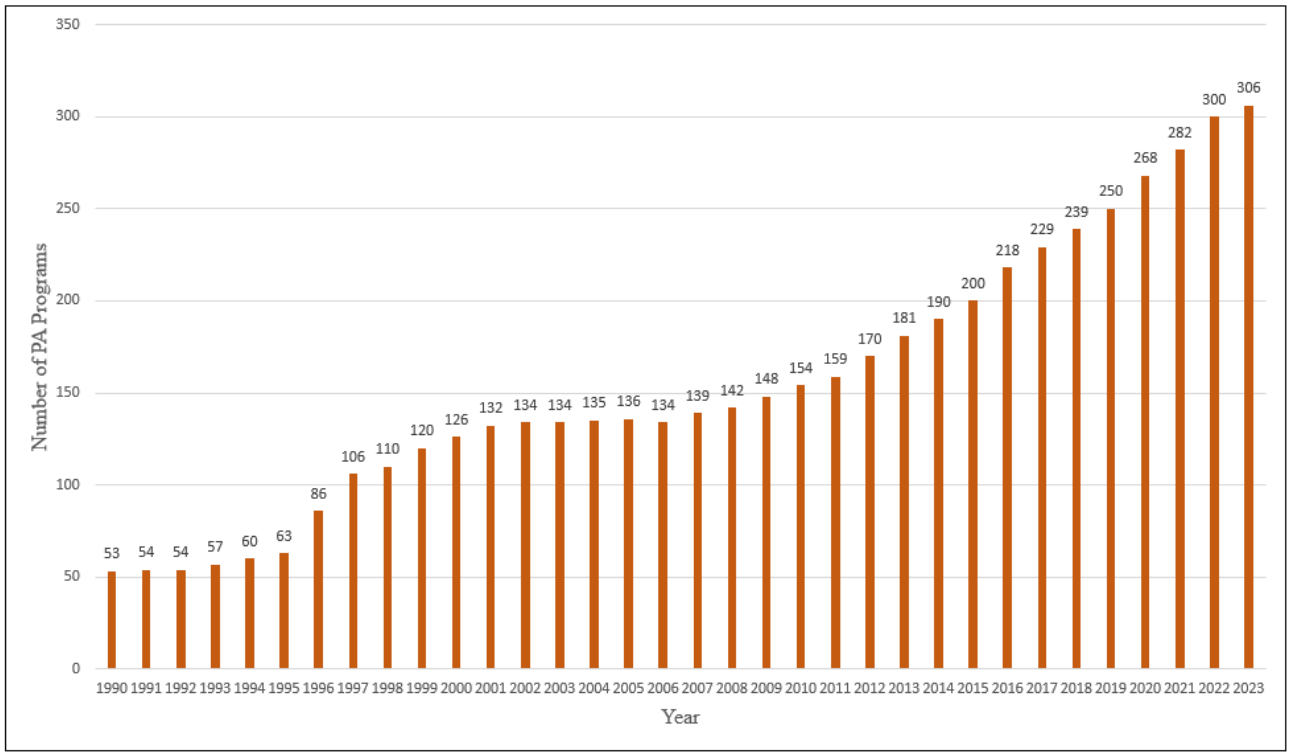
It is clear from these studies that there are inconsistent findings in the literature regarding the relationship between years of experience and transformational leadership. Several researchers called for additional research to ascertain this relationship in various settings and different samples of participants (Buck & Doucette, 2015; Echevarria et al., 2017; Komariyah, 2022; Shaughnessy et al., 2018). This study sought to investigate this relationship in PA program directors to add to the existing body of literature.

Physician Assistant Education Programs

The PA profession is one of the fastest growing occupations in the U.S. with a projected growth of 27% between 2022 and 2032 (BLS, 2023). The first PA education program was established in 1965 at Duke University with the intent of training new types of clinicians that would increase health care services (Cawley, 2007; Cawley et al., 2016). As the demand for PAs in the health care system continued to grow, so did the growth of PA education programs. As shown in Figure 2, the number of PA programs has been growing exponentially from 53 programs in 1990 to 306 programs in 2023 (ARC-PA, 2024).

Figure 2

Number of Physician Assistant Programs by Year



PA programs are accredited by the Accreditation Review Commission on Education for the Physician Assistant. The average length of programs is 27 months and upon completion graduands receive a master's degree (AAPA, 2023). With the growth of programs comes the

need for faculty to teach and program directors to lead the programs. However, there is a shortage of PA faculty (Zaweski et al., 2019) and data from the most recent faculty and directors survey indicated that 43.1% of faculty and 47.3% of program directors have considered leaving their positions for other jobs (PAEA, 2020).

Research has found that the main factors associated with faculty attrition are ineffective leadership, burnout, unsupportive institutional environments, inadequate mentorship, wrong expectations of the faculty role, and returning to clinical practice (Beltyukova & Graham, 2017; Coniglio & Akroyd, 2015; Forister & Blessing, 2007; Graham-Burnet, 2023). Recently, another study investigated the factors associated with consideration to leave the program director position and found several factors including stress from lack of personal time, colleagues as a source of stress, and burnout (Sasek et al., 2023). The authors called for leadership training, professional development, and mentorship for program directors to enhance their job satisfaction and reduce the rate of attrition.

As discussed earlier, research found that a leader's EI, self-efficacy, and use of transformational leadership are positively correlated with job satisfaction (Almutairi 2020; Garad et al., 2022; Siswanto & Yuliana, 2022; Worthy et al., 2020) and have a significant influence on reducing the intent for people to leave their jobs (Labrague et al., 2020; Majeed & Jamshed, 2021). Perhaps, providing professional development on EI, leader self-efficacy, and transformational leadership practices might reduce the attrition rate of PA program directors which will in turn decrease the rate of faculty attrition. There is limited research on EI, leader self-efficacy, and transformational leadership in health professions programs, and no research in PA education programs. This study seeks to narrow this gap.

Summary

The PA profession is among the top 20 fastest growing occupations in the U.S. and is projected to grow by 27% between 2022 and 2032 (BLS, 2023). This has led to a proliferation of PA education programs in the past two decades totaling 306 accredited programs in 2023. With this growth comes the need for qualified faculty and program directors to teach in and lead PA education programs. There is, however, a high rate of faculty attrition within the profession, and a recent study found that ineffective leadership was the most cited reason (Graham-Burnet, 2023). Several studies have found that emotional intelligence and self-efficacy are important determinants of effective leadership (Ali et al., 2018; Anderson, 2017; Breevaart & Zacher, 2019; Sadeghi & Pihie, 2012).

Effective leadership is vital for an institution to achieve its vision and goals. One of the most popular leadership styles is transformational leadership, whose aim is to change and transform people (Bass, 1985, 1990; Bass & Avolio, 1994; Bass & Riggio, 2006; Burns, 1978, 2010). Transformational leaders assess people's motives, satisfies their needs, and motivates them to do more than what is expected of them by setting more challenging expectations (Bass & Riggio, 2006 Lussier & Achua, 2016; Northouse, 2022). They consider the needs and personal development of their team members and seek to improve their performance.

Transformational leadership was first conceived by Burns (1978, 2010), who connected the roles of leadership and followership noting that leaders seek to transform others and help them to reach their fullest potential. Bass (1985, 1990) extended this work and developed the characteristics of transformational leadership including idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration. In subsequent years, Kouzes and Posner (1995, 2017) conducted extensive research with middle- and senior-level

managers on their personal best experiences in leading others. Based on the findings, they developed a model of transformational leadership called *The Five Practices of Exemplary Leadership*®, which exemplary leaders implement to accomplish extraordinary things in organizations. The five practices include model the way, inspire a shared vision, challenge the process, enable others to act, and encourage the heart.

Research on the relationship between leader self-efficacy and transformational leadership has recently been explored (Ardiansyah et al., 2022; Chan, 2020; Cobanoglu & Yurek, 2018; Gulmez & Negis Isik, 2020; Worthy et al., 2020). Similarly, the relationship between transformational leadership and EI has been explored in different settings (Baba et al., 2021; Echevarria et al., 2017; Munir et al., 2023; Spano-Szekely et al., 2016). In a review of the literature, Sun et al. (2017) found that self-efficacy and EI are antecedents of transformational leadership (see also Kim & Kim, 2017). The current literature explored transformational leadership, transformational leadership characteristics and practices, as well as the influence of leader self-efficacy, EI, and years of experience on transformational leadership.

There is a dearth of studies on the relationship between leader self-efficacy, EI, years of experience, and transformational leadership in higher education, especially in health professions programs. Most empirical studies were conducted in K-12 schools and business organizations. With regard to health professions programs, only studies in nursing education were found in the literature that have examined the relationship between these constructs. There are gaps in the literature pertaining to the influence of leader self-efficacy, emotional intelligence, and years of experience on transformational leadership practices of PA program directors. This study sought to narrow these gaps.

CHAPTER THREE: METHODS

Overview

The purpose of this quantitative, predictive correlational study was to investigate how accurately leader self-efficacy, emotional intelligence, and years of experience can predict transformational leadership practices of physician assistant program directors. This chapter presents the research methodology that was used in the study to address the research question. The research design, research question, null hypothesis, participants and setting, instrumentation, procedures, and data analysis are described.

Design

This study used a nonexperimental, predictive correlational design to determine the relationship between leader self-efficacy, emotional intelligence, years of experience, and transformational leadership practices of physician assistant program directors. The main aims of correlational designs are "(1) to explore causal relationships between variables and (2) to predict scores on one variable from research participants' scores on other variables" (Gall et al., 2007, p. 337). More specifically, the purpose of a predictive correlational design "is to identify variables that will predict an outcome or criterion" (Creswell & Guetterman, 2019, p. 346). A nonexperimental, predictive correlational design was appropriate for this study because the variables were not manipulated since the study sought to determine a relationship between variables as well as the degree of the relationship (Creswell & Guetterman, 2019; Gall et al., 2007).

A predictive correlational design has been used in prior similar studies. For example, Gulmez and Negis Isik (2020) examined the relationship between leader self-efficacy and transformational leadership, and whether self-efficacy is an antecedent of transformational

leadership. Similarly, a review of the literature by Sun et al. (2017) found that self-efficacy and emotional intelligence are antecedents of transformational leadership. In addition, several research studies have utilized a predictive correlational design to explore the relationship between emotional intelligence and transformational leadership and found that as a leader's emotional intelligence increased, so did their transformational leadership practices (Echevarria et al., 2017; Frias et al., 2021). The relationship between a leader's years of experience and their use of transformational leadership has also been examined using a predictive correlational design (Echevarria et al., 2017; Herman et al., 2017).

The first predictor variable is leader self-efficacy, which refers to "one's self-perceived capability to perform the cognitive and behavioral functions necessary to regulate group process in relation to goal achievement" (McCormick, 2001, p. 30). The second predictor variable is emotional intelligence, which is defined as the ability for people to effectively identify and manage their emotions as well as others' emotions (Salovey & Mayer, 1990). The third predictor variable is years of experience, which refers to the number of years of full-time employment as a PA program director (PAEA, 2020). The variable years of experience is commonly used in leadership research studies in addition to other demographic variables such as ethnicity, education level, age, and gender (Echevarria et al., 2017; Frias et al., 2021; Gulmez & Negis Isik, 2020; Herman et al., 2017). Research by Herman et al. (2017) has shown evidence of the predictive effects of years of experience on leaders' use of transformational leadership.

The criterion variable is transformational leadership practices and is defined as the extent to which program directors use the five practices of exemplary leadership including, 1) model the way, 2) inspire a shared vision, 3) challenge the process, 4) enable others to act, and 5) encourage the heart (Kouzes & Posner, 2017). These five practices were derived after years of

extensive research of over three million people worldwide. Findings from the research identified common actions of exemplary leaders whose behaviors make “a profoundly positive difference in people's commitment and motivation, their work performance, and the success of their organizations” (Kouzes & Posner, 2017, p. 20).

Research Question

The research question for this study was:

RQ1: How accurately can transformational leadership practices be predicted from a linear combination of leader self-efficacy, emotional intelligence, and years of experience for physician assistant program directors?

Hypothesis

The null hypothesis for this study was:

$H_0$1: There is no significant predictive relationship between the criterion variable (transformational leadership practices) and the linear combination of predictor variables (leader self-efficacy, emotional intelligence, and years of experience) for physician assistant program directors.

Participants and Setting

Physician assistant education programs aim to educate students to be highly qualified clinicians in all medical specialties. These programs are located in academic and non-academic medical centers across the United States. This section describes the population, participants, sampling strategy, sample size, and concludes with a description of the setting.

Population

The target population for this study was PA program directors across the United States. A purposive sample was drawn from this target population during the 2023-2024 academic school

year. In purposive sampling, the researcher selects participants that meet the purpose of the study (Creswell & Guetterman, 2019; Gall et al., 2007). There were a total of 306 accredited private, public, and military PA education programs. The programs comprised both male and female program directors. To increase the likelihood of obtaining a sufficient sample, all program directors were contacted using an email invitation soliciting their participation.

Participants

For this study, 77 participants were the required minimum when assuming a medium effect size with statistical power of .80 at the .05 alpha level. The minimum was calculated from a priori power analysis using G*Power version 3.1.9.7, a software used to calculate sample sizes for different statistical methods (Faul et al., 2009). The sample came from PA program directors across the U.S. The sample consisted of 30 males and 56 females whose ages ranged from 31 to over 70 years. The ethnicity of the program directors was 3% Asian, 7% Black, 5% Hispanic, 1% Native American or Alaska Native, 1% Native Hawaiian or Pacific Islander, and 83% White.

Setting

The setting for this study was PA programs across the United States. These programs educate over 25,000 students. With regard to their institutions, 67.2% of the programs are in private institutions, 32.4% are in public institutions, and 0.4% are military institutions. In addition, 27% of the programs are located in academic medical centers and 73% are located in non-academic medical centers. The study was conducted through an online survey and all communication with participants was via email.

Instrumentation

Questionnaires can be used to collect data in predictive correlational studies for phenomena that cannot be directly observed (Gall et al., 2007). The predictor variables are

measured on a categorical or continuous scale and the criterion variable is measured on a continuous scale. For this study, leader self-efficacy, emotional intelligence, and transformational leadership practices were measured on a continuous scale while years of experience was measured on a categorical scale. This study used three valid and reliable instruments to gather data in addition to a demographic questionnaire.

The instruments are described below and each of them meet the minimum requirement for a reliability coefficient of .80 or higher (Gall et al., 2007). Leader self-efficacy was measured by the Leader Efficacy Questionnaire (Hannah et al., 2012), emotional intelligence was measured by the Wong and Law Emotional Intelligence Scale (Wong & Law, 2002), and transformational leadership practices was measured by the Leadership Practices Inventory (Kouzes & Posner, 1988). Lastly, the researcher developed a questionnaire to collect demographic data including participants' years of experience as a program director.

Leader Efficacy Questionnaire

The purpose of the Leader Efficacy Questionnaire (LEQ) is to measure the confidence that leaders have in their own capability to lead as well as the extent to which they believe their peers, senior leaders, and resources support or inhibit their leadership success (Hannah et al., 2012). The instrument was developed to address the limitations of other instruments that only measure the self-efficacy of the leader and do not put into account the dynamic and complex nature of organizations (Hannah et al., 2012). The LEQ has been used in various peer-reviewed studies (Apesin & Gong, 2021; McCarron et al., 2022; Moran et al., 2021; Singh & Spadaro, 2022; Stagg, et al., 2022).

Construct validity evidence of the LEQ revealed three underlying subscales including leader action self-efficacy, leader self-regulatory efficacy, and leader means efficacy. Hannah et

al. (2012) define leader action self-efficacy as the "leaders' beliefs they can direct, inspire, coach, administer rewards, and otherwise gain follower commitment and enhance follower performance" (p. 148). Leader self-regulatory efficacy is the "leaders' level of self-efficacy to regulate their thinking and self-motivation" (p. 147), and leader means efficacy is the "leaders' beliefs in the utility of the means available for performing" (p. 148). The Cronbach's alpha coefficient for the LEQ was .94 and the reliability coefficients for the three subscales were, leader action self-efficacy ($\alpha = .90$), leader self-regulatory efficacy ($\alpha = .83$), and leader means efficacy ($\alpha = .86$).

The instrument consists of 22 questions including seven questions in the action self-efficacy sub-scale, eight in the self-regulatory efficacy sub-scale, and seven in the means efficacy sub-scale. The LEQ uses a 100-point Likert scale that increases in intervals of 10 and ranges from Not at all Confident to Totally Confident. Responses are as follows: Not at all Confident = 0, Moderately Confident = 50, and Totally Confident = 100. For analysis, participants are assigned a composite score between 0 and 100 based on their responses and the combined possible score range from 0 to 100 points. A score of 0 points is the lowest possible score meaning that the leader has no confidence at all in their capability to enact specific aspects of leadership while a score of 100 points is the highest indicating 100% confidence in one's capability to enact specific aspects of leadership (Hannah et al., 2012). Participants are provided with an item stem that says, "As a leader I can …" and using the Likert scale, they rate their efficacy strength for each of the 22 questions. The time to complete the questionnaire was 10 minutes or less. The LEQ was scored by the researcher as per the instructions provided by its authors. See Appendix A for permission to use the instrument.

Wong and Law Emotional Intelligence Scale

The purpose of the Wong and Law Emotional Intelligence Scale (WLEIS) is to measure emotional intelligence (Wong & Law, 2002). The WLEIS was developed based on the ability model of EI and Salovey and Mayer's (1990) definition of EI to provide researchers with an EI instrument that is shorter and more practical to administer (Wong & Law, 2002). The instrument has been used in several peer-reviewed studies (Majeed & Jamshed, 2021; Nguyen et al., 2019; Samul, 2020).

With regard to validity evidence of the instrument, confirmatory factor analyses revealed four underlying constructs, namely, self-emotion appraisal (SEA), others' emotion appraisal (OEA), use of emotion (UOE), and regulation of emotion (ROE) (Law et al., 2004; Wong & Law, 2002). Self-emotion appraisal is defined as the ability for one to understand and express emotions, others' emotion appraisal is the ability for one to perceive and understand the emotions of other people. Use of emotion refers to using one's emotions to enhance personal performance whereas regulation of emotion is the ability for people to regulate their own emotions (Salovey & Mayer, 1990). The reliability for the four constructs ranged from .83 to .90 (Wong & Law, 2002).

The WLEIS consists of 16 questions with four questions in each sub-scale. The instrument uses a seven-point Likert scale that ranges from Strongly Disagree to Strongly Agree. Responses are as follows: Strongly Disagree = 1, Disagree = 2, Slightly Disagree = 3, Neither Agree nor Disagree = 4, Slightly Agree = 5, Agree = 6, and Strongly Agree = 7. The possible scores for each sub-scale on the WLEIS range from 4 to 28 points and the combined possible score ranges from 16 to 112 points. A score of 16 is the lowest possible score and corresponds with lower levels of emotional intelligence whereas a score of 112 points is the highest score and

corresponds with higher levels of emotional intelligence. Using the Likert scale participants rate the 16 questions based on the extent to which they agree or disagree with each of the statements. The time to complete the instrument was five minutes or less. The WLEIS was scored by the researcher as per the instructions provided by its authors. See Appendix B for permission to use the instrument.

Leadership Practices Inventory

As discussed in Chapter Two, Kouzes and Posner (2017) developed a model of transformational leadership called the *Five Practices of Exemplary Leadership*. The frequency with which a leader engages with these five transformational leadership practices is measured using the Leadership Practices Inventory (LPI) (Posner & Kouzes, 1993). The LPI was developed using case studies and in-depth interviews of managers and results revealed common actions and behaviors of exemplary leadership (Kouzes & Posner, 1988). The instrument has been used in numerous peer-reviewed studies (Caza & Posner, 2019; Fischer & Nichols, 2019; Metz et al., 2019; Sanchez et al., 2022; Wong et al., 2018).

A factor analysis provided evidence of construct validity revealing five underlying sub-scales: model the way, inspire a shared vision, challenge the process, enable others to act, and encourage the heart. According to Kouzes and Posner (2017), model the way pertains to the leader establishing standards of excellence and setting a good example for others. Inspire a shared vision refers to the leader creating an image of the future of the organization and incorporating others' aspirations in the shared dream. Challenge the process entails leaders seeking ways to innovate and grow, taking risks, and learning from setbacks. Enable others to act entails promoting collaboration and trust among team members and encourage the heart involves recognizing and celebrating others' contributions and victories.

Studies found that the Cronbach's alpha coefficient for the LPI ranged from .80 to .91, with the reliability for each subscale being, model the way (α = .81), inspire a shared vision (α = .87), challenge the process (α = .80), enable others to act (α = .85), and encourage the heart (α = .91). In addition, test-retest reliability was equal to or greater than .93 for each subscale (Posner & Kouzes, 1993). The reliability of the LPI has been consistent across groups, ethnicity, genders, cultural backgrounds, countries, and industries (Posner, 2016). The LPI consists of a total of 30 questions with six questions in each sub-scale. The instrument uses a 10-point Likert scale that ranges from Almost Never to Almost Always. Responses are as follows: Almost Never = 1, Rarely = 2, Seldom = 3, Once in a While = 4, Occasionally = 5, Sometimes = 6, Fairly Often = 7, Usually = 8, Very Frequently = 9, and Almost Always = 10.

The combined possible score on the LPI range from 30 to 300 points, with each sub-scale score ranging from 6-60 points. A score of 30 points is the lowest possible score meaning that the leader almost never uses the leadership behaviors and a score of 300 points is the highest denoting higher use of the leadership behaviors (Posner & Kouzes, 1993). Participants use the Likert scale to rate how frequently they engage in 30 specific leadership behaviors. The time to complete the instrument was 10 minutes or less. The researcher scored the LPI using the scoring guides provided by the company, Wiley. See Appendix C for permission to use the instrument.

Demographic Questionnaire

For the final predictor variable, years of experience as program director, demographic questions including, age, sex, race, and years of experience were collected. These questions were included in one survey form together with the questions from the three instruments discussed above. The response options for years of experience as program director were as follows: less than 1 year, 1-5 years, 6-10 years, 11-15 years, 16-20 years, 21-25 years, 26-30 years, and more

than 30 years. The estimated time to complete the demographic questions was one minute. See Appendix D for the demographic questionnaire.

Procedures

The researcher applied to Liberty University's Institutional Review Board (IRB) for permission to conduct the study. See Appendix E for IRB approval. After permission was granted, the researcher created a survey in Qualtrics containing all the questions from the LEQ, WLEIS, LPI and four demographic questions. The researcher obtained the program directors' emails from their institutions' websites. Then, the researcher composed an email explaining the purpose and significance of the study and sent it to PA program directors. The email included a link to the survey and also explained potential risks to the participant, which were minimal because the survey was anonymous. The first page of the survey included an informed consent statement giving participants an option to click a button to proceed with the survey or exit out if they did not wish to participate in the study. See Appendix F for participant consent form. Clicking on proceed signified informed consent to participate in the study. Participants who proceeded completed the survey with which I collected demographic information and their ratings for the questions on the LEQ, WLEIS, and LPI. The entire survey took approximately 25 minutes to complete. When participants submitted the survey, they were offered the opportunity to go to a separate Google Form to enter a drawing for one of five $50 Amazon e-gift cards.

Participants had the option to stop answering the survey questions at any time they chose. To protect their identity, demographic questions did not ask for the names of the participants or their programs. The survey was open for six weeks and the researcher sent two email reminders to participants to complete the survey in order to increase the response rate. Once the survey closed, data were exported from Qualtrics to a Microsoft Excel spreadsheet to check for any

missing values. Data were then imported into IBM© Statistical Package for Social Sciences (SPSS©) Version 29 for analysis. Data were stored securely on a password protected computer, which only the researcher had access to the records. The computer was stored in a locked cabinet when it was not being used. The data will be retained for a period of five years after the completion of this research study.

Data Analysis

For this nonexperimental, predictive correlational study, a multiple linear regression analysis was conducted to determine how accurately transformational leadership practices can be predicted from a linear combination of leader self-efficacy, emotional intelligence, and years of experience for PA program directors.

Rationale

Multiple regression was appropriate for this study because it is used to examine whether there is a correlation between two or more predictor variables measured on a continuous or categorical scale and a criterion variable measured on a continuous scale (Gall et al., 2007; Warner, 2013, 2021). The predictor variables for this study are leader self-efficacy, emotional intelligence, and years of experience as program director, and the criterion variable is transformational leadership practices. Since years of experience was a categorical variable, it was transformed into a dummy variable to allow analysis using multiple regression.

Data Screening

The data were first screened visually to check for any errors, inconsistencies, and missing values and a histogram was generated for each variable to ensure that all variables have approximately a normal distribution and there were no outliers (Warner, 2013, 2021).

Multiple Regression Assumptions

The researcher began assumption testing as required by regression analysis. The assumptions for a multiple regression are: (1) one criterion variable measured at the continuous level, (2) two or more predictor variables measured at the continuous or categorical level, (3) independence of observations, (4) a linear relationship between the dependent and independent variables collectively and between the dependent variable and each of the independent variables, (5) homoscedasticity of residuals, (6) absence of multicollinearity, (7) no significant outliers, and (8) normal distribution of residuals (Barthlow et al., n.d.; Meyers et al., 2017; Tabachnick & Fidell, 2013; Warner, 2013, 2021).

A statistic or graph does not test the first two assumptions; instead, they are methodologically determined: (a) the criterion variable of transformational leadership practices was measured at the continuous level, and (b) the predictor variables of leader self-efficacy and emotional intelligence were measured at the continuous level, whereas years of experience was measured at the categorical level. Assumptions three through eight are calculated statistically. The assumption of independent observations was assessed using the Durbin-Watson statistic. The Durbin-Watson statistic can range from 0 to 4, with the researcher looking for a value of approximately 2, which indicates no correlation between residuals. Linearity (between the dependent and independent variables collectively and between the dependent variable and each independent variable) was evaluated by viewing a scatterplot of the residuals against the predicted values. The researcher made a determination about linear relationships by using partial regression plots between each independent variable and the dependent variable.

The fifth overall assumption, homoscedasticity of residuals (equal error variances), was tested by a visual inspection of the unstandardized or standardized residuals' scatterplot against

the predicted or standardized predicted values. If homoscedasticity exists, the residuals (errors of prediction) will be equal across the standardized predicted (i.e., fitted) values. This means that the plot points above will exhibit no pattern and will be approximately constantly spread across the fitted values. The absence of multicollinearity is the sixth assumption. Correlation coefficients and variance inflation factor (VIF) values were used to test for multicollinearity. None of the independent variables should have correlations greater than 0.7, and VIF values should be lower than 10. The seventh assumption relates to data screening: no significant outliers. The researcher used casewise diagnostics to highlight any data points for which the standardized residual exceeded three standard deviations. If outliers are identified, the researcher would either transform the outlier, winzorize it, apply a robust estimation method, or trim the outlier or outliers (Field, 2018). Finally, multiple regression assumes a normal distribution of residuals (errors). To test for normality, a P-P plot was used. Normal distribution was evident because the points were aligned to the line of fit (Barthlow et al., n.d.).

Multiple Regression Hypothesis Testing

Multiple regression analysis produced three output tables. First, a model summary reported the coefficient of determination (R^2), which represents the model's explanatory power to fit the data. The coefficient of determination also served as the effect size for the current study, using the following conventions for interpretation: 0.01 = low; 0.06 = medium; and 0.14 = high (Cohen, 1988). Second, an ANOVA table showed if the explanatory power of R^2 is statistically significant using the alpha level standard α =.05. Finally, a table of coefficients signified which, if any, of the individual independent variables were statistically significant predictors of the outcome variable (Field, 2018; Warner, 2013, 2021).

CHAPTER FOUR: FINDINGS

Overview

The purpose of this quantitative, predictive correlational study was to determine if leader self-efficacy, emotional intelligence, and years of experience could predict transformational leadership practices. The predictor variables were leader self-efficacy and emotional intelligence scores and years of experience. The criterion variable was transformational leadership practices scores. A multiple linear regression was used to test the hypothesis. The Results section includes the research question, null hypothesis, data screening, descriptive statistics, assumption testing, and results.

Research Question

RQ1: How accurately can transformational leadership practices be predicted from a linear combination of leader self-efficacy, emotional intelligence, and years of experience for physician assistant program directors?

Null Hypothesis

$H_0$1: There is no significant predictive relationship between the criterion variable (transformational leadership practices) and the linear combination of predictor variables (leader self-efficacy, emotional intelligence, and years of experience) for physician assistant program directors.

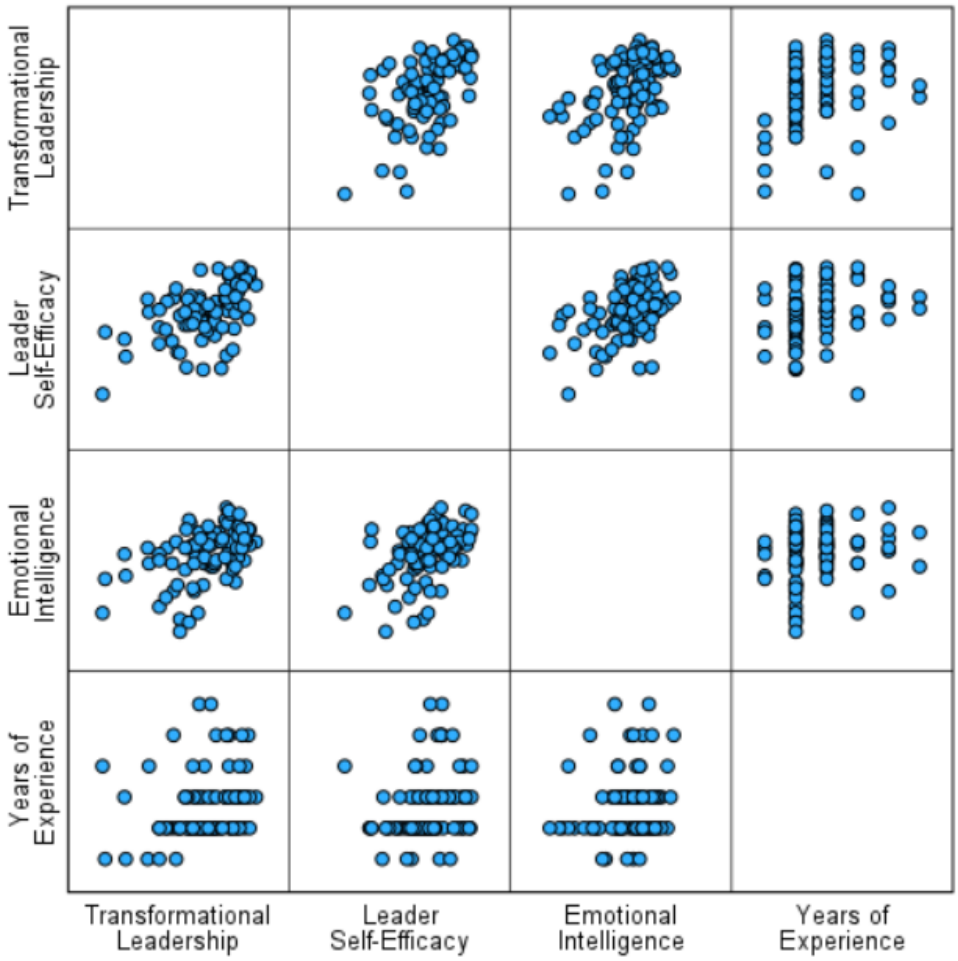
Data Screening

The researcher sorted the data and scanned for inconsistencies in each variable. The study consisted of 87 PA program directors. One participant submitted an incomplete survey, so it was removed from the study (Field, 2018). No other data errors or inconsistencies were identified. The data were entered into SPSS. When complete, all entries were checked for accuracy. A

matrix scatter plot was used to detect bivariate outliers between the predictor variables and the criterion variable. No bivariate outliers were identified. See Figure 3 for the matrix scatter plot.

Figure 3

Matrix Scatter Plot



Descriptive Statistics

Descriptive statistics were obtained on each of the variables. The sample consisted of 86 participants. Leader self-efficacy was measured using the Leadership Efficacy Questionnaire (LEQ). Possible scores on the questionnaire ranged from 0 to 100%. A high score of 100 points is a perfect score and means that the program director has 100% confidence in his or her

capability to enact specific aspects of leadership, whereas a low score of zero means that the program director has no confidence at all in his or her capability to enact specific aspects of leadership (Hannah et al., 2012).

Emotional intelligence was measured using the Wong and Law Emotional Intelligence Scale (WLEIS). A high score of 112 points means that the program director has a high level of emotional intelligence, whereas a low score of 16 points means that the program director has a low level of emotional intelligence (Wong & Law, 2002). Transformational leadership practices was measured using the Leadership Practices Inventory. A high score of 300 points is a perfect score and means that the participant almost always engages in transformational leadership practices, whereas a low score of 30 means that the participant almost never engages in the transformational leadership practices (Posner & Kouzes, 1993). Table 1 provides the descriptive statistics for each continuous variable.

Table 1

Descriptive Statistics

	n	Min.	Max.	*M*	*SD*
Leader self-efficacy	86	49	98	80.6	10.1
Emotional intelligence	86	72	112	97.1	8.5
Transformational leadership	86	181	300	260.6	25.4
Valid *n* (listwise)	86				

A frequency analysis was conducted for the categorical predictor variable. Table 2 provides the results of the frequency analysis for years of experience. Five program directors had

less than one year of experience, almost half had 1-5 years of experience, and only two had over 20 years of experience.

Table 2

Frequency Table for Years of Experience

Years	Frequency	Percent
Less than 1	5	5.8
1-5	40	46.5
6-10	26	30.2
11-15	7	8.1
16-20	6	7.0
21-25	2	2.3
Total	86	

Assumptions Testing

The first assumption for running a multiple linear regression is that the criterion variable is continuous, which was true for this study. The second assumption for running a multiple linear regression is that there are two or more predictor variables that are either continuous or nominal. Two predictor variables for this study were measured on a continuous scale and one on a nominal scale; therefore, this assumption was also met.

Independence of Observations

The assumption of independence of observations was tested using the Durbin-Watson statistic. The Durbin-Watson statistic can range from 0 to 4, with a value of 2 indicating that

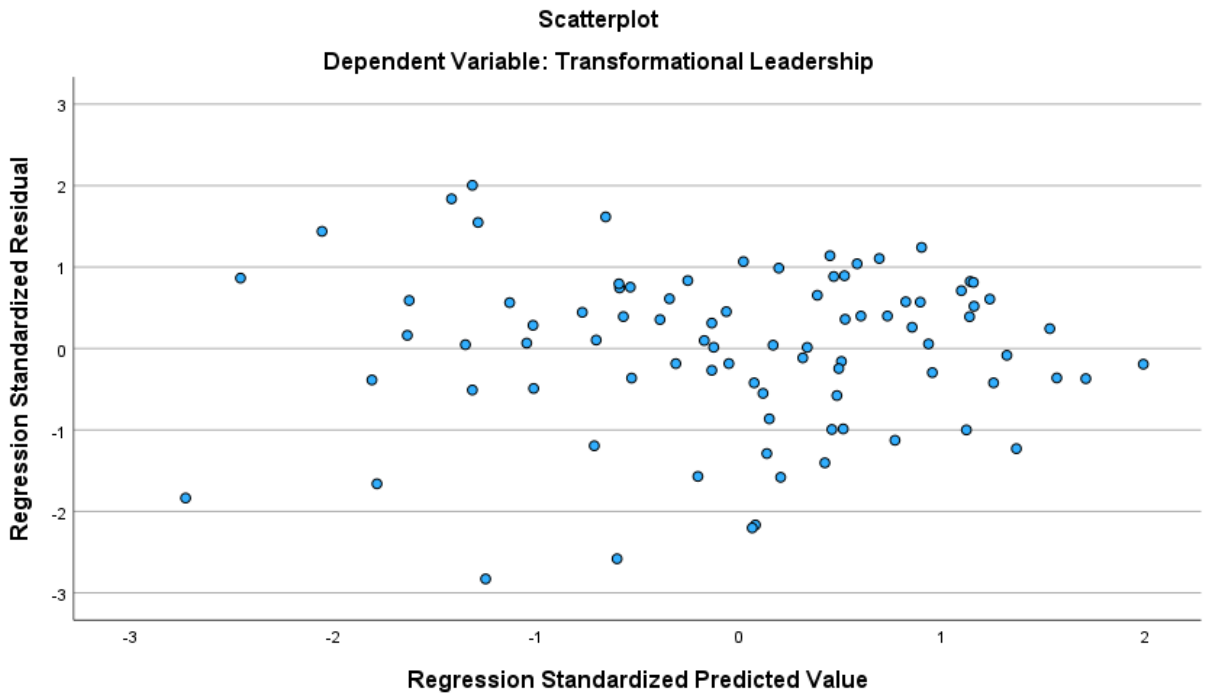
there is no correlation between residuals. For this study, a value of 1.92 was reported, which is close to 2; therefore, the assumption of independence of observations was tenable.

Assumption of Linearity

Multiple linear regression requires that the assumption of linearity be met. This was done in two parts. First, linearity was assessed between the criterion variable and the predictor variables collectively by plotting the studentized residuals against the unstandardized predicted values. Next, the linear relationship between the criterion variable and each of the predictor variables was assessed using partial regression plots. Visual inspection of the scatter plot indicated a nearly normal distribution for all. Next, the partial regression plots were created between each predictor variable and the criterion variable. Visual inspection revealed a nearly linear relationship. The assumption of linearity was tenable. See Figure 4 for the scatter plot.

Figure 4

Scatter Plot



Assumption of Homoscedasticity

If the assumption of homoscedasticity of residuals was met, the prediction errors would be equal across the standardized predicted values, meaning that the variance was equal for all values of the criterion variable. The assumption of homoscedasticity was checked using the scatterplot created when assessing the assumption of linearity by plotting the studentized residuals against the unstandardized predicted values. The scatter plot showed that the residuals were evenly spread; thus, the assumption of homoscedasticity was tenable. See Figure 4 for the scatter plot.

Assumption of the Absence of Multicollinearity

To test this assumption, Pearson's correlation coefficients and variance inflation factor (VIF) tests were conducted. If the VIF is too high (greater than 10), then the predictor variables are highly correlated. Acceptable values range between 1-5. Examination of Pearson's correlation coefficients for all predictor variables revealed all correlations are below the threshold of $r = .7$, as shown in Table 3.

Table 3

Pearson Correlation (r)

Variable		1	2	3
1	Leader self-efficacy	--	.49	.24
2	Emotional intelligence	.49	--	.18
3	Years of experience	.24	.18	--

Note. $n = 86$

Table 4 below shows the collinearity statistics. The assumption of the absence of multicollinearity between the predictor variables was met.

Table 4

Collinearity Statistics

Model		Collinearity Statistics	
		Tolerance	VIF
1	Leader self-efficacy	.74	1.36
2	Emotional intelligence	.76	1.32
3	Years of experience	.94	1.06

a. Dependent Variable: Transformational leadership practices

Assumption of No Significant Outliers

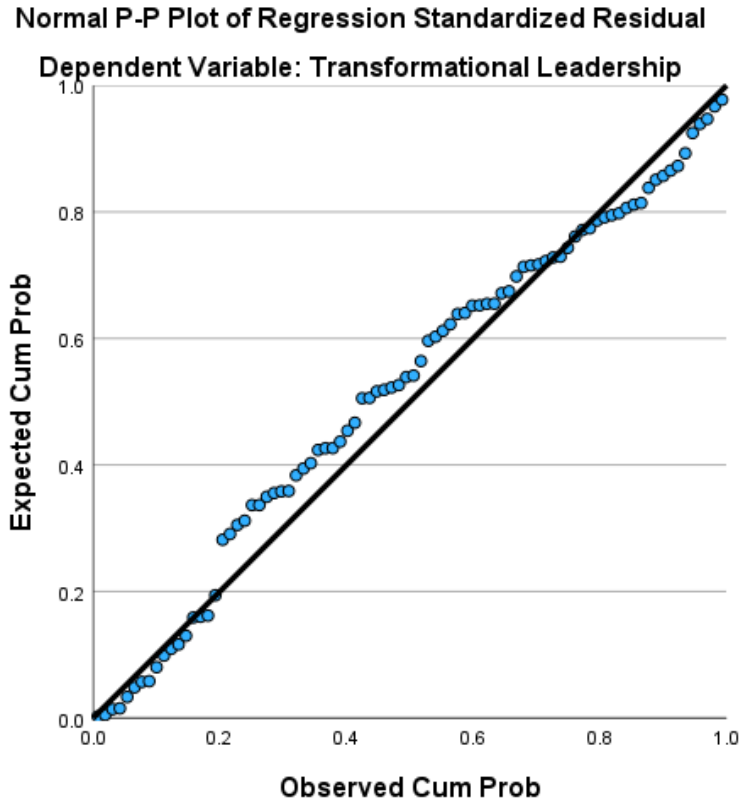
Casewise diagnostics were used to examine the data for the assumption of no significant outliers. The casewise diagnostics for standardized residual should not be greater than ±3 standard deviations. There were no data points for which the standardized residual exceeded three standard deviations, so all data were retained.

Assumption of Normal Distribution of Residuals

A P-P plot was created to determine if the data were normally distributed. The normality assumption is met when points fall predominantly on the line of best fit. A visual examination of the P-P plot found that the points were aligned along the line of best fit, indicating that the residuals were normal, as seen in Figure 5. Thus, the assumption was met.

Figure 5

P-P Plot of Residuals



Results

Multiple linear regression was conducted to determine whether a predictive relationship existed between a linear combination of leader self-efficacy, emotional intelligence, and years of experience and transformational leadership practices of physician assistant program directors. The predictor variables were leader self-efficacy, emotional intelligence, and years of experience. The criterion variable was transformational leadership practices. The researcher rejected the null hypothesis at the 95% confidence level where $F(3, 82) = 15.40$, $p < .001$. A significant relationship existed between the predictor variables (leader self-efficacy, emotional intelligence, and years of experience) and the criterion variable (transformational leadership practices). Table 5 provides the regression model results.

Table 5

Regression Model Results

Model		*SS*	*df*	*MS*	*F*	Sig.
1	Regression	19786.43	3	6595.48	15.40	< .001[b]
	Residual	35112.50	82	428.20		
	Total	54898.93	85			

a. Dependent Variable: Transformational leadership practices
b. Predictors: (Constant), Leader self-efficacy, Emotional intelligence, Years of experience

The model's effect size was large, where $R = .60$. Furthermore, $R^2 = .36$, indicating that approximately 36% of the variance of the criterion variable can be explained by the linear combination of predictor variables. However, a more accurate measure of the shared variance would be from the adjusted R^2 of .34, indicating that about 34% of the variation in transformational leadership practices can be explained by emotional intelligence, leader self-efficacy, and years of experience after adjusting for the number of predictors. Table 6 provides a summary of the model.

Table 6

Model Summary

Model	*R*	R^2	Adjusted R^2	*SEM*
1	.60[a]	.36	.34	20.69

a. Predictors: (Constant), Leader self-efficacy, Emotional intelligence, Years of experience

Because the researcher rejected the null hypothesis, analysis of the coefficients was required. Based on the coefficients, it was found that leader self-efficacy and emotional

intelligence were the best predictors of transformational leadership practices where $p < .001$ and $p = .010$, respectively. However, years of experience was not a significant predictor within the model where $p = .161$. Table 7 provides the coefficients.

Table 7

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	*SE*	*β*	*t*	Sig.
1	(Constant)	*98.30*	26.58		3.70	< .001
	Leader self-efficacy	*.94*	.26	.37	3.63	< .001
	Emotional intelligence	*.81*	.31	.27	2.65	.010
	Years of experience	*3.0*	2.11	.13	1.41	.161

a. Dependent Variable: Transformational leadership practices

CHAPTER FIVE: CONCLUSIONS

Overview

Chapter Five discusses the results of the study in light of whether they support or contradict prior research and literature on the relationship between leader self-efficacy, emotional intelligence, years of experience, and transformational leadership. This chapter also discusses the practical and theoretical implications of the findings as well as the limitations of the study. The chapter concludes with recommendations for further research.

Discussion

The purpose of this quantitative, predictive correlational study was to determine how accurately transformational leadership practices can be predicted from a linear combination of leader self-efficacy, emotional intelligence, and years of experience for physician assistant program directors. The study's predictor variables include leader self-efficacy and emotional intelligence scores and years of experience. The criterion variable was transformational leadership practices scores. The sample comprised 86 PA program directors across the U.S. who completed an online survey. Data were analyzed using IBM SPSS Version 29 for Windows. A multiple linear regression was used to answer the research question.

RQ1: How accurately can transformational leadership practices be predicted from a linear combination of leader self-efficacy, emotional intelligence, and years of experience for physician assistant program directors?

The null hypothesis was that there was no significant predictive relationship between the criterion variable (transformational leadership practices) and the linear combination of predictor variables (leader self-efficacy, emotional intelligence, and years of experience) for physician assistant program directors. The researcher rejected the null hypothesis at the 95% confidence

level, $F(3, 82) = 15.40$, $p < .001$, $R^2 = .36$. The results for this study showed that leader self-efficacy ($p < .001$) and emotional intelligence ($p = .010$) were significant predictors of transformational leadership practices, however, years of experience ($p = .161$) did not have a predictive relationship with transformational leadership practices. The model indicated a large effect size (Warner, 2021), where the linear combination of the three predictor variables explained 36% of the variance in the total score of transformational leadership practices. However, the adjusted R^2 value of .34 is a more accurate measure of the shared variance indicating that more than a third of the variability in transformational leadership practices can be explained by emotional intelligence, leader self-efficacy, and years of experience after adjusting for the number of predictors.

This study's findings are consistent with prior research that found that leader self-efficacy is a significant predictor of transformational leadership (Carleton et al., 2018; Cobanoglu & Yurek, 2018; Fitzgerald & Schutte, 2010; Gulmez & Negis Isik, 2020; Hannah et al., 2012). These studies suggest that transformational leaders have high self-efficacy and it is instrumental in their leadership practices. In contrast, Mesterova et al. (2015) found that there was no significant relationship between leader self-efficacy and transformational leadership. This discrepancy may be attributed to the small sample size of leaders who participated in the study ($n = 32$) and the different instruments that were used. The present study used the Leadership Efficacy Questionnaire, a self-report instrument designed to specifically measure leader self-efficacy whereas Mesterova et al. (2015) used the general Self-Efficacy Scale that measures general self-efficacy that is not connected to specific situations.

The results for the current study also corroborate other prior studies that found emotional intelligence is a significant predictor of transformational leadership (Baba et al., 2021; Barbuto,

& Burbach, 2010; Echevarria et al., 2017; Kim & Kim, 2017; Munir et al., 2023; Spano-Szekely et al., 2016). These studies consistently concluded that having highly emotionally intelligent leaders was beneficial to the organization. The finding in the present study speaks to the importance of leaders having a high level of emotional intelligence to positively influence their use of transformational leadership, which is espoused as one of the most effective leadership styles (Ali et al., 2018; Anderson, 2017; Breevaart & Zacher, 2019; Sadeghi & Pihie, 2012) and is also associated with high levels of performance and satisfaction among team members (Nicdao, 2019; Worthy et al., 2020).

The findings of this study further support prior research that found no significant relationship between years of leadership experience and transformational leadership (Echevarria et al. 2017; Shaughnessy et al., 2018). This suggests that the use of transformational leadership practices does not depend on a program director's years of experience. Program directors with less leadership experience can use transformational leadership practices just as well as those with more experience, and one cannot assume that the use of transformational leadership practices will necessarily increase with more years of experience. The fact that years of experience was not a significant predictor of transformational leadership practices could suggest that the number of years of experience should not be the main focus used as an indicator of a leader's ability to use transformational leadership practices. This finding is, however, not consistent with Buck and Doucette's (2015) study, which found a significant relationship between years of experience and transformational leadership of chief nurse officers. However, the study had a relatively small sample size (n = 58), which did not meet the minimum sample size (n = 66) for a correlation as recommended by Gall et al. (2007). In addition, the correlation coefficient was not reported and the strength of the relationship is unclear.

While most prior research examined EI and self-efficacy separately as predictors of transformational leadership, there are limited studies that have investigated these two predictors simultaneously. In a review of the literature on the antecedents of transformational leadership, Sun et al. (2017) found that leader self-efficacy and EI were the most reported significant predictors of transformational leadership. This finding was supported in a subsequent study in which Isa (2019) found that EI and leader self-efficacy were significant predictors of transformational leadership, with EI being the best predictor. In another study, Yang (2020) found that EI and leader self-efficacy were significant predictors of transformational leadership separately and when examined simultaneously, only EI was a significant predictor.

The current study supports these findings with regard to both EI and leader self-efficacy being significant predictors of transformational leadership practices. In contrast, this study found that leader self-efficacy was the best predictor of transformational leadership. This inconsistent finding may be attributed to the instruments that were used to measure self-efficacy. The two prior studies used the General Self-Efficacy Scale and the New General Self-Efficacy Scale while the present study used the Leadership Efficacy Questionnaire, which specifically measures leader self-efficacy not general self-efficacy.

This study's findings appeared to support the theories used to frame it. Self-efficacy is one's belief in their capability to perform a certain task (Bandura, 1977, 1986). The self-efficacy theory frames the construct of leader self-efficacy, which is the perceptions that leaders have in their capability to lead others (Hannah et al., 2008, 2012). In this study, leader self-efficacy positively explained transformational leadership practices, indicating that leader self-efficacy is an important construct to consider for transformational leadership. Indeed, research by Cobanoglu and Yurek (2018) found that leaders with a high level of self-efficacy tended to use

transformational leadership style.

The theory of emotional intelligence is also supported by this study's findings. The four branches of EI entail the ability to perceive, use, understand, and manage one's own and others' emotions (Mayer & Salovey, 1997). Each branch builds on the others and they can be used jointly to solve problems (Caruso & Salovey, 2004). Similar to leader self-efficacy, EI positively explained transformational leadership practices, which include model the way, inspire a shared vision, challenge the process, enable others to act, and encourage the heart (Kouzes & Posner, 2017). Caruso and Salovey (2004) asserted that "it is difficult to imagine accomplishing these goals without emotional intelligence" (p. 196).

Implications

Researchers have studied leader self-efficacy (Adewale & Ghavifekr, 2019; Ali et al., 2018; Almutairi, 2020; Baroudi & Hojeij, 2020; Cobanoglu & Yurek, 2018; Goddard et al., 2021; Moran et al., 2021), emotional intelligence (Gómez-Leal et al., 2022; Hourani et al., 2021; Khan, 2023; Khassawneh et al., 2022; Majeed & Jamshed, 2021), and transformational leadership (Ali & Islam, 2020; Cansoy, 2018; Enwereuzor et al., 2018; Frias et al., 2021; Hilton et al., 2023; Kouni et al., 2018; Labrague et al., 2020; Lee & Kuo, 2019; Shaughnessy et al., 2018; Siswanto & Yuliana, 2022; Worthy et al., 2020). Only two recent studies were found that examined both self-efficacy and emotional intelligence as predictors of transformational leadership (Isa, 2019; Yang, 2020). No other study was found in the literature that has investigated the predictive relationship between the linear combination of leader self-efficacy, emotional intelligence, years of experience, and transformational leadership practices for physician assistant program directors.

The findings revealed that PA program directors who believe in their capability to lead others and have high emotional intelligence are likely to engage in transformational leadership practices (model the way, inspire a shared vision, challenge the process, enable others to act, and encourage the heart). Thus, the current study contributes to the existing body of literature as it has advanced the understanding of the predictive relationship between leader self-efficacy, EI, and years of experience on transformational leadership. The study provides additional context on how the predictor variables influence leadership practices in PA education programs.

Given the dearth of research on the relationship between leader self-efficacy, EI, years of experience, and transformational leadership practices in higher education and especially in health professions programs, this study has provided empirical data and made a significant contribution. This study's findings also add to the base of the theoretical literature as they upheld the tenets of the self-efficacy theory and the theory of emotional intelligence. These two theories support the findings of a positive relationship between leader self-efficacy, emotional intelligence, and transformational leadership practices.

As previously discussed, ineffective leadership is one of the reasons for PA faculty attrition (Graham-Burnet, 2023). The literature has documented the positive impacts of transformational leadership including creating higher-performing teams, enhancing motivation and willingness to work hard, job satisfaction, fostering higher organizational commitment, work engagement, and reducing turnover rates (Ardiansyah et al., 2022; Cansoy, 2018; Hilton et al., 2023; Kouzes & Posner, 2017; Labrague et al., 2020; Shaughnessy et al., 2018; Worthy et al., 2020). Further, the importance of emotionally intelligent leaders has been emphasized in the literature (Dasborough et al., 2022; Munir et al., 2023) with authors noting that academic institutions should invest in professional development in EI in order to better serve their

constituents (Gómez-Leal et al., 2022; Hourani et al., 2021; Khan, 2023; Khassawneh et al., 2022). Similarly, researchers have called for organizations to enhance self-efficacy of their leaders by providing adequate professional development (Adewale & Ghavifekr, 2019; Baroudi & Hojeij, 2020; Cobanoglu & Yurek, 2018; Goddard et al., 2021).

A major practical implication of the study is for institutions to provide sustained leadership development of current and aspiring PA program directors. The curriculum for leadership development programs could include leader self-efficacy, EI, and the five practices of transformational leadership, among other topics. Investing in the continuous improvement and growth of PA program directors could help alleviate the challenges that some of the programs face due to ineffective leadership. Given the positive impacts of transformational leadership discussed earlier, leadership development will not only be beneficial to the program directors but also to PA faculty and students as well as the entire institution.

Limitations

This study had several limitations that could potentially impact its internal and external validity. First, while the minimum sample size requirement for the study was met, the findings may not be representative of the broader population of PA program directors in the United States. This limits the generalizability of the study's findings. A second limitation was the use of self-report instruments, which could result in social desirability bias or response bias where participants tend to present themselves in a favorable light rather than reveal their real beliefs (Gall et al., 2007). PA program directors who participated in this study may have reported a more desirable view of themselves or provided responses they believe were expected, resulting in inaccurate data.

A third threat to validity is the ratio of female to male participants. The study included 56 females (65%) and 30 males (35%). While gender was not a variable of interest, a more balanced distribution of participants would have been desirable. It is worth noting, however, that these percentages fairly reflect the current demographics of PA program directors, with the most recent data indicating that 60% of program directors are female and 40% are male (PAEA, 2020). Lastly, the use of regression analysis was another limitation of the study. Correlational studies only indicate the strength and direction of relationships between variables and do not provide evidence of a cause-and-effect relationship (Gall et al., 2007; Warner, 2021).

Recommendations for Future Research

Based on this study's findings and limitations, the following are recommendations for future research to expand the body of knowledge in transformational leadership practices, emotional intelligence, and leader self-efficacy.

1. Repeat this study with a bigger sample size to enhance the generalizability of the findings to PA education programs.
2. Conduct a qualitative study with PA program directors to gain a deeper understanding of how they implement transformational leadership practices.
3. In light of the social desirability limitation, conduct a study with both PA program directors and faculty (as dyads) and compare the ratings on transformational leadership practices of program directors.
4. Replicate this study with program directors in other health professions such as nursing, medicine, dentistry, and pharmacy to increase the generalizability of the findings to other contexts.
5. Include other demographic variables such as age and gender in the regression model.

6. Replicate this study with different instruments. For example, use the Emotional Intelligence Questionnaire that measures the five skills in Goleman's (1995) mixed model of EI. Similarly, use the Multifactor Leadership Questionnaire that measures a comprehensive range of leadership types including passive, transactional, and transformational.
7. This study found a positive moderate correlation between leader self-efficacy and emotional intelligence. Future research could examine the interaction between these two variables with different leadership styles.
8. Given that this was a cross-sectional study, future research could utilize a different quantitative research design. For example, an experimental study could be conducted that entails providing professional development in emotional intelligence and leader self-efficacy and measuring the impact of the training on transformational leadership practices.

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APPENDIX A: LEQ Permission

Leader Efficacy Questionnaire

Self and Rater Forms plus Scoring Guide

by Sean T. Hannah & Bruce J. Avolio

Research Permission

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APPENDIX B: WLEIS Permission

APA permits free use of the Wong and Law Emotional Intelligence Scale when used for non-commercial research.

PsycTESTS®

Wong and Law Emotional Intelligence Scale

PsycTESTS Citation:
Wong, C.-S., & Law, K. S. (2002). Wong and Law Emotional Intelligence Scale [Database record]. Retrieved from PsycTESTS. doi: https://dx.doi.org/10.1037/t07398-000

Instrument Type:
Rating Scale

Test Format:
Items are rated on a 7-point Likert-type scale ranging from strongly agree to strongly disagree.

Source:
Supplied by author.

Original Publication:
Wong, Chi-Sum, & Law, Kenneth S. (2002). The effects of leader and follower emotional intelligence on performance and attitude: An exploratory study. The Leadership Quarterly, Vol 13(3), 243-274. doi: https://dx.doi.org/10.1016/S1048-9843(02)00099-1

Permissions:

APPENDIX C: LPI Permission

Hello Violet,

Congratulations on your approval to use the LPI in your research! Please carefully read the instructions below.

In order for us to process and receive payment, I'll need to set you up with a Wiley billing account. I will need your **billing address** and **phone number** to set this up. I will then generate an order confirmation number and an invoice for you, which will become available in about 48 hours. Once you receive your invoice, you'll have the option to pay over the phone, via internet, or you can mail a check. All of this information will be available on the invoice.

Reminder: The fee for the research license is **$100 USD, plus tax**. You are responsible for paying this fee in a timely manner.

Please let me know if you have any questions about **billing only**. You may direct all questions regarding the LPI and your research to the LPI Research Team, cc'd on this message.

Thanks so much,

Nicole Brickley
Sales Coordinator, The Leadership Challenge®

APPENDIX D: Demographic Questionnaire

1. What is your sex?
    a. Female
    b. Male
2. What is your age?
    a. 21-30
    b. 31-40
    c. 41-50
    d. 51-60
    e. 61-70
    f. Over 70
3. Which racial or ethnic background do you identify with most?
    a. Asian
    b. Black or African American (non-Hispanic)
    c. Hispanic or Latino
    d. Native American or Alaska Native
    e. Native Hawaiian or Pacific Islander
    f. White (non-Hispanic)
4. How many years of experience do you have as a program director?
    a. Less than 1 year
    b. 1-5
    c. 6-10
    d. 11-15
    e. 16-20
    f. 21-25
    g. 26-30
    h. More than 30 years

APPENDIX E: IRB Approval

LIBERTY UNIVERSITY.
INSTITUTIONAL REVIEW BOARD

January 2, 2024

Violet Kulo
Jeffrey Savage

Re: IRB Exemption - IRB-FY23-24-670 Predictive Correlation Between Leader Self-Efficacy, Emotional Intelligence, Years of Experience, and Transformational Leadership of Physician Assistant Program Directors

Dear Violet Kulo, Jeffrey Savage,

The Liberty University Institutional Review Board (IRB) has reviewed your application in accordance with the Office for Human Research Protections (OHRP) and Food and Drug Administration (FDA) regulations and finds your study to be exempt from further IRB review. This means you may begin your research with the data safeguarding methods mentioned in your approved application, and no further IRB oversight is required.

Your study falls under the following exemption category, which identifies specific situations in which human participants research is exempt from the policy set forth in 45 CFR 46:104(d):

Category 2.(i). Research that only includes interactions involving educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observation of public behavior (including visual or auditory recording) if at least one of the following criteria is met:
The information obtained is recorded by the investigator in such a manner that the identity of the human subjects cannot readily be ascertained, directly or through identifiers linked to the subjects;

For a PDF of your exemption letter, click on your study number in the My Studies card on your Cayuse dashboard. Next, click the Submissions bar beside the Study Details bar on the Study details page. Finally, click Initial under Submission Type and choose the Letters tab toward the bottom of the Submission Details page. Your information sheet and final versions of your study documents can also be found on the same page under the Attachments tab.

Please note that this exemption only applies to your current research application, and any modifications to your protocol must be reported to the Liberty University IRB for verification of continued exemption status. You may report these changes by completing a modification submission through your Cayuse IRB account.

If you have any questions about this exemption or need assistance in determining whether possible modifications to your protocol would change your exemption status, please email us at irb@liberty.edu.

Sincerely,
G. Michele Baker, PhD, CIP
Administrative Chair
Research Ethics Office

APPENDIX F: Participant Consent Form

Title of the Project: Predictive Correlation Between Leader Self-Efficacy, Emotional Intelligence, Years of Experience, and Transformational Leadership of Physician Assistant Program Directors
Principal Investigator: Violet Kulo, Doctoral Candidate, Liberty University

Invitation to be Part of a Research Study

You are invited to participate in a research study. To participate, you must be a physician assistant program director at an accredited program in the United States. Taking part in this research project is voluntary.

Please take time to read this entire form and ask questions before deciding whether to take part in this research.

What is the study about and why is it being done?

The purpose of the study is to determine if there is a relationship between leader self-efficacy, emotional intelligence, years of experience, and transformational leadership practices of physician assistant program directors. Understanding the self-efficacy, emotional intelligence and transformational leadership practices of program directors might provide insights into the internal determinants and factors that influence their beliefs in their success and effectiveness as leaders.

What will happen if you take part in this study?

If you agree to be in this study, I will ask you to do the following:

1. Complete an anonymous online survey. It should take approximately 25 minutes to complete.

How could you or others benefit from this study?

Participants should not expect to receive a direct benefit from taking part in this study.

Benefits to society include a greater understanding of the relationship between leader self-efficacy, emotional intelligence, years of experience, and transformational leadership practices. This study may lead to the development, improvement, and implementation of leadership training in health professions education programs to enhance leadership effectiveness.

What risks might you experience from being in this study?

The expected risks from participating in this study are minimal, which means they are equal to the risks you would encounter in everyday life.

How will personal information be protected?

The records of this study will be kept private. Research records will be stored securely, and only the researcher will have access to the records.

- Participant responses will be anonymous.
- Data will be stored on a password-locked computer and may be used in future presentations. After three years, all electronic records will be deleted.

How will you be compensated for being part of the study?

Participants will not be compensated for participating in this study but are eligible to enter a raffle drawing for one of five fifty-dollar Amazon e-gift cards. Those who wish to participate in the raffle drawing will be asked to provide their email address; however, it will be pulled and separated from your responses to maintain your anonymity.

Is study participation voluntary?

Participation in this study is voluntary. Your decision whether or not to participate will not affect your current or future relations with Liberty University. If you decide to participate, you are free to not answer any question or withdraw at any time prior to submitting the survey without affecting those relationships.

What should you do if you decide to withdraw from the study?

If you choose to withdraw from the study, please exit the survey and close your internet browser. Your responses will not be recorded or included in the study.

Whom do you contact if you have questions or concerns about the study?

The researcher conducting this study is Violet Kulo. You may ask any questions you have now. If you have questions later, **you are encouraged** to contact her at [redacted]. You may also contact the researcher's faculty sponsor, Dr. Jeffrey Savage, at [redacted].

Whom do you contact if you have questions about your rights as a research participant?

If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher, **you are encouraged** to contact the IRB. Our physical address is Institutional Review Board, [redacted]; our phone number is [redacted], and our email address is [redacted].

Disclaimer: The Institutional Review Board (IRB) is tasked with ensuring that human subjects research will be conducted in an ethical manner as defined and required by federal regulations. The topics covered and viewpoints expressed or alluded to by student and faculty researchers are those of the researchers and do not necessarily reflect the official policies or positions of Liberty University.