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Pepperdine University
Graduate School of Education and Psychology

WOMEN DEANS AND DEPARTMENT CHAIRS IN MEDICAL EDUCATION: A STUDY
OF ENABLING AND INHIBITING FACTORS IMPACTING THEIR LEADERSHIP
SUCCESS

A dissertation submitted in partial satisfaction
of the requirements for the degree of
Doctor of Education in Organizational Leadership

by

Katherine M. Ruger

September, 2015

Jack McManus, Ph.D. – Dissertation Chairperson

This dissertation, written by

Katherine M. Ruger

under the guidance of a Faculty Committee and approved by its members, has been submitted to and accepted by the Graduate Faculty in partial fulfillment of the requirements for the degree of

DOCTOR OF EDUCATION

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DEDICATION

“Personal leadership is the process of keeping your vision and values before you and aligning your life to be congruent with them.” — Stephen Covey

Mom, I dedicate this effort to you. You have been an incredible support and example for me. You lead selflessly with passion and dedication. Thank you for continually empowering me to create my own vision and ensure that my life trajectory aligns.

ACKNOWLEDGMENTS

“Change your thoughts and you change your world.” — Norman Vincent Peale

Impacts from the faculty at Pepperdine University Graduate School of Education and Psychology have forever changed my perspective and approach as a leader. My experience at Pepperdine influenced my leadership approach and afforded me personal freedom and encouragement to embrace my potential. I was exposed to an invaluable culture of appreciation and gratitude and I will strive to exude similar values throughout my life. For this, I thank the leadership at Pepperdine University and each faculty member for contributing their passion and genuine interest in students. I would especially like to thank my committee members, Dr. Harvey and Dr. Hurst for their support and willingness to be a part of my journey as well as my chairperson, Dr. McManus, for sharing his expertise, captivating stories, time, and excellent taste in music.

VITA

Education

Doctor of Education in Organizational Leadership, Expected July 2015
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Wayne State University, College of Education, Detroit, MI

Bachelor of Business Administration in Business Management, 2007
Northwood University, Midland, MI

Leadership Experience

Director of Admissions
11/2012-Present
Michigan State University, East Lansing, MI
College of Osteopathic Medicine

Responsibilities

- Participate in the tactical and strategic planning for the admission office.
- Manage the admission operation, including staff supervision, oversight of the application review process, travel coordination, and all marketing & communications.
- Meet with individuals and groups (e.g., advisors, college students, high school students, etc.) to define application process, analyze transcripts and develop an academic plan to prepare for medical school curriculum.
- Develop, implement and evaluate recruitment processes to enhance diversity within the college and profession, including working knowledge of state and federal laws and University policies and procedures as they pertain to protected classes and persons with disabilities.
- Use enrollment trend data in establishing priorities and developing strategies and objectives
- Collaborate with deans and chairs in discussions of market capacity and viability of existing and future programs.
- Lead Admissions Committee and deliver on-boarding and training workshops.
- Oversee admissions office revenue stream and budget.
- Facilitate professional presentations local and national conferences, as well as to senior staff and trustees.
- Prepare reports to national organizations and U.S. News and World Report.

Accomplishments

- Promoted from Director of Outreach & Recruitment position based on leadership in creating partnerships and enhancing recruitment and outreach programming.
- Redesigned admissions process to involve a paperless, electronic admissions system.

- Increased applicant pool by 20 percent annually and manage an applicant pool of over 6000 for 300 seats.
- Initiated multiple-mini interview process and recruited 150 faculty and alumni to participate as interviewers.
- Developed E-recruiting programs to reflect college programs and philosophy.
- Transformed formerly adverse office environment to one that is collaborative, friendly, and innovative.

Director of Outreach & Recruitment
 07/2012-Present
 Michigan State University, Detroit, MI
 College of Osteopathic Medicine

Responsibilities

- Provide leadership in college recruitment & outreach programs statewide and internationally.
- Develop curriculum for leadership development for outreach program participants.
- Partner with faculty and alumni to address programming needs.
- Collaborate with underserved communities in order to provide resources for educational & developmental needs.
- Identify and write grants to secure diversity education program funding.
- Create research opportunities using the data obtained through the recruitment programs.

Accomplishments

- Promoted from Admissions Counselor position.
- Expanded office by adding a Manager of Outreach and Inclusion.
- Founded three regional Future DOs program for underserved high school youth in Michigan.
- Expanded College presence to national meetings and conferences in order to recruit special populations.
- Inherited and modernized two week residential summer pre-college program, OsteoCHAMPS.
- Hosted monthly diversity dinner series for current medical students.

Scholarly Engagements

Committee Service

- Executive Committee, Michigan State University College of Osteopathic Medicine
- Diversity Committee, Michigan State University College of Osteopathic Medicine
- Scholarship Committee, Michigan State University College of Osteopathic Medicine

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Compuware Corporation, Detroit, MI

Career Development Coordinator
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Professional Development

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The Eli Broad College of Business
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ABSTRACT

Women are occupying leadership roles in medical education, yet are underrepresented in senior leadership positions. This qualitative study explored the enabling and inhibiting factors that select women deans and department chairs experienced throughout their career ascent. The qualitative research included eight women, both deans and department chairs, in medical education. The deans and department chairs participated in an interview where the primary data were obtained.

Qualitative research methods were used to analyze the data, and the findings were presented in narrative format. The findings were consistent with the literature review and reviewed similarities in enabling and inhibiting factors experienced. The findings suggest specific leadership styles, characteristics, and skillsets for aspiring deans and department chairs to consider.

The recommendations suggest that women considering senior leadership positions in medical education may benefit from a gender-neutral workplace, which supports the professional growth of women through development opportunities in areas such as finance and strategic decision-making. A collaborative leadership approach, along with decision-making, flexibility, humility and confidence, were identified as common characteristics enabling leadership success. Women aspiring to obtain senior leadership positions may also benefit from encouragement and mentorship in obtaining department chair positions to better prepare them to move into dean roles.

Chapter One: Study Introduction

Background and History

Medical education originated in the United States in 1765, but did not officially welcome women into the profession until almost 90 years later. Early medical education was not standardized and did not require any test of competence. However, medical education advanced throughout the next two and one-half centuries, enhancing the medical education and making medicine a more competitive and respected profession (Walsh, 1977).

Women's progress in medical education had a gradual start with many limitations throughout the decades. The first woman to apply to medical school in the early 1800s was also the first to be rejected (Walsh, 1977). Women's rights activism eventually enabled women to pursue medical education in the mid-1800s and, not without barriers throughout the following 200 years, eventually at a rate equal to their male counterparts. After centuries of effort for equal education opportunity, today, almost half of applicants and matriculants to medical school are women (American Association of Medical Colleges; AAMC, 2014).

Within the last several years, women have advanced from simply completing formal medical education programs to gaining positions of leadership within organizations that offer medical education programs. In the late 1800s, the first woman was appointed to a dean position at a women's medical college (American Medical Association; AMA, 2015a). Over time, as medical colleges became co-educational, the opportunity for women to gain leadership positions remained limited. Even a century later, in 1991, every medical school in the country employed a male dean ("Empowering," 1991).

Today approximately 50% of matriculates into medical schools are women, yet only a small number of senior leadership roles within medical education is represented by women;

among them the smallest representation are with deans and department chair positions at 16% and 15% respectively (AAMC, 2014). As women advance to these positions of power and begin to overcome the promotion barriers within medical education, this study will address which factors women identify as enabling or inhibiting their success in pushing through the medicinal glass ceiling and achieving positions in the upper echelons of medical education.

This study guides current female deans and department chairs in reflection upon how their contributions to the next generation of women leaders in medical education may eliminate the barriers to success and replace them with unlimited opportunity and empowerment for qualified candidates to pursue careers in leadership within medical education, regardless of gender. This dissertation attempted to identify those enablers and inhibitors to the professional growth and development of women to the highest roles of administration in medical education.

Need for Research

Health care and medical education are constantly evolving and require creative leadership in order to meet the needs of a changing society. The medical profession consists of clinical leadership and interprofessional teamwork and requires effective change leaders that inspire teams to improve (Hays, 2008). Leaders in health care are expected to advocate for an improved health care system as well as seek better health education for society, which requires a comprehensive leadership approach (Brook, 2010).

Women are expanding into professional roles in their careers, including those in the medical education field. The percent of women applicants within United States medical schools increased, growing from fewer than 25% in the mid-1970s to approximately 50% in the 2000s (Roskovensky & Grbic, 2012). In 2014, women represented 48% of graduating medical students (AAMC, 2014). Regardless of the increasing number of women applicants and graduates from

medical school, a gap between male and female faculty members and administrators within the medical education field remains prevalent.

Although the percent of male and female applicants to medical schools in the United States remains approximately even, presently only 16% of medical school dean positions and 15% of the positions of department chairpersons are filled by women (AAMC, 2014). Identifying the enabling and inhibiting factors affecting women leaders in medical education might address how to influence the career aspirations and career progression of women within academic medical leadership. The results may draw conclusions as to how to identify what can be done to address the internal and external inhibiting factors women leaders in the medical field face today as well as identify the internal and external enabling factors women experience and have contributed to their leadership roles within medical education.

The outcomes of this study may have several implications for researchers, medical college administrators and recruiters of leaders in medicine. The study provides a perspective intended to address many of the inhibitors, such as gender gaps in compensation and gender discrimination, which may affect women leaders in both their choice to pursue medicine as a career as well as their pursuit for career advancement within medical education (Matorin, Collins, Abdulla, & Ruiz, 1997). The study also identifies the perceived advantages that women participants experience within their role as leaders. The results from this study may produce insights for the identification and development of potential women deans and chairpersons in order to augment medical education leadership diversification initiatives. By identifying success enablers and inhibitors, training and mentoring programs may also be designed for women leaders who strive to pursue careers in medical education. Results of this study may also inform recruiters in how to develop strategies for the recruitment, retention and eventual promotion of

women leaders in medical education. Next, the research may assist women who are interested in pursuing personal and career development and may contribute to the design of future leadership development interventions. Finally, the study also provides direction for future research.

Statement of the Problem

Women hold fewer than 20% of dean and chairperson leadership positions in the medical education industry, yet women are represented in medical schools at a rate of close to 50% (AAMC, 2014). The researcher was unable to find research investigating the enabling and inhibiting factors that may help define how these women leaders in medical education achieved success. Women are assuming leadership roles, but no one has examined their path, specifically related to internal and external enabling and inhibiting factors. This paper addresses this gap and attempts to identify the enabling and inhibiting factors experienced by women leaders in the medical education field.

Research is needed to describe the dynamics that contribute to women's career decisions as dean or department chair and the success factors identified by those who choose medical education. Further attention, therefore, should be focused on identifying specific factors of success and fostering the sustained success of women leaders in medical education.

Statement of the Purpose

Medical education leaders have a unique opportunity to inspire and influence future generations of physicians and medical education leaders. The modern day healthcare system requires improved access to patients, reduced error, and cost-effective care. Leadership in healthcare, therefore, requires effecting change through the action of others (Hays, 2008). This leadership model is less about directing individuals and more about effecting change through the actions of individuals. Attributes commonly associated with healthcare leadership include

effective communication, clarity of vision, humility, confidence, and emotional intelligence (Goleman, 2004). With the natural progression of the healthcare landscape toward greater inclusion, mutual respect, and transparency, medicine is becoming more aligned with leadership approaches commonly described as more feminine (Plietz, 2012). Women have the potential to offer significant contributions to the medical education system, as well as the evolving culture of medicine.

The purpose of this study was to identify and describe the factors that enable and inhibit women in dean or department chair positions in medical education. Women represent a minority of deans and department chairs within medical schools. This study guides leaders in reflecting upon how their contributions to the next generation of leaders in medical education may help eliminate the medicinal glass ceiling and create an environment conducive for qualified individuals to pursue careers in leadership within medical education, regardless of gender.

Research Question

In order to address the gaps in the literature, the following study asks the following research question:

- What are the enabling and inhibiting factors impacting the success and career progression of women deans and department chairs in medical education?

The study more specifically seeks to investigate the following sub-research questions:

1. What internal (personal choice) factors enable women deans and department chairs in medical education to be successful in leadership?
2. What external factors enable women deans and department chairs in medical education to be successful in leadership?

3. What internal factors inhibit women deans and department chairs in medical education to be successful in leadership?

4. What external factors inhibit women deans and department chairs in medical education to be successful in leadership?

Medical education in higher education is in the unique position of immediate influence on the next generation of physician leaders. In seeking to describe the phenomenon, or essence of experience, it is hoped that this investigation will reveal opportunities for positive change as well as create additional avenues for further research (Creswell, 2014).

Operational Definitions

Dean. Merriam-Webster defines Dean (2015) as the head of a college or university faculty or department.

Department Chair. Serves as the link between faculty and administration. The department chair is responsible for curriculum, planning, budget matters and personnel management (Hecht, Higgerson, Gmelch, & Tucker, 1999).

Enablers. Effects of the career development process that enhance one's career aspirations and expand the range of leadership opportunities available (Swanson, Daniels, & Tokar, 1996).

Glass ceiling. An impalpable barrier within a hierarchy that prevents women or minorities from obtaining upper-level positions in the workforce (Glass ceiling, 2015).

Inhibitors. Effects of the career development process that inhibit one's career aspirations and restrict the range of leadership opportunities available (Swanson, Daniels, & Tokar, 1996).

Leadership. A process whereby an individual influences a group of individuals to achieve a common goal (Northouse, 2013).

Leadership inhibitors. The innate impediments women face in leadership in regards to

disconnect between the gender role of women and the leadership role (Northouse, 2013) as well as the outside conditions that make career advancement challenging (Swanson et al., 1996).

Leadership enablers. The innate states that improve the potential of one's career progress and the outside conditions that improve the potential of one's career progress (Swanson et al., 1996).

Medical degree. Doctor of allopathic medicine (M.D.; AAMC, 2014) or doctor of osteopathic medicine (AACOM, 2015).

Medical education. Involves of the education and training of physicians (medical doctors (M.D.) and doctors of osteopathic medicine (D.O.) in the United States, from entry-level coursework through continued education for practicing physicians.

Medicinal ceiling. Term derived from the glass ceiling. Originated from a Wall Street Journal story in 1986, which investigated barriers women experienced at high levels of corporate leadership. The term has been personalized to denote the barriers confronting women in leadership positions in medicine.

Participant(s). One or all of the eight women leaders selected to be interviewed for this dissertation. The women were employed within a medical school as either a dean or department chair.

Perception. An individual's interpretation and conclusion about how one experiences society, an event or an organization (Robbins & Judge, 2013). Based upon one's perception of their own terms of reality, as it may differ from definite reality, will be measured based upon the enablers and inhibitors in leadership positions within the medical profession.

Transactional leadership. A leadership style in which the leader promotes a contingent reward system (Northouse, 2013).

Transformational leadership. A leadership style, which seeks to change and transform individuals and teams. The style focuses on emotions, values, ethics, standards, and long-term goals and assesses the way individuals are motivated and ensures that each member is being treated with respect as individuals. There are four components within the transformational leadership theory: idealized influence, inspirational motivation, individualized consideration, and intellectual stimulation (Northouse, 2013).

Women leaders. A woman participant will have met the academic leader in medicine status requirement if they hold a medical job title including dean or department chair and hold a medical degree (AAMC, 2014).

Delimitations and Limitations

The study has limited external validity due to the focus on women leaders within the medical profession, and therefore the extent to which the study's findings apply to women leaders outside of medicine is unknown. There is limited generalizability to other medical institutions that are not included in the sampling frame.

The researcher identified the following limitations for the study:

- Although the interview questions are clearly articulated, respondents may interpret the questions differently.
- The participants may be reticent about sharing candid responses during the interview.
- The researcher will not attempt to validate the degree of honesty of the responses.
- All participants may not share common definitions for key concepts such as preparation and training, leadership skills, inhibitors and enablers.
- There is a limitation on the validity of the research due to the potential threat of interview responders providing inaccurate answers as to influence the outcome of the

study including responders answering questions that may not be applicable to their experience.

- The responses might be idiosyncratic and not generalizable to future potential leaders in the field of medical education.

The delimitations include:

- The participants may feel vulnerable because of the limited size of the research population.
- The participants are limited to female leaders in medical education in dean and department chair positions. Assistant deans, associate deans, and senior associate deans were not included in this study.
- The participants may be cautious participating in and answering interview questions due to fear of reactions to the inhibiting questions.
- The interview questions included open-ended questions, which may have limited participation from individuals due to the time commitment.
- All factors affecting the success of the participants may not have been included in their responses.
- The researcher did not define terms such as leadership, mentoring, etc. for the participants prior to the interview.

The primary limitation of this study is the small sample size. Because the study was conducted as qualitative research, it was not possible to interview enough participants to make the result representative of the entire population of women deans and department chairs in the medical education field. Therefore, the study findings were carefully organized and presented in such a way as to be clear about their limited applicability. This study should therefore be

considered as a depiction of perceptions rather than an estimation of perceptions of all women deans and department chairs.

Assumptions

While developing the research topic and formulating the concepts related to the topic, the researcher identified several assumptions listed below:

- There will be a clear pattern of positive leadership behaviors that emerge from the case studies.
- A pattern of successful leadership skills and administrative behaviors for aspiring women leaders in medical education will be discovered from the research.
- Gender will dominate the factors affecting the leadership success of the participants in this study.
- Because gender dominates the behaviors of the participants there will be similarity in the participants' comments.
- Deans and department chairs in other institutions will exhibit similar factors contributing to their success and experience similar factors inhibiting success.
- The questions asked during the individual interviews solicited the most important factors influencing the participants' success within her career trajectory.
- Women participants responded truthfully to all interview questions.

The interviews were completed confidentially, which helped facilitate honest responses. The researcher developed the interview questionnaire, which used with participants. The accuracy of the interview questions may come into question because the researcher developed the questions. The instruments created by the researcher were based on research literature and were academically evaluated, which maximize its validity and reliability. The reliability and validity

of this instrument will be described in Chapter Three in how it will be assessed via item and factor analysis.

Significance of the Study

The women who have achieved positions of leadership in dean and department chair positions did so through hard work and dedication. Greater attention should be focused on the fostered success of women leaders in medical education and interventions to continue to recruit and retain women in leadership roles. The factors enabling and inhibiting the success of current women deans and department chairs within medical education had not previously been studied.

The number of women physicians has also grown substantially. However, within the arena of academic leadership in medical schools, fewer women are appointed to key leadership roles of dean or department chairperson than their male counterparts. Forty-six percent of medical schools' assistant deans and associate deans are women, but that does not indicate that these individuals are moving into dean or department chair roles (AAMC, 2014). The small number of women who hold leadership positions in medical education may cause fellow women to experience challenges in leading medical schools because of a lack of role modeling and understanding and appreciating leadership styles common amongst women.

Leaders in medical education have a unique opportunity to influence the next generation of medical students, physicians, medical education leaders and society as a whole. Increasing the number of women in leadership roles is critical to enabling the success of medical education through having a positive impact on the mission of medical education institutions, patients, and society (AAMC, 2014). The low numbers of women in leadership positions could have a negative impact on patient care, teaching and research. The stalled advances in women's health, for example, are linked with the slow progress of women into leadership (Carnes, Morrissey &

Geller, 2008). Enabling women's leadership in medical education will strengthen institutions and create a well-balanced leadership team (AAMC, 2014).

Summary

Women have progressed within the medical community as physicians; yet still remain under represented in the upper echelons of the medical education field. In overcoming the medicinal glass ceiling, women deans and chairpersons have experienced enablers to their success as well as barriers experienced throughout their progression in leadership positions. This study sought to identify factors that contribute to their success and factors that are identified as barriers throughout their career and leadership progression.

This chapter introduced the program and defined the purpose of the research, which will be expanded throughout Chapter Three. The purpose of the research defined the development of the research questions guiding the study along with a statement of the importance of the study. In order to clarify the research, the key terms and operational definitions were described and assumptions and limitations of the study were addressed. Chapter Two provides comprehensive research to date via a literature review. Chapter Three expands on the research design and methodology of the study. The instrumentation for the interview is described, along with the method of selection of participants and the procedures to follow to conduct research. Chapter Four provides the results of the interviews. Finally, Chapter Five includes conclusions based on the results.

Chapter Two: Background and Related Literature

Overview

The number of female physicians has grown substantially within the faculty ranks in medical schools, yet few women are appointed to leadership positions as compared to their male counterparts. Female faculty are making slight progress in obtaining leadership positions in medical schools, yet the percentage of women specifically in dean or department chair positions continues to remain the lowest at less than 20% (AAMC, 2014). In 2014, within the medical education field, women held 24% of division lead positions, 24% of associate and vice chairs, 46% of assistant deans, 39% of associate deans, 33% of senior associate deans, and only 16% of dean and 15% of department chairs positions. These numbers have increased by less than 10% from 2004.

The current study aims to profile a subset of women deans and department chairs in medical education and to identify factors that enabled and inhibited their pathway to success as an underrepresented population in their profession. The study seeks to create an approach by which medical schools and medical communities may understand and meet the needs of women in medical education and in senior administrative leadership positions in medical education and benefit from their experience, knowledge and skillset.

This chapter is organized into the following sections: History of Medical Education in the United States, United States Medical Education System, Leadership Roles in Medical Education, Leadership and Culture in Medical Education, Women in Higher Education, Emerging Women in Medical Education, Leadership and Women in Medical Education. This chapter will describe the leadership approaches of women in medical education and examine the needs and barriers associated with the advancement of women leaders in medical education. In addition, the content

of this chapter will include the responsibilities of the roles of dean and department chairperson and some of the characteristics associated with success in these roles.

History of Medical Education in the United States

Prior to the implementation of formal medical training in the United States, a system of home-produced remedies and doctors with diminutive training represented the medical system available within the United States. Women, for example, were expected to care for illnesses within their families. If the illnesses were to advance were believed to be life threatening, a doctor was requested (Fillmore, 2001).

John Morgan, M.D. founded standardized medical education in the United States. An affluent Quaker from Philadelphia, Morgan studied liberal arts and completed a six-year apprenticeship with a physician in Europe to study medicine. He then served the British in the French and Indian war where he experienced firsthand military medicine and surgery. He served as the second chief physician & director general of the Continental Army (an early name for the U.S. Army Surgeon General) from 1775-1777. He then spent five years with numerous leaders of medicine throughout Europe and graduated as an M.D. from University of Edinburgh in 1763. In 1765, Morgan returned to the United States with a plan to establish a school offering formal medical training to prospective students. The result of his plan was the eventual opening of a medical school program at the College of Philadelphia. Following the College of Philadelphia, a medical school at Yale College was founded in 1813 and Columbia University, Harvard University, and Dartmouth University followed shortly thereafter (The Journal of the American Medical Association; JAMA, 1965).

In the 18th century, however, no system of licensure existed for medical education in the United States. Because requirements of admission and licensure had not existed and there were

no criteria to follow, several medical schools sporadically opened throughout the country as revenue-generating institutions and both men and women were permitted to pursue medical training. As the number of schools increased, the quality of medical education decreased. In 1821, existing state and county medical societies advocated for the implementation of licensure requirements for practicing physicians. The state of Connecticut societies reacted and became the pioneer of implementing licensure requirements when their medical society established a board of medical examiners and required that all practitioners were qualified through state examinations (JAMA, 1965).

The Medical Society of New York was another one of the first societies established to improve medical education and licensure requirements in New York. Nathan Smith Davis, M.D. was elected to serve on the society in 1844. After a year of service, Dr. Davis introduced an idea of creating a national medical association, which would work to enhance the quality of medical education throughout the United States. In 1847, Dr. Davis and his fellow colleagues established the American Medical Association (AMA). The objective of the AMA included a commitment to scientific advancement, higher standards for medical education, implementing a medical ethics program, and improving public health (AMA, 2015a).

Many decades later, in 1904, the American Medical Association (AMA) created the Council on Medical Education (CME) in order to continue the restructure of American medical education and implement standards to prevent the demise of medical education. The CME began evaluating medical schools according to graduates' performance on licensing exams, among other standards of academics. The School of Medicine at John Hopkins University served as a solid example of the ideal medical school reform as the school was one of the first to require

applicants to complete four years of college, for example, before admitting students to medical school (Fultan, 1953).

In 1910, a formal report known as the Flexner Report mandated medical schools to employ aggressive admission and graduation standards and incorporate scientific research in the teaching. Using the John Hopkins School of Medicine as the ideal medical school model, Abraham Flexner, issued recommendations to regulate the medical profession at that time.

- Reduce the number of commercial schools.
- Increase the prerequisites to enter medical training.
- Train physicians to practice in a scientific manner and engage in research.
- Allow medical schools to administer clinical instruction.
- Implement and strengthen state licensure requirements (Fultan, 1953).

Essentially, Flexner demanded American medical education conform to the existing customary medical practice in Europe because, unlike medical education in the United States, the practices were standardized and included requirements, which increased the quality of medical education and treatment to European patients. The eventual restructure of American medical education, modeled after medical education in Europe, resulted in more rigorous admittance programs to accommodate a smaller admission pool, at that time limited to male applicants only. As a result of the new recommendations, the numerous unsubstantiated university affiliated medical schools ceased to exist or merged with academically accredited universities and only three private medical schools remained (Fultan, 1953).

The Flexner Report enabled the progression of the medical profession and paved the way for present-day aspects of the medical profession in the United States. Medical education is built on basic medical science, including human anatomy, physiology and biochemistry and adheres to

the protocol of scientific research. Currently, a physician must complete at least seven years of post-secondary instruction with eight years as an average, inclusive of residency training.

Additionally, no medical school can be started or expanded without the permission of the state government and respective medical associations in order to ensure quality standards of medical education are met (AMA, 2015c).

United States Medical Education System

Medical education in the United States involves the education and training of physicians: doctor of allopathic medicine (M.D.) and doctors of osteopathic medicine (D.O.) in the United States, from entry-level basic medical science coursework through continued education for practicing physicians. Admission into medical school requires applicants to complete at least three years of pre-medical coursework at the university level. Medical school admissions committees weigh several factors when deciding whom to admit. One factor is the Medical College Admissions Test (MCAT), which assesses knowledge in verbal reasoning, biological and physical sciences, critical thinking skills, and psych-social understanding (AAMC, 2015) (AACOM, 2015). The MCAT is used as a predictive tool on how well a student will perform on licensure examinations. Additional factors considered for admission to medical school include grade point averages from undergraduate studies as well as post-undergraduate coursework, personal statements, letters of recommendation, interview performance, extracurricular and leadership activities, and work and volunteer experiences (Dezee, Artino, Elnicki, Hemmer & Durning, 2012).

Medical school consists of pre-clinical training and clinical training, often termed as pre-clerkship and clerkship respectively. Pre-clinical training includes two years of didactic coursework in basic medical sciences and clinical training consists of rotations throughout a

variety of areas of medicine within a teaching hospital. Board licensure exams are completed throughout the four years of training. The degree conferred at the conclusion of the four years of study is the Doctor of Osteopathic Medicine (D.O.) or Doctor of Medicine (M.D.). Degree holders may practice medicine upon completion of an accredited residency-training program and successfully passing associated licensure examinations (AMA, 2015; AOA, 2015).

Residency training programs range in length from three to eight years, depending on medical specialty. Primary care fields of medicine such as family medicine, emergency medicine, and pediatrics typically involve three or four-year residency training programs. If students are interested in pursuing a highly specialized field of medicine, such as pediatric surgery, oncology after internal medicine, and cardiology, a fellowship may be required post-residency. Physicians who complete a residency program and possibly fellowship training become attending physicians. The physician then must pass both oral and written examinations based on their specialty in order to become board certified.

Currently, the United States has a large medical education system with over 150 medical schools and thousands of graduate medical education training programs for residency and fellowship. In an effort to continually improve, graduate medical education, within the past 15 years, has been restructured to address six competencies:

- Patient care.
- Medical knowledge.
- Interpersonal and communication skills.
- Practice-based learning and improvement.
- Professionalism.
- Systems-based practice (Dezee et al., 2012).

As medical education and patient demands are constantly evolving, the United States medical education system continues to grow and advance. Recent advancement and growth initiatives include providing increased patient contact earlier in the medical school curriculum, an emphasis on student well-being to better serve the patient, defining milestones in graduate medical education, and more efficient research regulations (Dezee et al., 2012).

Leadership Roles in Medical Education

Medical education consists of several distinct leadership roles. Most commonly, medical education leadership roles are identified as division lead, associate chair, vice chair, assistant dean, associate dean, senior associate dean, department chair and dean. Dean and department chair positions both necessitate strong leadership abilities in decision-making, vision, financial acumen, and managing people. They are also the two leadership roles most underrepresented by women as compared to the others identified.

Oftentimes the pathways to achieve senior leadership positions in medical education are based on a progression of specific professional pursuits. In order to achieve leadership positions related to clinical departments as addressed above, one must have completed medical school as well as residency training. Beyond residency, many individuals practice medicine for a few years prior to pursuing a teaching appointment within a medical school. A teaching appointment may likely result in an assistant professorship appointment. As an assistant professor, individuals have vast opportunity to pursue senior leadership positions. Many go on to obtain department chair positions, become medical directors, and move through the ranks of professorships, among other leadership roles.

Within medical education, medical school department chairs and deans have the opportunity to think innovatively about transforming systems of education, training, research and

health care delivery that keep medical schools at the forefront of improving patient care and health in the United States (AAMC, 2014). With the contemporary model of interprofessional teamwork, diverse healthcare teams provide better holistic care than individual providers could achieve independently (Hays, 2008).

Department Chair. The role of department chair in medical education has evolved from a previously honorary position appointed to a physician who had a strong reputation in clinical practice, medical education, and medical research. Department chairs serve as a linkage between the medical school faculty and the top leaders. With the innovation in medicine and medical education, a department chair is now expected to practice comprehensive leadership skills, ensure financial acumen, exercise adaptable communication skills, exude an inspirational attitude and set and articulate a clear vision (Grisby, Hefner, Souba, & Kirch, 2004). In an article published by the AAMC, qualities identified as important for department chairs included:

1. Balance department needs with institutional needs.
2. Adaptive communication skills.
3. Team players.
4. Ability to articulate a shared vision.

The article stated, “Chairs who promote collaboration and who have effective interpersonal and communication skills will be better able to retain faculty.” (Harris, 2013, para. 18).

Dean. The role of dean within a medical school has also changed dramatically since the early 20th century. Historically, duties of the dean included record keeping, registering and seating students, as well as issuing and distributing correspondence (Ludmerer, 1996). The growth and modernization of academic medicine centers, however, has demanded financial development for maintaining success. Thus, the role of dean has become increasingly complex.

While many deans of medical schools manage education, research, faculty, and clinical care, others oversee other health professional schools and are leaders over hospitals. Medical school deans are accountable to the faculty, staff and students within the medical school as well as national accreditation agencies, affiliated boards, applicable university partners, and local and state governments. The modern role of a dean of a medical school includes strategic planning, institutional assessment, financial acumen, recruitment and retention of talent, leadership abilities, content knowledge of the profession and medical education and a commitment to the success of the institution (Rich, Magrane & Kirch, 2008).

In a literature review study evaluating qualities of the medical school dean, authors Rich et al. (2008) identified essential attributes of medical school deans as identified in Table 1.

Table 1.
Desirable Qualities of Medical School Deans

| | |
|-------------------|--|
| Management Skills | Institutional Assessment Negotiation and conflict management Change management Communication with diverse audiences Strategic planning Financial stewardship Fundraising Team-building Recruitment and retention of talent |
| Leadership Skills | Visioning Maximizing values Knowing self Mentoring Building constituency Making sense of experience Challenging experience |
| Knowledge | Academic medical center governance Legal and regulatory issues Challenges and expectations of clinicians and scientists Process of medical education |
| Attitudes | Commitment to the success of others Appreciation of institutional culture Patience with process |

Leadership and Culture in Medical Education

The modern day healthcare system requires improved access to patients, reduced error, and cost-effective care. Leadership in healthcare, therefore, requires effecting change through the action of others (Hays, 2008). In medical education, the sustainability of healthcare institutions depends on developing and utilizing the leadership abilities of all medical professionals, including women (Morahan & Bickel, 2002).

This leadership model is less about directing individuals and more about effecting change through the actions of individuals. Attributes commonly associated with healthcare leadership include effective communication, clarity of vision, humility, confidence, and emotional intelligence (Goleman, 2004). The role of leaders in medical education has expanded from teaching, to serving as the dean of a medical school, to managing an entire health enterprise of an academic campus, inclusive of medical schools, teaching hospitals, and continuing medical education. Physician leader roles also govern local and national organizations that set the professional standards in medicine, including individual specialty societies and broad organizations that influence policies in the medical world (Hays, 2008).

Senior leaders in medical education are expected to build academic medical centers, attract research grants, and maintain financial stability. In a complex medical world, however, successful leaders in medical education must also contribute to three models for improving health:

- The medical model, in which a patient visits a physician who then uses his or her medical education training to diagnose and treat the patient.
- The public health model is focused on the prevention of poor health.

- The social health model focuses on health improvement requiring societal improvements such as providing resources to individuals in order to increase the health of the population (Marmot, 2009).

Thus, leaders in medical education must consider how the academic medical centers will help enable physicians to become advocates for an improved health system as well as for better overall patient health.

Changing culture in medical education demands a leadership style that enables forward thinking, strong communication skills, excellent listening skills, mentorship and coaching capabilities, with the ability to create and articulate a shared vision (Souba, 2004). Leaders must therefore be able to build relationships, create connections and communities, and capitalize on and enhance professional networks.

The changing environment of medicine and medical education has persevered through substantial adaptations and will continue to endure significant changes to its organizational culture. In the United States, the medical profession has a dominant position within the world of power and prestige. Today, with the current demands on financial reimbursement, patient satisfaction, and timeliness of service, medicine has been perceived as a bureaucratic and corporate system. Patients are demanding a more personal, comprehensive and efficient medical system and the medical profession is working to respond to those demands in order to change the perception, treatment and improved outcomes.

Historically, physicians have treated their patients as consumers rather than partners in healthcare delivery. With the changing culture of medicine, physicians now lead teams of health care providers who focus on improving patient experience through enhancing the safety of the patient, improving clinical outcomes and achieving organizational objectives. As physicians are

transitioning from treating their patient as a consumer to treating their patient as a partner and transition from directing a team to leading a team, more collaborative relationships have developed. This new approach to medical leadership has resulted in higher employee satisfaction, which results in improved care for patients (Fontenot, 2012).

Access to information has increased for the patient population and thus they are becoming more educated about healthcare and are demanding greater transparency for treatment options, process, and cost. Healthcare leaders, therefore, must include patients in the clinical process, listen to perspectives, and involve them in decision-making (Fontenot, 2012). Patients are now active participants in their care and demand a choice of treatment options with their medical teams. They are no longer expected to accept a health provider's recommendation without question.

Successful medical education for the 21st century demands diversification of leadership capabilities and management styles that will enrich healthcare and medical professionals' ability to respond to the needs of patients, staff, medical teams and the community (Richman, Morahan, Cohen, & McDade, 2001). With the natural progression of the healthcare landscape toward greater inclusion, mutual respect, and transparency, medicine is becoming more aligned with leadership approaches commonly described as more feminine (Plietz, 2012). The changing culture of medicine, for example, may demand leaders who have adaptability, lead with a team approach, use inclusive communication skills and have the ability to formulate and articulate a forward-thinking vision.

The medical profession is a substantial portion of the United States gross domestic product. Society is therefore affected by leaders in medical education (Brook, 2010). In order to navigate through the changing culture, medical leaders are shifting from a transactional and

command-and-control leadership style to one of collaboration and inclusion, which involves inclusion and transparency (Fontenot, 2012). Such a comprehensive leadership approach is crucial to the adaptation in the shifting dynamics of medical education and healthcare delivery. The aging population and the Affordable Health Care Act, especially, will contribute to the demand for healthcare that is perceived as competent, collaborative and compassionate.

Higher Education and Women

The status of women in higher education today is a product of the historical background of higher education and the result of numerous political and social factors (Allan, 2011). The initial purpose of higher education in America was a religious endeavor. The intent was to educate future ministers and government leaders (Brackemyre, 2012). With the purpose of beginning higher education, Harvard College opened and enrolled its first class of male students in 1636. At that time, women were excluded from formal higher education because society did not view women as suitable to pursue higher education and become government leaders or ministers (Allan, 2011).

Women were dissatisfied with their inability to seek formal higher education and advocated for their rights to higher education for almost two centuries. Their efforts to gain equal access to education have a history that predates the Civil War. Approximately 200 years after the opening of what was Harvard College (now Harvard University), Oberlin College in Ohio and the Georgia Female College of Macon, Georgia (now Wesleyan College) led the way in providing higher education opportunities to women students in the 1830s (Morris, 2011). Oberlin College was the first co-educational college in the United States when the College began to admit women in 1834 (Oberlin, 2015).

Although women had access to entering higher education institutions, they were still not considered equitable to their male counterparts. The reality of inequality inspired continued advocacy and resulted in a women's rights movement. The Seneca Falls Declaration was the United States' first protest against the idea that women were not equal under the law. Initiated by two women in 1848, the Seneca Falls Declaration served as a call to attention of the unfair treatment of women. The declaration was based on the Declaration of Independence and included 18 grievances and 11 resolutions demanding women to become recognized as equal society members (Rynder, 1999).

Greater feminist activism in the United States eventually enabled additional colleges and universities across the nation to admit women students, causing enrollment and graduation of women students to increase substantially. In 1862, the Morrill Act broadened public higher education and provided increased opportunities for women seeking higher education. Initiated by a Vermont Congressman, the Morrill Act was an act donating public land to several states, which provided colleges and universities the opportunity to expand for the growth of agriculture and mechanic arts. Each state was provided with 30,000 acres of land in order to create institutions of higher education with the purpose of providing the United States with educated citizens, male and female (Library of Congress, 2014).

In addition to the added higher education institutions resulting from The Morrill Act, in 1865, Vassar College opened for women students followed by Wellesley College (1875), Smith College (1875) and Bryn Mawr College (1884; Morris, 2011). With the opening of several new colleges, by 1910, women represented 35% of all college students and began to gain admittance into graduate and professional schools. In the 1920s, at 47%, almost half of college students were women (Allan, 2011).

Despite progress of availability of higher education for women, advocates of women's education throughout the decades continued efforts to create a more accessible and inclusive higher education system. Nationally, women's commissions, such as the United Nations (U.N.) Commission on the Status of Women, were created to expand women's rights. The U.N. Commission's purpose was to promote national women's commissions throughout the world. The first women's commission in the United States was the Presidential Commission on the Status of Women in 1961. Ordered by John F. Kennedy, the commission exposed the unfavorable conditions of women in America. The result of the initial commission was the formation of 45 additional commissions on the status of women, throughout several states, within a three-year time period. The commissions expanded from there and included the addition of university women's commissions. The commissions began to address consciousness and access to academic-discipline specific related groups for women, which included the creation of groups such as Committee W (Women) of the American Association of University Professors (Allan, 2011).

Furthermore, following the Civil Rights Act of 1964, Title IX in 1972 was created to protect individuals from discrimination, based on gender, in education programs or activities, which are supported through federal assistance. Title IX emerged from the efforts of the National Organization for Women, the Women's Equity Action League, legislatures, and women in education throughout the United States. Title IX (1972/2014) provides that: "No person in the United States shall, on the basis of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any education program or activity receiving Federal financial assistance."

Since 1988 more than half of all undergraduate students have been women and 60% of students in graduate and professional programs are women (King, 2010). Within medical schools, for example, women now comprise almost 50% of applicants and graduates (AAMC, 2014).

Women in leadership in higher education. As women progressed within their pursuits of higher education, many began to acquire higher education leadership roles. One of the first leadership roles for women in higher education, Dean of Women, was created at Oberlin College in order to manage and guide the growing number of women students. The first Dean of Women was Adelia Johnston. In 1869, she was lady principal at the Oberlin College and was later named Dean of Women in 1894 (Oberlin, 2014).

There are many more women who have overcome the glass ceiling in the higher education profession through commitment to equal opportunity, persistence, and strong leadership abilities. In the early 20th century, women began to transition into leadership positions in higher education. Anita Roberts, a doctoral level microbiologist, was the 49th most-cited scientist in the world and the second most-cited woman scientist (Oberlin, 2014). The 12th president of the American Council on Education (ACE) was the first woman to lead the organization since its founding in 1918. The current president for the Institute for Higher Education Policy (IHEP) is also a woman. To name a few within the university setting, the current presidents for Savannah State University, University of Houston, Rensselaer Polytechnic Institute, California State Northridge, University of Connecticut, and University of Virginia are women (Leading the Way, 2012).

Despite the development of these leadership positions in higher education there is still an uneven representation between men and women in senior level administrative positions in higher

education. Women make up a majority of higher education students and benefit from mentorship and the unique contributions women have brought to higher education. Women have contributed substantial gains in higher education and provide leadership capabilities to effect positive change. Although much progress has been made with women in higher education, lack of equity in higher education could impose a negative impact for academic institutions and the learning environment. As women continue to advance to leadership positions, they may serve as mentors to women seeking to pursue similar career pathways and continue to work towards enhancing higher education.

Emerging Women in Medical Education

Medical education is a sub-culture of higher education and women's efforts to gain acceptance in medical schools parallels women's efforts to gain acceptance into higher education institutions. Early medical education in the United States excluded many races, social classes, and women from eligibility to pursue medical training. Despite the early role of women serving as medical caretakers of their families, women were discouraged from attempting to join the medical profession until the mid-1800s.

The first woman to apply to medical school, Harvard Medical School, was also the first woman rejected. In the 1840s; however, a feminist movement created the opportunity for women to pursue medical education through Boston's New England Medical College, which was the first women-only medical school (Walsh, 1977). In 1850, the Women's College of Pennsylvania (now Drexel University) was the first medical school for women offering the M.D. degree and the first medical school to employ a female dean. By the mid-1800s, the United States had 17 medical colleges for women and some universities admitted women in order to bolster their enrollment if they were perceived as less desirable medical institutions (Walsh, 1977). Although

they had access to medical education, women were not satisfied with their limited access to gender segregated or less desirable medical schools.

Elizabeth Blackwell was the first woman to receive a M.D. degree in the United States. Dr. Blackwell was originally disinterested in the study of medicine and had initially sought a teaching career, which was considered an acceptable career for women. It was not until her dying friend suggested that her suffering would have been spared had her physician been a woman that Dr. Blackwell developed interest in pursuing medicine. As her interest in medicine grew, she sought advice on how to obtain medical training. She was told that the pursuit of medicine would be impossible, yet she took the feedback as a challenge and as convinced that there would be some way to pursue a medical degree. After conducting her own readings in medicine and applying to all the New York and Philadelphia medical schools, along with twelve medical schools in the northeast, Dr. Blackwell gained admission to medical school. In 1847, Geneva Medical College (now Hobart College) in New York, a traditionally all male medical college, admitted Dr. Blackwell. Her acceptance to medical school was based on a vote of 150 male students who voted unanimously for her admission, as a joke. Her impact on the all-male class was substantial. Her legacy indicates that a once chaotic learning environment was transformed into a well-behaved and attentive class of interested learners with the addition of her presence. She went on to work in clinics in Europe prior to establishing a practice in New York City. Displeased with her low patient load and lack of interactions with fellow physicians, Dr. Blackwell sought a job at a dispensary (now referred to as a clinic), but she was refused the job so she opened her own dispensary and eventually opened the New York Infirmary for Women and Children which provided training and experience for women doctors in addition to medical care for the under resourced (“Changing,” n.d.).

Dr. Elizabeth Blackwell began a movement in medical education. In 1869, Ann Preston, M.D. was the first woman dean of any medical school in the United States. She was dean for the Woman's Medical College of Pennsylvania (AMA, 2015a). Upon graduation from medical school, she organized a group of women with social power to fund and run a woman's hospital where students could gain clinical experience in response to the barring of women from clinics and medical societies in Philadelphia in 1858. Despite the lack of acceptance of the all-male student groups, as dean, Dr. Preston persevered to advocate for the best educational opportunities for her students. She worked to enhance the opportunity for her students to attend clinical lectures at the Philadelphia Hospital and Pennsylvania Hospital and made it less unusual for women to study alongside their male counterparts ("Changing," n.d.).

In 1870, the first state medical school began to admit women at The University of Michigan. Many medical schools had still resisted admitting women, but the American Medical Association (AMA) allowed membership to women beginning in 1876. By 1880, there were 2,000 woman physicians in the United States with six traditionally male medical schools accepting women. In 1892, Andrew Taylor Still accepted men and women equally in the American School of Osteopathy (Quinn, 2011). In 1913, the AMA invited Lillian South, M.D. to serve as the Vice-President (AAMC, 2011; AMA, 2015b). In 1915, the Medical Women's National Association, now the American Medical Women's Association, was founded (Brodsky, 2009).

In 1920, 5% of physicians were women. Around this time, however, medical school reformation was occurring as a result of the Flexner Report. Several medical schools had provided training to women physicians, but only three of the 17 women's medical colleges remained after the medical education reform efforts due to the new standards implemented for

medical education. Unfortunately, due to the closing of these medical schools, the number of women medical students decreased by 65%. By 1920, as the medical education reform progressed, medical education costs increased, increasingly competitive admissions requirements limited applicants from working classes, and policies resisted women and other ethnic groups from pursuing medical careers, limiting the profession, once again, to upper class white males (Starr, 1982).

During World War II, however, women were considered for admission to medical school once again. The percentage of women attending medical school increased due to the lower number of men available to matriculate due to their service commitments (McGrew, 1956). As a result of the acceptance of women in medical education, additional institutions allowed women applicants. In 1945, for example, Harvard Medical School finally began to admit women (Brodsky, 2009).

At first, medical schools limited admissions to women to 5%. Reinvigorated social activism, however, enabled the continued advancement of women's rights and the United States Civil Rights Movement resulted in greater rates of admission to medical schools for women applicants. In 1960, that percentage of admitted women to medical school increased to 6.8% and to 11.6% in 1980 (Pololi, Civian, Brennan, Dottolo, & Krupat, 2012). In order to increase advocacy in regards to women in medicine issues, the American Medical Association Women in Medicine Project was created in 1984 (AMA, 2015a).

In 1991, in order to enhance efforts towards equality in the workplace, the Federal Glass Ceiling Commission was created with the Civil Rights Act. The purpose of the commission was to identify barriers that prevented the career advancement of women and minorities in the workforce. In 1995, the Commission on Graduate Medical Education (COGME) in its Fifth

Report, *Women and Medicine: Physician Education in Women's Health and Women in the Physician Workforce*, stated that issues of equity in the status of women physicians and improvements in the quality of healthcare for women were so tightly bound that they could not be evaluated separately. The report reviewed evidence that women physicians have been agents of change in medical education, research, and practice and drew attention to the paucity of women in academic leadership positions. COGME recommended widespread examination of gender pay equity, efforts to increase women's participation in biomedical research, and potent mechanisms for eliminating gender bias and sexual harassment of women physicians (U.S. Department of Health and Human Services, 1995).

Other significant historical women's health movements initiated by women include:

- The Popular Health Movement in the early to mid-1800s (which included advocating corsetless clothing).
- Post-Civil War women's medical movement where the first generation of female physicians were advocating women's health in opposition to the view of women as sickly and frail.
- The Progressive Era in the early 1900s, during which the first birth control clinic was opened in Brooklyn by public health nurse and social activist Margaret Sanger.
- The women's health movement of the 1960s and 1970s where women's reproductive rights were viewed as essential to gender equity (Weisman, 1998).

Evidence of growth of women in medicine included a few remarkable appointments. In 1989, the AMA Board of Trustees elected their first woman. One-year prior, in 1990, the first woman was appointed as U.S. Surgeon General and in 1998 the first woman elected on the AMA Board of Trustees became the first woman president of the AMA (Brodsky, 2009). Most

recently, in 2009 Regina Benjamin, M.D. was nominated and confirmed as United States Surgeon General and in 2012 Ardis Hoven, M.D. was elected the AMA President Elect (AMA, 2015b).

Women in medical school. In 1850, the enrollment of women at the Women's Medical College of Pennsylvania equaled 40 women. In 1949, as medical school began to allow more female applicants, 12% of medical school graduates were women, yet in 1965 the percentage of women graduates dropped to 7%. Shortly after the passing of Title IX, however, the percentage of women medical school graduates tripled between 1970 and 1980 (Brodsky, 2009). With continued growth and increased societal acceptance, more than 40% of medical students were women in the mid-1990's (Dickstein, 1996).

The applicants to medical school, in 2003, were 49% women and in 2007, 48% of matriculating students were women (Brodsky, 2009). Today, almost half of medical school applicants are women. Currently, women matriculating to medical school equals 47% of incoming medical students, 48% of women are graduates from medical school, and 46% go on to complete residency (AAMC, 2014). Table 2 displays the 2013-2014 AAMC applicant pool by gender and includes comparisons of applicants, matriculants, graduates of medical school, and those who pursued residency.

Table 2.
Comparison of Women and Men in Medical School

| | Applicants N=48,014 | Matriculants N=20,055 | Graduates N=18,067 | Residents N=114,478 |
|-------|------------------------|--------------------------|-----------------------|------------------------|
| Men | 54 % | 53 % | 48 % | 46 % |
| Women | 46 % | 47 % | 52 % | 54 % |

Note: Comparison of Women and Men Applicants, Matriculants, Graduates, and Residents in 2013-2014. AAMC, 2014. Adapted with permission.

Women faculty in medical schools. Similarly to how women have progressed in higher education professions, as women are graduating from medical schools at a higher rate, they are

obtaining faculty positions within medical schools at higher rates. In medical education, however, women are more likely to be represented in clinician and educator roles, rather than in senior leadership roles such as dean and department chair. Although women medical school matriculants have increased substantially, women reflect only 38% of full-time medical education faculty, a 7% increase since 2004. The underrepresentation of women persists for full-time women associate professors at 34% and full professors at 21%. In 2014, the clinical departments with the lowest proportion of full-time women faculty included specialty departments such as orthopedic surgery at 16%, surgery at 22%, and radiology at 28%.

In 2014, promotions to full professors occurred in 31% of women compared to 69% of their male counterparts. New hires in medical education represented a more equitable percentage of 47% of women compared to 53% of men. Since 2008, however, departures of women faculty increased from 36% to 41% yet departures decreased from 64% to 59% with their male counterparts (AAMC, 2014).

As more women have graduated from medical school, the number of women contributing to medical education in the role of assistant professor has consistently increased. The growth of this number has led to the eventual growth of women leaders in other roles within medical education (Nonnemaker, 2000). Senior leadership positions in medical education include division head, associate and vice chair, department chair, assistant dean, associate dean, senior associate dean and vice dean, and dean. Division head and associate and vice chair positions are filled with 24% of women where assistant dean, associate dean, and senior and vice dean positions are represented by 46%, 39%, and 33% of women respectively. The table following exhibits the progression of women represented in leadership positions within a 10-year timeframe, from 2004-2014.

Table 3.
A 10-year Comparison of Women in Leadership Positions

| | Division | Associate/ Vice Chair | Department Chair | Assistant Dean | Associate Dean | Senior Associate & Vice Dean | Dean |
|---------|----------|-----------------------------|---------------------|-------------------|-------------------|---------------------------------------|------|
| 2003-04 | 16% | 19% | 10% | 47% | 30% | 24% | 10% |
| 2008-09 | 21% | 21% | 13% | 48% | 35% | 26% | 10% |
| 2013-14 | 24% | 24% | 15% | 46% | 39% | 33% | 16% |

Note: The A 10-year Comparison of Women's Representation in Permanent Leadership Positions. AAMC, 2014. Adapted with permission.

The lowest representation of women leaders is found in department chair and dean positions at 15% and 16%. Since 2004, female representation in department chair positions has increased by a mere two percent and in dean positions by six percent. The departments with the lowest percentage of women as department chairs include orthopedic surgery at 0%, surgery at 1%, otolaryngology at 3%, and ophthalmology at 8%. Women chairs are more commonly represented in obstetrics and gynecology at 22%, pediatrics at 20%, and family practice and dermatology at 19% (AAMC, 2014).

Research has shown that the position of department chair may be a stepping-stone to deanship (Grisby, Hefner, Souba, & Kirch, 2004). In a study evaluating the gender-related difference in pathways to and characteristics of medical school deans, double the proportion of women compared with men held chair positions prior to becoming deans. The results suggest that experience as a department chair may help enable individuals to become dean. As there are so few female department chairs, the study suggests broadening the career trajectory towards the department chair position as a way to increase the representation of women as department chairs and eventually as medical school deans (White, McDade, Yamagata & Morahan, 2012).

Women represented in administrative leadership positions have increased, yet the percentage of women in dean positions remains low. The traditional justification for women's absence in leadership has included:

- Women have not been in the profession for a suitable time period.
- Women do not pursue leadership positions due to family reasons.
- Women lack the appropriate leadership skills (Carnes et al., 2008).

The history of medical education has seemingly had a great impact on the quality and diversity of medical education today.

Barriers identified by women leaders in medical education. Despite progress of female representation in medical education, much work remains to achieve the benefits of diversity among students, faculty, and leadership. The higher up the professional leadership ladder one climbs within a medical school, the fewer women one sees (Gabriel, 2011). Therefore, each medical school faces unique challenges in advancing women in medical education.

According to the AAMC, some argue that the increase in women faculty in medical education is too recent for women to have advanced to senior leadership positions, yet others claim the pipeline has been stalling for years, even in areas of medicine with a vast representation of women (AAMC, 2012). Although women leaders are entering medical schools at increasing rates, women are often dropping out of paths that would enable them to become leaders in medical education. Among the reasons are:

- Feelings of isolation.
- Lack of role models.
- Lack of mentorship.

- Environments perceived as disparaging to women.
- Gender discrimination.
- Lack of institutional support for domestic responsibilities (Carnes et al., 2008).

Additional challenges identified with regards to women's potential leadership success include:

- Cultural taxation as a result of committees needing a woman representative.
- Success as a barrier relating to the violation of stereotypes in how women should act (Bland, Taylor, Shollen, Weber-Main & Mulcahy, 2009).

The following several studies will provide an overview of findings related to barriers perceived by female physicians. In a study examining career satisfaction of women physicians, women in certain specialties, which enabled a balanced lifestyle such as dermatology and anesthesiology reported high satisfaction as compared to those in primary care specialties (McMurray et al., 2000). The study also compared career satisfaction levels of male and female physicians and indicated that women were more satisfied with their specialty choice as well as their relationships with their patients and colleagues, but were less satisfied with their levels of autonomy, personal relationships with the community, salary package and resources available. Women also reported more time pressure in seeing patients, less work control and lower income. Additionally, women reported 1.6 times the rate of reporting burnout compared to their male counterparts (McMurray et al., 2000).

A study examining coping strategies of females in medical education found that women felt like outsiders to the organization. They reported feeling isolated and invisible. The barriers to advancement they described included being subjected to gender role expectation and gender bias (Pololi & Jones, 2010).

A study examining the impact of hierarchy as a barrier to advancement for women in medical education indicated that female faculty members perceived the hierarchical structure as impacting inclusion in the workplace, reducing transparency in decision-making and inhibiting opportunities for advancement. The lack of hierarchical term limits common with department chair positions reduce turnover of existing leaders and thus reduce the possibilities for advancement. Men and women had similar perceptions of hierarchy, but women viewed it as more impactful to their career progression. Some respondents felt, as a result of hierarchy, they were treated as inferior employees rather than professional colleagues. Additionally, women felt as though they were disruptive to their department if they verbalized their thoughts (Conrad et al., 2010).

Gender differences in mentoring and leadership development training are key barriers to career satisfaction and advancement of women (Branin, 2009). Women report needing to employ a command and control style of leadership in order to be accepted by their male counterparts, which threatens the women's authenticity. In fact, 30% of women corporate leaders with more than ten years of experience left their organizations in order to start their own businesses over frustration with what they described as the male leadership format. Women also reported that they leave organizations because the organizations struggled to meet the women's expectations for learning and growth (Ruderman & Ohlett, 2004). Gender differences in mentoring and leadership succession planning have also been identified as key barriers to career advancement as well (Vande Poppe, 2011).

The Association of American Medical College's (AAMC), in 1976, developed the Office of Women in Medicine, which focused on the participation of women in all roles within medical education. The office identified several barriers affecting a women's ability to create and sustain

a satisfying career in academic medicine. These include barriers such as:

- Lack of understanding of their professional environment and how to successfully navigate the environment.
- Few development resources.
- Few leadership expectations.
- Family and/or child care challenges.
- Few senior mentors or role models.
- Belief that gender is an obstacle with the career.
- Lower self-worth than men.
- Isolation.
- Lack of mentoring (AAMC, 2011).

In order to respond to the inhibitors, the Office of Women in Medicine suggests fostering the success of women leaders in academic medicine by implementing the following:

- Developing mentor programs.
- Supporting career development initiatives.
- Providing emotional support for women faculty.
- Developing interdependence among and between women faculty.
- Promoting a positive attitude (AAMC, 2014).

Regardless of progress made with female representation in medical education leadership, much work remains to eliminate barriers to advancement in order to achieve benefits of a diverse medical education system. If women choose to leave medical education workforce, their departures may contribute to a decrease in the diversity and talent of medical education and may limit organizational success (AAMC, 2014). If medical schools can promote equity through

comprehensive hiring and development practices, they can work to retain talented leaders who are vital to achieve the mission of their organizations. The disparity of women in leadership roles in medical education may discourage women from pursuing medical education careers in the future (Nonnemaker, 2000).

Lastly, an article discussing career barriers of women suggested that women are their own barriers because they do not request to serve on boards and they do not recommend others to do so because they do not know each other. The article states that women leaders desire more of the same things males do in their organizations. For example, men often initiate social activities such as golf outings and secure box seats at sporting events to facilitate networking, but women often lack that kind of experience and initiative for conducting business and networking (Tieman, 2002). Furthermore, women have reported feeling undermined by a formerly trusted woman, which has resulted in women reporting other women as enemies (Chu, 2007). Additionally, some women may internalize the low status of women and therefore senior-level women, for example, may seek to minimize competition from other women (Litwin, 2011). Gender norms imply that boys were exposed to physical competition with clear rules and winning was encouraged whereas girls may not have had such exposure and therefore express themselves in alternative, more passive ways such as gossip and destructive intentions with other girls (Chu, 2007).

Research is needed to describe the dynamics that contribute to women's career decisions and the success factors identified by those who choose academic medicine. As medical professionals begin to mentor, collaborate and build teams with others, the medical community is becoming more diversified. Further attention, therefore, should be focused on identifying specific factors of success and fostering the sustained success of women leaders in medicine.

Advancement and women in medical education. Today, women represent almost half of the potential candidate pool from which medical education can recruit their future leaders, yet at each progressive step within the career path, the number of women leaders decrease. In education, the presence of women leaders is positively correlated with the advancement of women faculty (White et al., 2012). Medical schools may benefit from recruiting, retaining, and encouraging the most talented clinicians and educators in order to enhance the medical education model as well as create a diverse and gender-balanced faculty and leadership team, reflective of the student body as well as the patient population (AAMC, 2014).

As women have advanced gender equality in medical education, few women are represented in senior leadership positions. As women progress through their careers, they are less represented in positions involving decision-making and leadership responsibilities. However, more women are matriculating into medical school and graduate programs in health administration, leading to a stronger possibility of women taking leadership roles in organizations (Plietz, 2012). The number of women holding CEO positions in healthcare, for example, doubled to more than 1,200 between 2004-2009 (Burda, 2009). Women held 25% of medical center CEO titles in 2011, an increase from 2005 where 20% of women held this title (Fontenot, 2012). While women comprise 78% of the healthcare workforce and are the largest consumers of healthcare, women remain underrepresented in the top echelons of management and executive leadership positions within medical schools. The scarce number of women leaders inhibits the ability of medical education systems to sufficiently meet the needs of an increasingly diverse body of students, staff, patients, and faculty (Morahan, Rosen, Richman& Gleason, 2011).

The AAMC's Faculty Forward Engagement Survey helps identify what women faculty need in order to be successful. The data from the survey indicated three main factors needed for success:

- Clear expectations about role and the opportunity and process to advance.
- An equitable and diverse workplace.
- Access to development and advancement opportunities (AAMC, 2014).

The survey expressed that women need clear role expectations as well as regular feedback on their performance, clarity with promotion requirements, and a clear understanding of the role of the position and how it supports the mission of the school. An equitable and diverse workplace included a culture that promotes diversity, equal opportunity and retention of women leaders. The survey also indicated the importance of access to opportunities for development and advancement including availability of mentors and professional development (AAMC, 2014).

One of the traditional pathways to leadership in medical education is through research. Women's health research has been a possible pathway for talented women physicians to pursue leadership positions in medical education, promote positive change in health, and mentor other women in similar career pursuits. There is a link between women leaders in medical education and women's health since women leaders have driven most major advances in women's health. Women's health research, therefore, is an opportunity for women to progress within their academic careers and reduce barriers to their advancement (Carnes et al., 2008).

Mentoring has also been shown to help advance an individual's career development in medical education and increase professional networks and has been influential in the areas of career satisfaction, research opportunity, and institutional support (AAMC, 2014; Arini et al., 2011; Pololi & Knight, 2005). Women mentors are crucial for the advancement of women in

medical education as behind every successful health care leader, there is often a good mentor (Lutz, 1995). Mentoring enhances productivity of faculty, career satisfaction and career advancement (Bickel, 2000). Since women now have equal access to medical schools, mentor availability is critical for the advancement of women in the profession (Pololi & Knight, 2005).

Women in medical education face additional challenges and decisions that could add weight and stress, leading to burn out and lower rates of retention within medical education (AAMC, 2014). Mentoring of women by other women allows for discussions based on their unique challenges and allows for gender-related support for professional growth and retention. Some challenges related to cross-gender mentoring have included:

- Women more commonly face unique decisions in navigating promotion and tenure limits while considering family obligations.
- Male faculty members are considered career oriented while female faculty members are primarily career and family oriented.
- Gender bias exists for women faculty in medical education.
- Women are less comfortable negotiating for resources.
- Women are less likely to network and address their accomplishments (Humphrey & Smith, 2010).

Many medical schools have initiated formal training programs to enable women faculty to advance their careers. In 2011, 75% of medical schools provided coaching or mentoring for women (AAMC, 2012). In order to prevent the failure of a pipeline model and establish a critical mass of women in senior leadership positions, leadership development programs have been created such as the Executive Leadership in Academic Medicine (ELAM) program at Drexel University College of Medicine. This program, for example, was created with the objective of

increasing the number of women in senior leadership positions in medical education (Richman & Margrane, 2010). Programs such as these offer curriculum that address the skillsets, perspectives and insight essential for leadership in the 21st century, with an emphasis specifically on challenges women leaders experience in medical centers and medical education. The Leadership Continuum Model developed by the ELAM program includes an institution-based framework to achieve equity in women's leadership in medical education. The initial approach prepares women for leadership through training in leadership and management, offering mentoring initiatives, professional development programs and career development guidance. These resources often strive to increase the women's self-efficacy and self-confidence in her pursuit of leadership positions and career progression. The second approach involves creating equal opportunity through developing policies to address barriers to advancement that affect women. The third approach involves increasing visibility of women and valuing their relational skillsets. The fourth includes assessing and changing the culture (Richman & Magrane, 2010).

Many resources have been identified in order to assist women advance within their careers in medicine. Formal training programs have been implemented to address some of these factors. In summary, women have expressed interest in clear expectations, an equitable and diverse workplace, and accessibility to professional development, performance feedback, role clarity, and mentorship as contributing factors to success.

Leadership and Women in Medical Education

Collaboration, communication and consensus as leadership traits began to gain legitimacy and value in the early 90s when women leaders began to publicize their ways of leadership publishing books such as *The Female Advantage: Women's Ways of Leadership* by Sally Helgesan (Helgesan, 1990). As the culture of healthcare and the expectations of patient's

changes, these traits often associated with women are vital for today's healthcare leader (Fontenot, 2012). According to Northouse (2003), leadership is "a process whereby an individual influences a group of individuals to achieve a common goal" (p. 2). Research indicates that men and women may have different approaches when it comes to leadership styles. Women tend to be more transformational and charismatic through their tendency to inspire and motivate individuals as they contribute to an organizational objective. In general, men are more apt to employ a transactional leadership style, focuses on contingent rewards and management by exception (Northouse, 2013).

Studies have shown that transformational leaders are the most effective across many professional industries, including medical education as physicians and senior leaders (Brown & Moshavi, 2002). The transformational leader sets high standards for behavior by modeling roles and gaining the trust and confidence of followers. They clearly articulate a vision and set plans to achieve that vision. Through mentorship and empowering their followers, transformational leaders encourage their followers to develop, innovate, and contribute fully to their organizations. Furthermore, they attribute their power to personal characteristics such as charisma, hard work, interpersonal skills and personal networks rather than to administrative status (Rosener, 1990).

Traditional gender roles expected women to serve as wives, mothers, community workers, teachers, and nurses. Characteristics appropriate for these roles included being cooperative, supportive, understanding, gentle and service-oriented. The gender role for men, however, included being competitive, strong, tough, decisive and in control. Differences in expected gender roles may explain the differences in leadership approach of women as compared to men. Commonly, the leadership style for executive managers is a command-and-control style,

a style that is typically associated with men. As women pursued similar leadership positions, they initially adhered to a command-and-control leadership style that they observed. Women are now utilizing their own skills and attitudes to lead, developed from their experience as women. These women are succeeding despite employment in a role previously led by a traditional leadership style (Herrera, Duncan, Green, & Skaggs, 2012).

Leadership and gender roles are also often described as attributes, which are agentic and communal. Agentic characteristics include attributes, which are described as assertive, controlling and confident; typical traits associated with men (Burgess, Joseph, van Ryn, & Carnes 2012). In the workplace, this may include speaking assertively, competing for attention and initiating tasks. Communal characteristics include helping, interpersonal and nurturing behaviors and are characteristics typically identified with women. In the workplace, this may include supporting others, contributing to a solution, and practicing humility (Eagly & Johannesen-Schmidt, 2001).

Studies have shown that male traits are associated with characteristics that represent effective leadership (Ely & Rhode, 2010). Therefore, if women lead with feminine methods of management, they may be criticized for lacking masculine characteristics. However, if they employ masculine characteristics, they may be criticized for lacking a feminine and participatory leadership style. This double standard causes a perception that women may not be able to assume top leadership positions. The idea that women lack appropriate leadership characteristics is one of the reasons advancement of women in leadership positions is limited (Herrera et al., 2012).

Increasing numbers of women are occupying positions of leadership throughout various professions. As a result, the difference of leadership styles between men and women has gained even more attention and further investigation. According to Northouse, results from leadership

analyses have found that women lead in a more democratic or participative manner than their male counterparts (2012). Additionally, women's transformational leadership style tends to create positive change in their followers through developing followers into leaders. Women have reported a greater likelihood of employing an inclusive and consensus-building leadership style. Although research indicates that both men and women are effective as leaders, women are reported to be more effective in leadership roles congruent with their gender, such as education, government and social services (Northouse, 2012).

A meta-analysis conducted by Eagly, Johannesen-Schmidt and van Eagan (2003) on gender and leadership styles involved 45 studies on transformational, transactional and laissez-faire leadership styles. The results of the study indicated that women leaders were more transformational than men and women scored higher when measuring characteristics of transformational leadership such as charisma, idealized influence, inspirational motivation, intellectual stimulation and individualized consideration. Additionally, the study indicated that women's results in leadership had positive relationship to effectiveness (Eagly et al., 2003). In a study evaluating dean effective leadership, women were more likely than men to be perceived as effective and exhibit transformational leadership characteristics which included driving teams toward a common vision, inclusion of teams in decision-making, and nurturing and mentoring team members. Women who are transformational leaders encourage participation from others, share information and power, empower others and create enthusiasm around work (Rosener, 1990).

Often practiced by women, participative leadership encourages teams to provide their input in decision-making processes. Such participation provides opportunities for learning, increases support for the decisions made and the vision created as well as reduces the risk that

ideas will be undermined (Rosener, 1990). Women have been shown to work effectively in teams, practice good listening skills and have the quality of maintaining a positive mental attitude. Women have also been shown to ensure others working with them are recognized and given credit for their contributions (Price & Howard, 2012).

The behavior of women leaders may be democratic, interpersonal, participative and transformational (Eagly et al., 2003). Transformational leaders are effective within medical education as leaders in medicine must foster a collaborative decision-making and feedback oriented culture (Souba, 2004). Women tend to practice transformational leadership styles yet the lack of emphasis on their contribution and successes as leaders in medical education could cause the loss of many effective female leaders in medical education and medicine.

Many women leaders believe individuals want to feel as though they are contributing to a vision and have the opportunity to develop as an individual, understanding that pay and promotion are necessary tools of management. As the healthcare environment continues to demand change, inclusive leadership may emerge as the leadership style of choice for many medical institutions. Women in faculty positions are less likely to be represented in the top echelon ranks in medical education than are male faculty. Because women in faculty positions are less likely to hold high academic rank, they hold fewer leadership roles as deans or department chairs.

As the culture of healthcare leadership emerges, traits such as nurturing, communication, and multi-tasking are vital for success. Women have had full access to medical training and medical societies for more than 30 years and throughout the past two decades, women faculty have begun moving into leadership positions within medical education, which were traditionally held by men. As women obtain leadership positions in medical education, they are succeeding

predecessors who may have led with a different approach to their own. Greater numbers of women pursue academic careers than men, yet there are still fewer women who advance to senior leadership roles in medical education.

Summary of Core Findings from Relevant Studies

Women have achieved roles of leadership and influence in medical education through advocacy, hard work and dedication and by continuing the legacy built by early women pioneers in medical education. Many women leaders in medicine have overcome barriers and are now upper echelon leaders who provide a unique perspective and leadership style, which will shape the future of medical education and the medical profession. However, in 2014, women held only 16% of deanship positions in allopathic (M.D.) medical schools and 15% of department chairs, compared with dean and department chair medical leadership positions held by their male counterparts (AAMC, 2014).

With the growing demand for interprofessional medical teams and inclusion of patients in decision-making, medical education demands a more participative leadership style. Women are uniquely positioned to offer traits such as compassion, transparency, and teamwork in leading medical institutions as medical education continues to enable organizational culture that supports diversity. Diversity improves performance and the quality of decisions through leveraging various perspectives. Leadership teams, which represent diverse perspectives, have a greater likelihood to move in a direction that reflects the needs of a medical school's diverse student body and faculty. With few women leaders in medical education, early career women and their career choices in medical education leadership may have limited mentorship resources in order to advance into leadership positions themselves.

Contributions of women leaders in healthcare are distinct from those of their male counterparts. Women have been shown to work effectively in teams, practice good listening skills and maintain a positive mental attitude in moments of adversity. Additionally, they are skilled at ensuring that others are given appropriate credit for their contributions, and they tend to ask people for assistance and to share insight as compared to their male counterparts (Price & Howard, 2012). While men are more likely to be transactional leaders, women are more likely to be transformational leaders. Women leaders strive to enhance the self-worth of others. Women employ participative management, which encourages participation and sharing both power and information. Leaders who practice participative management believe that performance is enhanced when individuals feel good about themselves and their work. Such leaders strive to create situations to contribute to individuals feeling of worth. Additionally, many women allow power and information to change hands and recognize that doing so creates loyalty, sets an example for others, enhances the flow of communication, and increases the likelihood that leaders will address threats before they become issues (Rosener, 1990).

Women leaders in medical education bring more rapid curricular, culture, and policy changes and healthcare improvements for women, minorities and economically dis-enfranchised groups (Richman et al., 2001). The lack of leadership by women faculty represents an underutilization of women's leadership potential, deprives research of women's perspectives and fails to provide proper role models needed in medical schools where half of the students are women. To date no research has been conducted to determine those enabling and inhibiting factors, which impact the success of women deans and department chairpersons in medical education. This dissertation will attempt to fill this void.

Chapter Summary

This chapter examined the existing literature on historical information related to the progression of medical schools in the U.S. and the progression of women obtaining leadership roles in medical education overtime. The chapter discussed the history of medical education in the United States, the United States medical education system, leadership roles within medical education, leadership and culture in medical education, higher education and women, emerging women in medical education, and leadership and women in medical education. The body of work in the frameworks provides the study with a better understanding of how women have progressed through higher education and medical education and gained leadership positions despite obstacles experiences. A review of the literature found no studies that examine the enabling and inhibiting factors women in dean and department chair positions experience; thus, this is an appropriate topic for study. Chapter Three will discuss the methods and human subjects considerations for the proposed study.

Chapter Three: Research Methodology

This chapter discusses the research methods that were used to answer the research questions. The chapter also includes the study's rationale, assumptions, and the research design. The chapter examines the selection of participants for the study as well as the rationale for the decision to interview the participants. The data collection instrument is described and the chapter describes strategies for assessing the validity and reliability of that instrument. In addition, the research methodology and its rationale are discussed in detail. The chapter also describes the data analysis process. Finally, the chapter discusses the presentation to the Institutional Review Board (IRB) at Pepperdine University.

Restatement of Research Questions

The overarching research question investigated in this study is as follows:

What are the enabling and inhibiting factors impacting the success and career progression of women deans and department chairs in medical education in the United States?

The study more specifically seeks to investigate the following sub-research questions:

1. What internal (personal choice) factors enable women deans and department chairs in medical education to be successful in leadership?
2. What external factors enable women deans and department chairs in medical education to be successful in leadership?
3. What internal factors inhibit women deans and department chairs in medical education to be successful in leadership?
4. What external factors inhibit women deans and department chairs in medical education to be successful in leadership?

Rationale and Assumptions for the Case Study Research Approach

A phenomenological case study was a well-suited approach for this study because it seeks to evaluate the lived experiences of individuals and to describe both subjective and objective experiences of the phenomenon (Creswell, 2013). For this study, the phenomenon is the enabling and inhibiting factors perceived among woman leaders in medical education, factors that enabled or inhibited their progress to roles of leadership in the field of medical education. Because the researcher has experienced the phenomenon to be studied, the researcher bracketed herself out of the study by not discussing personal experiences to avoid bias and focus on the experiences of the participants (Moustakas, 1994).

The researcher collected data from woman leaders in medical education who have experienced the phenomena contributing to their rise to key leadership roles, and the researcher developed a composite description of the perceptions of all the individuals. The phenomena included internal and external enablers and inhibitors to their success. Assumptions regarding the enabling and inhibiting factors exist, yet phenomenology insists that all judgments are suspended until founded on a certain basis (Creswell, 2013).

The viability of this research as a phenomenological study was based on three assumptions:

1. The researcher was able to understand the experiences in question and to remove herself from them in order to focus on the participants. The researcher's experience as a woman leader in medical education has provided the opportunity to understand and appreciate the experiences. The researcher's own bracketing and study of leadership in medical education served to assure sufficient objectivity. The researcher was in an administrative support role, and the participants were in an academic support role.

2. The second assumption was the belief that the participants in the study were comfortable sharing their lived experience with regard to factors enabling and inhibiting their move into leadership positions. The IRB protections for this study allowed the participants to share their experiences in a non-threatening forum.
3. A phenomenological approach assumed that the researcher properly represented the experience to the public, subsequent to the research.

In order to address the third assumption, the researcher used non-technical language to categorize the participants' experiences while maintaining accuracy to their meaning and intent.

Research Design

Research can be conducted using quantitative, qualitative, or mixed methods. This study used a qualitative approach. The qualitative method of grounded theory was used to generate theories derived from the systematic analysis of the data collected through interviewing participants (Creswell, 2013). Phenomenological research requires a methodology that emphasizes subjectivity and context. The study placed emphasis on the phenomenon itself through the perspectives of participants experiencing the phenomenon. The researcher explored the experiences and perceptions of women leaders in medical education. Open-ended interviews were conducted with individuals who have lived the experiences as dean or department chairperson. The resulting data were then analyzed quantitatively, including the collection of the participants' perceptions and subjective feedback.

Researcher's Role

Qualitative research is interpretative research and, thus, the researcher is typically involved in a sustained experience with participants (Creswell, 2013). The researcher is personally experienced as a woman leader in medical education and has been exposed to many

woman leaders in medical education who expressed their personal perceptions of their experience in medical education. With strategic, ethical and personal issues in mind, the researcher identified her bias, values, and personal background that shaped her interpretations formed throughout the study. The researcher's experiences may have otherwise caused the researcher to lean toward certain themes, to actively pursue evidence to support her position and to create favorable conclusions about the participants. The researcher is a professional colleague to a few of the woman participants. The data, however, were not compromised and the information did not place the participants or the researcher at risk. In order to mitigate the impact of the researcher's experiences; the researcher maintained a neutral, transactional communication between herself and the participants, including non-disclosure of personal thoughts and experiences.

Phenomenological research must have meaning for the researcher as well as the academic body (Creswell, 2014). This research helped the researcher better understand her own perception of internal and external enablers and inhibitors to her leadership success and how it may be perceived externally. The research may have implications on how the researcher will represent herself differently, as a result of the findings, in professional settings.

Participants

This study involved eight woman leaders in medical education identified as either (past or current) deans or department chairs within fully accredited medical schools. The interviewees, considered the data source for this study, held at least a medical degree and had greater than two years of experience in medical education leadership.

The American Association of College of Osteopathic Medicine (AACOM) and the Association of American Medical College (AAMC) directory contact lists were used to identify

the population. From the directory contact list, the researcher found the associated medical school websites and the link to the office of the dean or departments associated with the dean or department chairpersons, in order to identify email addresses of potential participants. The AACOM-affiliated medical leaders were more likely to respond, as many have a professional connection with the researcher. The researcher used snowball sampling by asking interview subjects if they had further recommendations for interview subjects. Two of the participants recommended additional interview subjects. Of the 15 women leaders contacted, ten agreed to complete the interview, but only eight were available within the timeframe of the study. All participants hold a medical degree. Four of the participants were current deans and four were current or past department chairpersons.

Phenomenological research uses a narrower range of sampling strategies than other research methodologies (Creswell, 2013). This study used one criterion for study selection: current or past woman dean or department chairperson of a medical school. This criterion ensured a consistent baseline of experience and captured the relational aspect of academic leadership. According to Lincoln and Guba (1985), effective sampling continues until the researcher recognizes information redundancy, as qualitative research usually relies on small numbers with the aim of studying in depth. Saturation, from grounded theory, is based on stopping the collection of data when the data no longer reveals new insights (Charmaz, 2006). For this study, data saturation was reached by the end of the eighth interview, and thus interviews were then terminated, and no additional participants were solicited.

Description of Data Gathering Process

Potential participants for this study had to meet two criteria: participants must be a physician, and they must have past or current experience as a woman dean or department chair

within a fully accredited medical college. The researcher recruited participants through an email invitation. The email invitation to interview (see Appendix A) included an electronic copy of a document informing them of the goals of the study and an informed consent form (see Appendix B). The informed consent described the purpose, conduct and parameters of the study as well as the participants' rights and risks of participating in the study. The participants were also provided the interview questions prior to the interview. As the women deans and department chairs volunteered to be interviewed, the researcher arranged a mutually convenient time for a 60-minute interview. Because many of the participants did not reside in the same geographic region as the researcher, four of the interviews were conducted over the phone and four were conducted in person.

The researcher asked study participants to describe their leadership experiences, experiences as a dean or department chair, and to identify enabling and inhibiting factors within the experiences. Semi-structured open-ended interviews were used to collect data for this study as the use of open-ended questions allowed the researcher to guide the interview according to the research study. Additionally, the open-ended format helped enable participants to articulate their distinctive experiences and perceptions. The interview was concluded by asking the participant for recommendations for additional subjects, per the previous mention of snowball sampling. A copy of the Interview Questions appears in Appendix C.

The interview was structured as a single 60-minute interview. The researcher monitored the progress of the interview itself, observing for potential signs of discomfort from the participants. No participant chose to withdraw from the interview.

Human Subjects Considerations

This research study involved interactions with human subjects and met the federal

requirements for research. The subjects for this study were past or current woman deans or department chairs in medical colleges throughout the United States. The researcher was transparent with the participants regarding the purpose and nature of the study as the participants were solicited for participation. Participants received information explaining that their involvement was voluntary; that they were not required to provide an answer every question, and that they may withdraw from the interview at any time without consequence. An explanation about the confidentiality of private information was given to ensure that only the compiled data would be included in the study and that all data would be stored in a password-protected online portal. The identity of the participants was not shared in any published materials. All participants will be referred to by a code name. The researcher used member checking to determine the accuracy of the data and whether or not the participants felt the themes were accurate. Creswell (2014) recommends member checking as a way of increasing the validity of data collection. In this process the researcher shared the descriptions and themes with the participants to check if the data adequately represented their experience.

Possible risks of participation included affecting the perception of the woman participants with regard to the inhibitors presented in the findings. The benefits of participating woman medical school leaders included identifying enabling factors women experience within the workplace, which may have a positive impact on how the climate of their organizations approach woman leaders. Inhibitors identified may also be addressed within their workplaces as a result of the study.

There were no incentives provided to elicit participation in the interview. There were no known conflicts of interest. Deception was not a part of the interview. There was no risk of physical harm to the participants. All interviewees were free to withdrawal from the interview

and study at any time for any reason without consequence. Copyright clearance or licensing was not needed for the interview, as the researcher developed the questions based on the literature review. The researcher applied to the Pepperdine University Institutional Review Board (IRB) for Exempt status and received approval. A copy the Pepperdine University IRB approval is contained in Appendix D.

Instrumentation, Reliability, and Validity

The interview questions were developed based on findings from the literature review. The interview instrument was pre-tested on woman leaders not participating in the study prior to use in order to ensure validity and reliability. Two woman leaders in medical education with at least five years of experience volunteered to participate in a pilot implementation of the interview instrument. The two individuals each participated in the interview session for one hour. The researcher then used the quality of response to identify any necessary improvements in the interview instrument. The researcher had the results evaluated by a content evaluation panel consisting of a master's degreed educational psychology specialist, a woman physician and a psychologist. The questions were modified according to the suggestions of the content evaluation panel to ensure content and interpretation. The interview questions were then deemed appropriate by the content evaluation panel for the purpose of the study.

In order to meet external reliability requirements, it was necessary for the researcher to follow the interview protocol when conducting each interview. The interview protocol involved a review of the informed consent and confirmation that the participant agreed, followed by a 60-minute interview per the questions below. The researcher used coding consistently when analyzing the data to ensure internal reliability. The internal reliability will be discussed in more detail in a following section, Data Analysis. All interview sessions for the participants were

completed within a six-week timeframe. The researcher coded all interviews personally to further enhance data reliability.

The interview questions associated with each sub-research question were as follows:

What internal (personal choice) factors enable women deans or department chairs in medical education to be successful in leadership?

- What is your leadership style?
- What personal characteristics do you feel helped with your success in your career trajectory?

What external factors enable women deans or department chairs in medical education to be successful in leadership?

- What is your educational history?
- What (if any) professional organizations do you believe augmented your career advancement?
- What was your professional history prior to your role as dean?
- Can you identify any resources/factors that helped enable your success?
- Do you or do you not have a mentor?

What internal factors inhibit women deans or department chairs in medical education to be successful in leadership?

- Do you feel any discomfort with your role as a dean?
- What sets you apart from other women pursuing positions similar to yours?

What external factors inhibit women deans or department chairs in medical education to be successful in leadership?

- What obstacles have you faced in your career?

- What, if any, disadvantages do you face in your career as compared to your male counterparts?

No demographic questions were part of this interview since the participant group is not large enough to maintain confidentiality.

Data Analysis

Data analysis for this study involved a qualitative analysis for the interview. The researcher began qualitative analysis by manually transcribing the interviews as soon as they were conducted with each dean and department chairs in order to establish familiarity with the data. Upon review of the transcription, the researcher noted any emerging trends for later reference. Once all interviews were complete and transcribed, the researcher conducted a focused review of results, identifying significant statements by the participants. Upon the review of the statements, the researcher manually coded and assigned themes within the interview transcripts, which took approximately six hours. Topic coding was used to identify all material on a topic for later retrieval (Richards & Morse, 2013). The topic coding helped identify common perceptions of the subjects as well those perceptions that are unique. The statements were then grouped into themes that were assigned to specific sub research questions. The themes were chosen based on broad patterns shared among the participants. The themes were compared with the literature review and reviewed by a master's level education profession with university teaching experience.

As the researcher encountered elements of the study that provoked reflection or reactions in herself, she noted such experiences via a calendar of dissertation events. This calendar was kept separate from the main data set of survey and interview results to avoid accidental inclusion of researcher comments or concerns that could reflect poorly on the participants themselves. The

researcher used this reflective log to continue the bracketing process begun in the preliminary proposal. By following these steps and the analysis procedures described in the preceding paragraph, the study reflected Creswell's (2013) articulated standards for phenomenological data analysis, which include:

- Understanding the philosophical tenets of phenomenology.
- Articulating the phenomenon in a clear, concise manner.
- Using the procedures of phenomenological data analysis.
- Conveying the essence of the experience, including a description of the experience and the context in which it occurred.
- Employing reflexivity throughout the study.

Data Management

All data were managed, recorded and stored with a high level of security and reliability. Interviews were recorded using a dictation device for eventual transcription and analysis. The electronic written were saved in a password-protected file on the researcher's computer to which the researcher is the only person with the login information. All electronic work was kept securely on a backup external hard drive in the researcher's locked file cabinet for the duration of the study and will be destroyed three years upon completion of this research. The hard copies of documents relating to this study were stored in a locked file cabinet in the researcher's office along with all handwritten notes.

The researcher transcribed all interviews manually during each interview followed by the researcher manually coding the transcriptions. All interviews were coded using role and letter identifiers for each participant; Dean A, B, C, D and Chair A, B, C, D. The key for the identifiers was kept separate from the data in a secured offline locked cabinet. The participants' real

identities are not linked to their interview responses.

Summary

This chapter summarized the methodology used to conduct this research study. This chapter also discussed the identification of data sources and how they were selected and a detailed account of how data were collected. The validity and reliability of the instrumentation used in this student were described, as was the data analysis process. IRB and Human Subject considerations were explained in detail.

The central research question used to guide this study was as follows:

- What are the enabling and inhibiting factors impacting the success and career progression of women deans and department chairs in medical education?

The study more specifically sought to investigate the following sub-research questions:

1. What internal (personal choice) factors enable women deans and department chairs in medical education to be successful in leadership?
2. What external factors enable women deans and department chairs in medical education to be successful in leadership?
3. What internal factors inhibit women deans and department chairs in medical education to be successful in leadership?
4. What external factors inhibit women deans and department chairs in medical education to be successful in leadership?

These research questions and this case study design were developed with a methodological congruence to provide the researcher with an in-depth understanding of the internal and external factors enabling and inhibiting woman leaders in medical education.

The findings of this study could be used to improve the understanding of gender equality

and leadership in medical education. The study design is appropriate in targeting the desired participants, as using an interview provides ease for medical school leaders to participate. The outcomes from this study may have several implications for researchers, medical school leaders, and hiring medical institutions. The outcomes may influence the understanding of gender equality through providing written self-reported data that could change the practices of woman leaders in medical education.

Chapter Four: Study Results

This study sought to provide an in-depth understanding of the factors that enabled or inhibited women in their career progression to dean or department chair in the field of medical education. The purpose of this study was to examine the enabling and inhibiting factors women deans and department chairs in medical education experience throughout their career trajectory. The objective of this research was to identify variables deemed most commonly experienced by the participants in the study, and to identify areas for future research. The research study included the gathering of qualitative data via an interview and transcribing the data into a narrative format. The methodology used in this case study, therefore, was qualitative research design.

This chapter analyzes and discusses the findings from the qualitative data collected through interviews conducted with women deans and department chairs in medical education. The interviews included open-ended questions associated with each research question. Prior to presenting the findings, the research questions and a description of the data-gathering process were reviewed, and a description of the participants is provided.

Restatement of the Research Questions

The central research question used to guide this study is as follows:

- What are the enabling and inhibiting factors impacting the success and career progression of women deans and department chairs in medical education?

The study more specifically attempted to answer the following research sub-questions:

1. What internal (personal choice) factors enable women deans and department chairs in medical education to be successful in leadership?

2. What external factors enable women deans and department chairs in medical education to be successful in leadership?
3. What internal factors inhibit women deans and department chairs in medical education to be successful in leadership?
4. What external factors inhibit women deans and department chairs in medical education to be successful in leadership?

Description of the Data Gathering Process

Interview data gathering process. An email invitation was sent by the researcher to women deans and department chairs in medical education from both the American Association of Osteopathic Medicine (AACOM) and the American Association of Medical Colleges (AAMC), inviting them to participate in interviews regarding enabling and inhibiting factors experienced throughout their career trajectory to the role of dean or department chair.

The researcher spent six weeks conducting interviews. Four interviewed were conducted over the phone and four were in person. All of the interviews were recorded using a recording device application, AudioNote, on the researcher's computer. The researcher took typed notes during all eight interviews. After conducting the interviews, the recordings were used to create transcripts for each interview. The researcher manually cross-referenced her notes with the recordings and typed the missing information from the original notes into a full transcription. The transcription was then analyzed and coded by the researcher for themes, manually.

In this chapter, the questions asked to the participants will be listed and followed by a description of the participants' comments. The responses are represented in categorical groups and quantified when possible. Throughout the analysis, the participants' responses are quoted and sometimes paraphrased to capture the essence of their perception.

Description of the interview respondents. An email invitation to be interviewed was extended to fifteen deans and department chairs of medical schools throughout the United States. The researcher obtained the email addresses of the participants from the websites of the respective medical school either from the Office of the Dean link or the departmental links for identifying the chairpersons. Participants responded to the researcher via email in order to schedule the interviews. All of the participants who requested an interview were offered an interview with the exception of two respondents who were not able to schedule a meeting within the timeframe of the study. A total of eight participants were interviewed, including four deans and four department chairs.

Data Summary and Analysis

The data for this research study were collected in a case study format employing a qualitative methodology. When analyzing the data, the information will be represented in a narrative format. The data are arranged in a topic format to coincide with various themes from the literature review, which is found in Chapter Two. By using the topic format, the data from the interview was then grouped into the following topics based on each sub research question: Leadership Approach; Personal Characteristics; Education; Professional Organizations; Career Ascent; Enabling Resources; Mentorship; Confidence; Decision-making; Vision; Gender Discrimination; Mentors, Work-life Balance.

Answers to the Research Question

The main research question for this study was: What are the enabling and inhibiting factors impacting the success and career progression of women deans and department chairs in medical education? The answers to the sub-questions that have associated interview questions with each are provided below.

Research sub-question 1. What internal (personal choice) factors enable women deans or department chairs in medical education to be successful in leadership? Qualitative interview questions that related to Research Question 1 included:

- What is your leadership style?
- What personal characteristics do you feel helped with you success in your career trajectory?

This section summarizes the main themes from participants' responses to open-ended questions pertaining to this research question. The major topics associated with these questions were related to leadership and personal characteristics.

Leadership style. When participants were asked about leadership approach, all participants responded with their commitment to collaborative leadership and a focus on a shared vision. Dean B stated, "A collaborative, team-based approach is the most important thing to build a team." In describing her leadership style, Dean B stated she never asks something she would not do herself and she is not afraid to get down in the trenches to get the job done. Dean A added, "People resonate with a shared vision." In discussing her leadership style, Chair A said, "I will be successful if the people I work with are successful" and "I go farther with bringing people along with me than by myself." Chair B added that when teams feel they are being heard and are participants in the process of growth, it is easier for them to move forward with the change." Chair D commented, "I look for the good of the whole and build the entire team. I try to build on strengths that are present with faculty and staff." She also shared that she never signs a faculty contract with the hospitals or clinics without feedback from her faculty. She said, "I would like the same opportunity for input if I was in was in that situation." Chair C discussed her mission-based leadership approach and how she "worked behind the scenes to protect faculty." She described herself as a macro-manager who leads her team to work freely within a structure.

She said, “I try my best to take care of my team without enabling, they are a huge component to my success.” Dean C also discussed her mission-based leadership approach. She stated, “I only accept leadership roles where I feel I can get behind the mission of the organization and lead from that platform, build shared values, and adhere to decisions.” She went on to share that her personal style of leadership is to be “quiet, understanding and gracious” as there is “no need for negative interactions.” Chairs A, C, and D and Dean A all emphasized on how their style of leadership was also based on a pragmatic or analytical approach. Chair D shared, “As a chair, I have participated in leadership programs and learned that I have a detailed and analytical side of me. Chair C spoke on behalf of her style being pragmatic yet inclusive. Dean A described herself as, “comprehensive, targeted, and concise.”

Personal characteristics. The participants in this study were asked to discuss their personal characteristics they felt contributed to their career trajectory. Several themes emerged in regards to personal characteristics the deans and department chairs identified as enablers to their careers. Decision-making skills, integrity, humility and confidence were among the most frequent characteristics mentioned.

As the decision-making theme emerged, Dean C stated, “People have to see you as a person that can make decisions and have the willingness to accept responsibility for the decisions you make.” She also spoke on behalf of making decisions that affect her faculty saying, “Decisions may not always be in their favor, but I want them to feel they have been heard and allow them to share their point of view.” She added, “Decision making skills and timing has to do with urgency of the problem. Sometimes you must make it without all of the information.” Chair D said, “In decision-making, I try to think about how I would want to be treated.” Chair C evaluates to ensure the decision is in the best interest of the mission. She stated, “I have a

mission-based decision making process.” She spoke on behalf of acknowledging short term benefits of a decision, but being more likely to focus on the long-term win. Dean D had mentioned decision-making in reference to something she learned from strong mentorship. She stated that prior to her mentor’s influence, “I had been my own boss so I was making the best decisions I could, but my experience was making executive decisions.” Dean A emphasized that she has never been afraid to try different things. She said, “I know my business very well” and “I worked hard at it.” In fact, she pursued further education in completing a master’s of business administration in order to enhance her competence as a dean.

With regard to integrity, Dean B stated, “Try to do the right thing with integrity and honesty.” She also commented, “Treat people right, work hard and have the best interest in the institution as the primary goal.” Dean C emphasized the importance to be willing to accept responsibility for decisions made. She also said, “Integrity is very important. Be prudent in the set of values you respect.” Dean C stated to “make decisions based on fairness and integrity, keep commitments and you will gain partner and faculty trust.” Chair D discussed the important of respecting the interest of others. She shared that she “believes in treating everyone the same as far as no favoritism.” Chair B also added comments based on her passion for “speaking for those who do not have voices” and she mentioned the importance of advocating for others. Dean D mentioned that some individuals in pursuit of leadership positions are “not willing to be vulnerable and be wrong,” which is an inhibiting factor affecting the ability to progress.

Humility and confidence were mentioned throughout the interviews as an advantage. Dean D stated, “Humility and confidence are important to my success. I gained a different style to gain respect and had an advantage with humility because I was not threatening to them.” She spoke about her male counterparts who wanted to “duke it out verbally” and how she was “not

perceived as challenging.” Her intrinsic confidence and humble attitude allowed her to gain respect and move into leadership positions such as chief of staff and president of her state association. Chair C said, “I am humbled by my community” and she looks broadly at “what we can do as a community to make ourselves grow.” She also stated, “I made lots of mistakes. Know your mistakes and do not honor regrets.” Dean C mentioned, “You need good people to tell you that you’re wrong and you need to have people think that you’re not so great.” She went on to share that her family thinks it is great that she is the dean, but they are not too impressed. She went on to add, “You need to have people in your life who do not respond to your title. People will give you a false sense of reality because of your position of authority.” Chair D discussed her ability to be calm and rational and observe situations from the outside in order to confidently navigate through a difficult situation whereas many of her colleagues would react abrasively. She said, “I looked things through carefully, identified the issues, and found out how to correct them.”

Research sub-question 2. What external factors enable women deans or department chairs in medical education to be successful in leadership? Qualitative interview questions that related to Research Question 2 included:

- What is your educational history?
- What (if any) professional organizations do you believe augmented your career advancement?
- What was your professional history prior to your role as dean?
- Can you identify any resources/factors that helped enable your success?
- Do you or did you have a mentor?

This section summarizes the main themes from participants' responses to open-ended questions pertaining to this research question. The major topics associated with these questions were related to education, professional organizations, career ascent, enabling resources, and mentorship.

Education. As required for medical school deans and department chairs, 100% of the participants interviewed completed their medical degrees. Many of the participants had a non-traditional educational track prior to attending medical school. Two of the deans held careers prior to pursuing medical school, one as a nurse and the other, a medical technologist. Dean C shared, "I felt more comfortable working. I loved patients, but never wanted to go to medical school and did not have a great image of doctors. My friends influenced me to apply to medical school." Dean D did not plan to attend medical school either. She thought she would be in hospital administration, but one day a pathologist in her lab told her to go to medical school. She simply stated, "I went home and spoke with my husband and took two years to get the pre-requisites and went to medical school." Similarly to Dean D, Chair A did not plan to attend medical school. She was going to be a teacher and her passion was chemistry. She chose instead to pursue pharmacy school and completed the program in three years. She worked as a pharmacist and really loved patients so she went to medical school. Dean B said she was one of 12 women in her medical school class of 135. "We were a minority," she stated. Chair C did not plan to attend medical school either. She was considering careers in other fields when someone encouraged her to consider medicine. Chair D also did not plan to attend medical school. She entered college as a fine arts major and became interested in also studying nutrition. She worked as a teacher, but was displeased with the profession and chose to continue on to pursue a master's in nutrition, which included science courses relevant for medical school admissions.

Several individuals encouraged her to apply to medical school, including an anatomy professor, so she applied and was accepted.

Following the pursuit of a medical degree, several of the participants sought supplemental education in order to enhance their business acumen. Two of the deans completed a formal master's program, one in business administration and the other in health administration. Chair B completed masters of public health. Others pursued professional training from organizations such as the AAMC and the Wharton Business School. Dean C took a course through the AAMC where she learned her leadership style was a "tremendous asset" and shared her observation from the class. She said, "Hard-nosed folks were successful, yet they failed every time in the course." She stated, "I thought I needed to be more like them, but then she learned that her collaborative style was "win-win-win." She did discover, however, during the course that she failed in her negotiation skill assessment, which she was able to enhance throughout the course. In response to unfamiliarity with the topic, Dean C also completed a negotiation course at the Wharton Business School, which she suggested contributed to her professional success.

Professional organizations. As participants were asked about professional organizations which augmented their career trajectory, a variety of themes emerged, mainly based on the individuals' original medical specialty practiced. Other themes emerged were based on opportunities offered through the AAMC and the AOA (American Osteopathic Association). Dean C responded, "The AAMC creates a series of opportunities for all levels. I took advantage of everything I could." She subsequently became the Chair of the Council of Deans for AAMC and Chair of the Board of Directors to further contribute to the organization. She stated, "I offered to help organize seminars, present, and opportunities presented themselves." Dean D and

Chair B completed a health policy fellowship with the AOA where they each acquired knowledge about state and federal regulatory policy, essential to her their roles leaders in medical education. Eventually Dean D's involvement with the AOA enabled her to become president of her state association and Chair B published her work as a result of the experience. Chair A was encouraged to run for board of director's position within a medical association and she was successful in obtaining the position. She went on to add, "I was the only woman in the room at the meetings." Chair A mentioned that her position within the organization helped her to get promoted to professor.

Career assent. Every participant had experience in medical education prior to serving as dean. Additionally each dean served as a chairperson at some point within her career. None of the participants had planned to become dean or department chair, but were encouraged to take the roles by a superior or mentor. Dean C said, "My chair suggested a leadership track." She went on to explain that she never imagined herself as a chair. She went on to work as a senior associate dean prior to her role as dean. Dean B was pulled into education early in practice. She precepted students in clinic and she was asked to lecture. She ended up working with curriculum and became involved with a medical society with an emphasis in teaching which helped her grow from an educational perspective. She became the director of a community health clinic, which helped her prepare for her future in administration. She never planned on becoming a dean, but she wanted to contribute. After working as department chair and a medical director, she was approached and was asked to apply for the dean position. Dean D had mentioned having a casual conversation with the dean to ask if the medical school ever needed anyone to teach. She taught and then was asked if she would like to be the chair of internal medicine. She described her role as creating courses, identifying faculty, and setting up examinations. She also served as

an assistant dean and traveled around the state to start new hospital programs. Upon these accomplishments, the president of her university asked her to be dean. Chair C shared a unique career ascent from going from an assistant professor directly to chair within five years of working for her institution. She shared, “I was on the hiring committee and when the first hiring cycle was unsuccessful, the committee encouraged me to fill the role.” Chair D shared, “I had no interest in becoming the chair at that time, but I did not see any other option. There were multiple problems and I felt I knew how to fix them. She went on to add, “I do not care about the title of being chair, it’s what I do with the title.” Chair D liked the idea of teaching in combination with practice. She approached a dean and asked if he needed a physician in her specialty. They met and he hired her the next week. She began as an assistant professor; she started a residency-training program, moved into an associate professor role with tenure and eventually held the department chair position.

Enabling resources. The responses to this question primarily focused on mentorships and professional organizations, which is highlighted in the aforementioned section as well as the following section. Each participant also extensively discussed her strong network of family support from spouses, children and/or extended family. Chair C mentioned her family culture was one encouraging of negotiation skills, which helped her immensely throughout her professional career. Chair D added that her husband was incredibly supportive throughout her career opportunities. Chair A commented that she had “absolute family support” and a “tight knit” family.

Mentorship. All participants identified having mentors throughout their career progression, who helped encourage their success. Many mentors discussed were described as presidents, deans, chairpersons, and CEO’s of hospitals or medical schools as well as family

members, former teachers and supervisors. Dean D mentioned that her first mentor was identified during her third year of medical school. He was the chair of nephrology and she did a rotation on his service. She stated, "We just connected. I went to their house and had dinner with the family, babysat their kids and we are still good friends." Dean D also mentioned a women president as one of her mentors stating, "If it were not for her, I would not be in this job." She pursued a personal coach who was a dean/provost at a medical school in order to enhance her mentee experiences. Inspired by her mentorship and coaching, she started an institute for medical educators with tracks for deans, department chairs, and residency program coordinators. Dean A had referenced two high school teachers as her mentors. She stated, "I never knew what science was and she had confidence in me." When speaking with regard to the second teacher she said, "I really respected her because she made me rewrite stuff and no one ever had." Dean C mentioned a former supervisor who was very encouraging to her. She said, "She would check-in on me and she said I needed to trust her because maybe she saw more in me than I saw in myself." Another mentor was her predecessor for one of the positions she held. She described her predecessor as "encouraging, exposed me to the right people" and "we presented together and she helped me handle different things and encouraged me to take higher levels of responsibility." She added, "The retiring dean was a very important person in shaping my career. If she had not encouraged me, I would not have pursued it." College presidents mentored Deans B and D and Dean B stated that the president told her "you will be the next dean." Dean B said she probably would never have applied otherwise. She said, "The president had a big impact on my life." Dean B also mentioned a fellow dean and described her as "a wonderful mentor" and "she went out of her way and took the time and effort from day one to call and visit, send books and articles, nurture and mentor." Most deans had mentioned their willingness to mentor

individuals, as well. Chair B met her main mentor at a wedding and he discussed her career interest with her, as he was a physician as well. She said, “He and his wife took me on as one of their own.” Chair C commented on her mentor taking the time to answer her questions “made me so happy.” She ended up taking all of his Continuing Medical Education courses and she described him as “very instrumental in supporting her and providing opportunity.” Chair D commented on the lack of mentors available in her specialty, but acknowledged her parents as mentors. She added, “My mother was unhappy to be a stay at home mom so I wanted the career she did not have.” Chair D also shared that she found a few people who treated her well and shared cases with her throughout her career, which she said was very encouraging to her after being exposed to such a harsh environment.

Research sub-question 3. What internal factors inhibit women deans or department chairs in medical education to be successful in leadership? Qualitative interview questions that related to Research Question 3 included:

- Do you feel any discomfort with your role as a dean?
- What sets you apart from other women pursuing positions similar to yours?

This section summarizes the main themes from participants’ responses to open-ended questions pertaining to this research question. The themes associated with these questions were related to discomfort, confidence, decision-making, and vision.

Discomfort. The deans and department chairs all spoke on behalf of their roles as being tough or risky in general. Feelings of discomfort occurred from responsibilities such as financial oversight, administrative responsibilities, and maintaining the vision of a major institution. Dean A mentioned that she was “always proving herself” throughout her career. Although there were challenges addressed, Dean A stated, “Dean jobs are high risk jobs, but I have a healthy respect

for the nature of the job.” Dean B shared that the discomfort may come from women tending to be doubtful and more critical of themselves. Chair A said that her job was risky and “you do not want to be caught unaware or ignorant.” She added that she is never afraid to ask questions. Chair C said, “When I started I felt unqualified to be chair.” She went on to explain that leadership was different than clinical practice. “You have multiple bosses”, she stated. She added, “Now my biggest concern is where are the next leaders?.” Chair B described the challenge of having responsibility over finances, administration, and maintaining the vision of a major institution while balancing everything. “It was tough”, she shared. Negotiation was also an area of original discomfort that came up for Dean C and Chair D early in their careers. Dean C pursued formal training through the Wharton Business School, while Chair D participated in seminars and listened to tapes about negotiation and working with difficult people.

Confidence. The concepts of confidence and resilience were themes identified in both the interview questions for sub question 3. Dean B stated that she sometimes felt self-doubt and the need to always prove herself. Many participants had mentioned that they, at some point in their career, had to prove themselves and stand up for their own ideas. Dean A stated, “I was not fearful, just careful” and that “a dean’s job is high risk.” Another commented, “women tend to be doubtful, in terms of doing the right thing and are more critical and reflective.” She shared that she would often get looked over when presenting an idea, yet a male counterpart would present the same idea moments later and everyone would agree and nod. She stated, “do not be afraid to reinforce that the idea was yours” and “do not be afraid to speak up.” Chair A distinguished herself from her peers in saying that “everyone else stood back and I stayed in line” when it came to pursuing new opportunities. Dean D had mentioned that she sees potential in many women to become leaders, but “they do not have the confidence of they do

not have the humility.”

Decision-making. The decision-making theme repeated itself throughout the interview process. Dean B stated, “I always knew that even though I was making a decision that is uncomfortable, it’s a lot easier knowing that it’s in the best interest of the college.” She also encouraged her team to “advise and speak up” and “make sure you tell me if you see me going down the wrong road.” Another dean mentioned an internal factor inhibiting success is not appearing decisive. She said, “being able to make a decision and move on is very important and something I see that holds people back.” Chair B shared, “your way may not always be the right way, but stick to your guns and do not let people write your script.” Chair C added that she was confident in decision-making based on the focus on the mission as her foundation.

Vision. The ability to see the “big picture” and establish a vision for the medical school was a theme identified throughout the responses, as well. Dean B stated, “women pay attention to detail which will make them and the institution successful, but if you pay too much attention to detail you may not see the big picture. Chair B said she “saw what the department needed” and she “thrives in change, likes change.” Chair C described herself as a “big picture thinker.” Chair D shared that she works quietly, but watches and analyzes in order to accomplish goals. She shared, “I am good about looking at timing and taking advantage of opportunities as they arise.” Chair A spoke about being ahead of the curve and being creative. She suggested, “Have a vision of where you want to be at the end.”

Research sub-question 4. What external factors inhibit women deans or department chairs in medical education to be successful in leadership? Qualitative interview questions that related to Research Question 4 included:

- What obstacles have you faced in your career?

- What, if any, disadvantages do you face in your career as compared to your male counterparts?

This section summarizes the main themes from participants' responses to open-ended questions pertaining to this research question. The themes associated with these questions include gender discrimination, lack of mentorship, and challenges with work-life balance.

Gender discrimination. Each dean shared that they were the minority gender within their medical school classes and within the hospitals. Dean B stated, "My early career lacked acceptance for women in medicine." During her first surgery rotation at a large metro hospital, her attending surgeon asked her "who's son's seat in medical school did you take?." Dean D shared a story of a physician mentioning that women are overtaking the system and he was opposed to women in medicine. She purposely scheduled a rotation with the physician with the intent to prove him wrong. He ended up nominating her for a board seat, but did not change his opinion about women in medicine. When she asked him if he changed his mind about women in medicine, he said, "well, no, you're the exception." Chair A also shared that one of her advisors said he did not believe women should be in medicine, but she proceeded to do very well and he ultimately supported her. Chair A commented, "women always had to be on their A game." Chair B spoke about her interview for medical school when the panel asked her if she planned to marry and if it would interfere with her eventual practice in medicine. She simply responded with, "I do not know, does it interfere with the men?." Chair B also suggested that barriers were created based on societal perceptions of a woman's role. Chair C stated, "A couple of times I could not work with males because they were not interested in working with females." One, she shared, was a former dean of the medical school. "He did not know how to deal with female leaders", she said. She also added that from a cultural perspective, some people are not comfortable working with women so she asks a male colleague to join her as a buffer in the

situation. Dean C had also shared that unbenowned to her, she was almost terminated during her pregnancy, but other women in the system came to her defense. She said, “as a dean, I see a lot of things happening and I fix inequities.” On her first rotation in surgery, Chair D had a surgeon point at her and say, “I do not want her on my service.” She commented that she had no other choice but to work on his service so she worked hard to prove him wrong. Eventually, she said, he encouraged her to apply for his residency program in surgery and be their first woman. Similarly, her senior resident did not believe women should be in surgery and he had a personal quest to get her kicked out. She said, “He would set me up to fail and give me assignments while I was supposed to be on rounds.”

Dean C mentioned that she was unfairly treated as a faculty member. Her pay was “grossly under compared to her male counterparts” and she was given the notion that “I was a wife and did not need as much money.” Chair A also spoke about the salary differences between her and her male counterparts and said, “I just crossed the line of what the former chair was making, 10 years later.”

Dean C shared another comment in regards to experiencing sexual harrassment and shared that she “did not recognize that it was wrong so she had to divert and have a sense of humor.” Chair A shared that in her early career male attendings were sexually obnoxious, and she used humor to respond, a similar response of Dean C. Chair D shared, “Sexism is still alive and well.” She said she had to learn “guy speak” which she described as bantering in order to navigate through the culture of her profession. She shared a story about experiencing sexual harrassment and how she opted to use humor, as well, in responding.

Lack of mentorship. Although each participant had identified having mentors throughout their career trajectory, Dean A and B stated that lack of female mentors were an inhibitor. Dean

B stated, “There was a disadvantage to being female due to fewer female role models as mentors throughout my training.” The Dean A commented, “There were few role models and a lot of women took the hits and tried to do the hard stuff.” She expressed that women in her generation of physician leaders attempted to pave the way for the next generations of females in the profession. Dean D mentioned, from her observations, “There have been fewer deans because you have to be in my age group to be at the dean level. There are steps to go through to be qualified as dean.” She shared that there were 12-15% of women in her graduating medical school class and a large part of her career was working with men. She then went on to work in a private practice where there were 185 physicians on staff and two were women. Chair B spoke on behalf of the lack of mentorship as a result of fear. She said, “it seems that there is fear of mentoring women towards deanship/leadership positions.” Chair D shared that she was in a field of medicine where she was the only women. She said, “I looked for mentors, but there were not other women in my field.”

During the interview, Dean A reflected on her mentorship relationships and how she, like many of her other colleagues, also served as a mentor for both men and women in medicine. She stated that she realized there is a certain subset of career oriented, motivated women who demonstrate a strong potential for career progression. She said, “one day, when you least expect it, they quit.” Dean A said that this only happens with the women mentees and they describe to her, their burn-out. She said that women try to prove themselves but have high burn-out potential in doing so, and thus, it stifles their potential career trajectory into leadership positions.

Work-life balance challenges. Each dean shared feedback on work-life balance in responding to the interview questions. Chair D shared that when her family members passed away unexpectedly, she was the one to fix and take care of everything. Due to her

responsibilities to her family, she shared, “I did not continue the scholarly endeavors as much.” Dean B shared, she tried to find time with her children when they were little and wanted to create a friendly on-call schedule, but it was looked upon disdainfully by her male counterparts. Chair B spoke about her family obligations and shared an opportunity she was offered at a different institution, but she chose not to accept the position due to her children as she would have felt guilt.

Summary

Chapter Four provides a description and analysis of how the research data were provided. The data were coded and organized into themes based on commonalities in responses. 13 different topics were used to present the data and they were as follows: Leadership Approach; Personal Characteristics; Education; Professional Organizations; Career Ascent; Enabling Resources; Mentorship; Confidence; Decision-making; Vision; Gender Discrimination; Lack of Mentorship, and Work-life Balance Challenges.

Chapter Five provides a summary, conclusion, and suggests implications about the findings as they were analyzed in Chapter Four. Chapter Five will also include recommendations for future research, based on the data analysis for this chapter.

Chapter Five: Discussion

The purpose of this research was to examine how female deans and department chairs in accredited schools of medicine have progressed throughout their careers, considering enabling factors and despite inhibiting factors, and the possible influences that women leaders in dean and department chair positions have on medical education.

The purpose of this chapter is to provide a summary of the data gathered and the processes utilized in the research study. Additionally, the researcher will provide conclusions and implications drawn from the data. The final section in this chapter will include recommendations for further research.

Purpose of the Research and Research Questions

The purpose of this study was to describe the enabling and inhibiting factors impacting the success and career progression of women deans and department chairs in medical education.

There were four overarching inquiries that guided this study:

1. What internal (personal choice) factors enable women deans and department chairs in medical education to be successful in leadership?
2. What external factors enable women deans and department chairs in medical education to be successful in leadership?
3. What internal factors inhibit women deans and department chairs in medical education to be successful in leadership?
4. What external factors inhibit women deans and department chairs in medical education to be successful in leadership?

Loop Back to the Literature

Prior to beginning the research on the topic in question, a literature review was conducted about medical education and women in leadership in medical education. The review revealed a vast amount of literature regarding the history of medical education and higher education and the nature of women in higher education. An in-depth review of the literature with a more directed focus on women leaders in medical education was not as substantial. However, there was an adequate amount of literature on women leaders in medical education to build a framework for this study.

As the literature review evolved, the topics of concentration that were relevant to the research study were as follows: History of Medical Education in the United States, United States Medical Education System, Leadership Roles in Medical Education, Leadership and Culture in Medical Education, Women in Higher Education, Emerging Women in Medical Education, Leadership and Women in Medical Education.

Additionally, research revealed in the literature review related to the leadership and enabling and inhibiting factors component of the topic of research included: leadership qualities of effective deans and department chairs, leadership characteristics of women, advancement of women in medical education, and barriers of women leaders in medical education. All of the research provided a general framework for the research study.

The researcher may pursue future linkage with authors of the topics mentioned above. Linda Pololi has contributed to many articles in regards to the culture of academic medicine, the importance of mentoring faculty and the coping practices of women faculty. Additionally, Page Morahan has publications related to the glass ceiling in health care, the advancement of women physicians, and capitalizing on the intellectual capital of women. Molly Carnes has also

contributed to the literature in areas women's health and women's leadership in academic medicine. Lastly, the AAMC continues to provide publications regarding the state of women in academic medicine, including annual reports on the statistics of women representation in senior leadership positions in medical education.

Research Design and Methodology

This research was completed in a qualitative case study format, which involved interviewing eight female leaders in medical education consisting of four deans and four department chairs. The study was completed by having each dean and department chair engage in a recorded interview over the phone or in person. Most of the questions solicited the dean or department chair's own perceptions and opinions about the research topic. The personal interview format was selected as the data collection method in order to encourage dean and department chair personal responses.

Upon collecting the data from the deans and department chairs, a systematic content analysis of the data was completed. The data were analyzed, grouped and coded according to themes. The resulting data were related to many of the major concepts in the literature review.

Data Source

The population used for this study was composed of female deans and department chairs in medical education. The deans worked across five different medical schools, both allopathic and osteopathic, in four different states. The department chairs served in departments of family medicine, manipulative medicine, surgical specialties, and internal medicine.

Assumptions and Resolutions

At the beginning of the study the researcher established seven assumptions. These assumptions were listed in Chapter One and in the following section. The original assumption is represented in italics and the resolution formulated upon the data analysis follows.

1. There will be a clear pattern of positive leadership behaviors that emerge from the case studies.

The deans and department chairs in this study identified several positive leadership behaviors, and frequently the same behaviors were identified by more than one dean or department chair. There were also many behaviors that were identified by individual participants only. The assumption implied that all the deans and department chairs shared the same leadership behaviors. The findings indicate that while some behaviors were very similar, the deans and department chairs held many unique leadership behaviors. The pattern that resulted was that all participants shared a collaborative leadership approach and spoke on behalf of creating a shared vision, oftentimes termed as transformational leadership.

2. A pattern of successful leadership skills and administrative behaviors for aspiring women leaders in medical education will be discovered from the research.

A single pattern did not surface outside of collaborative-based and shared vision philosophies. Aspiring women in medical education leadership can adopt behaviors from the variety of themes stated and customize a pattern of traits from the results.

3. Gender will dominate the factors affecting the success of the participants in this study.

The deans and department chairs gender was the same. Factors relating to, or as a result of the deans and department chairs gender surfaced as a dominant factor. Chair B stated, “barriers were created based on societal perceptions of a woman’s role.”

4. *Because gender dominates the behaviors of the participants there will be similarity in the participants' comments.*

The findings in this study did not validate the assumption that gender dominated some of the factors affecting leadership success. Replication of the research with a larger participant group is necessary to study this assumption further.

5. *Deans and department chairs in other institutions will exhibit similar factors contributing to their success and experience similar factors inhibiting success.*

The assumption may be accurate, but discovery was not possible nor was it intended with this study. The population available for this research was not sufficient to confirm this assumption. The resolution to this assumption may come if the study is replicated targeting additional institutions formerly not available for this study.

6. *The questions asked during the individual interviews solicited the most important factors influencing the participants' success within her career trajectory.*

The likelihood is high that the research instrument used in this study solicited the most important factors influencing the deans and department chairs leadership success. The interview questions used were deemed accurate due to the focus on the literature review as a basis as well as the expertise of the content evaluation panel and pilot participants. Because of the pilot participants' knowledgeable assessments and opinions about the questions suggested for the interviews; the most important factors were ultimately solicited.

7. *Women participants responded truthfully to all interview questions.*

The deans and department chairs were assured of the confidential nature of the study prior to the interview. There is no clear reason to believe the participants' responses were untruthful.

Brief Restatement of the Findings

Nationally, women comprise 16% of dean and 15% of department chair positions in medical education. These low numbers have a significant impact on patients, societies, and the missions of medical schools. When initiating this study the researcher was interested in discovering if there was a clear pattern of leadership enablers and inhibitors for women deans and department chairs in medical education.

Leadership patterns and behaviors may be better suited to different environments and the factors discussed by the deans and department chairs in this study may be specific to women leaders aspiring to pursue senior leadership roles in medical education. Similarly, many factors identified with female leaders in medical education may be generalizable to male leaders in medical education as well as leaders in other industries and be applicable to a variety of circumstances.

In addressing the original research question, what are the enabling and inhibiting factors impacting the success and career progression of women deans and department chairs in medical education?, several results emerged from the study. The categories are as follows: Leadership Approach; Personal Characteristics; Education; Professional Development; Career Ascent; Family; Mentorship; Role Discomfort Gender Discrimination; Lack of Mentorship; and Work-life Balance.

Leadership approach. Leadership is a process whereby an individual influences a group of individuals to achieve a common goal (Northouse, 2013). In order to motivate and transform teams, a leader must have certain abilities to lead and foster followers. In order to assess the leadership approaches of the participants' the researcher used qualitative research methods by asking deans and department chairs to openly describe their leadership style. Overall the deans

and department chairs stated most commonly a collaborative leadership approach. They also were consistently dedicated to the concept of creating a shared vision for their colleges or departments. Dean B stated, “A collaborative, team-based approach is the more important thing to build a team.” Four of the participants also directly associated their approach as pragmatic and analytical, which may be an appropriate approach in the medical field, in general. An implication drawn from these findings suggest that aspiring senior leaders in medical education adopt similar leadership approaches as identified as the most common by the successful women leaders in this study.

Personal characteristics. The participants also identified several personal characteristics. Although a variety of positive characteristics and traits emerged, there were four themes identified by most of the deans and department chairs. The four common themes were decision-making, integrity, flexibility and humility and confidence. Many of the participants emphasized decision-making and taking accountability or “owning up” to a decision is crucial for establishing credibility. Three participants in regard to maintaining credibility mentioned integrity. Dean C stated to “make decisions based on fairness and integrity, keep commitments and you will gain partner and faculty trust.” Flexibility was a common theme, especially as it related to family matters, which will be discussed further in the following category, family support. Lastly humility and confidence were repeated themes. Dean D stated, “Humility and confidence are important to my success. I gained a different style to gain respect and had an advantage with humility because I was not threatening to them.” In addition to the themes noticeably present within the data, resourcefulness seemed to be a characteristic of all participants. Whether the dean or department chair capitalized on opportunities for professional growth or identified ways to navigate through difficult situations, the concept of resourcefulness

presented itself indirectly through each interview. Chair D, for example, shared, “When I was first in my practice and I was by myself, I used books as reference when I was not sure what to do. If I had questions, I would see who authored the books, call the author and discuss my questions.” She said that 90% of the time, the respective author took the time to speak with her.

Education. The level of education was essential for each of the participants to achieve. In order to be a dean of a medical school or department chair of a clinical department, one must have completed a medical degree. Several of the participants did not plan to attend medical school originally and had pursued a non-traditional pathway to medicine. Although all participants held a medical degree, a few completed master’s degrees and supplemental education in order to bolster skillsets they felt needed to be enhanced such as financial acumen, public health, and healthcare management. Of the participants who completed a master’s degree, Chair B completed a master’s of public health prior to her career as department chair, Dean A completed a master’s of business administration prior to her career as dean and in preparation for being a department chair, and Dean D completed a master’s of health administration prior to entering medical school. From the population studied, professional experience and development seems to have had a greater influence on their advancement than the supplemental education pursued.

Professional development. When asked to describe professional organizations or resources that helped enable their success, all of the participants described their affiliations with organizations that helped lead to leadership positions along their career ascent. Of the common resources mentioned were: courses through continuing medical education (CME), the AAMC, and Wharton Business School. Dean C shared, “The AAMC creates a series of opportunities for all levels. I took advantage of everything I could.” She went on to become the Chair of the

Council of Deans for the AAMC. Additional health fellowship opportunities through the AOA were identified with one of the deans and one of the department chairs. Dean D's involvement with the AOA facilitated an opportunity for leadership, which led to her becoming president of her state medical association.

Career ascent. For the women deans and department chairs in this study, advancing into senior leadership positions in medical education involved mentorship, persistence and hard work. Not one of the participants had aspired to become dean or department chair. They were all approached at some point in their career and were encouraged to pursue the role. All of the participants' became involved in medical education prior to their roles as department chairs or dean. Only one participant aspired to teach in medical education and the rest had not considered teaching until they were approached and encouraged. The department chairs all held at least an assistant professor role prior to their career as department chair. The deans had all served as department chairs prior to their career as dean, consistent with similar data based on research conducted in 2012 (White, 2012). Additionally, prior to their careers as dean, Dean B served as a medical director, Dean C was a senior associate dean, Dean D was an assistant dean, and Dean A was senior associate vice chancellor. This may imply that there is no distinct pathway to become dean or department chair outside of pursuing professional experience in medical education as an assistant professor for the eventual role of department chair and pursuing a department chair role, among other leadership roles, for aspirations of becoming dean.

Family. The majority of deans and department chairs were married and had families. In this study, issues related to addressing family matters were not emphasized or discussed at length. All of the participants' were married and two did not have children. The participants' commented on the considerable amount of time their roles consumed outside of a traditional

profession and an eight-hour day. The comments on the time commitments by the participants' suggests that aspiring leaders in medical education may consider that spending long hours at work will have implications for their time spent with family. Aspiring leaders in medical education, both men and women, may consider assessing their values in order to determine the level of importance their career life is as compared to the family life they may desire.

Mentorship. The AAMC describes the benefits of mentoring throughout a professional career as a critical key to success, long-term satisfaction, and retention and gaining new skills for one's career journey (2012). Of the deans and department chair participants, each one referenced having at least one mentor throughout her career trajectory. The participants' identified superiors, colleagues, peers, acquaintances, and friends when describing their mentors. All participants' expressed the substantial contributions from their mentors. Dean D mentioned a women president as one of her mentors stating, "If it were not for her, I would not be in this job."

Additionally, when discussing mentorship, two deans expressed lack of mentorship as inhibitors to their career success. Dean A commented, "There were few role models and a lot of women took the hits and tried to do the hard stuff." She expressed that women in her generation of physician leaders attempted to pave the way for the next generations of females in the profession.

Discomfort. The participants all shared an initial reaction of having experienced no discomfort within their roles, but after giving the question further consideration, a few commonalties occurred. Both deans and department chairs acknowledged that their roles were either "tough" or "risky." Among the participants, several commented specifically on their original lack of familiarity with matters relating to administration such as financial oversight, reporting structures, negotiation, and managing people. Chair C shared that senior leadership is

very different from the clinical setting where she experience autonomy and could focus solely on her patients. Aspiring leaders in medical education may consider pursuing supplemental training in management and/or finance in order to address areas of discomfort described by these leaders in medical education. Lastly, as decision-making was often deemed as a personal characteristic of the participants, decision-making was also a feeling of discomfort.

Gender discrimination. In describing obstacles and disadvantages experienced, the dean and department chair participants shared many stories related to gender discrimination throughout their career trajectory. Of the stories shared, several themes emerged which related to the literature review. Commonly experienced inhibitors by the participants were related to gender stereotype, societal and familial expectations of women, and discrimination of women in medicine, sexual harassment, and unequal pay. A majority of participants shared how they needed to prove themselves. Many shared stories of having to pave the way for future women leaders in proving that they, as women, could make positive contributions to medicine and medical education.

Work-life balance. Overall, a majority of participants' commented that finding balance was a challenge. Most often, participants spoke on behalf of the challenges of child rearing and raising a family as disadvantages to career progression in comparison to their male counterparts. Many shared stories of career opportunities they chose to decline based on their obligations to their family. Additionally, in medical education, leaders are expected to conduct research and facilitate publications outside of regular teaching and clinical work. Many of the participants' expressed the added challenge of completing such tasks with a family to raise. As mentioned previously, however, each participant acknowledged tremendous family support as an enabler to her success.

Conclusions

The findings of the literature review and data analysis reveal that the number of women who are represented in dean and department chair positions is not improving as compared to the number of women entering the field of medicine. As the growth of women in these roles is not increasing rapidly, the current women dean and department chairs are pioneers in their field, not unlike the women mentioned throughout the historical review of emerging women in medical education.

Men still hold a large majority of dean and department chair positions in the United States, creating a shortage of female mentors. Women now have equal access to medical schools, and mentor availability is critical for the advancement of women in the profession (Pololi & Knight, 2005). In this study, mentorship was deemed effective for all participants involved. Many participants also mentioned a barrier to success was the lack of existing female mentors. While many of the women deans and department chairs had positive experiences with male mentors, concerns exist with cross-gender mentoring. Women in this study shared unique challenges they faced as compared to their male counterparts and these challenges are difficult to share with male mentors due to the differences in worldview. There is a possibility the resolution to the lack of mentors will not occur quickly because of the low numbers of women representatives in senior level positions so women leaders may need to continue to utilize male mentors, as they have experienced positive experiences, until greater amounts of women move into senior level positions.

Although women have made significant in-roads in the field of medical education, the results show that medicine has not always been a female-friendly district. Women in medicine have experienced unique barriers throughout their careers and the women who have achieved the

ranks of dean and department chair roles have included those with strong leadership abilities in promoting a collaborative, shared vision leadership style and who have confidence, humility, integrity and strong decision-making abilities. Additionally, women have worked hard to prove themselves within the profession of medicine and as senior leaders in medical education.

Lastly, success in leadership may not be correlated with gender. Northouse defines leadership as a process whereby an individual influences a group of individuals to achieve a common goal (2012). Leadership techniques utilized by successful leaders may be different, but the changing culture of medical education demands a collaborative leadership approach. Leaders in medical education, therefore, need to inspire faculty and staff to follow them and buy-in to a shared vision.

Recommendations to the AAMC Office of Women in Medicine

In an effort to increase the presence of women leaders in medical education, institutions should engage in a commitment to addressing the inhibiting factors affecting women in medical education and become aware of the enabling factors of their success. As mentioned in the literature review, The AAMC Office of Women in Medicine suggests fostering the success of women leaders in academic medicine by implementing the following:

- Develop mentor programs.
- Support career development initiatives.
- Provide emotional support for women faculty.
- Develop interdependence among and between women faculty.
- Promoting a positive attitude (AAMC, 2014).

In addition to these suggestions, the researcher has identified the following recommendations:

Women deans and department chairs may benefit from a work environment committed to achieving gender neutrality. Providing cultural intelligence training to senior leaders and medical professionals may be a way to begin to address some of the gender stereotyping and discrimination that occurs within the profession. On behalf of gender neutrality, cultural intelligence training may lead to the establishment of a universal acceptance and understanding for individuals with families that may lead to an increased number of women who would choose to navigate through the ranks of leadership in medical education.

Additionally, an on-boarding training workshop for aspiring or newly hired deans and department chairs may benefit women leaders in addressing areas they may be unfamiliar with when entering senior leadership positions. A few topics of training may include:

- Administrative leadership
- Financial management
- Negotiation
- Strategic decision-making
- Maintaining work/life balance

These development opportunities may help to enable women to be more apt to pursue and achieve senior leadership positions.

All of the women who held dean positions, prior to their career as dean, held a department chair position. This commonality may imply that the role of department chair is a stepping-stone to a deanship. Developing a pipeline to mentor and encourage women to obtain department chair positions may increase the presence of women in dean positions, as well. Such a pipeline may involve the creation of a formal mentor network program targeted to women who demonstrate potential to become department chairs.

Suggestions for Future Research

This study included an underlying assumption that gender would be a dominant factor in effecting the dean and department chairs leadership success. However, this factor was not principal to the study. It is therefore recommended that the study be expanded to address all women deans and department chairs in order to determine the exact level of influence on leadership success.

The roles of dean and department chair positions are both vast, yet also distinct in responsibilities. Further research may be pursued to investigate the enabling and inhibiting factors of women deans separately from women department chairs in order to better understand the factors that may be applicable to just one of the roles.

Additionally, the study references how women are vastly underrepresented in senior medical education leadership in dean and department chair positions. Further research could address whether or not women are seeking such roles and if not, why?

The current study discussed the enabling and inhibiting factors affecting women deans and department chairs in medical education. Further research may investigate responses of male deans and department chairs in medical education and compare findings in order to determine exact gender differences.

This study investigated personal characteristics, which enabled women leaders in medicine. Future research may quantify essential characteristics of deans and department chairs and conduct evaluations of effectiveness in order to compare the characteristics to the effectiveness of leaders in the unique roles.

Lastly, a recommendation for future research would measure the impact the career of dean and/or department chair positions have on ones work/life balance.

Final Summary

Historically, women were discouraged if not prohibited from pursuing higher education and thus, medical education. Through perseverance and advocacy, women eventually achieved rights, which empowered their progression in higher education throughout the centuries. As women have become increasingly represented in the medical profession, they too have successfully navigated to increase the presence of women among the ranks of senior leaders in medical education.

As the culture of medicine continues to evolve and patient populations are demanding a healthcare experience commonly associated with transparent communication, collaboration, and sensitivity, women have a unique opportunity to utilize their feminine characteristics in influencing the next generation of physicians and leaders. As women are more equally represented in medical schools, their representation in medical education leadership may increase.

Work can be done to help enable these women to pursue leadership positions in medical education. This dissertation provided insight on the enabling and inhibiting factors experienced by women leaders who represent only 15% and 16% of their professions with the intent of having a positive effect on the perception of women leaders in medical education and their ability to success in and contribute to medical education leadership.

REFERENCES

- Association of American Medical Colleges. (2011). *Lonely at the top: Academic medicine's women leaders*. Retrieved from <http://www.aamc.org/newsroom/reporter/may11/188562/lonely.html>
- Association of American Medical Colleges. (2014). *The state of women in academic medicine*. Retrieved from <http://www.aamc.org/members/gwims/statistics/>
- Allan, E. (2011). Women's status in higher education: Equity matters. *Wiley Co*, 37(1), 1-12.
- American Medical Association. (2015a). *AMA history timeline*. Retrieved from <http://ama-assn.org/ama/pub/about-ama/ourhistory/ama-history-ama.page?>
- American Medical Association. (2015b). *Women physicians and the AMA*. Retrieved from <http://www.ama-assn.org/ama/pub/about-ama/our-history/women-physicians-ama.page?>
- American Medical Association. (2015c). *Medical Licensure*. Retrieved from <http://www.ama-assn.org/ama/pub/education-careers/becoming-physician/medical-licensure.page>
- Airini, S., Conner, L., McPherson, B., & Wilson, C. (2011). Learning to be leaders in higher education: What helps or hinders women's advancement as leaders in universities. *Educational Management Administration & Leadership*, 39(1), 44-62.
- American Osteopathic Association. (2015). *How are DOs licensed?* Retrieved from <http://www.osteopathic.org/osteopathic-health/about-dos/do-licensing/Pages/default>
- Bickel, J. (2000). *Women in academic medicine: Getting in, growing, and advancing*. Thousand Oaks, CA: Sage Publications.
- Brackemyre, T. (2012). *Education to the masses: The rise of public education in early america*. Retrieved from <http://www.ushistoryscene.com/uncategorized/riseofpubliceducation/>

- Brodsky, L. (2009). *Timeline: Women in medicine in the United States*. Retrieved from http://www.lindabrodskymd.com/resources/women_in_medicine.html
- Brown, F. & Moshavi, D. (2002). Herding academic cats: Faculty reactions to transformational and contingent reward leadership by department chairs. *Journal of Leadership Studies*; 8, 79-94.
- Brook, R. (2010). Medical leadership in an increasingly complex world. *JAMA*. 304(4), 465-466.
- Burda, D. (2009). Leading ladies top 25 women in healthcare also leaders of reform movement. *Modern Healthcare*, 39(16), 20-20.
- Burgess, D., Joseph, A., van Ryn, M. & Carnes, M. (2012). Does stereotype threat affect women in academic medicine? *Academic Medicine*. 86, 506-512.
- Carnes, M., Morrissey, C., & Geller, S. (2008). Women's health and women's leadership in academic medicine: Hitting the same glass ceiling? *Journal of Women's Health*, 17(9), 1453–1462.
- Changing the face of medicine. (n.d.). *U.S. National Library of Medicine*. Retrieved from http://www.nlm.nih.gov/changingthefaceofmedicine/physicians/biography_35.html
- Charmaz, K. (2006). *Constructing grounded theory*. Thousand Oaks, CA: Sage Publications.
- Chu, C. (2007). *The art of war for women*. New York, NY: Doubleday.
- Conrad, P., Carr, P., Knight, S., Renfew, M., Dunn, M., & Pololi, L. (2010). Hierarchy as a barrier to advancement for women in academic medicine. *Journal of Women's Health*, 19(4), 799-805.
- Creswell, J. (2013). *Qualitative inquiry & research design*. Thousand Oaks, CA: Sage Publications.
- Creswell, J. (2014). *Research design*. Thousand Oaks, CA: Sage Publications.

- Dean. (2015) In *Merriam Webster's online dictionary*. Retrieved from <http://www.merriam-webster.com/dictionary/dean>
- Dezee, K., Artino, A., Elnicki, M, Hemmer, P. & Durning, S. (2012). Medical education in the United States of America. *Medical Teacher*; 34, 521-525.
- Dickstein, L. (1996). *Women in medical education: An anthology of experience*. Albany, NY: SUNY Press.
- Eagly, A., Johannesen-Schmidt, M., & van Engen, M. (2003). Transformational, transactional, and laissez-faire leadership styles: A meta-analysis comparing women and men. *Psychol Bull (129)*, 569-691.
- Eagly, A., & Johannesan-Schmidt. (2001). The leadership styles of women and men. *Journal of Social Issues*, 57(4): 781-797.
- Empowering women in medicine (1991). Retrieved from http://www.feminist.org/research/medicine/ewm_toc.html.
- Ely, R., & Rhode, D. (2010) *Women and leadership: Defining the challenges*. Handbook of Leadership Theory and Practice. Boston, MA: Harvard Business Press.
- Fillmore, R. (2001). The evolution of the U.S. healthcare system. *Science and Its Times*. 7, 336-338.
- Fontenot, T. (2012). Leading ladies: Women in healthcare leadership. *Frontiers of Health Services Management*, 28(4), 11-21.
- Fultan, J. (1953, August). History of medical education. *British Medical Journal*. 457-461.
- Glass ceiling. (2015) In *Merriam Webster's online dictionary*. Retrieved from <http://www.merriam-webster.com/dictionary/glass%20ceiling>
- Goleman, D. (2004, January). What makes a leader? *Harvard Business Review*. 82-90.

- Grisby, R., Hefner, D., Souba, W., & Kirch, D. (2004). The future-oriented department chair. *Journal of Academic Medicine, 79*, 571-577.
- Hays, R. (2008). Leadership, medical education and the quality of care. *Quality in Primary Care, 16*, 139-40.
- Hecht, I., Higgerson, M., Gmelch, W., & Tucker, A. (1999). *The department chair as academic leader*. American Council on Education. Phoenix, AZ: Oryx Press.
- Helgeson, S. (1990). *The female advantage: Women's ways of leadership*. New York, NY: Currency Doubleday.
- Herrera, R., Duncan, P., Green, M., & Skaggs, S. (2012). The effect of gender on leadership and culture. *Global and Organizational Excellence, 31*(2), 37-48.
- Humphrey, H. & Smith, K. (2010). *Closing the gap: Mentoring women in academic internal medicine*. Philadelphia, PA: ACP Press.
- Journal of the American Medical Association. (1965). John Morgan (1735-1789) founder of american medical education. *Journal of the American Medical Association, 194*(7), 825-826.
- King, J. (2010). *Gender equity in higher education*. Washington DC: American Council on Education.
- Leading the Way. (2012). Women making a difference. Retrieved from www.diverseeducation.com/article/16939
- Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. Beverly Hills, CA: Sage Publications.
- Litwin, A. (2011). Women working together: Understanding women's relationships at work. [Briefing Note] *CGO Insights, 33*,1-7.

- Library of Congress. (2014). *Morrill Act*. Library of Congress. Retrieved from <http://www.loc.gov/rr/program/bib/ourdocs/Morrill.html>
- Ludmerer, K. (1996) *Learning to heal: The development of american medical education*. Baltimore, MD: Johns Hopkins University Press.
- Lutz, S. (1995). The vanishing art of mentoring. *Modern Healthcare*, 25(37), 44.
- Matorin, A., Collins, D., Abdulla, A., & Ruiz, P. (1997). *Women's advancement in medicine and academia: Barriers and future perspectives*. Houston, TX: Texas Medicine.
- McGrew, E. (1956, January). The history of women in medicine: A symposium. *Bulletin of the Medical Library Association*, 144(1), 23-24.
- McMurray, J., Linzer, M., Konrad, T., Douglas, J., Shugerman, R., & Nelson, K. (2000). The work lives of women physicians: results from the physician work life study. *Journal of General Internal Medicine*, 15, 372-380.
- Morahan, P. & Bickel, J. (2002). Capitalizing on women's intellectual capital in the professions. *Academic Medicine*, 77, 110-112.
- Morahan, P., Rosen, S., Richman, R., & Gleason, K. (2011). The leadership continuum: A framework for organizational and individual assessment relative to the advancement of women physicians and scientists. *Journal of Women's Health*, 20(3), 387-96.
- Morris, L. (2011). Women in higher education: Access, success, and the future. *Innovation in Higher Education*, 36, 145-147.
- Moustakas, C. (1994). *Phenomenological research methods*. Thousand Oaks, CA: Sage Publications.
- Nonnemaker, L. (2000). Women physicians in academic medicine: New insights from cohort studies. *New England Journal of Medicine*, 342, 399-405.

- Northouse, P. (2013). *Leadership theory & practice*. Thousand Oaks, CA: Sage Publications.
- Oberlin College. (2015). *Famous women in Oberlin history*. Retrieved from <http://new.oberlin.edu/events-activities/womens-history/oberlin-women.dot>
- Plietz, C. O. (2012). Generation next and the female brand in healthcare management. *Frontiers of Health Services Management*, 28(4), 29-32.
- Pololi, L., Civian, J., Brennan, R., Dottolo, A., & Krupat, E. (2012). Experiencing the culture of academic medicine: Gender matters, a national study. *Journal of General Internal Medicine*, 28(2), 201-7.
- Pololi, L. & Jones, S. (2010). Women faculty: an analysis of their experiences in academic medicine and their coping strategies. *Gender Medicine*, 7(5), 438-50.
- Pololi, L., & Knight, S. (2005). Mentoring faculty in academic medicine. *Journal of General Internal Medicine* 20, 866-870.
- Price, A., & Howard, D., (2012). Connect for success: Social leadership, mentorship, and the female healthcare executive. *Frontiers of Health Services Management*; 28(4), 33-38.
- Quinn, T. (2011). *The feminine touch: Women in osteopathic medicine*. Kirksville, MO: Truman State University Press.
- Rich, E., Magrane, D. & Kirch, D. (2008). Qualities of the medical school dean: Insights from the literature. *Academic Medicine*, 83(5), 483-487.
- Richards, L., & Morse, J. (2013). *Qualitative methods*. Thousand Oaks, CA: Sage Publications.
- Richman, R. & Magrane, D. (2010). *The Executive Leadership in Academic Medicine (ELAM) program for women: Fourteen years of academic women leaders in medicine, dentistry, and public health* [Article]. Retrieved from www.aamc.org/members/old/facultyvitae/spring09/spotlight.htm

- Richman, R., Morahan, P., Cohen, D., & McDade, S. (2001). Advancing women and closing the leadership gap: The Executive Leadership in Academic Medicine (ELAM) program experience. *Journal of Women's Health & Gender-Based Medicine; 10(3)*, 271-277.
- Robbins, S. & Judge, T. (2013). *Organizational behavior*. Upper Saddle River, NJ: Pearson Prentice Hall.
- Rosener, J. (1990). Ways women lead. *Harvard Business Review*, 3-10.
- Roskovensky, L. & Grbic, D. (2012). Association of American Medical Colleges: The changing gender composition of U.S. medical school applicants and matriculates. *Analysis in Brief; 12(1)*.
- Rynder, C. (1999). *Seneca Falls Convention: First women's rights convention*. Retrieved from <http://www.historynet.com/seneca-falls-convention>
- Souba, W. (2004). New ways of understanding and accomplishing leadership in academic medicine. *Journal of Surgical Research, 117*, 177-186.
- Starr, P. (1982). *The social transformation of American medicine: The rise of a sovereign profession and the making of a vast industry*. New York, NY: Basic Books.
- Swanson, J., Daniels, K., & Tokar, D. (1996). Assessing perceptions of career-related barriers: The Career Barriers Inventory. *Journal of Career Assessment, 4.2*, 219-44.
- Tieman, J. (2002). Now I know how it feels. *Modern Healthcare, 32(11)*, 33.
- Title IX. (2014). *Title IX Fast Facts*. Retrieved from <http://nces.ed.gov/fastfacts/display.asp?id=93>
- U.S. Department of Labor. (2013). *General Facts on Women and Job Based Health*. Retrieved from www.dol.gov/ebsa/newsroom/fshlth5.html
- Van Poppe, C. (2011). Breaking the glass ceiling for female CEOs. [Article]. *Business*

Management at Suite 101. Retrieved from <http://crystalvandepoppe.suite101.com/part-2-does-a-glass-ceiling-still-exist-for-women-in-healthcare-a358930>

Walsh, M. R. (1977). "Doctors wanted, no women need apply": Sexual barriers in the medical profession, 1835-1975. New Haven, CT: Yale University Press.

Ward, K. & Eddy, P. (2013). Women and academic leadership leaning out. *The Chronicle of Higher Education*. Retrieved from chronicle.com/article/womenacademic-leadership-1435031/

White, S., McDade, S., Yamagata, H., & Morahan, P. (2012). Gender-related differences in the pathway to and characteristics of U.S. medical school deanships. *Academic Medicine*, 87(8), 1015-1023.

APPENDIX A

Email Invitation to Participants

Dear _____ (email by name/title),

I am writing to invite you to participate in research for my dissertation at Pepperdine University. The focus of my research is to identify and describe the enabling and inhibiting factors impacting the success and career progression of women deans and department chairs in medical education. There is an interview that will be a part of this study, which will address the following sub-questions:

1. What internal (personal choice) factors enable women deans and department chairs in medical education to be successful in leadership?
2. What external factors enable women deans and department chairs in medical education to be successful in leadership?
3. What internal factors inhibit women deans and department chairs in medical education ability to be successful in leadership?
4. What external factors inhibit women deans and department chairs in medical education ability to be successful in leadership?

I will be available via email or phone to explain the study and answer questions. **The actual interview questions are available if you would like to review them prior to the interview. Additionally, I will provide a consent form for your review.** Should you agree to participant, the interview will last approximately one hour and can be conducted in person or via virtual communication.

Thank you for your time and consideration.

Sincerely,

Katherine M. Ruger

Katherine.ruger@pepperdine.edu

APPENDIX B

Informed Consent

INFORMED CONSENT FOR PARTICIPATION IN RESEARCH ACTIVITIES

Principal Investigator: Katherine Ruger

Title of Project: WOMEN DEANS AND DEPARTMENT CHAIRS IN MEDICAL EDUCATION: A STUDY OF ENABLING AND INHIBITING FACTORS IMPACTING LEADERSHIP SUCCESS

I agree to participate in the research study being conducted by Katherine Ruger under the direction of Dr. Jack McManus.

2. The overall purpose of this research is:

To identify and describe the factors that enable and inhibit the career development of women in dean and department chair positions in medical education. Women in senior level leadership positions in medical education bring a unique perspective to their career trajectory as a minority in their field. Research exists on barriers influencing women in medical education, but no research exists with regard to enabling and inhibiting factors of women who have overcome the medicinal glass ceiling in role of dean and department chair. This study will attempt to fill this void.

3. My participation will involve the following:

An open-ended interview that will be administered in an online, confidential format.

4. My participation in the study will take one hour total to complete the interview. The **interview is conducted in person or via virtual communication.**

5. I understand that the possible benefits to myself or society from this research are:

The opportunity to provide new research in an unexplored area to advance women leaders in medical education to senior level positions.

6. I understand that there are certain risks and discomforts that might be associated with this research. These risks include:

The potential risks in this research include imposition on the participant's time, any possible breach of confidentiality could occur if the interviews are illegally compromised, potential fatigue and/or boredom experienced from participation, and potential embarrassment as a result of sharing personal experiences and opinions.

8. I understand that I may choose not to participate in this research.
9. I understand that my participation is voluntary and that I may refuse to participate and/or withdraw my consent and discontinue participation in the project or activity at any time without penalty or loss of benefits to which I am otherwise entitled.
10. I understand that the investigator(s) will take all reasonable measures to protect the confidentiality of my records and my identity will not be revealed in any publication that may result from this project.
11. I understand that the investigator is willing to answer any inquiries I may have concerning the research herein described. I understand that I may contact **(Dr. Jack McManus at jack.mcmanus@pepperdine.edu or 310-568-5600)** if I have other questions or concerns about this research. If you have questions about your rights as a research participant, contact Dr. Thema Bryant-Davis, Chairperson of the Graduate & Professional School Institutional Review Board at Pepperdine University, via email at gpsirb@pepperdine.edu or at 310-568-5753.
12. I understand to my satisfaction the information regarding participation in the research project. All my questions have been answered to my satisfaction. I have received a copy of this informed consent form, which I have read and understand. I hereby consent to participate in the research described above.

APPENDIX C

Interview Questions

The interview questions associated with each sub-research question are:

The interview questions associated with each sub-research question are:

What internal (personal choice) factors enable women deans and department chairs in medical education to be successful in leadership?

- What is your leadership style?
- What personal characteristics do you feel helped with your success in your career trajectory?

What external factors enable women deans and department chairs in medical education to be successful in leadership?

- What is your educational history?
- Which (if any) professional organizations do you believe augmented your career advancement?
- What was your professional history prior to your role as dean?
- Can you identify any resources/factors that helped enable your success?
- Do you or do you not have a mentor?

What internal factors inhibit women deans and department chairs in medical education to be successful in leadership?

- Do you feel any discomfort with your role as a dean?
- What sets you apart from other women pursuing positions similar to yours?

What external factors inhibit women deans and department chairs in medical education to be successful in leadership?

- What obstacles have you faced in your career?
- What, if any, disadvantages do you face in your career as compared to your male counterparts?

APPENDIX D

IRB Approval Letters

PEPPERDINE UNIVERSITY

Graduate & Professional Schools Institutional Review Board

June 11, 2015

Katherine Ruger
 [REDACTED]
 [REDACTED]

Protocol #: E0415D01-AM1

Project Title: Women Deans In Medical Education: A Study of Enabling and Inhibiting Factors Impacting Leadership Success

Dear Ms. Ruger:

Thank you for submitting an amendment to your exempt application, *Women Deans In Medical Education: A Study of Enabling and Inhibiting Factors Impacting Leadership Success* to Pepperdine University's Graduate and Professional Schools Institutional Review Board (GPS IRB). The IRB appreciates the work you and your faculty advisor, Dr. McManus, have done on the proposal. The IRB has reviewed your submitted IRB application and all ancillary materials. Upon review, the IRB has determined that the above entitled project meets the requirements for exemption under the federal regulations (45 CFR 46 - <http://www.hhs.gov/ohrp/humansubjects/guidance/45cfr46.html>) that govern the protections of human subjects. Specifically, section 45 CFR 46.101(b)(2) states:

(b) Unless otherwise required by Department or Agency heads, research activities in which the only involvement of human subjects will be in one or more of the following categories are exempt from this policy:

Category (2) of 45 CFR 46.101, research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior, unless: a) Information obtained is recorded in such a manner that human subjects can be identified, directly or through identifiers linked to the subjects; and b) any disclosure of the human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, or reputation.

In addition, your application to waive documentation of informed consent has been **approved**.

Your research must be conducted according to the proposal that was submitted to the IRB. If changes to the approved protocol occur, a revised protocol must be reviewed and approved by the IRB before implementation. For any proposed changes in your research protocol, please submit a **Request for Modification Form** to the GPS IRB. Because your study falls under exemption, there is no requirement for continuing IRB review of your project. Please be aware that changes to your protocol may prevent the research from qualifying for exemption from 45 CFR 46.101 and require submission of a new IRB application or other materials to the GPS IRB.

A goal of the IRB is to prevent negative occurrences during any research study. However, despite our best intent, unforeseen circumstances or events may arise during the research. If an unexpected situation or adverse event happens during your investigation, please notify the GPS IRB as soon as possible. We will ask for a complete explanation of the event and your response. Other actions also may be required depending on the nature of the event. Details regarding the timeframe in which adverse events must be reported to the GPS IRB and the appropriate form to be used to report this information can be found in the *Pepperdine University Protection of Human Participants in Research: Policies and Procedures Manual* (see link to "policy material" at <http://www.pepperdine.edu/irb/graduate/>).

Please refer to the protocol number denoted above in all further communication or correspondence related to this approval. Should you have additional questions, please contact Kevin Collins, Manager of the Institutional Review Board (IRB) at gpsirb@pepperdine.edu. On behalf of the GPS IRB, I wish you success in this scholarly pursuit.

Sincerely,

A handwritten signature in cursive script that reads "Thema Bryant-Davis".

Thema Bryant-Davis, Ph.D.
Chair, Graduate and Professional Schools IRB

cc: Dr. Lee Kats, Vice Provost for Research and Strategic Initiatives
Mr. Brett Leach, Compliance Attorney
Dr. Jack McManus, Faculty Advisor

PEPPERDINE UNIVERSITY

Graduate & Professional Schools Institutional Review Board

April 27, 2015

Katherine Ruger
[REDACTED]
[REDACTED]

Protocol #: E0415D01

Project Title: Women Deans In Medical Education: A Study of Enabling and Inhibiting Factors Impacting Leadership Success

Dear Ms. Ruger:

Thank you for submitting your application, *Women Deans In Medical Education: A Study of Enabling and Inhibiting Factors Impacting Leadership Success*, for exempt review to Pepperdine University's Graduate and Professional Schools Institutional Review Board (GPS IRB). The IRB appreciates the work you and your faculty advisor, Dr. McManus, have done on the proposal. The IRB has reviewed your submitted IRB application and all ancillary materials. Upon review, the IRB has determined that the above entitled project meets the requirements for exemption under the federal regulations (45 CFR 46 - <http://www.hhs.gov/ohrp/humansubjects/guidance/45cfr46.html>) that govern the protections of human subjects. Specifically, section 45 CFR 46.101(b)(2) states:

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Sincerely,

A handwritten signature in cursive script that reads "Thema Bryant-Davis".

Thema Bryant-Davis, Ph.D.
Chair, Graduate and Professional Schools IRB

cc: Dr. Lee Kats, Vice Provost for Research and Strategic Initiatives
Mr. Brett Leach, Compliance Attorney
Dr. Jack McManus, Faculty Advisor

APPENDIX E

NIH Certification of Completion

