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A Case Study Examining Women in Leadership at a College of Osteopathic Medicine

Sloane Gibson Kelley
University of Arkansas, Fayetteville

A Case Study Examining Women in Leadership at a College of Osteopathic Medicine

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by

Sloane Kelley
Arkansas State University
Bachelor of Science in Education, 1987
University of Central Arkansas
Master of Science in Library Media and Information Technology, 2015

December 2022
University of Arkansas

This dissertation is approved for recommendation to the Graduate Council.

_____
Kit Kacirek, Ed.D.
Dissertation Director

_____
Kenda Grover, Ed.D.
Committee Member

_____
Julie Galliart, Ed.D.
Committee Member

Abstract

Dr. Andrew Taylor Still, the founder of osteopathic medicine, actively promoted gender parity in the field from its inception, at a time when few medical schools accepted women into their programs, and even fewer all-female medical schools existed (Quinn, 2017; Simpson & Weiser, 1996). Although an almost equal number of male and female students are enrolled in osteopathic medical schools, men far outnumber women in positions of leadership. While the data for the number of women deans and department chairs at osteopathic medical schools does not exist, research by the Association of American Medical Colleges (2021) showed that 24% of deans in allopathic medical schools were women. Utilizing open-ended, semi-structured interviews, this narrative case study will seek to provide understanding of the experiences of women deans and department chairs at an institution where 58% of the senior leadership are women. The institutional and personal factors that have contributed to their ascension to leadership of an osteopathic medical school could provide insights that are transferable to other male-dominated professions and institutions.

Keywords: osteopathic medicine, women, leadership, gender parity

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When embarking upon this quest, I knew I would need my support system, but never dreamed how much. I gratefully acknowledge the support, encouragement, grace, and kindness I received along this path, enabling me to complete a journey that had been on my heart for years.

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I am blessed with wonderful parents that instilled in me the confidence that I could do anything I set my mind to. Their unconditional love and support provided me with the strength and courage to become the person I wanted to be. Mom, thank you for your love, allowing me the space to choose my own way and supporting me at every step. George, we are thankful for you and the love and support you have brought to our family.

A constant refrain from my dad growing up was very simply, “get your education”. He knew that obtaining an education would provide opportunities for personal growth and career choices that nothing else could. Dad was very excited for me to pursue a doctorate, but sadly passed away in 2021. His love is forever present, and I know he is rejoicing with me.

To my sister, Shannon, thank you for always believing in me. Your unwavering support means more than you know.

Edith Bidwell Kelley, our Granny, was a bright light in the world. A female leader and professional who had a family and career beginning in the 1930s, we often discussed what it was like for her as she paved the way for generations of women to follow. Granny was truly one of my best friends and a role model. She passed away in 2019 but remains an inspiration to me and all who knew her.

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I offer a sincere thank you to the faculty in the Adult and Lifelong Learning program, Dr. Kevin Roessger and Dr. Kenda Grover, dedicated professionals who tirelessly work with students to help us reach our goals. Your support and kindness throughout the program will always be remembered. To Dr. Grover and Dr. Julie Galliart, I am honored that you agreed to serve on my committee and helped me reach my goal. You have my most sincere thanks.

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Dedication

I dedicate this work to my children.

May you be lifelong learners and always curious about the wonders of the world. I love you more than I can say.

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Chapter 1: Introduction

Osteopathic medicine historically accepted and encouraged women to join the profession. Given the almost equal ratio of male and female students enrolled in osteopathic medical schools, one could expect gender parity among school leadership. However, in 2017, 28.9% of the chief academic officers at osteopathic medical schools in the United States were women (Basha et al., 2018). For this study, qualitative research methods will guide the analysis of one college of osteopathic medicine where women occupy 58% of the senior leadership positions. Of these senior women leaders, four are osteopathic physicians. The focus of this study is to determine the institutional and personal attributes that female leaders believe contribute to this anomaly.

Organization of the Dissertation

Chapter One discusses the background and context of the research problem, the purpose of the research, and its significance. The chapter states the research questions and the design that guides the study. Chapter Two provides the salient literature related to the research and situates its theoretical framework. Chapter Three discusses the rationale for choosing a narrative study design to guide this research and how the researcher will ensure the trustworthiness of the data.

The Function of Leadership in Medical Education

In medical education, those in the top tiers of the leadership hierarchy are positioned to directly influence the direction of their institution and the medical profession. The goals of diversity and inclusivity are sought by medical schools for their faculty and students, yet the organizational climate is reflected in its leadership; thus, diversity among leaders of medical schools is imperative (Alwazzan & Al-Angari, 2020). However, women continue to be underrepresented among deans and department chairs in medical education despite more women

matriculating into the profession Carr et al., 2015; Guptill et al., 2018; Larson et al.,2019; White, et al., 2012). When women are not regularly advanced to the rank of dean in medical education, the talent pool from which to fill these important positions is not being fully utilized. Conversely, when women hold the positions of deans and department chairs, they can influence equality at lower levels and decrease incidents of harassment by being present and recognizing questionable behaviors (Guptill et al., 2018).

As of 2021, 8.2% of Fortune 500 CEOs are women, and this disparity is reflected in other hierarchical fields such as medical education (Abazza, 2021). This is particularly unsettling in medicine, where inequities can potentially affect patient care and health outcomes (Farrugia et al., 2020). Strategic retention and recruitment strategies have been implemented by some academic medical centers that are similar to businesses, with the goal of alleviating work/life stress (Bauman et al., 2014). Top-down programs, addressing such issues as compensation inequities and family leave options, have been created, as have bottom-up programs that provide women with opportunities to hone skills and strengthen connections (Farrugia et al., 2020).

Evolution of Osteopathic Medical Education

In the late 1800s, few medical schools accepted women into their programs, and even fewer all-female medical schools existed, leaving little opportunity for women to become physicians (Simpson & Weiser, 1996). Dr. Andrew Taylor Still, the founder of osteopathic medicine, was an exception and actively promoted women in the field (Quinn, 2017). Since its inception, osteopathic medicine has explicitly promoted gender parity for all students. The first catalog of the American School of Osteopathy (1897) states:

> Women are admitted on the same terms as men. It is the policy of the school that there shall be no distinction as to sex, and that all shall have the same opportunities, and be

> held for the same requirements. They pursue the same studies, attend the same lectures, are subjected to the same rules, and pass the same examinations (p. 52).

In 1892, the first class of the American School of Osteopathy (ASO) consisted of five women and 16 men. The profession quickly grew, and by 1908, over 35% of all DOs in the United States were women, and by 1923 female enrollment represented 50% of the total of osteopathic medical students (Walter, 1994). However, female enrollment in osteopathic colleges declined soon after, and there was a disproportionate distribution of DOs in the United States due to the denial of staff privileges at allopathic hospitals, as well as the lack of full medical licensure granted to DOs in some states (Quinn, 2011). After this, osteopathic physicians flocked to existing osteopathic hospitals in states that permitted full licensure, creating a lack of osteopathic presence in parts of the country (Quinn, 2011).

When male physicians entered the military in World War II, women's medical school enrollment grew once again as the demand for physicians at home increased. Internships and faculty positions increased for women as well (Duffy, 1979). Once men returned home from the war, however, women's enrollment decreased. This was demonstrated in the 1950s and 1960s, as the period was called the era of Putting Hubby Through (Quinn, 2011). Osteopathic medical schools hit their lowest point of female enrollment in 1964, but recovered in 1965, with their female enrollment surging in the late 1960s (AOA, 1991). That trend continues, and most osteopathic medical schools have a fifty-fifty male-to-female student distribution (Basha et al., 2018).

Problem Statement

With an almost equal number of male and female students enrolled in osteopathic medical schools, one could expect gender parity among school leadership. However, in 2017,

28.9% of the chief academic officers at osteopathic medical schools in the United States were women (Basha et al., 2018). Data reflecting the number of female deans and department chairs at osteopathic medical schools are currently not available from a public database and cannot be included in this study (M. Speicher, personal communication, February 24, 2022). Much research has documented the barriers that women face in male-dominated professions (Farrugia et al., 2020; Kalaitzi et al., 2019; Moyer et al., 2018; National Academy of Sciences, 2007). However, few studies have investigated critical cases where female leadership thrives in medical education. Research is needed to understand the experiences of female leaders in osteopathic medicine and the institutional attributes that foster opportunities to lead. To address this gap, the researcher will search for insights into the relationships between organizational climate and leadership, and how participants' personal identity informs their leadership.

Purpose Statement

While gender disparities in leadership remain the norm in medical education (Farrugia et al., 2020; Humberstone, 2017; Jacobson et al., 2021; Paloli, 2012), this study will examine the experiences of female deans and department chairs at an institution where 58% of the senior leadership is female. Women who occupy these leadership positions at this college of osteopathic medicine could provide insights into the personal and institutional characteristics and mechanisms that support female leadership. Specifically, the purpose of this narrative case study is to understand how female leaders at one college of osteopathic medicine describe the support mechanisms that facilitated their success in the male-dominated field of medical education and explore how participants' self-identity informs their leadership. The stories of the women deans and department chairs at this institution could provide insights that are transferable to other male-

dominated professions and institutions.

Research Questions

The primary question that frames this research is: why does female leadership flourish at one college of osteopathic medicine? The following sub-questions are posed to answer this question:

1. How do female leaders at the institution describe their careers in medical education?
2. How were they prepared for leadership?
3. What role has gender played in their experience in medical education?
4. How has their experience shaped their identity?
5. How does their identity inform their leadership?
6. What personal characteristics do female leaders attribute to career success?
7. What institutional characteristics do female leaders attribute to career success?

Overview of Research Design

This qualitative, narrative case study will explore the phenomenon of female leaders at one college of osteopathic medicine and the institutional climate that supports female leadership. Qualitative research allows the researcher to take a detailed look at phenomena and consider inclusive ways of thinking and acting, facilitating change in the social norms while realizing the individual and unique experiences of the participants (Bloomberg & Volpe, 2019). Case study design and narrative inquiry as methodological frameworks will assist researchers in understanding processes that may explain current realities within professions and broader societies. The case study will contextualize the participants within the larger case of medical education, but the use of narrative inquiry unpacks the stories of the women leaders of this institution and shapes the understanding of their stories (Sonday et al., 2020). The two

methodologies work together, bringing to light the interplay between structure and agency in storied lives (Sonday et al, 2020).

Narrative Approach

The narrative approach to research is cross-disciplinary, fitting with many scholarly fields that look at human interaction in relationships (Riessman & Quinney, 2005). The narrative approach to qualitative research centers on the stories of lived experiences of individuals, which is how people create meaning of complex and ambiguous occurrences (Etherington, n.d.). These stories unfold to become representations of the participant's experiences and how they are remembered, at a point in time. Narratives are more than telling one's story – deep analysis of how the facts come together, for whom and how, must occur in order to demonstrate how knowledge is constructed in everyday life through communication (Riessman & Quinney, 2005). The narrative researcher collects stories from the participants by way of field notes, journal records, interview transcripts, and/or storytelling, and writes about their experiences (Creswell & Poth, 2018). Narratives cannot be looked at apart from their context, the circumstance that forms the setting for an event (Bloomberg & Volpe, 2019). The stories and reflections gathered by using the narrative approach will provide a deep view of the ways women leaders at one institution are impacted by this context (Sonday et al., 2020). In addition, the layered context within medical education and the number of women in leadership positions at this institution will be considered.

Case Study Design

Merriam (1998) defines a case as a "thing, a single entity, a unit around which there are boundaries", and case study design as a way to understand a situation, where the primary interest of the researcher is the process of inquiry (p. 27). The descriptive details contained in case

studies can increase understanding of how a workplace functions and of a particular phenomenon (Brown, 2008). The researcher will conduct individual interviews with female deans and department chairs at the research site. These interviews are designed to explore participants' perceptions of the institutional characteristics that contribute to flourishing female leadership and how participants' self-identity informs their leadership.

Creswell (2014) suggests the researcher is not passively taking notes and reporting the participants' stories but actively collaborates with the narrator to extract meaning from them. During this investigation, various forms of data will be collected and analyzed to support interview results. Internal documents and observation will provide multiple data sets that the researcher will analyze. Deductive coding utilizing the theoretical framework of Bolman and Deal's Four Frames Model will be employed. The researcher will use intuitive data analysis to discover themes, patterns, and discrepant information that is synthesized to determine relations and a deeper understanding and meaning of the phenomenon (Creswell, 2014).

Rationale and Significance

Gender parity is a descriptive statistical measure that provides a numerical value for gender ratios, and is a useful tool for evaluating gender inequity (Aisa & Matias, 2018). Gender parity indicators can gauge gender equity in specific areas and assess change and progress. While women have gained parity with men in matriculation to medical school, women in leadership positions remain underrepresented (Raj et al., 2019). Of the 38 accredited colleges of osteopathic medicine, 16 have women as deans (AACOM, 2021). Larson et al., in 2019 research, found that more men than women hold decanal positions at allopathic medical schools, including individuals that are physicians. Greater gender equity in medicine contributes to better patient care and health policy-making, more creative problem-solving, and providing patients with the

best care available (Tricco et al., 2021). In addition, a 2022 report by the College and University Professional Association for Human Resources shows that women in the highest leadership positions at institutions of higher learning employ more women and at higher pay, helping to shift the culture of medical education and strengthen the paths to leadership for women (Fuesting et al., 2022).

The literature is rife with evidence of gender disparities in medical education leadership (Carnes et al., 2015; Jacobson et al., 2021; Moyer et al., 2018; Pololi et al., 2012). However, this research site is an anomaly and a disparate case. Data from this study could inform administrators, academicians, and students about how female leadership can flourish in one medical institution. This knowledge could uncover practices and policies that other institutions could use in advocating for gender parity in leadership.

Role of the Researcher

I have both a personal and professional interest in conducting this research. Being employed at this site, I work closely with the predominantly female leadership team. When I realized our campus was an anomaly, I became curious about this phenomenon. When my daughter enrolled there, my curiosity became obsessive. I wanted to know more about the leaders guiding her career and how those role models might impact my daughter and other female medical students. As I delved into my research and realized that our campus was atypical, I became curious about this phenomenon and wanted to cultivate a deeper understanding of why.

My experience with osteopathic medicine and medical education is limited to my tenure at this site, which began in 2016. My collaboration with these female leaders may have contributed to biases in this research. The participants in this study are colleagues and friends. I will manage my biases by using the tools that ensure trustworthiness during the data analysis

phase of the study. I move forward with this study recognizing these potentialities and harboring the desire to learn more about how these women persisted to become the leaders that they are today. This knowledge can benefit other institutions of medical education, particularly for women beginning their medical careers.

Researcher Assumptions

The first assumption was that the women leaders of this institution would agree to be part of this study. The second assumption was that the research questions will elicit reliable responses. The third assumption was that the participants will provide honest answers to the questions. The fourth assumption is that these women share common aspects of identity that contribute to their success. The final assumption was that institutional characteristics that contribute to flourishing female leadership will come to light and provide insight for other academic medical institutions advocating for gender parity in leadership.

Definitions of Key Terminology

In this section, I define keywords that will be used throughout this dissertation.

1. Academic medicine: Academic medicine describes the branch of medicine pursued by doctors who engage in a variety of scholarly activities. While the traditional role of clinical academics is to provide clinical care, do research, and teach, academics today may also spend some of their time in managerial and representative roles (British Medical Journal, 2008).
2. Allopathic medicine: Allopathic medicine refers to a system in which medical doctors and other healthcare professionals (such as nurses, pharmacists, and therapists) treat symptoms and diseases using drugs, radiation, or surgery. Also called biomedicine,

conventional medicine, mainstream medicine, orthodox medicine, and Western medicine. Allopathic physicians receive an MD (Columbia University, 2021).

3. Gender Parity: A statistical measure that provides a numerical value in the representation of biological sex for various indicators (German Development Institute, 2018).
4. Leadership: The "process of motivating people to work together collaboratively to accomplish great things" (Vroom & Jago, 2007, p. 18). This definition takes into account the actions of leaders and managers, in alignment with the components of Bolman and Deal's Four Frames Model.
5. Medical Education: A course of study imparting to individuals the knowledge and skills required for the prevention and treatment of disease. Among the goals of medical education are to produce physicians that are sensitive to the health and needs of others, are able to treat their patients, and become lifelong learners (Britannica, 2022).
6. Organizational climate: The shared perceptions of and meaning attached to policies, practices, and procedures as experienced by employees, including behaviors, rewarded, supported, and expected (Schneider et al., 2013).
7. Organizational culture: The shared basic assumptions, values and beliefs characterizing an institution, taught to newcomers as the proper way to think and feel, and explaining how the organization came to be the way it is (Schneider et al., 2013).
8. Osteopathic medicine: Osteopathic medicine provides all of the benefits of modern medicine including prescription drugs, surgery, and the use of technology to diagnose disease and evaluate injury. It also offers the added benefit of hands-on diagnosis and treatment through a system of treatment known as osteopathic manipulative medicine. Osteopathic medicine emphasizes helping each person achieve a high level of wellness

by focusing on health promotion and disease prevention. Osteopathic physicians receive a DO (AACOM, 2021).

Summary

While gender parity has been reached in the matriculates of medical school, the same cannot be said for the leadership of these institutions. In March 2017, 28.9% of the chief academic officers in osteopathic medical schools were women (Basha et al., 2018). The institution at the center of this study is an exception, where 58% of the leadership is female. Four women leaders at this institution, osteopathic physicians who are deans and department chairs, will be interviewed to understand their experiences and ascension to these ranks. This study seeks to identify insights into the personal and institutional characteristics that support and advocate female leadership.

Chapter 2: Literature Review

While gender disparities in leadership remain the norm in medical education (Humberstone 2018), this study will examine the experiences of female deans and department chairs at an institution where 58% of the senior leadership is female. Women who occupy these leadership positions at this college of osteopathic medicine could provide insights into the personal and institutional characteristics and mechanisms that support female leadership. Specifically, the purpose of this narrative case study is to understand how female leaders at one college of osteopathic medicine describe the support mechanisms that facilitated their success in the male-dominated field of medical education and explore how participants' self-identity informs their leadership. The stories of the women deans and department chairs at this institution could provide insights that are transferable to other male-dominated professions and institutions.

This chapter focuses on the literature that is relevant to the history of osteopathic medicine and the welcoming of women from its inception, medical education, women in medical education leadership, and concludes with the theoretical framework guiding the study. Sources were located by searching the PubMed Database, EBSCO Journals, NYITCOM Library catalog, and Google Scholar. Search terms included osteopathic, osteopathic medicine, osteopathic education, osteopathic history, osteopathic women, A. T. Still, leadership, leader, medical education, academic leader, female leader, women leader, climate, gender climate, organizational climate, gender identity, parity, and gender parity. Additional sources were located by reference mining, searching "similar articles" in PubMed, forward reference searching, and forward author searching.

History of Osteopathic Medicine

In 1887, after years of research and field observations, Dr. A.T Still, the founder of osteopathic medicine, abandoned his affiliation with traditional medicine to adopt the practice of osteopathy fifteen years before the new science was named (Lewis, 2012). His discovery that spinal manipulation was effective in treating various conditions and that preventative measures were essential to good health convinced him to adopt alternative approaches to treating patients. Rejected by family, community, and colleagues, Dr. Still persisted and continued using drugless interventions to treat patients. He eventually trained his adult children and other interested practitioners to keep pace with the increasing demand for his service. Still opened the American School of Osteopathy (ASO) in 1892 intending to improve current medical care, not replace it.

Dr. Still is quoted as saying, "To find health should be the object of the doctor. Anyone can find disease" (Still, 1899, p. 29). Doctors of osteopathic medicine are trained to promote the body's natural tendency toward health and self-healing (AOA, 2022). As medicine has evolved and improved through the years, osteopathic medicine has as well. What has not changed is the philosophy of osteopathic medicine and its core tenets and practices that originated with the teachings of Dr. Still. As stated on the AOA website (2022), "the Tenets of Osteopathic Medicine express the underlying philosophy of osteopathic medicine and are approved by the AOA House of Delegates as policy", and are as follows:

The body is a unit; the person is a unit of body, mind, and spirit.

The body is capable of self-regulation, self-healing, and health maintenance.

Structure and function are reciprocally interrelated.

Rational treatment is based on an understanding of the basic principles of body unity, self-regulation, and the interrelationship of structure and function.

History of Women in Osteopathic Medicine

Social norms and legislation in the mid-1800s discouraged women from being educated past primary school, and they faced inequality of employment opportunities. Allopathic medical schools discriminated against women who applied (Blumer, 2021). When the American School of Osteopathy opened, women were accepted on an equal basis with men due to Dr. Still's belief in gender equality (Quinn, 2011). Dr. Still viewed women as equally capable as men of becoming physicians and viewed them as natural healers (Still, 1908). The first class of the ASO was composed of five women and 16 men (Quinn, 2011). Dr. Still employed several women as faculty at the ASO, demonstrating his commitment to gender parity (Blumer, 2011).

Osteopathic colleges encouraged the enrollment of women, and by 1908, 35% of all DOs were women and by 1923, 50% of all osteopathic medical students were women (Walter, 1994). A November 1897 journal of the Pacific College of Osteopathy proclaimed, "The Science of Osteopathy appeals to women who desire a noble, uplifting work" (Journal of Osteopathy, 1896, p. 50). Osteopathic medicine has historically valued women and provided a way for them to become socially and financially independent, making the profession a leader in the support of women in medicine (Blumer, 2021; Gevitz, 2004; Lewis, 2012).

Gender Disparity of Women in Medicine

There are numerous examples of women who faced personal and societal challenges to obtain a medical degree. The first woman to receive her medical degree in the United States was Elizabeth Blackwell, M.D., in 1849 (Acosta et al., 2020). The acceptance of Dr. Blackwell into medical school set an important precedent for women in medicine. However, the profession was male dominated and barriers to women entering medical school were widespread for many years. To provide a way around these barriers, 19 women's allopathic medical schools were opened

between 1850 and 1895, but only three remained by 1904 due to low enrollment and underfunding (Quinn, 2011). After completion of their medical education, women still found it difficult to obtain internships or hospital appointments, and the American Medical Association did not admit women into its membership until 1915. In contrast, Dr. A.T. Still wholeheartedly welcomed and encouraged women to the DO profession. Not only were women welcomed as students and faculty members, in The History of Osteopathy and Twentieth-Century Medical Practice (1905), E.R. Booth states that women DOs were founding members and officers of the American Osteopathic Association at its establishment in 1897 (titled the American Association for the Advancement of Osteopathy until 1901).

Female enrollment in osteopathic and allopathic medical schools sharply declined in the 1920s. After peaking at 50% female enrollment in 1923, osteopathic female enrollment fell to 12% by 1928 and would not increase again until the late 1930s (Walter, 1994). Female enrollment in allopathic schools was lacking as well, with 5.4% of graduates being women. The percentage of women graduates soon fell to 5% and remained there until the 1940s, when World War II took many male physicians into service (Duffy, 1979). Women were able to fill the open positions in medical schools, as well as internships and faculty appointments until the late 1940s. Once men returned from war and the G.I Bill support for veterans was in place, men were once again filling open positions in the field of medicine (Quinn, 2011).

The number of women enrolled in medical schools decreased during the 1950s and 1960s, and in 1966, the United States had the least number of women medical students than anywhere in the world. During this period, women were expected to support their husbands in their goals and take care of the household (Walter, 1994). After this low point, enrollment for women in allopathic and osteopathic medical schools rose, and that trend continues to this day.

In the 1970s and 1980s, the enrollment of women in medical schools increased by 850% (McNiven, 1991). By the early 2000s, female enrollment in medical schools had increased to the fifty-fifty male-to-female distributions that exist today (Basha et al., 2017). Yet gender parity, a statistical measure that provides a numerical value of female-to-male ratios for various indicators, such as women leaders in medical school, does not equal gender and social equality. (Azam & Oxentanko, 2019; Manlosa & Matias, 2018; Raj et al., 2019).

Gender equality means to have a "situation of justice where one's rights, responsibilities, and opportunities are not affected by gender or other social considerations" (Raj, et al., 2019, p. 1658). The literature is rife with examples of gender inequality in medical education, such as lower salaries for women, fewer women authors, and fewer engagements to speak at grand rounds and other formal meetings. Research has shown that, when asked to speak at formal events, women are less likely to be introduced with the title of Doctor (Carr et al., 2015; Files et al., 2017; Raj et al., 2019; Tricco et al., 2021). Research indicates that women are more likely to take time off for family obligations and child rearing, and will work part-time in order to meet these obligations (Schor, 2018; Thibault, 2016).

The term "cohort effect" is used to explain that a systematic shift in leadership demographics will naturally occur in parallel with increasing rates of women and ethnic minorities in the general population, but this has not been the case. (Xierali, et al., 2016). Despite the number of interventions and policy shifts to improve the representation of women in medical education leadership, this change has not occurred (Ludmerer, 2020). The literature points to implicit biases, specifically micro-inequities, as reasons for this (Abaza, 2021; Azam & Oxentenko, 2019; Carnes, et al., 2015; Ludmerer, 2020). Micro-inequities are unintentional, yet harmful, slights that are destructive to the development of women physicians. Individuals

perpetuating these behaviors usually do not view them as harmful, further complicating any attempts to address the issue. Micro-inequities may arise from implicit or unconscious biases and will contribute to an unsupportive work environment for women.

Medical Education

Despite an initial lack of acceptance, the profession of osteopathic medicine is flourishing. Today there are 38 accredited osteopathic medical schools in the U.S., with 59 teaching locations in 34 states (AACOM, 2022). The accrediting body for osteopathic medical schools is recognized by the U.S. Department of Education The American Osteopathic Association's Commission of Osteopathic College Accreditation. COCA establishes regulations and standards for the colleges of osteopathic medicine. Osteopathic medical education focuses on biomedical and clinical sciences in the first two years, via lectures, labs, and other learning experiences. Through this instruction, the students are prepared for the next two years of their education when they participate in clinical clerkships. The clinical education of osteopathic physicians follows the distributive model, a style of teaching and training physicians that could better meet societal needs and expectations by allowing exposure to diverse healthcare settings (Farnsworth et al., 2021). Osteopathic physicians currently make up 54% of those practicing primary care (AACOM, 2022).

According to 2019 COCA standards, the dean of a college of osteopathic medicine must be a DO, and clinical department chairs must be board certified by the AOA, whereas assistant and associate deans may or may not be physicians (COCA, 2019, p.11). The Dean is at the top of the hierarchy in medical education, with Department Chair and Associate Dean being common stepping-stones to the position (Jacobson et al., 2021). While the data for the number of women deans and department chairs at osteopathic medical schools does not exist, research by the

Association of American Medical Colleges (2021) showed that 24% of deans in allopathic medical schools were women. Documenting the stories of the women who occupy leadership positions at NYITCOM at A-State could provide insights into the personal and institutional characteristics that support increased female leadership in a male-dominated field.

Female Leadership in Medical Education

The gender gap in leadership of U.S. medical schools is well documented (Sethuraman et al., 2019; Elinas et al., 2018; Larson et al., 2019; Moyer et al., 2018). Challenges to women leaders persist in medical education, with little change in their number despite the total number of female matriculates to medical school and increased representation in the field (Sethuraman et al., 2019; Wong, 2018). Leadership roles in Medical education are typically a dean, assistant or associate dean, and department chair and vice chair. These positions have historically been disproportionately held by men, while the proportion of women decreases as they ascend the leadership ranks (Jacobson et al., 2021; Ludmerer, 2020). While men and women enter their careers in medical education at similar rates, they are not equally advanced (Carnes et al., 2015). Medical schools tend to appoint women as instructors or professors, at a lower salary, and with little recognition or advancement (Carnes et al., 2015; Shor, 2018).

Research by Dr. Nina Schor in 2018 showed that women are better represented among decanal positions pertaining to education and mentoring or institutional public image, and least represented in positions focusing on corporate strategy and policy, finance, or government relations. Dr. Schor also found that schools with women as deans or interim deans have more women in decanal positions than those with a man as dean or interim dean. Also of note is that, while there is no established path to dean, a 2021 study found that prior work as a department chair was the most common path, suggesting diversification of the chair positions or seeking

leaders from other pools (Jacobson et al., 2021). Recruitment and advancement opportunities for women should facilitate a cultural shift that provides them with a pathway to leadership (Farrugia, et al., 2020).

Women remain the minority in other positions of influence in medical education, such as authors, editors-in-chief, and editorial board members (Jagsi & Spector, 2020). Research shows that there are fewer women leaders in various medical specialties and national medical specialty societies (Guptill et al., 2018; Jagsi et al., 2020, Moyter et al., 2018, Potter et al., 2020), underscoring the need for institutional and individual reforms to stop the "leaky pipeline". Suggestions for these reforms are up-front negotiations for greater control of schedules, promotion and administrative support, and opportunities for networking, sponsorship, mentorship, and career development programs (Alli et al., 2021; Bauman, et al., 2014).

Female Leadership Characteristics

Leadership is defined by Vroom and Jago (2007) as the "process of motivating people to work together collaboratively to accomplish great things" (p. 18). Visible female role models are necessary in medical education to encourage and be an example for half of the student population (Flaherty et al., 2021). The number of women entering medical school has grown, resulting in a younger population of women in medicine (Rabinowitz, 2018). As stated by Dr. Elizabeth Travis, who is part of a leadership team focused on increasing the number of women leaders at MD Anderson Cancer Center, "If you can't see it, you can't be it" (Paturel, 2019, para. 17). The dearth of women in leadership positions in medical education creates a void of shared knowledge, unique experience, mentorship opportunities, and advocates for other women. Women leaders in medical education are necessary for the future of the profession.

Typical leadership qualities and gender norms can be opposite, making it difficult for

women to rise in institutional ranks (Abaza, 2021). The role congruity theory of prejudice toward female leaders purports that the perceived dissonance between the female gender role and leadership roles leads to prejudice; consequently, women are not as readily seen as leaders and it is more difficult for them to achieve leadership roles (Eagly & Karau, 2002; Moss-Racusin, 2012). However, Eagly and Karau (2002) posit that incongruity between gender and leader stereotypes can vary with changes in each stereotype. Changes in managerial practices, more androgynous beliefs about leadership, and a greater presence of women leaders in political and business realms are reasons for changes in leadership role incongruity (Koenig, et al., 2011). Gender stereotyping has not shown evidence of a decrease (Lueptow et al, 2001).

The cultural stereotypes of men and women persist, identifying women as communal (kind, dependent, nurturing), while most success in medical education at high levels of leadership is attributed to male gender stereotypes, i.e., being competitive, aggressive, and dominant (Burgess, 2012; Carnes et al., 2015). The research found that the perception of whether communal or agentic traits and behaviors are required for success in a particular occupation correlates with the percentage of men and women in that field (Eagly, 2012). This disparity is illustrated in the various medical specialties. Some medical specialties are viewed as being communal because they take care of children and families and are not seen as being technical (Carnes et al., 2015). It is therefore no surprise that the proportion of women working in family medicine, pediatrics, and internal medicine is higher than men (Doximity, 2021). Carnes et al (2015) found insight into medical students' self-sorting into specialties through research.

Changing the societal views of leadership requires an examination of personal biases. A supervisor's biases may be invisible and unintentional, but their effects are still the same, tainting the opportunities and experiences of women (Moss-Racusin et al., 2012). Gender biases are

costly to women leaders, affecting their psychological health, cognitive performance, advancement, and utilization of their full skill sets (Jones et al., 2016; King et al., 2012; Moss-Racusin et al., 2012). Male colleagues must join their female counterparts in working to end gender bias, recognizing "blind spots" and treating all colleagues equally (Rabinowitz, 2018).

Female Identity and Leadership

"Leadership sets the tone for what gets done, who does it, and how it is achieved" (Valantine, 2020, p. 1475). This privilege has traditionally belonged to men in medical education and other hierarchical fields, and obstacles to the success and career advancement of women have long been recognized (Alli, et al., 2021; Eagly & Karau, 2002; Farrugia et al., 2020; Wong, 2018). Calls for increasing the number of women holding leadership positions in medical schools have taken place for years, yet disparities continue to exist (Acosta et al, 2020; Alli, et al., 2021; Flaherty et al., 2021; Guptill et al., 2018; Moyer et al., 2018). Some of the factors contributing to this imbalance are repeatedly mentioned in the research, such as implicit bias, appropriate mentoring and networking, parental leave, and family obligations (Carnes et al., 2015; Flaherty et al., 2021; Pelley & Carnes, 2020; Westring et al., 2012).

Existing tensions between the female gender role and the female leader role can create identity interference for women, a phenomenon defined as a perceived incongruity between their roles (Karelaia & Guillen, 2011). Research shows that identity interference is detrimental to the psychological and physical well-being of women leaders, and may sabotage their motivation to lead (Eagly & Johannesen-Schmidt, 2001; Kareleia & Guillen, 2011; Settles, 2004). Whereas most individuals hold different roles or identities in life, not all combinations of identities meld to one's satisfaction. For women seeking or occupying leadership positions, there can be a perceived discord between the agentic traits associated with the typical leader and the communal

traits attributed to women (Carnes et al., 2015; Eagly & Karau, 2002; Rosette & Tost, 2016).

Organizational Characteristics that Support Female Leadership

Climate is referred to as the personality or totality of the surroundings as perceived by individuals within the organization, focusing on the institutional character instead of that of individuals (Carapinha et al., 2017; Powell, et al., 2010). Medical schools can vary by institutional type, location, faculty demographics, mission, and other perceived organizational characteristics, and the gender climate may vary across institutions and within medical schools (Carr, et al., 2015). Climate is regarded as a significant contributor to the loss of women in medical education, depriving students of their unique talents and perspectives that contribute to creating the best medical education for students (Shollen et al., 2009). Research by Dannals et al. (2009) found that medical school deans viewed the institutional climate to be improving for women, but improvement was needed. A climate in which women feel seen, heard, integrated within key networks of the organization, supported in work-life demands, and where mentoring needs are met is secure and uplifting at the organizational level. This promotes the presence and ascension of women within the leadership ranks.

As women ascend the ranks of leadership, there are multiple factors affecting advancement (Abazza, 2021; Sethuraman et al., 2019; Elinas et al., 2018; Jacobson et al., 2021). Work-life considerations are often mentioned as hindrances for women in medical education, noting that some policies may not be flexible in allowing for meeting those obligations. Childcare, relocating families, and elder care are a few of the family obligations noted as challenges. Also mentioned as obstacles to advancement are institutional and cultural policies, lack of mentorship or role models, and discrimination (Carr et al., 2015; Sethuraman et al., 2019; Humberstone, 2017; Moyer et al., 2018). Research shows that women drop out of medical

education disproportionately more than men, and reiterates the need for efforts to retain female faculty and remove barriers for female faculty seeking leadership positions (Elinas et al., 2018).

The challenges of modern healthcare demand that physicians have strong leadership skills, and it has been suggested that leadership education should begin in medical school so that student doctors can capably take on more leadership roles throughout their careers (Chen, 2018). In addition to being academically and clinically adept, student doctors can develop knowledge, skills, and behaviors that will enable them to become effective leaders (Warren & Carnall, 2010). The culture of an institution reflects leadership, and including women in the leadership of medical schools is imperative to creating a diverse workforce (Alwazzan & Al-Angari, 2019).

Theoretical Framework

Miles et al. (2020) liken theoretical frameworks to maps that assist in the navigation of research findings, providing a sense of the emerging story (Sandelowski, 1993). In parallel, the rich descriptions contained in the analyses can further expand the framework, enabling the researcher to understand the data in a new light (Corbin & Strauss, 2012). To identify institutional characteristics supporting women in leadership positions at one college of osteopathic medicine, the Four Frames Model of Bolman and Deal (2017) was utilized when the researcher analyzed the data. The Four Frames Model of leadership is particularly suited to this dissertation because it can provide insight into the strengths and limitations at the college of osteopathic medicine, which led to the prevalence of women as deans and department chairs.

Bolman and Deal (2017) posit that organizational behavior can be viewed through four distinct, yet inextricably linked lenses or frames, the Structural, the Human Resources, the Political, and the Symbolic. Bolman and Deal chose the label *frames* to indicate windows, maps, tools, and lenses to capture the idea of varying worldviews and perspectives (Bolman and Deal,

2017). The framework is practical to use and assists researchers in formulating an understanding of managerial and leadership effectiveness (Bolman & Deal, 2017). As shown in Table 1 from Bolman and Deal (2017, p. 20), each frame and its relationship to leadership is succinctly described.

Table 1.

Bolman and Deal's Four-Frame Model

	Structural	Human Resource	Political	Symbolic
Metaphor for organization	Factory or machine	Family	Jungle	Carnival, temple, theater
Supporting disciplines	Sociology, management, science	Psychology	Political science	Anthropology, dramaturgy, institutional theory
Central concepts	Roles, goals, strategies, policies, technology, environment	Need, skills, relationships	Power, conflict, competition, politics	Culture, myth, meaning, metaphor, ritual, ceremony, stories, heroes
Image of leadership	Social architecture	Empowerment	Advocacy and political savvy	Inspiration
Basic leadership challenge	Attune structure to task, technology, and environment	Align organizational and human needs	Develop agenda and power base	Create faith, belief, beauty, meaning

The structural and human resource frames relate to managerial effectiveness, while the political and symbolic frames relate to leadership effectiveness (Bolman & Deal, 2017). In 1989 research by Bensimon, it was found that new college and university presidents often use a single-frame leadership structure, while more experienced presidents often used a multi-framed approach, intuitively reframing situations until they are understood. The four frames address the product of change and the process of achieving it (Reinholtz & Apkarian, 2018). Each frame is powerful, but applying the four frames creates a deeper understanding of the institution as each

lens is interrelated and contributes to a more holistic portrait (Lieff & Albert, 2010).

The climate of an institution evolves over time and should be monitored to support meaningful change (Reinholtz & Apkarian, 2018). Guided by Bolman and Deal's Four Frames Model, the researcher will thematically analyze the data from the participants' interviews to extrapolate evidence of the characteristics of the four frames, as used at this college of osteopathic medicine to embrace a climate supporting women in leadership positions. The unique perspective of the individual determines their view of the climate, and this can even differ among departments (Reinholtz & Apkarian, 2018). Armed with this knowledge, the researcher will move forward seeking to identify insights into the personal and institutional characteristics that support and advocate female leadership.

In a study of the leadership of curricular leaders in medical education, Bland et al., (1999) found that the use of the human resource frame was most common and that there was little support for using at least two frames. Lieff and Albert (2010) researched the four frames - structural, human resources, political, symbolic – as they relate to medical education leadership and how leaders conceive of their work. To thematically analyze the participants' interviews for evidence of the four frames, the researcher will utilize the following criteria (Bolman & Deal, 2017; Lieff & Albert, 2010):

Structural: The presence of clearly understood goals, roles, and relationships. Leaders facilitate goal achievement and establish clear lines of authority. Appropriate forms of coordination and control exist to coordinate individual and unit effectiveness.

Human resources: The participants feel appreciated, and their skills, attitudes, and energy are important to the institution. Support, professional development, and empowerment are encouraged.

Political: Differences in needs, interests, perspectives, and power exist, but managing these conflicts is seen as usual work. Allocation of resources is mapped, linkages are made between individuals and negotiations take place.

Symbolic: The importance of shared values and culture is evident. Leaders lead by example, and a common vision is created. Rituals, ceremonies, and stories reinforce building a common vision.

Summary

Increased numbers of female medical school matriculates has not equaled gender and social equality. While gender disparities in medical education leadership continue to be the norm, a college of osteopathic medicine with women constituting 58% of its deans and department chairs has been analyzed for this case study. Osteopathic medicine has a history of encouraging participation by women from its inception, providing a backdrop for the stories of the women deans and department chairs interviewed. The Four Frames Model of Bolman and Deal has been used to navigate the research findings, providing insights into the personal and institutional characteristics supporting increased leadership by women in a male-dominated field. Osteopathic and allopathic physicians are the only types who are trained and licensed to practice all facets of medicine; yet, as described in its history, osteopathic medicine is a distinct pathway.

Chapter 3: Methodology

While gender disparities in leadership remain the norm in medical education (Humberstone, 2018), this study will examine the experiences of female deans and department chairs at an institution where 58% of the leadership is female. This narrative case study explores how the female leaders of a college of osteopathic medicine describe the support mechanisms that facilitated their advancement to a leadership position in the field of medical education. This chapter discusses the rationale for utilizing a narrative case study design, and identifies the population of the study, sampling procedures, the research setting, instrumentation, and data collection and analysis methods. This chapter also describes the measures taken to ensure the study's trustworthiness, limitations, and delimitations.

Research Design

According to Creswell (2014), "the research approach is the plan to conduct research derived from the intersection of philosophy, research designs, and specific methods" (p. 5). The philosophy guiding this study is social constructivism, which posits that individuals seek to understand their known world by way of their own experiences (Creswell, 2014). Qualitative research is appropriate when researchers access the thoughts and feelings of participants and develop an inductive and interpretive meaning of the data (Sutton & Austin, 2015). Therefore, qualitative researchers focus on the realities of each individual to understand complex social or human problems (Boyland, 2019). In this study, I will seek to understand the experiences and characteristics of women leaders at a college of osteopathic medicine and identify the support mechanisms that foster their success in osteopathic medical education.

Narrative Case Study

The stories of the women in leadership at this institution will represent their reflected

experiences, and what they mean to them. The narrative approach to qualitative research centers on the lived experiences of individuals, and how individuals create meaning of complex and ambiguous happenings (Etherington, n.d.). The bounded case of the women leaders at this college of osteopathic medicine will contextualize the participants within the larger case of medical education, and the use of narrative inquiry unpacks their stories, shaping an understanding of their experiences (Sonday et al., 2020). It is up to the researcher to interpret the participants' accounts for meaning so that form and function can manifest (Riessman, 2011). The use of case study and narrative inquiry as methodological frameworks for this study will help researchers to understand the participants' perceptions of personal and institutional support mechanisms that foster success in women leaders in one osteopathic medical setting. According to Riessman (2011), narrative approaches are advantageous when studying the performance of identity, and this study will explore how the participants' identity shapes their leadership.

Research Setting or Context

The setting for this case study is a college of osteopathic medicine located in a southern state. There is a gap in research regarding the number of women in the leadership roles of department chairs and dean of osteopathic medical school, yet it is documented that there is a disparity between men and women in leadership roles in medical education, making investigation of this site a critical case or anomaly (Humberstone, 2018).

Demographics of the Region

The location of this institution is a city of 82,000 people situated on 80 square miles in a rural state (World Population Review, 2022). The average household income is $67,605 with a poverty rate of 18.13% (World Population Review, 2022). The racial composition is 71.84% White, 20.04% Black, and 8.11% of the population represents two or more races, Asian, Native

American, and Pacific Islander (World Population Review, 2022). There are two large hospitals in this city, serving patients in surrounding states and beyond. Student doctors of this college of osteopathic medicine students rotate at these hospitals during clerkships, as well as many small community hospitals and clinics in the area, which is beneficial to all parties involved**.**

Institutional Structure

The campus that will be studied is part of a larger college with campuses worldwide, with a rich history and dedication to the practice of osteopathic medicine and the education of future physicians. The institution is accredited by the COCA, whose standards ensure that academic quality and continuous quality improvement provided by colleges of osteopathic medicine reflect the evolving practice of osteopathic medicine (AOA, 2022).

Study Participants and Sampling

Participants for the study are four women who are in leadership positions at the college of osteopathic medicine being studied. The criteria set forth are that the women are female doctors of osteopathic medicine and are identified as department chairs or deans at the medical school. . There are other women in leadership positions at this medical school, but they will not be included in this critical case study. As such, the information gleaned from these four women could impact the understanding of leadership in a male dominated field. The varying backgrounds of these women, how they came to be at this institution, and why they stay there will provide information explaining the personal and organizational attributes that support women in leadership positions. As there are a number of women employed at this institution, insight into the supportive roles of these women leaders will be examined. While research shows that fewer women physicians are in leadership positions in medical schools than men, the stories of these women will be valuable in understanding institutional and personal characteristics that

supported their ascension to leadership (Larson et al., 2019).

Instrumentation

The sharing of personal stories through interviews is a primary means of collecting data in qualitative research. Semi-structured interviews will be used for this study, as the person interviewed is a participant in meaning making (DiCicco-Bloom & Crabtree, 2006). These interviews are conducted once, utilizing an interview guide that helps to make the most of the hour of time allotted (Jamshed, 2014). Bloomberg & Volpe (2019) specify four types of information needed to answer research questions: contextual, demographic, perceptual, and theoretical, and interview questions are aligned with the research questions in order to obtain the most relevant information for the study (DiCicco-Bloom & Crabtree, 2006). Open-ended questions will be used in the interview to learn as much as possible about the study participants' journeys in medical education (Jacob & Ferguson, 2012). Saturation will be reached when the responses reflect a "new and richly textured understanding" of the phenomenon of women in leadership at this institution (Sandelowski, 1995, p. 183). The questions will be field tested by female leaders in the institution that are not part of the study, in order to assess validity of the instrument. Beginning with basic background questions will help to establish a rapport with the participants as we progress deeper into the interview.

The interview questions, including their alignment with the research questions and theoretical framework, is as follows:

R1: How do female leaders at the institution describe their careers in medical education?

TF: Human Resources, Political

1.Why did you pursue a career in medical education?

2. How did your career in medical education begin?

3. What professional development opportunities have you participated in that contributed to your success?

R2: How were they prepared for leadership?

TF: Human Resources, Political

1. Looking back, what qualities do you see in yourself as a young person that prepared you for leadership?
2. Have you had sponsors in your career?
3. Were your mentors and/or sponsors male or female? Describe how their gender affected the mentorship/sponsorship you received.

R3: What role has gender played in their experience in medical education?

TF: Symbolic

1. Why do you think females are underrepresented in medical education leadership?
2. Did the history of osteopathic physicians accepting women influence your decision to become a DO?
3. Tell me about your support system as you pursue your career in medicine.
4. Have you experienced overt bias? Covert bias?

R4: How has their experience shaped their identity?

TF: Human Resource, Political

1. Describe your experience as a woman working in a male-dominated field.
2. Tell me about challenges you experienced as you achieved a senior leadership role. How did you overcome these challenges?
3. What is the best career advice you have received, and who provided it?

R5: How does their identity inform their leadership?

TF: Human Resource, Symbolic

1. How do you support women who aspire to leadership in medical education? What advice do you give them?
2. What changes in the qualities of leadership have you witnessed in your career?
3. Describe your male counterparts' support or lack of support for you as a leader.

R6: What personal characteristics do female leaders attribute to career success?

TF: Structural, Human Resource, Political

1. What is the highest level of education attainment in your family?
2. Do you remember how old you were when you decided to pursue a career in medicine?
3. How encouraging were your parents and/or teachers when you decided to pursue medicine?

R7: What institutional characteristics do female leaders attribute to career success?

TF: Structural, Symbolic

1. Why did you accept your current position?
2. What do you think your institution is doing right to foster women in leadership? What are they not doing?
3. What challenges have you faced as a female senior leader in this institution?
4. Do you have ideas for training at this institution that could contribute to the development of women as leaders?

Data Collection

The criteria for participation in this study are to be a female osteopathic physician and a dean or department chair at the institution. Participants will be recruited through an email invitation, including a document informing them of the goals and scope of the study. I will provide the participants with the questions before the interview, arranging for a mutually convenient time to meet for a one-hour interview. Interviews will be conducted in person, and by Zoom when necessary.

Open-ended, semi-structured interviews will be utilized to understand the experiences of women deans and department chairs at this institution, and the factors that have contributed to their ascension to leadership of an osteopathic medical school. This structure will allow the researcher to guide the interview according to the study, yet allow the participants to discuss their personal experiences and perceptions of leadership. The interview will be scheduled for one hour, and the participants monitored for any discomfort or reasons to conclude the interview early.

Data Analysis

A feature of the narrative approach is that a collection of stories from various individuals become the raw data, relaying the particular experiences of those individuals and thus creating a record of them (Butina, 2015). The case study methodology allows for these narratives to provide a variety of lenses through which to explore a phenomenon within its context (Baxter & Jack, 2015). The participants of this study will relate their experiences as female leaders in medical education, a field that is traditionally male-dominated, and describe personal and professional characteristics that contribute to their success. The researcher will conduct semi-structured interviews with participants, either by Zoom or in their offices. It is noted that time for

reflection and deep discussion will be allowed. Part of the preparation for the interviews will entail the researcher reading the professional biography of each participant to provide more knowledge of their professional life and accomplishments. The interviews will be audiotaped and the researcher will transcribe notes so that familiarity with the information is established, and emergent themes are acknowledged. All information pertaining to this research will be kept in a locked drawer of the researcher's office.

Coding enables the researcher to write up findings in insightful ways that answer the research questions, thus identifying meaning in the data (Miles, et al., 2013). The process of coding the raw data into a trustworthy story is a craft and art (Skjott, Linneberg & Korsgaard, 2019). The process allows for a deep and comprehensive review of the data, enabling the researcher to develop ideas that are more than selective impressions (Miles, et al., 2013). Deductive coding applying the theoretical framework, Bolman and Deal's Four Frames Model, will be utilized to organize the data, identify relevant data, and continue to focus on the interview questions. In order to analyze themes that emerge from the data, the researchers will also utilize inductive coding to interpret findings (Vanover, et al., 2022). Once two researchers appraise the interviews for this study, descriptive coding will take place with codes created based on the topic of the segment of data being analyzed. These smaller segments of data will be summarized and labeled, providing meaning to the segment in relation to the overall research topic. Descriptive coding will assist the researcher in developing an inventory of the data, resulting in an overview of the research (Saldana, 2015). These themes will be further analyzed to identify new concepts or processes relating to the research.

Trustworthiness

The researcher will ensure that the inferences and findings from the data reflect the

participants' voices by following the guides for trustworthiness. Bloomberg and Volpe (2019) describe trustworthiness in qualitative research as "how well the researcher has provided evidence that her or his descriptions and analysis represent the reality of the situations and persons studied" (p. 202). For this study, credibility will be achieved by reflexivity, member checks, and the use of thick, rich descriptions. This in turn establishes the significance and value of a study. A thick description will be employed to allow readers a complete understanding of the research process, and multiple approaches will be used in this research to enhance its accuracy. Member checking will be utilized to determine credibility, ensuring that participants' perceptions correlate with the researcher's representation of them. I will allow participants to review the interview transcript, and my report of specific descriptions or themes and provide their insight, setting up follow-up interviews if necessary to allow time for comments. Also contributing to the credibility of the study will be the researcher's statement of biases. I work at this institution, my daughter is a student there, and I know the participants as friends as well as colleagues. I will be aware of my feelings and will be transparent about this in the study.

Thorough explanations of data collection, analysis, and availability of the field notes and transcripts for review will contribute to the dependability of the study. Through this "audit trail", confirmability will also be illustrated. Readers will be able to understand how the findings and interpretations are clearly derived from the data, enabling the researcher to draw supported conclusions. Acknowledging that I have biases at the outset of this research, confirmability in particular will be kept in mind along with a continual process of reflection and transparency. Researching the female-majority senior leadership at this college of osteopathic medicine will provide insight into the particular characteristics of these women and the college that embraced this dynamic. The information that this research brings to light may not be transferable to other

institutions of medical education, but the uniqueness of this situation warrants examination. The researcher cannot prove that the findings will be applicable, but provide evidence that they could be (Guba & Lincoln, 1985). Triangulation is important in all aspects of trustworthiness in qualitative research. (Bloomberg & Volpe, p. 206). Member checking, the use of thick, rich descriptions throughout the data collection process, admission and documentation of researcher biases, and transparency will be employed to ensure cross-checking of information and conclusions.

Limitations and Delimitations

The goal of qualitative research is not to provide "truths" that can be applied to other similar situations but to develop cognitive-relevant findings that may be relevant in other contexts and retain their content-specific richness (Bloomberg & Volpe, 2019). The findings of this research may not be transferable to other medical schools or even other female leaders, but their stories are relevant and worthy of being told. It is recognized that individuals' recollections can vary, enhancing some areas and forgetting some occurrences altogether. Researcher bias is another acknowledged limitation of this study.

As the purpose of this study is to research female leaders of the institution who are osteopathic physicians, other female leaders will not be interviewed. These women undoubtedly have experiences and knowledge to impart in their journey as leaders in medical education and are highly recognized in their respective areas of expertise. Given the history of osteopathic medicine and the inclusion of women from its inception, it is important to review the field 130 years later and examine how women are represented. The study participants will be deans and chairs of departments at this institution, and the campus dean, but not female deans and chairs from the original site. The majority of the leadership positions at this college of osteopathic

medicine are female, and although there are female leaders at other locations of the college, they are not the majority. I have chosen to study this location's campus leaders and how the institution has supported the careers of these women.

Summary

Chapter Three provides a detailed explanation of the study's research methodology. Qualitative case study methodology will be used to allow individual narratives to provide a variety of lenses through which to explore a phenomenon within its context (Baxter & Jack, 2008). The setting for this case study is a college of osteopathic medicine, where the percentage of women in leadership positions there is higher than that of other medical schools. The purposeful sample consists of four female leaders of this institution who are osteopathic physicians. These women will be interviewed for the study to relay their experiences as female leaders in the male-dominated field of medical education and describe personal and professional characteristics that contribute to their success. Member checking, the use of thick, rich descriptions, admission and documentation of researcher biases, and transparency will be employed to ensure cross-checking of information and conclusions. Limitations and delimitations of the study are acknowledged in Chapter Three and will be addressed throughout the research. It is hoped that this study will contribute to the understanding of women in leadership in medical education and the support mechanisms that facilitated their success in a male-dominated field.

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