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EXPLORING PARAMEDIC STUDENT LEADERSHIP CHARACTERISTICS IN EMERGENCY MEDICAL SERVICES EDUCATION PROGRAMS: A GROUNDED THEORY STUDY

By
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A DISSERTATION

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Abstract

Leadership skills are important to function in the field of emergency medical services. Paramedics operate in unpredictable environments, often as members of complex, interdisciplinary teams where stakes are high. Many theories have described the importance of effective leadership across several disciplines, yet few studies have explored leadership in the field of emergency medical services. Utilizing a qualitative grounded theory approach this study included interviews of 35 paramedic students from 5 different paramedic education programs. Specifically, this study sought to understand leadership concepts from the perspective of paramedic students, exploring leadership characteristics and influential factors shaping paramedic students’ ideas about leadership. Identifying these leadership characteristics provides the foundation upon which emergency medical services leadership may be further enhanced and developed.

Paramedic students in this study identified 44 distinct leadership attributes when referring to his or her leadership skills. Furthermore, 31 leadership characteristics were reported in paramedics the students had observed in action, and when speaking broadly about essential leadership characteristics participants expressed a total of 51 characteristics. A comprehensive analysis of all three categories resulted in 15 common leadership characteristics. Influential factors upon leadership development within the paramedic education environment as well as external to it were also explored. Non-emergency medical services education-related experiences shaping leadership concepts included
myriad activities, educational endeavors other than emergency medical services, people, and employment. Laboratory sessions utilizing complex scenarios and field internship were identified as the most influential emergency medical services education strategies to participants in this study.

The goal of this research is enhancement of the quality of patient care through the development of effective paramedic leaders. Several recommendations have resulted for the many stakeholders involved in educating paramedic students. Foremost among the recommendations is to develop learning outcomes for paramedic students’ leadership abilities. Additional key recommendations include: development of paramedic curricula that includes robust leadership training, frequent use of scenarios that includes assessment of leadership performance, and establishment of mentoring programs designed to nurture leadership skills. It is paramount that all with an interest in emergency medical response seek to develop the most capable paramedic leaders in the interest of optimal patient care.
Dedication

This dissertation is dedicated to all emergency medical services personnel who aspire to be the best leaders they can be, serving their patients with compassion, respect, humility, integrity, passion, knowledge, and skill.
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This dissertation represents the unwavering support of so many family members, friends, and colleagues. On a personal level it is a triumph after having been told I would never complete a college education. With love, support, and encouragement every step of the way has been my smart, beautiful, and loving wife, Nancy. Thank you for always being there for me. My children have always known their dad to be a student. Thank you to my children, Michaela and Zachary, who have always been a source of great inspiration. I grew up with some of the best cheerleaders one could ever have, my parents, Gene and Doris, and two sisters, Kathy and Joan. In particular, my dad taught me through his example of what it meant to work hard and do everything you are going to do to the best of your ability.

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Though they remain anonymous, this study would not have been possible without the cooperation of five paramedic programs serving as gracious hosts for my research. Thank you to each program director and faculty members for such a warm welcome. Also anonymous are the 35 paramedic students who volunteered their time to share their ideas regarding leadership. I wish you all the best in your future emergency medical services career endeavors.

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CHAPTER ONE: INTRODUCTION

Background of the Problem

Emergency medical services is an essential component within the healthcare delivery framework. As a dynamic field experiencing rapid change secondary to expectations for improved quality outcomes and controlling costs, leadership skills have become increasingly important. Moreover, emergency medical services personnel function in unpredictable environments, often as members of complex interdisciplinary teams. Many theories describe the importance of effective leadership across healthcare disciplines, though exploration of leadership within the field of emergency medical services reveals little to no empirical data. As a profession it is past time for emergency medical services to investigate what leadership characteristics are important in graduating paramedic students, through what processes do paramedic students acquire their leadership skills, and what impact, if any, formal engagement of paramedic students in leadership theories would prove beneficial.

In the Institute of Medicine report, *To Err Is Human: Building a Safer Health System* (1999), as many as 98,000 people die annually as a result of preventable medical errors. There is no centralized repository monitoring the status of error rate or the severity of errors potentially occurring in emergency medical services. It would be wise for emergency medical services to take a proactive approach in recognizing the likelihood that medical errors are being committed throughout communities in the United States by emergency medical services personnel. Though many initiatives are necessary to improve healthcare delivery, effective leadership is the cornerstone.
There is a marked lack of attention given to the inclusion of leadership as a specific curricular topic in healthcare education and emergency medical services. Nevertheless, leadership and more precisely, teamwork is becoming more prevalent as specific curriculum components at all levels of health occupations education. Still there is a void of information pertaining to leadership characteristics necessary to function as effective paramedics. As a profession, emergency medical services does not know what perceptions aspiring paramedics have regarding effective leadership qualities and how best to include leadership as a component of paramedic students’ education. In essence those involved in the many aspects of emergency medical services know little about the nature of leadership qualities of students enrolled in and completing paramedic education programs. Before being able to develop changes in educational strategy regarding paramedic leadership, exploring perspectives of paramedic students regarding leadership characteristics, and how paramedic students perceive leadership development, is a necessary step in the process.

**Statement of the Problem**

Medical knowledge and task performance are not enough to deliver effective, quality care to patients. Emergency medical services educators are challenged to deliver an overwhelming amount of medical information to paramedic students with little time devoted to assessing and teaching leadership skills. There are not any known data that has analyzed paramedic students’ perceptions of their own leadership characteristics that may then be utilized to influence effective strategies for developing the paramedic leaders
needed to sustain the future of the profession. Prepared with data regarding paramedic student leadership characteristics, emergency medical services stakeholders will be positioned to analyze the data to identify themes, leading to the development of specific recommendations concerning leadership in emergency medical services.

**Purpose of the Study**

The purpose of this qualitative grounded theory study is to understand how paramedic students construct their understanding of leadership. At this stage in the research, emergency medical services have described a team leader as a paramedic who leads a call and provides guidance and direction for setting priorities, scene and patient assessment, and guides implementation of the treatment plan. Identifying which self-reported leadership characteristics are prevalent in paramedic students will provide the foundation upon which emergency medical services leadership may be further enhanced and developed.

**Research Questions**

To understand and improve leadership in paramedics, and be able to develop leadership abilities in paramedic students, it is important to assess what self-reported leadership characteristics paramedic students identify within themselves. Further exploration of paramedic students’ perceptions of leadership may help to construct effective strategies of identifying thematic characteristics important to paramedic practice and how best to cultivate and develop effective practicing paramedic leaders. Therefore, the following research questions served to guide this qualitative study:

- How do paramedic students describe their leadership characteristics?
• What experiences have helped paramedic students formulate their concepts of leadership?

• What strategies do paramedic students identify as being helpful in developing their leadership skills during their education?

Method Overview

A grounded theory approach as described by Charmaz was used for this study. Charmaz (2006) embraced a socially constructed view of research participants with an emphasis on individual views, values, beliefs, feelings, and assumptions (Creswell, 2013, p. 87). This approach was particularly appealing and relevant in providing a voice to paramedic students while respecting their diverse perspectives and experiences. Establishing a theory of how paramedic students define leadership and what characteristics they identify in themselves and others as important to being an effective paramedic leader will contribute to forming the foundation for paramedic student leadership-development strategies.

A purposive sampling plan was used to gather information from research participants through face-to-face interviews. Criterion to be eligible to participate included being a paramedic student currently enrolled in a paramedic education program accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP). Furthermore, participants must have been actively involved in the experiential component of their education, commonly referred to as field internship. Finally, interviews were limited to paramedic students who were 19 years of age or older. There were no additional exclusion or inclusion criteria relating to study participation.
Research participants were invited to volunteer to participate in the study. The principal investigator made telephonic as well as written invitations to individual paramedic program directors seeking permission to extend an invitation to their students to participate in the research project. An interview protocol was developed and pilot tested with a group of five paramedic students to establish interview trustworthiness. It was the hope of the researcher that while the sample participants were criterion-selected, the composite sample would be reflective of paramedic students of various ages, genders, and ethnicities. Paramedic students were recruited from five different paramedic education programs located within the Midwest. The researcher completed five to 10 interviews at each program until data saturation was achieved.

**Definition of Terms**

The following terms will be used in this research study:

**Charismatic leadership:** leadership based upon the charismatic attributes of the leader; often perceived to inspire others through a clearly articulated vision, willingness to take on personal risk, and sensitivity and responsiveness to others’ needs (Haslam, Reicher, & Platow, 2011; Robbins & Judge, 2012)

**Clinical:** paramedic student learning experiences involving real patients under the direct supervision of physicians and nurses typically performed in hospitals and clinics

**CAAHEP:** a programmatic postsecondary accrediting agency recognized by the Council for Higher Education Accreditation (CHEA)
Committee on Accreditation of Educational Programs for the Emergency Medical Services Professions (CoAEMSP): organization recognized as the leader in establishing emergency medical services education standards and interpretations leading to programmatic accreditation under the auspices of CAAHEP

Congruent leadership: leadership described as followers who recognize a match between their values and beliefs and those of the leader (Stanley, 2012)

Emergency Medical Services (EMS): a team of professionals responding to requests to provide care to the sick and injured, usually in the out-of-hospital environment

Field internship: paramedic student learning experiences involving real patients under the direct supervision of paramedics working on an ambulance

Laissez-faire leadership: leadership that is passive, lacks acceptance of responsibility, and avoid making decisions (Robbins & Judge, 2012)

Leadership characteristics: leadership traits or qualities an individual possesses

Out-of-hospital patient care: care for those with illness and injury provided by emergency medical services responders outside a formal hospital or medical facility

Paramedic student: student enrolled in a paramedic education program seeking eligibility for paramedic licensure

Perception: an individual’s awareness, understanding, opinion, or insight

Quality: a dynamic measurement that defines a degree of excellence as perceived by an individual
Scene presence: during an emergency medical services response, the ability to be recognized as a respected and trusted leader that others on scene look to as a primary source of decision-making and direction

Servant leadership: leadership based upon the principle of service to others (Haslam et al., 2011)

Situational leadership: leadership influenced by the many factors involved in any given situation, to include the leader, time, location, people involved, and circumstances of the situation (Haslam et al., 2011)

Team leader: paramedic who leads the call and provides guidance and direction for setting priorities, and assessment and management of the patient and scene

Transactional leadership: leadership approach based on specific role and task requirements usually involving the exchange of rewards (Bass & Avolio, 1994)

Transformational leadership: leadership approach based upon mutual respect and trust where the leader inspires followers to action beyond simple self-interest (Bass & Avolio, 1994)

Assumptions

The underlying assumption of this study is that respondents were able to describe in their own words what characteristics exemplify leadership important to the role of a paramedic. Furthermore, individual experiences of the research participants were a significant factor influencing the responses provided by participants, relating to the perceived leadership qualities identified that impact the quality of out-of-hospital patient care.
Delimitations and Limitations

A delimitation of this study was that only current paramedic students, who are actively involved in field internship activities, were allowed to participate. Students included in this qualitative research study attended paramedic programs at accredited academic institutions, hospitals, or emergency response agency-sponsored programs. As a qualitative study utilizing an interview protocol, the main limitation was the overall scope of and representativeness of study participants. An overwhelming 85% of study participants reported their ethnicity as White or Caucasian. It was not possible or desirable to limit the experiences that have contributed to the development of paramedic leadership perspectives of study participants. Rather, participants were sought to provide data-rich information from a mall sample of paramedic programs. Therefore it was not possible to verify this study as archetypally representative of all paramedic student cohorts throughout the United States, or elsewhere. All participants were students attending classes at programs which have programmatic accreditation through the CAAHEP.

Significance of the Study

Leadership skills are a professional necessity for emergency medical services personnel. In the National Emergency Medical Services Education Standards: Paramedic Instructional Guidelines (2009), little guidance is provided pertaining to leadership training. Leadership, specifically affective characteristics, span the important elements of integrity, empathy, self-motivation, confidence in skill and ability, communication skills (including written and verbal), teamwork and diplomacy, and
patient advocacy. Remarkably, an outline of nearly 400 pages dedicates one-half page to leadership.

When working in the dynamic field of emergency medical services, leadership abilities are paramount to bringing calm to chaos, gathering data and quickly analyzing them, and orchestrating the care of seriously ill or injured patients in a highly unpredictable environment. By the very nature of emergency services, personnel function as members of complex teams, yet little, and most often, no formal training is provided to students in the area of group dynamics, group communication, and effective team leadership.

Emergency medical services continue to mature as a profession with a need for development of skilled leaders. Nationally, emergency medical services stakeholder organizations such as the National Registry of EMTs and the Committee on Accreditation of Educational Programs for the Emergency Medical Services Professions has engaged in projects designed to emphasize the importance of team leadership and team membership. Paramedics are increasingly working in hospitals and clinics, public health and regulatory environments, national and international disaster response, and specialty care and transportation situations. Critical care paramedics in both ground and aeromedical services are used to facilitate inter-facility transports of critically ill and traumatized patients to specialized tertiary care centers. An emerging practice model with growing
national interest is the concept of “community paramedics.” Community paramedics, what some emergency medical services stakeholders are referring to as mobile integrated healthcare practitioners, seek to involve paramedics in some aspects of primary and preventative care delivery throughout communities in the U.S., with an emphasis on rural and frontier communities who struggle in gaining adequate and timely access to care.

There is a marked lack of attention given to the inclusion of leadership as a specific curricular topic in clinical healthcare education and emergency medical services. Nevertheless, leadership, and, more precisely, teamwork, is becoming more prevalent as specific curriculum components at all levels of health occupations education. Still there is a large void of information pertaining to leadership characteristics necessary to function as effective paramedics. As a profession, we do not know what perceptions aspiring paramedics have regarding effective leadership qualities, and how best to include leadership as a component of a paramedic student’s education. In essence we do not know what we do not know about the nature of leadership qualities of students completing paramedic education programs, and the perceived impact these qualities have upon patient care.

**Summary**

Paramedics serve as integral members of a complex and dynamic healthcare delivery network in the U.S. Increasingly important to optimal patient care and quality outcomes is the ability to function as effective members of interdisciplinary teams. There has been little attention given to formal leadership development of paramedic students. Moreover, paramedic student perspectives regarding essential leadership characteristics do not appear to have been studied. Collection and analysis of data from paramedic
students regarding the nature of effective paramedic leadership will help to better understand paramedic student leadership development. This information may then be utilized in the formulation of strategic recommendations to improve the team leadership preparation of future paramedic team leaders.
CHAPTER TWO: LITERATURE REVIEW

**Introduction**

Anyone in the United States associated with healthcare delivery is well aware of the rapid and systemic changes occurring at all levels of the healthcare system. Nearly every newspaper, healthcare journal, magazine, and broadcast media outlet is covering issues relating to healthcare delivery. Discussions frequently focus on quality standards, spiraling costs control, evidenced-based care, delivery models, and healthcare leadership. As a vital component of the U.S. healthcare delivery system, emergency medical services operations are affected by these changes. This literature review underscores the importance of leadership development of paramedic students. Exploring and seeking to understand paramedic student team leadership concepts will provide a foundation upon which emergency medical services team leadership may be further enhanced and developed.

First, this literature review will describe emergency medical services leadership perspectives. Second, it will discuss the importance of effective team leadership within the context of medical practice, drawing extensively upon studies conducted within the disciplines of nursing and medicine. Third, it will present information as to whether leadership skills are able to be taught to aspiring leaders and learned.

**Search Parameters**

Scholarly research journals are limited in the emergency medical services discipline. One journal, *Prehospital Emergency Care*, published by the National Association of EMS Physicians®, is peer-reviewed and contains original research. Two additional trade publications for the field of emergency medical services include the
Journal of Emergency Medical Services and EMS World® Magazine (formerly known as EMS Magazine). Initial search parameters focused on these publications using keywords including: EMS leadership, paramedic leadership, paramedic student leadership, paramedic teamwork, teaching and learning leadership, leadership development, leadership formation, health leadership, medical leadership, and emergency teamwork. Prehospital Emergency Care did not produce any results with any of the above keywords, alone or in various combinations. Several articles and editorial pieces were found within the emergency medical services trade journals. A broader search approach was initiated utilizing EBSCO and the same keywords with limited results. Some peer reviewed articles regarding emergency medical services leadership from the United Kingdom and Australia were identified as relevant and will be discussed later. Furthermore, other health disciplines including nursing and medicine, proved beneficial in identifying literature discussing the importance of healthcare team leadership.

Contemporary Theories of Leadership

Inquiry into the nature of leadership dates back many centuries. Today there continues to be scholarly exploration of the various theories of leadership. Contemporary theories of leadership have transitioned away from the notion of individual leaders with innate leadership abilities to an appreciation of group interaction involving both leaders and followers (Haslam et al., 2011). Burns (1978) describes leadership as a social process involving interplay between followers and leaders in an effort to attain collective rather than individual success (Haslam et al., 2011, pp. 38-39). Burns recognized that followers and leaders engage with each other based upon shared motives, values, and goals, to achieve results beyond self-interest (Foster, Goertzen, Nollette, C., & Nollette,
This became known as “transforming” leadership and served to broaden the understanding of leadership as a process whereby leaders and followers are connected to one another.

Building upon Burns’s (1978) work regarding transforming leadership, Bass (1985, 1996) attempted to expand the principles of transforming leadership to “transformational” leadership. Whereas Burns (1978) focused on raising moral and ethical performance, Bass’s (1985, 1996) transformational leadership emphasized an active leadership process focused on achieving organizational goals (Foster et al., 2013). Transformational leadership principles are readily applied to the everyday operational aspects of any organizational endeavor.

Leadership styles may be placed on a continuum with transactional leadership at one end and transformational leadership on the other. Within both leadership models the literature describes various sub-categories of leadership. Broadly, a transactional leadership approach is based on specific role and task requirements usually involving the exchange of rewards between leader and follower. As an exchange system, transactional leadership may be seen to stifle creativity and limit vision and mission beyond that of self-interest. In contrast, transformational leadership is based upon mutual respect and trust where the leader inspires followers to action beyond simple self-interest or rewards. Transformational leadership instills pride and challenges all team members to contribute fully to the team’s mission and vision. Avolio and Bass (1990) (as cited in Foster et al., 2013), reported that individuals describe their preferred leaders using terms characteristic of transformational leaders. Transactional and transformational leadership represent different ways of getting things accomplished and one is not necessarily better than the
other. The most effective leaders are able to discern when and how to utilize principles of both transactional and transformational leadership to achieve goals, referred to as the Full Range of Leadership model (Avolio, 1999; Foster et al., 2013; Robbins & Judge, 2012).

**Emergency Medical Services Leadership Perspectives**

Leadership skills are a professional necessity for emergency medical services personnel. In the *National Emergency Medical Services Education Standards: Paramedic Instructional Guidelines* (National Highway Traffic Safety Administration, 2009), little guidance is provided pertaining to leadership training. Leadership, specifically affective characteristics, span the important elements of integrity, empathy, self-motivation, confidence in skill and ability, verbal and written communication skills, teamwork and diplomacy, and patient advocacy.

A 2008 National Highway Traffic Safety Administration report, *EMS Workforce for the 21st Century: A National Assessment*, cited data obtained by the State emergency medical services directors estimating there are over 650,000 emergency medical technicians and paramedics responding to medical and trauma emergencies throughout the U.S. Though precise data are not available, researchers estimate a national incidence of 17.4 million emergency medical responses per year (Wang et al., 2013). As an example, when calling 911 for a heart attack and emergency services are dispatched to a location, a cascade of events and decisions begin. The appropriate resources must be sent and a route to the location that is time-sensitive is determined; a quick assessment of the scene is made to decide how best to get into and out of the home, work or other location; an assessment of one’s medical condition begins with data being analyzed with every
piece of information obtained, and a treatment plan begins to be implemented, all while orchestrating a team of responders. A paramedic team leader will make myriad decisions, many requiring attention to details and in-the-moment improvisation based on each unique situation. Effective leadership—teamwork, communication, conflict resolution, innovativeness, reflective practice, and ethical decision-making—ultimately impact the quality of the care each patient receives. Given the high stakes involved in this example and countless other responses, paramedic student leadership formation is an issue worthy of further study.

Positional Authority

In emergency medical service organizations, like many other groups, formal leaders most often ascend to their positions based upon seniority. Many contemporary authors (Haslam et al., 2011; Robbins & Judge, 2012) challenged the notion that effective leadership emanates from positional authority. Autocratic, hierarchical structures have pervaded the field of emergency services since their beginning. Emergency medical services authors have also begun to advocate for abandonment of promotions based solely upon longevity, instead supporting promotions based upon achievement (Barishansky & Natarajan, 2002; Powers, 2006). Powers (2006) went even further, describing a need for emergency medical service agencies to remove hierarchical structures, replacing them with collective workgroups—teams that collaborate together for a common goal. A great deal of emergency medical services work occurs within fire services in the U.S. Kupietz (2010), while not conducting original research, wrote a paper examining the importance of transitioning from transactional leadership to transformational leadership approaches for the future of fire services, including fire-based
emergency medical services. Two scholars known for seminal work in the area of leadership, Bass and Burns, are discussed throughout the paper. Because little research exists, this paper is included as it incorporates previous theory to a specific context important to emergency medical services. Historically, fire services, and by extension non-fire-based emergency medical services, have been and largely continue to operate utilizing a command and control structure, what others would describe as a paramilitary leadership structure. Kupietz challenged this notion, making a case for transformational leadership theory in the fire service.

**Leadership Characteristics**

The *Journal of Emergency Medical Services* and *EMS World® Magazine* offer several articles regarding leadership. While bringing leadership to the forefront as an important topic, most content is presented as editorial prose rather than research-based scholarship. Still, there are many common themes throughout the articles relevant to this study.

Nearly every article discussed various traits or character attributes necessary to be an effective emergency medical services team leader. The trait most commonly mentioned by several authors is “respect” (Cotter, 2005; Porter, 2004; Powers, 2006; Williams, 2002). Looking up to, revering, or respecting the members of a team helps to establish leader and followers as an “us” group, and is important for effective team dynamics (Haslam et al., 2011). Emergency medical services are delivered by a crew consisting of two or more members, though it is not uncommon to have six to twelve emergency responders on an emergency scene. Mutual respect and trust is necessary to form an effective partnership.
Another common trait mentioned in the emergency medical services articles is “trust.” Powers (2006, p. 75) described trust as a “mandatory” ingredient for successful leadership. Trust is closely linked to several other attributes mentioned, including the need for truthfulness, constructive criticism, fairness, and integrity. Development of a trusting relationship forms the foundation upon which communication is enhanced and group decisions are made. Effective communication is also described as a necessary characteristic of highly functional teams. Most of the authors mention the importance of active listening as a strategy necessary for effective leadership. Wesley (2010), an emergency medical services physician medical director, described good listeners as the character trait found in those he most respects. “As a colleague, a good listener is your partner’s best friend because they know you respect their opinion before giving them advice” (Journal of Emergency Medical Services, 2010, p. 2).

Beyond desirable leadership characteristics, several authors posited the notion that effective team leadership is required for high-quality performance. Poor leadership often results in service failures and substandard care, and threatens a strong professional future (Cotter, 2005; Williams, 2002). During emergency and non-emergency medical responses, personnel interact with patients, families, bystanders, and other emergency and healthcare providers. These are critical moments that leave a lasting impact on all involved, with leadership skills a major determinant in outcome.

**We All Need to Lead**

Two final themes were pervasive throughout the trade journals. First, all individuals lead in some capacity all the time. In the Jesuit tradition, Lowney (2003)
identified four specific approaches that help to define and support the notion that individuals are all leading whether it is recognized or not.

- We’re all leaders, and we’re leading all the time, well or poorly.
- Leadership springs from within. It’s about who I am as much as what I do.
- Leadership is not an act. It is my life, a way of living.
- I never complete the task of becoming a leader. It’s an ongoing process (Lowney, 2003, p. 15).

Second, several articles cited a lack of formal leadership education. There is a clear appreciation that leadership development is essential for emergency medical service personnel. Some suggested the lack of formal education results in leadership problems (Cotter, 2005). Including formal leadership training as early as possible during paramedic students’ education develops capable leaders who will enhance the future of the emergency medical services profession (Williams, 2002). In an interview conducted by Barishansky and Natarajan (2002), asking “What is your philosophy on EMS leadership?” Scot Phelps, currently professor of Disaster Science & Ambulance Science at the Emergency Management Academy, shared that he believed emergency medical services personnel have misplaced the emphasis on technology and skills, neglecting to focus on all of the components necessary to care for people. As a profession there is a sense that more needs to be done to educate and develop the overall leadership capacity within all emergency medical services students while in the education setting.

**Perspectives from Nursing and Medicine**

Nursing educators have recognized the need for innovative models of nursing leadership development for students to be successful at all levels of nursing practice.
Heller et al., (2004), noted that nurses are generally not prepared for leadership roles and greater attention needs to be given to the development of leadership content in undergraduate curricula. Medical providers caring for the ill and injured recognize the complexity confronting the healthcare delivery system in the US. High-quality, cost-effective care requires more than medical knowledge. Successful clinical practice requires physician leaders of teams assembled to work together in the best interest of patients (O’Connell & Pascoe, 2004). Teamwork is now an educational competency during residency education specified by the Accreditation Council for Graduate Medical Education (O’Connell & Pascoe, 2004, p. S52).

**Nursing Clinical Leadership**

Stanley (2012) focused on clinical leadership characteristics in the United Kingdom. Originally this project focused on nursing clinical leadership using a grounded theory methodology, involving questionnaire completion along with 50 follow-up interviews. The study was repeated utilizing a phenomenological methodology involving the distribution of a survey only. Revealing to the topic of clinical leadership is the conclusion drawn by Stanley (2012) noting that while more is being written about the topic of clinical leadership, “there is limited research related to it, and none appears to offer a paramedic perspective” (p. 3).

Overall, Stanley’s research sought to explain what characteristics are important to medical personnel in clinical leadership roles. It challenges many of the theories of what it means to be a leader, demonstrating the difficulty contemporary leadership theories have in determining why clinical leaders attract followers (2012). Instead, Stanley (2012) put forth a new leadership theory, congruent leadership, described as followers
recognizing a match between their values and beliefs and those of clinical leaders. When
describing a leader, Stanley (2012), noted many will discuss the attribute of vision, and
yet this characteristic was not valued by study respondents. When considering the
clinically focused nature of the work being performed, clinicians desire leaders that are
approachable, clinically competent, and able to contribute and share their knowledge.
Too often the prerequisite for being promoted to leadership roles within emergency
medical services is based upon who has been around the longest and clinical competence,
rather than any other demonstrated leadership ability (Barishansky & Natarajan, 2002).

**Hospital Leadership**

Healthcare is undergoing more dramatic changes than ever and leadership
practices within healthcare will be essential for healthcare organizations not only to
survive, but thrive. It is common to fragment healthcare into private physician practices,
healthcare systems, individual hospitals, out-of-hospital care (including emergency
medical services), and all of the medical specialties involved (pharmacy, nursing,
radiology, social work, etc.). As a health system there is a desire to identify what
particular leadership style will be most effective in leading interdisciplinary teams.
Spinelli (2006) examined the applicability of Bass’s Model of transformational,
transactional, and laissez-faire leadership to hospital administrators.

Noting the importance of leading human resources involved in healthcare delivery
with an eye on financial viability and quality outcomes, Spinelli (2006) focused on
determining if a particular leadership model enhances optimal administrative and CEO
leadership in hospitals. It is not known if this and subsequent research will reveal a best
practice that might be pertinent to other aspects of healthcare leadership, including the
provision of emergency medical services. Spinelli (2006) set out to test whether “there is a correlation between the leadership styles of healthcare CEOs and subordinate managers’ extra effort, satisfaction with the leader, and perception of leader effectiveness” (p. 13), for which he believed there was not. Spinelli’s (2006) survey instrument utilized the revised Multifactor Leadership Questionnaire (MLQ) developed by Bass and Avolio.

Like Kupietz (2010), Spinelli (2006) utilized and relied upon the sentinel work of Bass, and later Bass and Avolio (1994, 1997), to determine effective leadership strategies for hospital CEOs. Spinelli (2006) affirmed the notion of a leadership model espoused by Bass and Avolio (1994, 1997) of a continuum of leadership styles ranging from laissez-faire to transformational – the “Full Range of Leadership.” Subordinates recognized the dynamic nature of leadership in complex situations, noting there is not a singular leadership approach for all circumstances. In other words there are limitations of all styles depending upon the situation. Generally, Spinelli (2006) concluded transformational leadership does enhance followers’ willingness to give extra effort and satisfaction with their leaders, further stating it is essential to foster the transformational leadership style (p. 18). This conclusion supports leadership training programs and recruitment of leaders who are able to exhibit effective transformational leadership qualities. In the field of emergency medical services, there is no published information regarding the leadership characteristics of emergency medical services personnel; therefore there are no data that support the use of any particular leadership style. Lacking such information makes it difficult to develop strategies to prepare paramedic students as effective team leaders.
Non-Technical Skills

Teambuilding and leadership training that go beyond the technical skills clinicians perform is a theme found in the literature. Von Wyl, Zuercher, Amsler, Walter, and Ummenhofer (2009) examined not only the assessment of technical skills such as intravenous access, but also the assessment of non-technical skills, including leadership attitude, task delegation, and teamwork for emergency medical service providers. Overall, there is a paradigm shift in health professions education to emphasize the importance of teamwork and leadership skills along with other clinically oriented procedures. Researchers at the Cleveland Clinic conducted a study with internal medicine residents involving a retreat focused on development of teamwork and leadership, concluding that innovative strategies to develop these skills are necessary and receive too little attention (Stoller, Rose, Lee, Dolgan, & Hoogwerf, 2004). Several physician scholars described an increasingly complex and rapidly changing health care system requiring physicians to develop team-based leadership skills (O’Connell & Pascoe, 2004; Schwartz & Pogge, 2000). There is a clear trend over the past decade that indicates that clinical training alone does not provide optimal care without the inclusion of team leader training. In 2001, Donaldson, Chief Medical Officer for England, referring to the National Health Service, identified the challenge as developing effective clinical leaders throughout all health profession disciplines, and all levels of the healthcare system. Moreover, Donaldson stressed the importance of beginning leadership development early in their education, challenging organizations to make this an educational priority. Sellman (2011) (as cited in Lord, Jefferson, Klass, Nowak, & Thomas, 2013), and von Wyl et al. (2009) described professional practice as going
beyond mastering skills and performing a set of tasks. Team leaders who spend years perfecting their practice learn there is much more to their professional work than skills. Von Wyl et al. (2009) supported the notion that “individual technical proficiency alone is not enough for excellent team performance in high risk environments…” (p. 121).

Learning Leadership Skills

Perhaps the most contentious issue is whether leadership is a skill that can be taught. Doh (2003) conducted interviews with several scholars involved in business and management education, finding agreement that leadership could indeed be learned (p. 57), but disagree about how, where, and under what conditions leadership education is best accomplished. While not all leaders have the ability to be equally effective, the consensus of the group was clear in that everyone has some ability to refine and improve his or her leadership capabilities through instruction in the areas of leadership concepts and practices, and leadership experience in contextual practice.

Foreign Developments

A study of healthcare practitioners in Western Australia supported the need for leadership development. Respondents recognized the need for formal leadership education (Lord et al., 2013). Furthermore, some of the study participants reported a belief that leadership development was something that happens on-the-job, noting that it is assumed clinicians will come to their role in healthcare with leadership attributes and skills, when in fact many do not (Lord et al., 2013).

In the United Kingdom, the College of Paramedics released the third edition of their Paramedic Curriculum Guidance (2014), with robust emphasis on the importance of clinical leadership training during paramedic education. In addition to the typical
medicine and skills found in U.S. training documents, there is an explicit component addressing the nature of emergency medical services work as complex and interdisciplinary. Theories of teamwork and leadership in the context of effective team performance is included as well as a section devoted to leadership attributes. Inclusion of the National Health Service, Clinical Leadership Competency Framework (CLCF), provided a standardized approach to teaching leadership skills, specifically noting its usefulness for all clinicians, including students, during their formative professional development. Demonstrating personal qualities, working with others, and setting direction are three of the core domains contained in the CLCF.

**National Registry of EMTs**

In 1969, at the direction of President Lyndon Johnson’s Committee on Highway Traffic Safety, a pivotal decision was made that would impact the future development of and delivery of emergency medical services in the U.S. This group recommended the development of a national certification agency with the directive to establish uniform standards for training and credentialing of emergency medical services personnel (Retrieved from https://www.nremt.org/nremt/about/nremt_history.asp, February 23, 2014). The result was the creation of the National Registry of EMTs. Beginning in 1971, the first emergency medical technician certification examination was administered, with a paramedic level examination following in 1978. For over thirty years the National Registry of EMTs has been administering written and psychomotor certification exams to paramedic candidates. In 2014, the paramedic level psychomotor skills examination consists of 12 individual component skills stations focusing on technical performance of skills such as intravenous access. A project began in 2009 involving a core group of
eight paramedic education programs in the U.S. to explore the feasibility of changing the psychomotor skills certification examination. The impetus for this change was a desire to improve the assessment of candidates and the roles they were being educated to perform as paramedics. Lacking in the certification process was an emphasis on teamwork.

At the heart of emergency medical services is the fundamental provision of patient care in teams. This requires technical skills as well as team-related skills. The very essence of teamwork involves team leaders and team members. Research continues in an effort to develop a new scenario-based psychomotor skills examination with an emphasis on effective team leadership. As a result of the work undertaken by the National Registry of EMTs, specific team leader attributes have been identified, including:

- creates an action plan;
- communicates accurately and concisely while listening and encouraging feedback;
- receives, processes, verifies, and prioritizes information;
- reconciles incongruent information;
- demonstrates confidence, compassion, maturity, and command presence;
- takes charge;
- maintains accountability for team’s actions/outcomes; and
- assesses situation and resources and modifies accordingly (National Registry of EMTs, 2014).
Early plans envision an examination requiring paramedic candidates to function as team leaders in simulation-style scenarios, directing at least one additional team member, while being assessed using the above criteria. Isolated psychomotor skills proficiency will be substantively demonstrated through the creation of individual student portfolios. As the only national certification agency for paramedics, the importance of integrating effective team leadership performance has been identified as a priority in ensuring entry-level competence.

**Developing College Student Leadership Capacity**

Turning to the development of leadership capacity in college students, The Multi-Institutional Study for Leadership, a project of the National Clearinghouse for Leadership Programs, sought to examine national trends regarding leadership development at college campuses across America. While not all paramedic education is provided on college campuses, nor does it exclusively involve traditional-aged college students, most paramedic students receive their education in environments similar to that found on college campuses. Beginning in 2013, nearly all paramedic education programs in the U.S. were required to seek specialized accreditation from the CAAHEP. The findings of this study culminated with clear evidence in support of leadership development in higher education. Dugan and Komives (2007) wrote, “All of these trends converge in the form of an institutional, and societal, mandate that calls for institutions of higher education to purposefully develop socially responsible leaders” (p. 5).

Emergency medical services is part of an integrated healthcare delivery framework. Paramedics work with other emergency personnel including dispatchers, law enforcement, firefighters, and utility companies. As members of the healthcare team,
EMTs interact with nurses, physicians, and other healthcare specialists. The Multi-Institutional Study of Leadership made several recommendations. A core recommendation is that interdisciplinary, co-curricular leadership programs need to be developed and nurtured (Dugan and Komives, 2007). The healthcare workforce typically relies upon interconnectedness to deliver its specific product or service. Including these types of interdisciplinary leadership programs into paramedic education programs provides an enhanced opportunity for the development of effective leaders.

Dugan and Komives (2007) posited the notion that student leadership development is enhanced through increased levels of self-awareness regarding his or her ability to work with others. One way to improve student leadership awareness is through attendance at leadership training sessions. Data revealed that 35% of students had never attended any type of leadership program (Dugan and Komives, 2007). Several recommendations are presented regarding opportunities to enrich student leadership programs. First, leadership as a topic needs to be infused throughout the curriculum rather than as isolated exposures. Second, students need to be reminded that leadership theory has changed – leadership can be learned and developed. Third, effective teams are comprised of leaders and followers and experience in multiple roles is essential to developing solid teamwork abilities.

Summary

Teamwork and effective team leadership are essential skills for successful paramedic practice. Reviewing the literature regarding paramedic student leadership development reveals little specific research, though many in the emergency medical services field have been discussing the importance of leadership. Those involved in
various aspects of emergency medical services have shared their unique perspectives regarding leadership, with a view looking backward after long, established careers. What is absent from the literature is a forward-looking perspective from paramedic students – those actively engaged in the educational process. We cannot change the past, but we can consciously choose to assess our current state of paramedic student leadership development, and as necessary, adjust our approach in developing the paramedic team leaders of the future. Leadership development begins during paramedic students’ formative education. However, as yet, there is no study that has provided a voice to paramedic students asking them to share their perspectives regarding leadership development. On a foundational basis, this study sought to explore paramedic student-identified leadership characteristics and what they perceive to be effective leadership. The results of this study may be utilized to identify strategies to cultivate and develop effective paramedic team leaders.
CHAPTER THREE: METHODOLOGY

Introduction

This chapter presents the methods and procedures used in this qualitative, grounded theory study. Included will be a description of the study participants, sample size, data collection procedures, the data analysis plan, and ethical considerations. The purpose of this study was to understand how paramedic students construct their understanding of leadership.

Research Questions

The following research question guided this qualitative study: What self-identified leadership characteristics are prevalent among paramedic students and what experiences have helped to formulate their concepts of effective paramedic leadership? Therefore, the following research questions served to guide this qualitative study:

- How do paramedic students describe their leadership characteristics?
- What experiences have helped paramedic students formulate their concepts of leadership?
- What strategies do paramedic students identify as being helpful in developing their leadership skills during their education?

It is a widely held notion that leadership abilities are essential for paramedics. What has not been explored is the leadership characteristics identified in those pursuing education to become a paramedic. There is no baseline assessment that has asked those studying emergency medical services to share the personal characteristics pertaining to leadership that they feel they possess. Without a baseline study asking paramedic students to share their perceptions of leadership, it is difficult to identify gaps in leadership abilities and
develop strategies for improvement. Many evaluation instruments used by paramedic education programs assess student leadership, but there is no clear developmental strategy or guidance for what effective leadership looks like. Furthermore, additional research questions may surface during the interviews of study participants that are difficult to anticipate. Respondent data may reveal myriad influential factors regarding leadership characteristics and formation identified in paramedic students related to factors such as age, gender, and ethnicity.

**Method**

A qualitative study using a grounded theory methodology was selected to provide a voice to study participants. Charmaz (2006) embraced a socially constructed view of research participants with an emphasis on individual views, values, beliefs, feelings, and assumptions (Creswell, 2013, p. 87). Grounded theory was an excellent fit for this investigation as it provided both structure and a high degree of flexibility for interaction between researcher and study participants. As a process, grounded theory seeks to construct and render a theory through the lens of research respondents, exploring their past and present experiences (Charmaz, 2006, p. 10). Through this interaction with paramedic students the result is to offer an initial interpretation of paramedic student leadership development.

The focus of this study was on the participants’ viewpoints of essential paramedic leadership characteristics. Paramedic students, as individuals and collectively, and the leadership characteristics described by study participants as being important for effective paramedic leadership constitute the variables in this study. Interviews were conducted at a mutually agreed upon location to include an office, conference room, or classroom, and
therefore, there were no situational variables that arose. Extraneous variables present included those attributed to the research sample, including factors such as age, gender, ethnicity, experience, awareness, and intelligence.

Description/Rationale of Participants/Sample

Purposive sampling was used to gather information from research participants through face-to-face interviews. Gathering data from current paramedic students provided the foundational basis of students’ perceived leadership characteristics important to become an effective paramedic leader. An initial invitation (see Appendix A) was extended to seven CAAHEP-accredited paramedic programs by contacting each program’s director by phone or email. With program director approval granting access to enrolled paramedic students, a formal invitation (see Appendix B) to participate was disseminated to all students. Participation in the study was completely voluntary without any form of remuneration. Geographically, programs represented the Midwestern United States and study participants were from multiple states within the U.S., providing a small sample of all paramedic students enrolled at any given time. The researcher enrolled 35 paramedic students as study participants, and data saturation was attained.

Instrumentation

Personal one-on-one interviews were conducted utilizing a researcher-developed interview protocol. A specific interview inventory or tool was not discovered and such a study has not been explicitly conducted with paramedic students. The interview protocol instrument (see Appendix C) was pilot tested with a sample of five paramedic students to assess its effectiveness and to detect any potential researcher bias.
The instrument was coded to identify each participant so that member checking could be completed, verifying the thoroughness and accuracy of each transcribed interview. General information was documented to include date, start and end times of the interview, interview location, and in which paramedic program the participant was enrolled. Furthermore, demographic data were collected including age, gender, ethnicity, and hometown. The remaining items on the instrument consisted of open-ended questions seeking to explore and construct essential paramedic leadership characteristics as identified by paramedic students that allowed them to become effective paramedic leaders.

**The Researcher’s Role**

A researcher’s role is to facilitate the sharing of information from research participants, limiting where possible bias throughout the process. The researcher has nearly 30 years of experience working in emergency services having practiced as a paramedic and registered nurse, with specific roles including paramedic shift supervisor, quality improvement coordinator, Emergency Medical Services System program director, and trauma program coordinator. For the last 12 years the researcher has been working at an academic program involved in educating paramedic students. Furthermore, the researcher is involved with emergency medical services professional organizations developing assessment tools to determine paramedic student competence, including the areas of team member and team leader. Through this work several questions have arisen. Do emergency medical services educators have a responsibility to engage students in thinking about why they lead the way they do? Who and/or what helped to shape their individual leadership characteristics? Do emergency medical services educators have to
develop strategies requiring students to reflect on their role as leaders? As a starting point this study sought to ask and answer the foundational question: What self-identified leadership characteristics are prevalent among paramedic students and what experiences have helped to formulate their concepts of effective paramedic leadership? Doing so provided a launching point to explore strategies educational programs may develop and implement to enhance paramedic leadership effectiveness in their program graduates.

**Data Collection Procedures**

Data collection began on March 31, 2014, following Dissertation Committee and subsequent IRB approvals. Once fieldwork commenced the interviews were completed within a period of six weeks. Paramedic program directors were contacted by phone and email, requesting approval for access to their students. Once program approval was attained, a formal invitation was disseminated to each currently enrolled paramedic student inviting him or her to participate in an interview regarding paramedic leadership. The invitation consisted of a cover letter asking for her or his participation and a brief explanation of the nature of participation in the interview. Exact dates and times were mutually agreed upon and occurred at the student’s paramedic program location in a private setting provided by each institution. Additional information included contact information for the principal investigator, purpose of the research, duration of participation, compensation, confidentiality, risks, and benefits. Research participants were assured that neither their personal identity nor the identities of their schools will be included in the dissertation.
Data were gathered during face-to-face interviews that were recorded on a digital recording device. On average each interview lasted 34 min, 21 s. Audio recordings were submitted to a service for verbatim transcription, and a copy of the transcription was forwarded to each participant for respondent confirmation of accuracy. Handwritten field notes were taken by the researcher during each session, noting each participant’s demeanor and non-verbal cues throughout the interview. All data were coded to identify categories and theoretical concepts. Interviews took place in rooms selected on the basis of participant convenience, comfort, and optimal privacy. Research materials including audio recordings, field notations, and transcriptions were kept in a locked and secure file box. Computer files and data related to research were kept on a computer’s local hard-drive and backed up to a portable drive, both with password protections limiting access.

Data Analysis Plan

Data analysis and initial coding occurred simultaneously as interviews were completed. Doing so allowed the researcher to adjust in real-time to the data being collected with the ability to enrich the final results. True saturation was not the goal of this study since it is not feasible to interview a limitless number of research participants and not all paramedic students, in all programs throughout the U.S., will be included. As Dey (1999) described the attainment of exhaustive data categories is a very high burden to achieve, and grounded theory researchers assemble a snapshot of data that Dey referred to as “theoretical sufficiency” (p. 257). Once fieldwork concluded, transcripts, notes and memos were reviewed to identify a preliminary list of categories, themes, and patterns. Responses were sorted and organized for each research study question. Themes based upon age, gender, and ethnicity was observed, though this data had no direct
influence on the scope of this study. A final review of the preliminary coding process was reviewed to identify a final listing of categories, themes, and patterns. In addition to the manual coding process, NVivo version 10, a qualitative data analysis computer software package produced by QSR International, was utilized to organize and analyze interview data. Synthesis of the data and formulation of the findings in preparation for a final report concluded the data analysis process.

**Quality and Verification**

Data quality was first achieved by enrolling a broad number of research participants from multiple paramedic programs. Respondent data verification was accomplished by distributing completed verbatim transcriptions to each participant by email, requesting confirmation of the accuracy of the transcript, and to make any necessary corrections. The use of NVivo version 10 also provided a robust analysis tool to organize and navigate data, helping the researcher make sense of subtle connections within the data.

**Ethical Considerations**

This study was submitted to the Creighton University Institutional Review Board (IRB) prior to commencing research activities as an exempt study. Written notification was received by the principal investigator approving the study with an assigned protocol number (see Appendix D). Research involving human subjects required the IRB to make an independent assessment of the nature of the research and the potential risks and benefits to those participating. Each research subject was provided with an invitation to participate, with the option to withdraw from study participation at any time. Before beginning the interview, verbal informed consent (see Appendix E) was required of each
participant, and participants were given the opportunity to ask any questions of the principal investigator they wished. Duration of participation, as expected, did not exceed more than two hours of each participant’s time. Risks and benefits were provided in writing and explained to each participant. There were no known risks to participating in this study. It is hoped that the information received from participants will enhance the emergency medical services community’s knowledge of leadership formation of paramedic students, including the development of strategies to improve leadership skills in paramedics. As a current emergency medical services educator, involving the researcher’s paramedic students in this research constituted a conflict of interest. The researcher’s students did not contribute data to this study, but were used to ascertain the effectiveness of the interview protocol. Furthermore, any paramedic student whom the researcher personally knows was not allowed to participate.

Participants have the right to anonymity. All data regarding the identity of research participants has been and will continue to be held in the strictest of confidence. Identifiable data will be kept in locked and password-protected files, including hardcopy and electronic data. Published results in the researcher’s dissertation or future publications will not disclose the names of paramedic programs or individual students. Following completion of the doctoral student’s research, all data will be retained for a period of at least 3 years prior to destruction.

Summary

This qualitative, grounded theory study sought to provide a voice to paramedic students with an aim of better understanding the nature of paramedic student leadership characteristics, and how effective leadership skills are formed during a paramedic
student’s education. Questions were guided utilizing a structured interview protocol, but were flexible to allow exploration of additional ideas from participants. Purposive sampling was used with data collection occurring during face-to-face interviews. Interview sessions were digitally recorded allowing for later verbatim transcription and thematic analysis. Member checking was used to confirm accuracy of the data prior to analysis utilizing manual coding and NVivo version 10 software analysis. All identifiable participant data were handled confidentially and there were no known risks to research participants. IRB approval was obtained for this project as an exempt status interview study in the area of social-behavioral sciences. Once data collection commenced fieldwork lasted six weeks. Study results were analyzed and used to recommend strategies to develop effective paramedic team leaders.
CHAPTER FOUR: FINDINGS

Introduction

The purpose of this study sought to understand leadership from the perspective of paramedic students. Exploring current paramedic students’ self-reported leadership characteristics, and leadership characteristics paramedic students identify as important globally for paramedics, will help cultivate and develop effective paramedic leaders. Furthermore, this study sought to identify influential factors in the leadership development of paramedic students. Utilizing a qualitative, grounded theory approach, the following research questions were examined:

- How do paramedic students describe their leadership characteristics?
- What experiences have helped paramedic students formulate their concepts of leadership?
- What strategies do paramedic students identify as being helpful in developing their leadership skills during their education?

This chapter presents a review of the research methodology, research setting, data collection and analysis procedures, participant demographics, and the findings of the study.

Review of the Methodology

A qualitative, grounded theory methodology was chosen for its flexibility in providing a voice to the paramedic students offering their perspectives regarding paramedic leadership. Purposive sampling was utilized to enroll paramedic students as research participants in the study. Data collection was completed utilizing a semi-
Of 390 CAAHEP accredited paramedic programs (Retrieved from www.caahep.org, June 22, 2014), seven were contacted to determine whether they would assist in coordinating student participation in this study. Following a verbal affirmation agreeing to assist with the study, formal organizational Letters of Invitation were sent requesting a Letter of Agreement (see Appendix F) from each paramedic program. All seven paramedic programs drafted and returned signed letters of agreement confirming a desire to participate in the study, each letter forwarded to the IRB. Email correspondence to each paramedic program included a Student Letter of Invitation and Consent Form, both distributed to all eligible paramedic students currently enrolled at the respective paramedic programs. Students were interviewed at five of the seven programs, with two programs serving as backup sites based upon the potential need for additional respondents to attain data saturation. Each paramedic program designated the program director or a faculty member to serve as the primary point of contact. Responsibilities of the contact person at each site consisted of two main tasks. Firstly, was to disseminate the Student Invitation to Participate in Research Letter and the accompanying Consent Form to the students. Secondly, each program designee assisted in coordinating convenient dates and times to meet with willing paramedic student interview participants, in a quiet, private, and distraction-free area.

**Data Collection**

Data collection occurred over a period of six weeks. Interviews were conducted with paramedic students at each site over the course of one to two days. All five
paramedic programs were geographically located within the Midwestern U.S., including Iowa, Kansas, Minnesota, Missouri, and Nebraska. Paramedic education programs are sponsored by a variety of organizations including universities, community colleges, hospitals, and emergency medical services agencies. The five programs visited included three community colleges, one University Hospital-based program, and one emergency medical services agency-based program. A total of 35 paramedic students were interviewed representing five different paramedic programs. The single largest representative sample of students for any given program was 10 students (29%), and the smallest representative sample included five students (14%) (see Table 1). Interviews were scheduled at 90-minute intervals. Of the 35 interviews, the shortest duration interview lasted 16 min 25 s, the longest interview lasted 1 hr 17 s, with a mean of 34 min 21 s.

Table 1

Representative Sample Size by Program

<table>
<thead>
<tr>
<th>Program</th>
<th>Number of Students</th>
<th>Percentage of Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>10</td>
<td>29%</td>
</tr>
<tr>
<td>2</td>
<td>7</td>
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<td>5</td>
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<tr>
<td>Total:</td>
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<td>100%</td>
</tr>
</tbody>
</table>
Because the Interview Protocol developed for this study had not been utilized as part of previous research, pilot interviews were conducted with five paramedic students specifically to determine the tool’s effectiveness and determine any potential researcher bias. Five of the researcher’s paramedic students volunteered to participate in mock interviews and to provide feedback regarding the interview protocol. All procedures were followed as if the mock interview were live research data collection, including the invitation to participate in research, review and acknowledgement of research participant consent, completion of field notes, and digital recording of the conversation. Mock interview participants offered a few suggestions, including a reminder at the beginning of the interview to be sure that cell phones be turned to silent or off, a request to be provided with a copy of the questions to refer to during the interview, and for the researcher to dress casually. All of these suggestions were added to the interview procedure. The mock interviews served as a valuable bracketing tool for the researcher, reinforcing the need to be a patient interviewer. Furthermore, the mock interviews allowed the researcher to reflect on the potential for diverse responses from participants, to keep an open mind, and to listen attentively.

At the conclusion of each mock interview the participant was asked to reflect on the process. Questions regarding the interview protocol included:

- Were you at ease throughout the interview?
- Did you ever feel rushed – were you given enough time to answer each question fully?
- Did you find each question to be clear and concise?
At any time did you find the interview leading you to a particular answer or putting others’ ideas forth as your own?

Did you sense any bias throughout the interview process?

Participant feedback from the mock interviews revealed consensus that the questions were challenging and thought-provoking. Each conveyed a clear understanding of each question as it was written and asked. None of the participants found the researcher to be leading or biased throughout the interview. Follow-up questions were felt to have been asked in an effort to seek clarity and understanding, never feeling as though the interview was an interrogation. Members of the pilot interview process conveyed a sense of calmness and ease throughout the process and enjoyed the conversational nature of the interview. Demographic information for those participating in the pilot interviews included three males and two females, with ages ranging from 21 to 25 years of age.

Live data collection at the five host sites included a mix of office space and small-sized classrooms. Each office and classroom utilized for the private meetings was largely unremarkable. The researcher and participant were positioned in chairs at a table or desk across from each other approximately four feet apart. Interviews began with a brief welcome, thanks for participating, and a handshake. Paramedic students were asked to provide demographic data including a reliable email address to be used for member checking. Interview codes were assigned to each participant that included site number, site participant number, and overall study participant number. A Research Participant Consent Form was provided to each participant for review with a verbal affirmation of informed consent. An introductory script was then read verbatim to each participant and asked if there were any questions before beginning the interview. A laminated copy of
the interview questions was provided for reference throughout the interview to research participants. Digital recording began with identification of each participant by his or her unique code number and an affirmation that the consent form was reviewed. With the digital recorder placed on the tabletop or desktop between the researcher and participant, the interview began.

At the conclusion of each interview the participant was thanked for sharing his or her thoughts and ideas regarding the study questions. Participants were reminded that they would receive an email within the next few days that would contain an attached transcript of the interview. In the email notification specific instructions were provided regarding respondent confirmation and accuracy for the interview conversation. Audio files were uploaded to Rev.com©, an online transcription service provider. Once the prepared transcripts were received, each transcript was reviewed for accuracy, and inaudible time stamps were compared to the recording for further editing where possible. Transcriptions were then matched by interview code number to the corresponding email address, and sent to the research participant with instructions on how to approach the review of the transcript (see Appendix G). All interview participants completed the member-checking process and responded by return email verifying the accuracy of the data contained in the transcript. All interview data were secured throughout all phases of research. Computer files, including backup files were password protected. Field notations, other documents, and the digital recorder were secured in a locked clipboard meeting HIPPA document transport requirements.
Participant Demographics

A total of 35 paramedic students participated in this study from five different paramedic programs (see Table 2). Ages of participants ranged from 19 to 56, with a mean age of 28.46 years. Study parameters required prospective participants to be 19 years-of-age or older. The gender of this sample included 16 (46%) female participants and 19 (54%) male participants. Each research subject was asked for a self-described ethnicity. Ethnicity of the sample population was overwhelmingly reported as White or Caucasian (85.7%). Other ethnicities reported included one each as Asian, Indian, Korean, and Paraguayan, representing 11.4% of the total sample. One respondent (2.9%) answered the question regarding ethnicity as “other.” A total of nine different states were reported as home, with the host site locations of Iowa, Kansas, Minnesota, Missouri, and Nebraska most represented.

Data Analysis Procedures

Following preparation of interview transcripts, each participant was sent the transcript for review. Participants were informed that an important step in the research process is to ascertain whether the transcript fairly reflects the conversation that occurred during the interview, and to confirm the written data as trustworthy. During the review process respondents were encouraged to focus on substantive content accuracy rather than giving undue attention to spelling and grammar. Moreover, participants were instructed the words chosen at the time of the interview represent worthy, valid, and respected contributions of his or her voice in helping to better understand paramedic student leadership. All 35 research participants completed the member-checking process, verifying that the transcripts were fair representations of his or her interviews.
Table 2

Participant Demographics

<table>
<thead>
<tr>
<th>Participant</th>
<th>Age</th>
<th>Gender</th>
<th>Ethnicity</th>
<th>Home State</th>
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<td>White</td>
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<td>KS</td>
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<td>KS</td>
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<tr>
<td>35</td>
<td>22</td>
<td>X</td>
<td>White</td>
<td>KS</td>
</tr>
</tbody>
</table>

Note All table data as self-reported by participants, including self-described ethnicity.
In all, the interviews resulted in 394 pages of single-spaced transcripts. An initial reading of the transcripts provided the researcher the opportunity to begin the development of themes prior to beginning the coding process. NVivo version 10 software was utilized to code interview data, creating multiple tree nodes around themes within the data. Data were manually deposited into several nodes that were created as transcript data analysis progressed. Several main themes emerged in relation to the three research questions of this study, including leadership characteristics, experiences, educational strategies, and experiential learning.

**Leadership Characteristics**

One of the research questions was: How do paramedic students describe their leadership characteristics? Leadership characteristics became a central theme of the study with several sub-themes. During the interviews paramedic students described leadership characteristics not only in reference to themselves, but also spoke of leadership characteristics of others. More broadly, participants described leadership qualities important for all paramedics, not simply referencing their own personal characteristics. Paramedic students enrolled in the study were actively engaged in field internship training, providing them with an opportunity to witness paramedic leadership firsthand, as well as experiencing it themselves as paramedics in training. Respondents were asked to reflect on observed leadership characteristics of paramedics in action – what leadership characteristics they have witnessed as students in these paramedics caring for patients. Coding included descriptions of leadership characteristics in reference to themselves, paramedic student self-reported leadership characteristics, generally important paramedic leadership characteristics, and observed leadership
characteristics of paramedics in action. Each characteristic became its own node, in each category to collate the narrative offered for each characteristic. Furthermore, coding the characteristics in this manner by category allowed for comparison between categories.

Factors Contributing to Leadership Development

An overarching question of this study focused on influential factors contributing to concepts and development of leadership skills. First, what experiences have helped paramedic students formulate their concepts of leadership? Participants shared a multitude of life experiences that influenced their personal concepts of leadership. Second, what strategies do paramedic students identify as being helpful in developing their leadership skills during their education? During the interview participants were asked to reflect upon and share specific examples of leadership training they have received during their paramedic education. Coding for these research questions were subdivided into specific paramedic education-related factors, and all other contributing experiences. Several themes emerged in each category through the coding process.

Results

Several questions served to stimulate a dialogue regarding paramedic leadership characteristics. Exploration of the paramedic students’ own leadership characteristics resulted from two questions. Each participant was asked to share what skills he or she have that will make them a good paramedic. A bridging question served as a reflective exercise in stimulating research respondents to think about and share what leadership skills they felt are essential for paramedics to possess. After this interview segment during which participants identified essential leadership skills for paramedics, participants were again asked to focus on his or her leadership skills, identifying which of
the leadership skills would be particularly strong for themselves. Paramedic students self-reported a total of 44 leadership characteristics that they as a cohort of participants possess (see Figure 1).

<table>
<thead>
<tr>
<th>Accepts Criticism</th>
<th>Empathetic</th>
<th>Nonconformist</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adapt-Improvise-Creative</td>
<td>Goal-Oriented</td>
<td>Passionate</td>
</tr>
<tr>
<td>Ambitious</td>
<td>Listen</td>
<td>Patience</td>
</tr>
<tr>
<td>Assertive</td>
<td>Hardworking</td>
<td>Physically Fit</td>
</tr>
<tr>
<td>Calm</td>
<td>Higher Purpose than Self</td>
<td>Prioritize</td>
</tr>
<tr>
<td>Caring-Kind</td>
<td>Honesty</td>
<td>Receptive to Change</td>
</tr>
<tr>
<td>Charming</td>
<td>Humble</td>
<td>Researcher</td>
</tr>
<tr>
<td>Collaborate-Cooperative</td>
<td>Integrity</td>
<td>Respectful</td>
</tr>
<tr>
<td>Communication (effective)</td>
<td>Interpersonal Skills</td>
<td>Self-confident</td>
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<td>Critical-thinking</td>
<td>Knowledgeable</td>
<td>Self-reflective</td>
</tr>
<tr>
<td>Curious</td>
<td>Leadership</td>
<td>Sense of Humor</td>
</tr>
<tr>
<td>Decisive</td>
<td>Lifelong Learner</td>
<td>Stress Tolerant</td>
</tr>
<tr>
<td>Dedication</td>
<td>Mentor-Teacher</td>
<td>Teamwork</td>
</tr>
<tr>
<td>Delegate-Direct-Coordinate-Organize</td>
<td>Motivated-Driven-Desire-Determined</td>
<td>Technical Skills Proficiency</td>
</tr>
<tr>
<td>Embraces Diversity</td>
<td>Sense of Humor</td>
<td>Trust</td>
</tr>
</tbody>
</table>

*Figure 1.* Paramedic student self-reported leadership characteristics.

**Paramedic Student Self-Reported Leadership Characteristics**

Several students explained they were not very good at talking about themselves, though most offered several characteristics in reference to their own leadership capabilities. Paramedic student self-reported leadership characteristics included 15 unique descriptors that were not mentioned when referencing paramedic leadership in action, or when discussing important leadership characteristics essential for all paramedics. The distinct leadership descriptions participants shared regarding
themselves include: ambitious, charming, curious, dedication, embrace diversity, goal-oriented, higher purpose than self, leadership, nonconformist, passionate, prioritize, receptive to change, researcher, sense of humor, and stress tolerant.

A unique leadership characteristic described by one paramedic student is the importance of charm, stating: “Charm is part of it. You may not think I’m particularly charming, but; this sounds sort of manipulative, and maybe it is, but charm is part of it. You have to be able to make people like you.” Another respondent spoke of how important curiosity is for paramedic leaders in wanting to seek additional information about medicine, referring to the easy access to information via the internet, and its influence on leadership.

I really work hard at doing skills and learning the stuff. I enjoy doing that and I get curious. So you have someone [patient information] you go and punch into Google as soon as you get done with that shift, to learn more about it.

Another respondent discussed how important research was for paramedic leaders, describing one of his strengths to be the ability to review the merits of scientific evidence presented in journals. “I think it’s very important to have an evidence and research-based approach towards treatments and having that research background you’re better able to look at those with a closer eye or more critically.” Many words and phrases were used to describe self-reported leadership characteristics. Three different research participants characterized paramedic leadership as making a personal sacrifice or serving a purpose higher than self-interest. A statement that reflects what the respondents were sharing is:
I’m doing something bigger than myself I guess. At the end of the day it doesn’t matter to my personal life what happened, it matter[s] to them [the patient], so you do it for them, you don’t do it for yourself I guess.

Another self-reported paramedic student leadership characteristic included the notion of being a non-conformist – the idea that you sometimes have to challenge the status quo as a leader.

I don’t mind setting myself apart or throwing myself out there on the limb. I think that’s part of leadership – you can’t always conform and go along with the group and sometimes there is someone that needs to step forward.

This same participant identified passion for emergency medical services and the leadership expectations of paramedics:

I think I’m passionate and think to do well in anything you really do have to be passionate about what you do. There is a special kind of drive that goes along with it that I think not everyone has.

Emergency medical services personnel often confront situations requiring the need to prioritize many decisions and tasks. A participant discussed how important it is for paramedic leaders to be able to establish priorities, presenting a sampling of the decisions that need to be made during a typical patient encounter. “You’re dealing with a patient. You’re dealing with their vitals. You’re dealing with what hospital you need to take them to. What’s the pathophysiology that my patient is experiencing? What interventions can I do to improve my patient?” Note how this participant goes beyond the interventions to perform, placing an emphasis on those interventions that will benefit, or result in the patient’s improvement.
Observed Leadership Characteristics of Paramedics in Action

In addition to sharing self-identified leadership characteristics, the paramedic students were asked to think about a situation where they have witnessed paramedic leadership in action, and to describe the situation. Participants quickly and easily began to reflect on the many emergency responses they had experienced during their field internships. Most of the respondents had difficulty choosing just one situation to describe. Exploring paramedic leadership in action resonated with participants as they visualized the behaviors and described what made situations, and the paramedics they observed, so richly illustrative of paramedic leadership. There were a total of 31 characteristics describing paramedic leadership in action – the fewest characteristics identified for any of the coding categories (see Figure 2). Terms used to portray observed leadership characteristics of paramedics in action that were not used elsewhere when describing paramedic leadership include: approachable, convincing, ability to identify strengths and weaknesses of those around them, facilitator, nonjudgmental, polite, and being supportive-reassuring-encouraging.

Exploring paramedic leadership in action through the lens of paramedic students reveals the importance of cues taken from those working in the field. Students were not only sharing what they witnessed paramedics doing with others, they were also describing how they personally experienced leadership in their own interactions with paramedics. “He just has these leadership [skills] that everybody feels comfortable enough to go to him with anything, whether it’s personal or job. I think that’s a big plus.” This demonstrates the leadership characteristic of being approachable from the
perspective of one study participant. An additional leadership skill described of paramedics in action is the ability to be convincing.

He was able to convince her to go [to the hospital], and I think that was a really good example of leadership. He took over and was able to convince her to go, which is hard to do sometimes with those patients, and not every medic is able to do that.

<table>
<thead>
<tr>
<th>Adapt-Improvise-Creative</th>
<th>Delegate-Direct-Coordinate-Organize</th>
<th>Patient Advocate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anticipate Needs</td>
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<td>Polite</td>
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<td>Approachable</td>
<td>Facilitator</td>
<td>Responsibility</td>
</tr>
<tr>
<td>Awareness-Observant</td>
<td>Honesty</td>
<td>Scene Presence</td>
</tr>
<tr>
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<td>Identify</td>
<td>Self-confident</td>
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<td>Strengths/Weaknesses</td>
<td>Self-reflective</td>
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<td>Knowledgeable</td>
<td>Supportive-Reassuring-Encouraging</td>
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<td>Communication (effective)</td>
<td>Listen</td>
<td>Take Charge</td>
</tr>
<tr>
<td>Compassionate</td>
<td>Mentor-Teacher</td>
<td>Trust</td>
</tr>
<tr>
<td>Convincing (persuasive)</td>
<td>Non-judgmental</td>
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</tr>
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<td>Critical-thinking</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Decisive</td>
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</tr>
</tbody>
</table>

Figure 2. Observed leadership characteristics of paramedics in action.

Paramedic students rely upon their paramedic preceptors to provide feedback regarding their strengths and weaknesses in a patient care environment. This feedback is imperative to help students develop their knowledge and skills, including leadership.

Respondents recognized a characteristic of paramedic leadership in action that was not articulated elsewhere in this study – the ability to identify strengths and weaknesses in others. Regarding leading the team on a call, a respondent said: “He knew who would do
their jobs efficiently and he just used that to the benefit of the patient.” Another participant conveyed that his paramedic preceptor served as a leader by pushing him outside his comfort zone in an effort to learn.

He pushed you outside your comfort zone, which is what I definitely need in learning. He was definitely able to recognize that and what I needed to be a better student and a better paramedic and things like that, and able to turn that around and push me to do better.

While recognizing strengths and weaknesses in others was identified as a characteristic of paramedic leadership in action, paramedic students also expressed that paramedic leaders are supportive, reassuring, and encouraging to those around them. Several situational examples were described by students. As students participating in field internship, support, reassurance, and encouragement included: “It’s our patient too. If things get really rough, we’ll jump in, but really letting it be a sink or swim almost, but when I really feel like I’m sinking, they come in with the floaties.” Another student shared. “When I had trouble with the intubation, he calmed me down, said, ‘Hey, just go back, ventilate some more. Try it again.’ I still didn’t see the chords. He said, ‘Okay, that’s fine. I’ll take over, just keep ventilating…’” Opposing perspectives were shared regarding team leadership interactions observed by students. After completing care of a patient a student explained. “We got done and he said, ‘Great job everybody.’ You know?” In contrast, another student portrays an example of failing to engage in a supportive, encouraging manner:
A lot of other bad leaders or should I say people that were not good examples, [would] just be like, “What are you doing? Get out of the way! I can’t believe you’re doing this or something.” It’s always a constructive rather than destructive, I guess.

This leadership characteristic was also present during classroom interactions. A respondent described an instructor committed to the student’s success.

“I want to help you learn this so let’s get to it.” And I think that’s a good example of leadership but that’s not something that necessarily everybody could see but he took the time to do that anyway in order, he sacrificed his time in order to make me better. And I think that’s a good example of leadership.

Important Paramedic Leadership Characteristics

Respondents were asked to provide feedback regarding what leadership skills are essential for paramedics to possess. This question served to provide a blank slate intended to exemplify generally important paramedic leadership characteristics unrelated to those characteristics described in relation to themselves as leaders, or those characteristics expressed for paramedic leadership characteristics in action. The results include a total of 51 expressions of what leadership skills are important for paramedics (see Figure 3). In this instance 14 distinctive terms not described elsewhere in this study were reported to depict leadership characteristics, including: courageous, ethical, excellence, flexible, lead-by-example, loyal, multitask, open-minded, role model, persuasive, sense of community, servant mentality, tenacity, and thinkers.
<table>
<thead>
<tr>
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<td>Self-confident</td>
</tr>
<tr>
<td>Communication (effective)</td>
<td>Lead by Example</td>
<td>Self-reflective</td>
</tr>
<tr>
<td>Compassionate</td>
<td>Lifelong Learner</td>
<td>Sense of Community</td>
</tr>
<tr>
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<td>Listen</td>
<td>Servant Mentality</td>
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<td>Take Charge</td>
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<td>Teamwork</td>
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<td>Technical Skills Proficiency</td>
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<td>Delegate-Direct-Coordinate-Organize</td>
<td>Multitask (able to)</td>
<td>Tenacity</td>
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<td>Open-minded</td>
<td>Thinkers</td>
</tr>
<tr>
<td>Ethical (moral compass)</td>
<td>Patience</td>
<td>Trust</td>
</tr>
</tbody>
</table>

*Figure 3. Important paramedic leadership characteristics.*

Being courageous was identified as important to one of the study participants. “If you don’t know you’ve got to have the courage to say, I don’t know. That way you can… all that matters is the best outcome for the patient.” Having a good moral compass was listed by a paramedic student as an important leadership skill. During the conversation, morals and ethics became intertwined without a differentiation between the two.

I’d say have a good moral compass as a leadership skill but I feel like that sometimes that’s pushed with ethical judgments... I feel like 90% of the time a good moral compass will prove that you’re a good leader and 10% of the time
whenever you’re going off what you morally think just may not be what your protocol says.

The respondent then had difficulty expressing whether ethics were positive or negative. Of the 35 interviews conducted this was the only participant to mention the importance of possessing sound ethical judgment.

Loyalty, or the notion that partners are in this together, was conveyed as an important paramedic leadership quality. As a characteristic, loyalty was described as the foundation upon which trust is built. The respondent framed loyalty from the perspective of an incorrect decision that is harmful for a patient.

You have all the right to be like, “Hey, I wasn’t team leading that call. I didn’t... I haven’t anything to do with it. I was driving the truck. It’s all him. It’s all on him.” Versus, you know what? He’s my partner. I trust the decisions that he makes.

This discussion emphasized the collective responsibility of the entire team owed to the patient and each team member to provide the best care possible. Sense of community was also mentioned by a participant, and the explanation relates well to the concept of loyalty. “EMS is such a community that you need to be able to rely on each other not only to perform your job well, but also to lean on for emotional and physical support.”

Several paramedic students discussed the idea of leading by example. “You have to be willing, if you are in leadership, you have to be willing to do whatever you ask those that are under you to do.” Exemplars that were shared included: “Him going out there and doing it with me, hands-on, it shows a lot more leadership. I trust him a lot more because he’s willing to do something so simple.” Another respondent explained:
“He’s out there doing what a lot of people would consider a newer or a more junior person’s job because he believes in leadership by example.” Setting an example was not isolated to members of the emergency medical services team. Serving as community-wide role models was expressed as a type of leadership. “I think you should be very active in your community in whatever you’re doing. That’s a big leadership skill, I think.” Respondents also spoke of a servant mentality as an important component of leadership. “Servant leadership [is a] type of style where you don’t ask somebody to do something that you wouldn’t do or haven’t done, or something like that.” The participant went on to note that: “You’re not a leader if nobody follows you.” Religious influence entered the discussion when a participant offered Jesus as an example of a servant leader. The paramedic student explained: “He was able to lead others, people to listen to Him, but He was still serving people and helping them.” For this study participant, her Christian faith was important and Jesus served as the basis for a servant mentality as an important component of leadership.

**Fifteen Common Paramedic Leadership Characteristics**

When comparing and analyzing the many ways in which paramedic students described paramedic leadership characteristics, 15 characteristics stand out (see Figure 4).

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*Figure 4.* Fifteen common paramedic leadership characteristics.
Each of these characteristics appeared during the coding process whether the students were discussing their own self-reported leadership characteristics, observed characteristics of paramedics in action, or essential paramedic leadership characteristics. An exploration of the 15 common paramedic leadership characteristics will be explored through the research participants’ voices.

**Adapt-improvise-creative.**

“I think a good paramedic needs to be able to think out-of-the-box,” is how one participant describes working in emergency medical services. Healthcare delivery, including the work of paramedics, requires the ability to adapt to rapidly changing science and unforeseeable situations. Several respondents referred to changing circumstances and the need to improvise, which one participant explained:

This is how you do it. This, this, this, but can you adapt that and change if the person’s pinned underneath a car, or if they’re in a small room in a basement or you come into a house and a person’s sick, and you ask them, “What’s your history?” They say, “everything.”

Another participant concluded that:

Just because you know how to treat a mid-shaft femur fracture doesn’t mean you know how to do it for every particular patient who may have a mid-shaft femur fracture. You’ve got to be able to think around where you’ve been.

**Calm.**

Being calm was offered as an important paramedic leadership characteristic.

Calm was described by one of the respondents as:
Calm demeanor means you don’t get easily riled or upset about things. You are able to handle stress well when everything is going wrong. You are kind of the calming, relaxing factor in the situation. You are the one that has to stay under control.

Throughout the interviews many other paramedic students defined calm as maintaining a cool head, being level-headed, or keeping your cool. Referencing her preceptor, one student said: “She is cool as a cucumber. I can only hope that I can keep my bearing the way that she does.” When asked to explain why being calm is an important leadership characteristic, paramedic students spoke of how a lack of calmness interferes with the ability to lead, make decisions, and get things accomplished.

If you’re stressed out, you’re probably thinking a million things a second and unable to focus on your patient and what needs to be done. Whereas if you’re calm, you have that straightforward mindset of what needs to be done.

Another student described the importance of calmness in context:

If you’re panicking because: “Oh crap, this firefighter just pulled a 4-year-old out of a burning building, he’s not breathing.” If you can’t put that aside and do what needs to get done, if you obsess over it, even if you empathize, you can’t get drawn into the situation and the magnitude of the situation at the time. You have to be able to keep a cool head, do what needs to get done, and go.

Remaining calm was also presented as a potential factor impacting the physical health of the patient:

If the person who’s supposed to be leading is agitated, is nervous, it makes everybody more nervous. It makes the patient nervous. If the patient gets
nervous then their vitals start doing even more weird things, and there might be processes that happen that you really don’t want to happen. The patient really wants to know that they are in good hands, and I think being calm calms everybody down.

**Collaborative-cooperative.**

Several study participants explained that paramedic leadership is a collaborative process. Put another way, cooperating with each other and considering all ideas contributes to good decision-making. A respondent described it as:

> Trying to get your team to work as a cohesive group rather than a dictator and the followers. Everybody’s important. It doesn’t matter if it’s the driver or the paramedic, or if a doctor shows up. They’re all important. They all have their jobs.

Another student offered the perspective that “leadership has to be a collaborative process also because I don’t believe that leadership is positional.” In some circumstances a more nuanced approach was recommended, noting that paramedics work in time-sensitive situations where quick action may be necessary. One student put it this way:

> You need to ask them“‘hey, do you think this is a good idea?’ Let’s do it your way, let’s do it that way. Bouncing ideas I think is a good way for decision-making but in some instances… someone is in cardiac arrest, you don’t have time to bounce ideas off of every single person and go: “hey, do you think this is the right way to get them out of this hole right now?”

Others noted the important role collaboration may play in mitigating errors. It is okay to recognize that you don’t always have to be right and that it is okay to rely on others even
when you are the team leader. One student discussed collaboration in the context of medication errors and how bouncing ideas off each other leads to improved safety. “Instead of causing a problem, you fixed a problem.”

**Communication.**

Effective communication as a leadership characteristic was mentioned frequently by the paramedic students interviewed for this study. Responses articulate how vital communication is for a paramedic leader who is interacting with patients, families, bystanders, physicians, nurses, law enforcement officials, fire department personnel, dispatchers, and their partners. One respondent compared communication to a bicycle. “Kind of like if you’ve got a few gears on a bicycle, communication would be basically the chain that runs which makes the whole bike move.” Communication skills encompassed therapeutic interactions with patients as well as team dynamics. Verbal and non-verbal forms of communication were part of the conversation, and that different communication strategies are necessary for different situations. An example of this is an explanation offered by one of the paramedic students:

> When you communicate it’s always the sender of the message’s fault if it doesn’t get communicated properly. It’s never the receiver. If someone doesn’t understand what I’m saying, I need to rephrase it or pick different words or explain better because it’s not that person’s fault they don’t understand me.

While no single style of communication was articulated, respondents described vividly the impact of communication for emergency services personnel. One participant conveys that communication has life and death implications: “If you don’t have communication
you could even kill somebody or seriously hurt them.” Another respondent referred to effective communication as being: “… responsible for so many successes and so many breakdowns on every call.”

**Critical-thinking.**

During an interview one paramedic student referred to critical-thinking as the “big skill.” Multiple sources of information are gathered by paramedics that must then be analyzed, clarified, and ultimately used to draw conclusions. Critically thinking about the data for a given emergency medical services response guides the multiple decisions that will be made by the paramedic team leader and others involved. An example that a student shared was an emergency medical services response to a patient complaining of difficulty breathing. The student went on to describe the call:

The guy was complaining of difficulty breathing, but he’s screaming at us that he can’t breathe, so he’s not really having problems breathing. The problem was that he had a fight and he needed somebody to listen to him about his problem.

Critical-thinking as a clinician, as described by one student, is vastly different in the field compared to the classroom. “There is one right and one wrong answer on the test. There is never one right or wrong answer out in the field.” Still other students describe the importance of critical-thinking and the processing of information by explaining that emergency medical services responses are not always what they seem.

Whatever the problem that they say, even if it’s dispatch information or what the
patient says, there’s sometimes something else going on deeper than that. I think being able to really sort through what’s important and what isn’t because you can get a lot of information that you don’t really need to know or it’s going to lead you down the wrong path.

**Decisive.**

The very nature of work in emergency medical services is often time-sensitive. Paramedics will generally have information to go on, though it may be incomplete. Yet decisions must be made, even if the decision is to do nothing. Paramedic students participating in this study recognized the importance of being decisive, or what several referred to as “acting on your toes” and having the “ability to not freeze.” One student stated: “I think one thing that’s important is you have to be able to actually make a decision and take action.” Balancing decisiveness with collaboration, one respondent shared:

As a leader you have to be willing to listen to others’ opinions but at the end of the day you have to have good judgment; good wisdom to know, to separate what may be a good idea and what may be a bad idea. You have to be open and willing to listen to all of the ideas, but ultimately when you are the leader it’s your final decision and you have to have the confidence to make it.

**Delegate-direct-coordinate-organize.**

There are multiple tasks to get accomplished when caring for a patient. Effectively and efficiently delegating, directing, coordinating, and organizing what has to be completed, and who is going to do what, was described as an important role in the paramedic leadership process. Stylistic differences are apparent with some referring to
delegation as “telling” others what to do, while some described delegation as “asking”
team members to complete various tasks. One student commented that: “You need to be
able to organize the situation without being in control of everything and everyone.” The
common objective is to get things done as a cohesive team. Orchestrating tasks during
emergency medical services responses was a responsibility that some respondents report
takes place en route to the location, before even making contact with the patient. A
description of delegation reflective of many students’ comments regarding a paramedic in
the field is:

He turned to someone else and said they were in charge of airway, and then
turned to one of the EMTs and said: “I’d like you to be getting a LUCAS™ set
up, do compressions if needed,” so delegating general types of tasks. It was like a
really rough model of the pit crew mentality they talk about but just deciding who
would be in charge of what element and then pulling other people in to help as
needed.

One participant characterized the importance of delegation to leadership, saying: “I think
being a good delegator is good leadership. On scene if you’re delegating and getting
things done and it’s a smooth, fluid process, then you obviously have led that call to the
best of your abilities.”

Honesty.

When asked what leadership skills are essential for paramedics to possess, one
respondent succinctly stated: “I think honesty if somebody is going to be in a leadership
position.” Study participants spoke of honesty in multiple ways, including honesty with
self, honesty with team members, and honesty with patients. Regarding patient care, a
participant explained the importance of being “honest with your patient care, owning up to your mistakes.” Another student noted the positive nature of providing honest feedback to the team, saying: “Everybody did a really good job on the call… thank you for all of your help.” One student explained that as healthcare experts they were most impressed by paramedics who had the ability to demonstrate leadership by being honest with patients about unhealthy habits such as drug and alcohol abuse, fast food diet, or a sedentary lifestyle.

Knowledgeable.

Many study participants conveyed that paramedic leaders are knowledgeable. One participant explained that: “You can’t really lead a team, and you can’t do what you need to do if you don’t know what’s going on.” In essence knowledge is described as a prerequisite to being a good paramedic leader. Several other essential paramedic leadership characteristics stem from knowledge, including gaining respect, developing trust, and being self-confident. “Do I think you need to be a genius? Absolutely not! But you have to know what you are doing. If you don’t know what you’re doing how can you be confident in yourself in doing it?” A respondent connected knowledge and leadership by saying: “I think leadership is also just being well-versed in your profession. If anything, being a good leader is knowing what you are doing.” None of the participants characterized the need for any paramedic leader to be omniscient.

Listen.

A study participant said that “listening is a great leadership skill.” Listening was identified during several of the interviews as an essential paramedic leadership characteristic. Paramedic students described many situations where the skill of listening
is important – taking a patient’s medical history, hearing feedback from members of the team, and simply as a means to establish rapport with all those around you. “You’ve got to be able to listen to everything else around you going on; what the patient says, what you say.” Note in this respondent’s statement they draw attention on the need to listen to yourself as a leader. Several comments referred to the power that listening has as part of the communication process in ensuring optimal patient care as team members offer feedback. Here a student explains the care of a cardiac patient:

She [the patient] needed to be paced, but also nobody was managing her airway. And she [the paramedic] wasn’t taking hints or, she wasn’t taking advice from other people, that hey, maybe we should start pacing, and maybe we should start bagging her because that’s not a perfusing rhythm, and we need to get things moving.

In another situation a paramedic student described the interaction between a paramedic and mother of a dead child, noting how much of an impact listening had on her.

I think the biggest was he was quiet. He listened. He didn’t try to tell her how she should feel. He let her tell him and he just continually reassures her but nothing else. He never said more than a couple of words at a time.

The general sentiment of those who discussed listening as a characteristic of paramedic leadership is that listening is a powerful tool.

**Mentor-teacher.**

Study participants discussed mentorship as an important component to paramedic leadership. Examples provided reveal that not only were they mentored by their paramedic preceptors, they also became mentors to EMT students following in their
footsteps. One paramedic student referred to mentorship of an EMT student as: “It was just kind of like passing the torch type of thing.” He went on to say:

This guy that I was kind of mentoring was then mentoring this new guy at the same time and all three of us kind of collectively… were kind of learning and bouncing ideas off each other and we all had confidence.

A student, referring to a paramedic preceptor, described him, saying: “He’s a very good educator and a very good mentor, very good. I think that’s a must in leadership.”

Respectful.

Being a person that respects others as well as having earned the respect of others was described as a component of leadership. Respect was often described through the manner in which people interact with other people. In one instance a participant referenced respect in the context of embracing diversity, explaining: “working with people of different religions and upbringings with value systems very different to my own and that I can abstractly respect it in almost any situation.” For many of the students interviewed, the path to gaining respect is by showing respect to others. One student depicted respectful leadership with an image of being “a leader from behind,” noting that sometimes others will offer good ideas that must be respected. A study participant illustrated the influence of respect on the leader-follower relationship, explaining:

You have to be able to perform in a respectful way. I’ve seen people who definitely know the science, they definitely know what they’re doing, and they can run things. But, nobody respects them because they’re jerks about it. Guess what? Nobody’s going to follow you.
Self-confident.

“If somebody sees that you’re not confident in yourself, then why should they be confident in you?” This question is how one paramedic student highlights the need for leaders to be self-confident. Admittedly, several paramedic students identified self-confidence as an important leadership characteristic that they were lacking and working to develop. When asked where self-confidence comes from, one student explained: “I find that the best way that I get confidence is through preparation.” Another respondent said: “You better study your material and know your material. Hone your craft. You have to be worthy of that confidence…” Comparing the role of being a paramedic to that of other occupations, a student remarked: “You have to be a very confident person to do this. You’re treating patients. You have to have confidence that you can do your job. You’re not a paper-pusher. These are lives.” Some described confidence as being contagious – that patients, families, and the entire emergency response team will take their cue from the leader’s degree of confidence. “Confidence breeds confidence… if you’ve done your homework and used your experience, you’re able to use those skills and that leadership to have a decent outcome on any particular call.” Without confidence, “I’ll be less likely to follow you,” explained a respondent.

Self-reflective.

Whether you are a paramedic student, a new paramedic, or an experienced paramedic, there was agreement that being self-reflective is an essential skill for paramedic leaders. Over and over again study participants commented that each and every patient interaction afforded them the opportunity to learn and possibly improve their future performance. Respondents spoke in terms of reviewing calls after they were
completed as part of their reflective process. “At the end of every call, I try to ask, okay, what could I have done better? I think every call, there’s always something else you could have done, or could have done a little bit differently…” For one student, his preceptor stood out as a paramedic leader because of the engaging style of critiquing his performance after a call: “He [my preceptor] will talk about it and say, ‘what would you do different or how could we have done something better, or here’s what I didn’t like and we should work on that.’ Students shared the use of self-reflection not only on actual emergency medical services responses, but also as a tool in the classroom to review scenarios.

I think all the time it’s important for you to reflect how a call went, how a scenario went. I think you need to be introspective throughout your career as a paramedic and just through life – that’s the only way you learn how to do things better, and just particularly with leaders, I think one of the best leadership qualities is being introspective and being able to be self-aware.

One student portrayed self-reflection simply by saying: “You may end up learning more from your mistakes than the things that you become proficient at.”

**Trust.**

Trust as a characteristic of paramedic leadership was described as: “big!” The concept of trust was described by study participants as an essential ingredient of a relationship. Paramedic leaders and followers are in a working relationship and emergency medical services responders are most effective clinically when they are able to establish a trusting relationship with their patients. One student explained that you must even have trust in yourself. “You’ve got to trust your team. Definitely trust.
You’ve got to trust yourself. If you don’t trust the people around you you’re going to be second guessing and be cautious.” Gaining trust was identified by one respondent as challenging with patients noting that: “You’re a complete stranger, and you actually have to earn their trust…” Furthermore, trust was portrayed as a leadership characteristic that goes beyond words and is earned through a combination of words and actions, as this student explained: “Being trustworthy, and not just by what you say, but what you do. That whole ‘actions speak louder than words’ is a big thing, especially when you’re on the streets in the EMS profession.” Trust among team members goes beyond the individual decisions a leader makes, as put by a paramedic student:

at the end of the day they have to be able to trust you and not always the decisions you are making but be able to trust, okay, she has our best interest at heart. So while I may not agree with her on this one, I still know and trust her to make the right decision.

Factors Influencing Paramedic Student Leadership Concepts and Development

In addition to exploring how paramedic students describe leadership, this study sought to examine what types of experiences have contributed to their concepts of leadership, and what paramedic student educational strategies did study participants find helpful in developing their leadership skills. During the interview respondents were asked to share: “What experiences have taught you how to be a paramedic leader?” Furthermore, participants were asked to: “Please provide examples of leadership training you may have received during your paramedic education.” A presentation of the findings related to these inquiries follows.
Non-Emergency Medical Services Education-Related Experiences Shaping Leadership Concepts

Many combinations of factors were reported by participants as having been influential in shaping the lens through which leadership is viewed. The experience that participants described may be categorized as activities, non-emergency medical services related education, people, and jobs.

**Activities.**

Participation in athletic activities was shared as a factor helping paramedic students formulate their concepts of leadership. There were a number of team and individual sports mentioned, including baseball, softball, soccer, swimming, wrestling, gymnastics, track, basketball, volleyball, and football. In some cases respondents held leadership roles as team captain. One student explained that being a member of a team resulted in others viewing you as a leader. “Just being on a college team you are kind of looked to as leaders of the campus sometimes.” A common theme during the interviews when athletics was mentioned was the concept of teamwork. One student explained that the coaches are not able to help everyone, so: “a lot of leadership did fall on the seniors, even the juniors… I found myself in a leadership role helping out…” Some respondents also had experience as coaches, with one characterizing leadership this way: “It was trying to get everybody to work together for me. I was in a position where I was in charge and I wanted everyone else doing what I needed [them] to.”

Similarly, music was offered as an activity that contributed to leadership development. One student shared that he wrote music and was part of a band as a guitarist. He noted: “I find myself trying to lead, I guess the band, in the direction of
where the song goes.” In another instance a paramedic student spoke of her experience as percussion captain of her high school band. Involvement in scouting served as an influential factor for some paramedic students. A student who had achieved Eagle Scout shared:

I wouldn’t necessarily say that being an Eagle Scout has given me leadership skills. It’s the road to becoming an Eagle Scout that has certainly done it.

Learning how once you start something, you got to stick with it and think like that.

One of the participants credited scouting with developing many of his leadership characteristics, including confidence and being prepared for anything.

Exposure to diverse people, cultures, and ideas was raised as a factor shaping leadership concepts. Respondents noted how diverse exposures leave people more open to listen, learn, and appreciate other views. Humanitarian relief work in Haiti served as an example of diversity that one student attributed to her ability to work with other people. Though some would consider it much more than an activity, some respondents shared how important and influential religion was to all aspects of their lives, including their ideas of leadership, in particular the concept of servant leadership.

**Education.**

This section on education highlights specific educational experiences other than those directly related to paramedic student education that have influenced concepts regarding leadership. Respondents spoke of college and high school experiences. College was described as an opportunity “to have as many different cultural experiences,” for one of the paramedic students. Study participants mentioned
involvement with academic team projects, membership in a fraternity or sorority, involvement in student associations and clubs, student council, project committees, and even study abroad programs as factors contributing to their concepts of leadership. One student spoke of coursework that incorporated leadership styles and included personality type indicators and leadership metrics.

**People.**

Many people influence the outlook each person develops regarding leadership, including parents, children, siblings, coaches, classmates, friends, and others. The people that participants most often invoked as influential in shaping them as leaders is his or her parents. A student explained that: “If you see your parent that always strives to do better in their lives or jobs, you as a son or daughter try to emulate that.” Another participant stated: “I feel like my parents ultimately instilled the leadership skills in me which may, I mean the experiences that they have given me is endless just because they’ve been supportive throughout my entire life for everything.” Referring specifically to leadership a respondent said: “So to be a leader in general, it helps to have that family background that they’ve always taught you to do things to be a leader.” When asked what experiences taught the respondent to be a paramedic leader, the student said: “Being a mom.” For her the role of being a parent influenced her perspective on leadership. “Being able to… how to make it not sound bad. I will say effectively manage children, but being able to control situations and guide and direct children. That’s the word, guide and direct when things need to be done.” Another student conveyed that her role as the
“big sister” helped mold her as a leader. She related her role as big sister and helping to care for her siblings has allowed her as a paramedic student to “feel fulfilled,” when she is caring for other people.

**Employment.**

Prior work-related examples demonstrate the influence that previous employment has upon an individual’s concepts of leadership. The examples conveyed by participants share a common theme of serving or helping others, most involving some degree of health or safety. A prerequisite for admission to a paramedic program is commonly to be an EMT. Many participants have gained experience working or volunteering as an EMT, and shared its influence. “My work experiences, seeing the action that needs to be taken. For instance on the scene of a car accident, what needs to be done and what fashion.” Another respondent said: “I think the experiences that I’ve been able to have as a basic life support provider, having the experience in the hospital, well-rounded background, I think all will help me become a better leader as a paramedic.” In one instance a paramedic student described the potential detriment to not having EMT experience.

There are some people who went through my EMT class and got in the truck [ambulance] and they froze. They realized they couldn’t do it. I feel like if you don’t have or give yourself that chance for experience then you’re not going to know if you can do it or not. I feel like actively getting in that role is the best thing for you to seek.

Though not working as an EMT, a background in law enforcement provided “the experience of being in an emergency situation,” explained one of the study participants.
Working in any type of healthcare setting with patient interaction, such as a nursing assistant or patient care technician, was described as beneficial. “It really taught me how to talk to patients. I see my own classmates and how they have difficulty communicating with patients. It is a skill being able to start a conversation with somebody.” One study participant shared her experience in social work, saying: “… just working with people across language and culture and abilities, mental conditions, physical conditions.” Another paramedic student revealed: “every day I’m helping people make themselves better…” referring to his work as a personal trainer. A parallel was drawn by some participants who had been lifeguards to the work of being a paramedic.

I used to lifeguard and it’s the same type of thing working with a group of people, really basic but along the same lines of medical so I pull little things, little bits from all my experiences and what’s worked for me in the past.

As a lifeguard one respondent shared a personal rescue situation involving an 8-month-old who had stopped breathing at the pool and the influence it had on her decision to become a paramedic. For her it was “the first time I thought about… going to be a paramedic.”

Not all occupational experiences that were shared by respondents that taught how to be a paramedic leader had much to do with medicine. Teaching and cooking were reported as occupational experiences that helped prepare people to assume the role of paramedic leader. “There’s a certain aspect of being an instructor that’s very much leadership…” Working as a preschool teacher, one participant explained that she “had fixed enough boo-boos” that becoming an EMT would help her in her role as an
Another student described her work as a cook and its influence on her as a leader.

I think another piece that’s been really helpful had been ironically enough working in the kitchen as a head cook, was something that really helped in that. Joke about it but being in the kitchen and putting out those fires, working, trying to make stone soup some days, make a meal for 200 people when the grocery order didn’t come in, those kinds of things really helped me to work with whatever came my way…

The final work-related experience conveyed as a factor influencing concepts of leadership is military service. “Definitely being a leader in the Marine Corps. They start you out from the get-go, even the smallest, even the lowest-ranking individual is a leader of something or somebody, and then step it up and you earn more responsibilities…”

Multiple phrases from study participants portray many characteristics descriptive of leadership, including: as a leader, “you’re only as successful as your team,” “we rely on each other,” the military is where “I derive my confidence,” and “responsibility.” One respondent described his experience as a section leader, being in charge of 14 Marines, one corpsman, and three Humvees.

That leadership task is pretty hefty when it comes to the fact I was just turning 21 and I was now in charge of the lives of 15 men. … It requires you to grow up and really take a hold of what responsibility actually is, get the idea of what it is to be a leader, to lead by example, and not just yell at people…
Paramedic Education Strategies Used to Develop Leadership Skills

Research participants were asked to describe examples of leadership training they may have received during their paramedic education. In a related question, respondents were asked to share their thoughts on whether it is possible to learn leadership skills in the classroom. Paramedic students exploring these questions identified several strategies used during their paramedic education they felt contributed to their leadership development. A presentation of these paramedic student leadership education strategies follows.

Supplemental readings.

There is a great deal of reading for paramedic students with primary paramedic textbooks often exceeding 2,000 pages. The content emphasizes anatomy, physiology, and a system-by-system review of medical conditions and their treatments. Study participants expressed the value they gained from reading other books and articles in shaping how they viewed their roles as paramedics, including leadership. “… Articles based on personal experiences really, really impact your emotional side of your feelings that you have.” An example of an article that personally impacted one of the paramedic students involved a personal story of an emergency medical services member informing a parent his or her child had died.

Classmates.

Many paramedic students shared the interactions they have with their classmates as being influential in developing their own leadership abilities. Fellow students identified as leaders provided an example. As one student put it: “You see that from
them. You try to emulate that.” Some participants noted that their classmates provided a useful comparison regarding their own performance.

I can look around at my classmates and see where they are and do a little bit of constructive criticism myself. These other people are in a certain place and I’m not there yet. Let’s do something to fix that. You have to be willing to fix that too.

An additional aspect of leadership development expressed by students involving classmates is that of supporting each other. As one student discussed supportive classmates the image was that of a cheerleader: “I believe in you. I know you can do this.”

**Classroom – lecture.**

Results as to whether it is possible to learn leadership skills in the classroom included a wide range of responses. For those saying it is possible to learn leadership in a classroom, most were quick to point out that you must still put into practice what you learned. An example of a typical “no” response is “Hmm, leadership training. I think it’s really hard to do that in the classroom.” Others explained that they “think it’s quite possible to learn it [leadership] in a lecture.” One student put forth a balanced approach when he explained: “I think you can learn the step-by-step or the recipe for what makes a leader. But, can you perform [as a leader]?”

In several instances respondents conveyed they learned about leadership not through a PowerPoint presentation or other specific lecture content, but through the observed actions of their instructors. Students spoke of instructors as being “in a leadership position” and “learn by watching how they do things, how they react to
things.” Examples of instructors providing leadership cues to their classes included their interactions with students and other instructors, their ability to communicate and facilitate class discussions, asking questions, being knowledgeable, a respectful presence in the classroom, and a patient, supportive interest in student success.

Use of real emergency medical services response cases in the classroom was viewed to be beneficial by many students. Respondents most often referred to these as stories. Referring to instructor narratives, a paramedic student explained:

We see how this knowledge can be implemented if we haven’t seen it in the field yet. We see ways in which they were successful and if they ran into some hangups in diagnosing or treating the patient, so we’re able to learn from their successes and their errors also, which is very helpful.

Not only were instructor stories of reference helpful, but those shared by students. One student characterized student-led cases as an opportunity for “collaboration between other students.”

Additional lessons that may be incorporated into the classroom lecture environment were noted by some participants. In one of the classrooms students are seated at tables in groups of four. These groups represent squads or teams as would be the case working as a paramedic, and the groups do not pick who is in the group. Each group is responsible for selecting a leader for their squad, called a squad captain. As one student reported you are learning “how to work together.”
Laboratory sessions.

Without hesitation many students noted the value of laboratory sessions in affording them the opportunity to practice team leadership. Study participants agreed there is no replacement for as close to real as possible.

Treat it like it would be a real patient and you still get worked up even though it’s not an actual patient so I think that those scenarios do set you up as a good way to learn leadership skills.

Though not real, another student explained: “The part that’s always real no matter how the patient might be pretending is how you work with your teammates.” A variety of laboratory scenario equipment is used including sophisticated mannequins and standardized patient actors. A distinct advantage expressed as students are beginning to work with scenarios is the fact they will not hurt anyone. “You learn through failure, which is one of the things that the lab is really nice for because I’ll kill a mannequin seven out of seven times and learn from it.”

A touching story was shared regarding the value of laboratory sessions to not only teach medicine, but also to elevate the learning experience for students about the ramifications of mistakes. The paramedic student recounts a pediatric scenario in the lab he was leading. In the process of administering a medication he had administered a lethal dose. Instead of simply critiquing the performance and being advised of a fatal medication error, the student had to write a letter to the family regarding what happened. Reflectively he shared: “It kind of makes you think about it, and you take personal responsibility for what you’ve done.” He continued: “Thank goodness I had the opportunity to make that mistake in lab and not on someone’s [child].”
Mock emergency medical services responses and unannounced patients provide an element of surprise from regularly scheduled lab sessions. A student explained: “In the middle of the class your walkie [radio] would go off and you’d have to run to a certain part of campus and do a fake call. A great way to find your style of leadership.” The student reflected and noted many shortcomings of effective team leadership, including no identified leader, a lack of confidence, and poor communication. Another student pointed out that laboratory sessions provide “practice doing things that you might see once in your preceptorship or during clinical.”

Various methods of feedback followed performance of scenarios in the laboratory setting. Paramedic students convey they learn as much from the review process following a scenario as the scenario itself. The debriefing process provides an opportunity for instructors, fellow students, and even a self-critique of what went well and opportunities for improvement. Some paramedic programs record scenarios so the session may be played back as part of the review process. “Reflectively, you’re looking at what the other person should be doing as a leader and see what they do and going, ‘Wow, that’s really good,’ or ‘Gosh, I wish they would do this.’” Students explained that most of the feedback focuses on medical aspects of the scenario, but some instructors will provide feedback such as: “‘I really like how you talk to people, or like how you led this,’ but most of the time it’s ‘did you give the right treatment.’”

**Field internship.**

Many students expressed a sentiment similar to this student’s remarks regarding development of leadership skills for paramedics: “I think some of the biggest, most heart-wrenching, important lessons of all have to be out in the field with real risks.” Having
the opportunity to observe paramedic leadership in action is influential according to this student, who explained: “Seeing other people in that role and observing what they do, how they work through things, how they compose themselves and how they interact with others I think is where I’ve gotten most of my understanding about leadership.” Referring to field internship, one student explained how this experience represents the culmination of everything one is learning and the experiences one possesses. “Eventually you’ve got to just jump out there and do it on your own. You’ve got to rely on the medics there, the preceptors to catch you if need be, but that comes with trust over time.”

**Summary**

Paramedic students are able to articulate and describe many leadership characteristics in themselves and others. In all over 70 distinct leadership characteristics were identified by study respondents. Of these characteristics 15 were uniformly identified when describing themselves, paramedics in action, and paramedics generally. A multitude of experiences have helped paramedic students formulate their concepts of leadership. While there are similar experiences, no two students have been influenced in exactly the same way. Experiences broadly consist of activities, non-emergency medical services-related education, people, and jobs. Several strategies were identified by paramedic students as being helpful in developing their leadership skills during their paramedic education. Agreement exists in the need for experiential learning opportunities that allow paramedic students to practice leadership skills, most notably laboratory scenario sessions with robust debriefing and field internship. Participants provided mixed feedback as to the value of classroom leadership education.
CHAPTER FIVE: CONCLUSIONS AND RECOMMENDATIONS

Introduction

There is little to no empirical information regarding paramedic leadership. The purpose of this study sought to understand leadership concepts from the perspective of paramedic students, exploring leadership characteristics and influential factors shaping paramedic students’ ideas about leadership. An extensive list of leadership characteristics has been assembled from the narrative data. Furthermore, paramedic students shared the experiences that have contributed to their current development as leaders. Emergency medical services educators have an opportunity to implement robust and enriching educational strategies that will enhance development of future paramedic leaders. This chapter will present the conclusions, implications, and recommendations of this study.

Summary of the Study

When working in the dynamic field of emergency medical services, leadership abilities are paramount to bringing calm to chaos, gathering data and quickly analyzing it, and orchestrating the care of seriously ill or injured patients in a highly unpredictable environment. As members of complex teams little to no education is provided to paramedic students in the area of leadership. Paramedics are expected to lead throughout their careers in emergency medical services. Recently, attention has focused on a need for paramedic educators to assess paramedic student leadership, including evaluation of team leader and team member roles. Little to no research exists regarding paramedic student leadership characteristics and what educational strategies may help to improve paramedic student leadership development.
To improve leadership skills in graduating paramedic students, it was necessary to explore uncharted territory. There is not an understanding of the perceptions of current paramedic students relating to leadership. Perceptions of paramedic students regarding important leadership characteristics and what factors are influential in developing their leadership skills will help to cultivate and develop future paramedic leaders. Three research questions formed the basis of this study:

- How do paramedic students describe their leadership characteristics?
- What experiences have helped paramedic students formulate their concepts of leadership?
- What strategies do paramedic students identify as being helpful in developing their leadership skills during their education?

Purposive sampling was utilized to enroll study participants who then met for a face-to-face interview with the researcher. Because a previously developed interview protocol for such research did not exist, interview questions were developed and pilot tested with a group of five paramedic students to establish trustworthiness. A qualitative approach was selected to allow for a rich exploration of paramedic students’ perceptions regarding the phenomenon of leadership. Leadership within emergency medical services is an interpersonal process and it was important to the researcher to allow the voices of paramedic students to be heard, including their individual views, values, beliefs, feelings, and assumptions (Creswell, 2013, p. 87). Interviews were digitally recorded and transcribed, and each participant verified transcript accuracy via email. Member checking was completed for all 35 interviews. Data analysis was completed utilizing NVivo version 10 with nodes created to correspond to the study’s three research
questions during open coding. The main themes that emerged included: Characteristics, Experiences, Educational Strategies, and Experiential Learning.

**Summary of the Findings**

Paramedic students were asked to share their thoughts regarding their own leadership characteristics, leadership characteristics of paramedics they had observed in action, and more generally for paramedics as a profession. Self-reported leadership characteristics of the paramedic students in this study sample resulted in 44 distinct leadership attributes. Observed leadership characteristics of paramedics in action produced 31 specific characteristics. When speaking broadly about essential leadership characteristics important for paramedics, a total of 51 characteristics were expressed. A comprehensive analysis of all three categories resulted in 15 common characteristics.

In addition to identifying paramedic students’ described leadership characteristics, this study sought to explore what experiences, within the paramedic education environment as well as external to it, served as influential factors in individual leadership development. Non-emergency medical services education-related experiences shaping leadership concepts included myriad activities, educational endeavors other than emergency medical services, people, and employment. Paramedic education strategies contributing to the development of leadership skills were diverse. Laboratory sessions, especially those involving complex scenarios, and field internship were identified as emergency medical services education strategies with the greatest impact.

**Implications for Action/Recommendations for Further Research**

Like any health science profession, emergency medical services personnel want to know the care they provide makes a difference in patient outcomes. Ultimately the goal
of this research is enhancement of the quality of patient care through the development of effective paramedic leaders. Emergency medical services educators and paramedic students have a great deal to accomplish in a compressed period of time, both investing much time and energy to preparing paramedics for their roles as healthcare professionals. While emergency medical services educators utilize various methods to develop student leadership skills, there is an opportunity to implement robust and enriching educational strategies that will enhance development of future paramedic leaders. Several study participants expressed that the interview questions stimulated a reflective process causing them to think about paramedic leadership in new and innovative ways. Listening and analyzing what paramedic students said, and did not say, this study offers the following implications for action and recommendations for further research.

**Leadership Characteristics**

Paramedic students participating in this study exhibited a good grasp of leadership concepts. While the list of leadership characteristics offered is expansive, no single student described all 15 common paramedic leadership characteristics shared during this study. Therefore, there are gaps in the depth and breadth of what it means to be a leader. There is an opportunity for student enrichment through facilitated classroom discussions, encouraging each student to share his or her experiences and ideas regarding leadership. Study results indicate the ability of paramedic students to share vivid narratives of leadership in action. Several study participants suggested the use of leadership panels during class as an opportunity to learn from experienced paramedic leaders.
Medial knowledge is not enough.

Study participants conveyed that paramedic clinical excellence, exhibited through a combination of knowledge and technical skill, are foundational essentials to be paramedic leaders. Moreover, paramedic students recognize there is more required than just clinical excellence when it comes to being a paramedic leader. As one study participant explained: “I’ve seen people who definitely know the science, they definitely know what they’re doing, and they can run things. But nobody respects them because they’re jerks about it. Guess what? Nobody’s going to follow you.” Several authors over the past decade have described a need for health professions education to emphasize the importance of teamwork along with clinical skills. A study specific to emergency medical services examined and encouraged the assessment of non-technical skills, including leadership attitude, task delegation, and teamwork (von Wyl et al., 2009). Stakeholders leading the development of paramedic curricula need to seek innovative strategies to include teambuilding and leadership training.

Assessment of leadership characteristics.

In the 1998 Emergency Medical Technician-Paramedic, National Standard Curriculum, evaluation of paramedic student affective domain performance was prominently addressed. Subsequently, affective domain evaluation was included in the 2002 National Guidelines for Educating Emergency Medical Services Instructors. Most recently, the 2009 National Emergency Medical Services Education Standards include a “clinical behavior/judgment” section that specifically addresses professionalism, decision-making, and scene leadership (pp. 53-54). All emergency medical services personnel levels are expected to demonstrate professional behavior. The paramedic
educational standards describe a paramedics professional clinical behavior as: “a role model for exemplary professional behavior including: but not limited to, integrity, empathy, self-motivation, appearance/personal hygiene, self-confidence, communications, time-management, teamwork/diplomacy, respect, patient advocacy, and careful delivery of service” (National emergency medical services education standards: Paramedic instructional guidelines, January 2009, p. 53). An evaluation tool that includes each of these elements is available in multiple formats (see Appendix H). Each of these characteristics in some manner is expressed by study participants as important for paramedic leaders. When addressing decision making the National Emergency Medical Services Education Standards state: “Performs basic and advanced interventions as part of a treatment plan intended to mitigate the emergency. Provide symptom relief, and improve the overall health of the patient. Evaluates the effectiveness of interventions and modifies treatment plan accordingly” (p. 53). Finally, the scene leadership outcome in the National Emergency Medical Services Education Standards states that paramedics: “Function as the team leader of a routine, single patient advanced life support emergency call” (p. 55).

National emergency medical services stakeholders recognize the importance of effective teamwork for emergency medical services personnel. For more than a decade aspects of leadership are found in many documents. An important project led by the National Registry of EMTs beginning in 2009 began to explore the possibility of changing the national paramedic certification credentialing examination process. Rather than focusing on isolated psychomotor skills performance, now addressed through a student portfolio, the psychomotor examination is expected to include several scenarios
candidates must complete with an emphasis on team leader performance. Foundationally, medical knowledge and skill remain as important components of the examination, but examinations are anticipated to be administered as team-based scenarios with several leadership characteristics included in the evaluation form. When comparing the Team Leader Evaluation form (see Appendix I) for scenario lab, to the 15 common paramedic leadership characteristics identified by study participants, nearly every element is present, confirming the utility of the evaluation form. The characteristics described by paramedic students not contained in the team leader evaluation includes: calm, honesty, mentor-teacher, respectful, and trust.

Together, the National Registry of EMTs paramedic psychomotor competency package (2013), and the National Emergency Medical Services Educational Standards (2009), provide a framework for paramedic leadership education and evaluation. What is lacking is clearly articulated and measureable paramedic student leadership learning outcomes. The National Paramedic Instructional Guidelines (2009) is limited to several paramedic professional attributes. These attributes form the basis of leadership content in two leading paramedic textbooks (Paramedic Practice Today: Above and Beyond and Paramedic Care: Principles & Practice) in the chapters discussing roles and responsibilities of the paramedic. Bledsoe, Porter, and Cherry (2013) introduce leadership as “an important but often forgotten aspect of paramedic training,” urging readers to develop leadership (p. 50). Emergency medical services educators need to utilize these existing resources and consider the development of additional innovative tools to strengthen the teaching, evaluation, and learning outcomes for paramedic
students’ leadership abilities. Designed for use during scenario laboratory sessions or actual patient encounters, consideration should be given to developing leadership assessment tools for use during all phases of paramedic education.

**Paramedic student self-reported leadership characteristics.**

When paramedic students were asked to describe their own leadership characteristics, it is interesting to note which characteristics they do not perceive in themselves, yet identified as important for paramedics they observed in action or when referencing paramedics broadly. Leadership characteristics not described by study participants included: anticipate needs, patient advocate, responsibility, scene presence, and take charge. Perhaps paramedic students, engaged in clinical patient care under the direct supervision of preceptors, leaves them feeling that they are not yet the care providers that are supposed to be in charge or responsible for the patient. Likewise, students may feel it is the role of more experienced healthcare team members to serve as patient advocates. The ability to anticipate needs and possess scene presence may be characteristics that have not yet developed in students and appear with time and experience. Exactly why paramedic students in this study did not offer the leadership characteristics of anticipate needs, patient advocate, responsibility, scene presence, and take charge, is beyond the scope of this research, but is an interesting question for further exploration.

A surprising moment during data collection came on three occasions when participants offered the notion that a leadership characteristic is that of personal sacrifice. For them paramedic leadership goes beyond self-interest: “I’m doing something bigger than myself… it doesn’t matter to my personal life what happened, it matters to them, so
you do it for them, you don’t do it for yourself…” Servant leadership, as described by Foster et al. (2013), is: “taking care of other people’s needs takes highest priority” (p. 92). These authors, based upon the work of Greenleaf, Spears, and Graham, noted that servant leaders are concerned about the good of followers, whereas a transformational leader tends to focus on attaining organizational goals (Foster et al., p. 93).

Being a “non-conformist” was also shared as a characteristic of leadership that was surprising. This emphasizes the importance of challenging poor decisions. All too often there is a reluctance of people who recognize a concern to intervene, saying: “it was not my job,” “I was not in charge,” and, “it is not my problem.” The National Registry of EMTs has a team member evaluation form (see Appendix J) that identifies behaviors necessary to ensure corrective action is taken when potentially harmful or dangerous actions are occurring.

**Observed Leadership Characteristics of Paramedics in Action**

Perhaps what is of most interest regarding paramedic students’ description of paramedic leadership in action is the characteristics that were not mentioned. Missing from the list of important paramedic leadership characteristics for paramedics in action outlined in chapter four are: accepts criticism, interpersonal skills, patience, physically fit, and teamwork. Based upon the scope of this research project, it is not possible to offer any conclusions as to why these characteristics were offered to describe paramedic leadership more broadly, but not paramedic leadership in action. While a lack of patience, teamwork, physical fitness, and acceptance of criticism may be lacking as skills identified in practicing paramedics, there are many other possible explanations.
Identification of strengths and weaknesses is a unique finding shared as a leadership characteristic for paramedics in action. During field internship paramedic students are regularly evaluated by paramedic preceptors. These evaluations assess several performance areas and would include feedback regarding exhibited strengths and weaknesses. Therefore, it is not surprising that students relate this leadership characteristic to paramedics in action. Furthermore, it reinforces the need for high quality and regular feedback to students regarding their performances, especially in the experiential learning components of their education.

**Important paramedic leadership characteristics.**

Exploring the many characteristics of paramedic leadership globally, there are two characteristics that stand out: ethical and empathy. Throughout the course of conducting 35 interviews, one paramedic student made specific mention of the importance of possessing sound ethical judgment. As the participant spoke of having a “good moral compass as a leadership skill,” ethics and morals became intertwined. For this student there did not seem to be a clear distinction between ethics as an external source of professional conduct, or a code that governs paramedic practice, and morals based upon an individual’s notion of right and wrong. It is important to distinguish between ethical and moral professional behavior in healthcare. Based upon data from this study involving 35 students from five different paramedic programs, emergency medical services stakeholders have additional work to do in developing ethically sound paramedic leaders.

While this was the only time ethics surfaced during this study, it was also the only circumstance when describing paramedic leadership characteristics that empathy was not
EXPLORING PARAMEDIC STUDENT LEADERSHIP

mentioned. The role of the paramedic entails caring for others, sometimes during the most difficult times of a person’s life. Seeking to understand what another human being is experiencing, as if in his or her position, may be one of the most important guiding paramedic leadership characteristics. Emergency medical services personnel have a job to do and emotion must be controlled so as not to interfere with patient care. However, it is also important to realize that paramedics are human beings with feelings. One paramedic student described an article regarding death the class read. She explained that “…being a stoic paramedic may not always be the right thing for the patient, be more compassionate and empathetic.” The article had a profound influence on this student as it was her first realization that it is okay to have human emotions as a paramedic when interacting with patients: “I’ve never been on a call where I’ve seen a paramedic start crying… if we would have never read these articles or anything like that, how would we know that’s okay?” Discussions like this example regarding essential paramedic leadership characteristics provide opportunities to go beyond the technical aspects of being a paramedic.

**Fifteen common paramedic leadership characteristics.**

Many authors present various leadership characteristics as important for effective teamwork. Most emergency medical services specific content is presented as editorial prose rather than research-based scholarship. However, it is interesting to note the congruence of information regarding four characteristics as described by paramedic students in this study, and several authors in the emergency medical services trade publications. The four characteristics that are prominent include: effective communication, listening, respect, and trust (Cotter, 2005; Porter, 2004; Powers, 2006;
Looking up to, revering or respecting the members of a team helps to establish leaders and followers as an “us” group, and is important for effective team dynamics (Haslam, Reicher, & Platow, 2011). A study participant, speaking about listening, noted how important it is that listening includes listening to yourself – what and how you say things. Perhaps the multifaceted emphasis from novice to highly experienced emergency medical services leaders regarding effective communication, listening, respect, and trust, will have them referred to as the four pillars of emergency medical services leadership.

Factors Contributing to Leadership Development

People

Paramedic students model the behavior of their instructors, taking their leadership cues from faculty and preceptors (Cason & McKenna, 2013, NAEMSE, Foundations of Education, p. 272). Participants spoke of instructors and described the influence they have because they are “in a leadership position” and participants “learn by watching how they [instructors] do things, how they [instructors] react to things.” Most comments from study participants were positive in reference to their instructors’ leadership influence. However, some comments included examples of poor instructor leadership. One student shared the influence from both perspectives saying: “If you have a good leader, you might take bits and pieces of how he led the class. If you have a bad leader, you know exactly what not to do.” Based upon the shared experiences of this study’s participants, emergency medical services educators and preceptors have a profound influence upon paramedic student leadership development in all that is done and said. Because of the influence instructors have upon students, instructional staff and preceptors should be
selected based upon excellent leadership skills. Furthermore, emergency medical services programs need to invest in ongoing development of leadership skills in emergency medical services instructional staff and paramedic preceptors.

As educators there are small things that may be done to teach leadership principles to paramedic students that are highly influential with minimal cost. An example shared by participants included the use of “squad” seating in the classroom. Each student is assigned to a squad of four students at the beginning of the class. Throughout the class students sit at tables as a squad, and each squad identifies a squad captain. Using such a strategy allows students to experience teamwork firsthand, including principles of leadership.

**Paramedic education strategies used to develop leadership skills**

*Laboratory sessions.*

When asked to share examples of leadership training received during paramedic education, participants described some facet of their laboratory sessions, in particular the use of scenarios. Simulated emergency medical services responses allow students to work in teams with the opportunity to experience team leader and team member roles. Students described in detail the many contributions to their learning that the use of simulated scenarios offer. Perhaps most important was the student who expressed that he was able to take chances and learn from his failure in the laboratory that he would never want to do with a real patient encounter. Furthermore, laboratory sessions provide an excellent forum for group interaction, before, during, and after a scenario.

Several salient observations regarding laboratory sessions and their use in developing paramedic leaders surfaced during this study. Scenario simulations provide
the ability to teach specific medical knowledge and psychomotor skills. However, as emergency medical services educators, there is an opportunity to develop innovative curriculum strategies to better include components of team leadership.

Working in emergency medical services involves an element of surprise, not ever knowing exactly what type of situation may be coming. In many instances laboratory sessions are preplanned, scheduled sessions, often with an area of focus such as trauma cases. Study participants at some of the programs visited shared experiences that included an element of surprise. In the middle of a classroom lecture, participants described simulated patient responses without any forewarning. An important leadership characteristic identified in this study is for paramedics to be decisive. When responding to an emergency a paramedic will confront a number of problems requiring that decisions be made in reaction to the problems presented. Limited time and imperfect information are often factors affecting analysis and interpretation of data. Unannounced simulation responses more closely reflect the work paramedic students are being trained for.

An additional leadership characteristic identified as important is the ability to adapt, improvise, or be creative. It is difficult to replicate the many patient care and scene nuances paramedics will confront throughout their careers. There is an element of unpredictability in emergency medical services work. Scenario simulations need to reflect the challenges paramedic students will confront in the field requiring them to adapt. Study participants often described scenarios involving near-perfect conditions. Including no-win types of scenarios provides an opportunity for students to train in conditions that more closely replicate some of the situations they will confront as paramedics. Such scenarios would involve many leadership characteristics students
identify as important: ability to adapt, remain calm, collaborate with team members to develop creative solutions, effective communication, critical-thinking, being decisive, delegating and organizing tasks, listening to team members, interacting respectfully, exhibiting self-confidence, and engaging in a self-reflective debriefing following the scenario. Honesty and trust as leadership characteristics may also be brought into the case as discussion points. Emergency medical services educators need to determine whether effective team leadership skills need to be a goal of scenario education, and create simulation exercises with this in mind.

Paramedic students, while identifying scenarios as an excellent tool in helping to develop their leadership skills, there is an emphasis on evaluating the performance of the team leader. Many participants conveyed that in order to be a good leader, it is important to first be a good follower. A student explained this concept through the image of dance: “It becomes a coordinated dance at a point. I guess in dance the follower is moving backwards, and it takes almost more skill than the leader.” Furthermore, paramedic students share that instructors evaluating student performance continue to focus feedback on correct diagnosis and implementation of an appropriate treatment plan. One student explained: “Most of the time, it’s did you give the right treatment.” While this is paramount to educating competent paramedics, evaluation of team performance needs to include a critical analysis of team leadership performance, not simply whether a skill was performed and done so correctly. The National Registry of EMTs, Team Leader and Team Member evaluation forms (see Appendices H and I), provide useful tools for
incorporating leadership assessment and feedback, while being inclusive of acceptable medical practice. Students are eager to learn about their performance as leaders and followers.

One final aspect of paramedic laboratory scenarios to address includes the artificial structure that is often created for team simulations. Students share that as team members, they are only allowed to do what they are told at the direction of team leaders. The only exception is interceding to correct a harmful or dangerous action being recommended or performed by a team leader. In the interest of individual performance testing, artificial requirements have been imposed that are counter to actual emergency medical services work team dynamics. According to the National Registry of EMTs instructions on how to utilize the scenario lab instruments, they recommend: “It is imperative that Team Members only offer suggestions when there is a patient or team safety concern” (p. 1). Perhaps testing scenarios need to include parameters for individual student assessment as a team leader. However, this is not how paramedics practice clinically and imposing such artificial constraints on teamwork should not be a barrier in classroom environments.

Field internship.

In addition to the laboratory scenarios, paramedic students uniformly expressed how valuable their field internship experiences are to developing as paramedic leaders. As one study participant expressed it: “There’s really no comparison to being in the field.” During the field internship phase of training, it is vital that careful consideration be given to selection of preceptors with proven effectiveness as student mentors. Furthermore, opportunities to serve as a team leader under the watchful supervision of
experienced paramedics are essential. One student described at length the phased process of field internship observation, individual skills execution, participation as a full team member, and ultimately leading calls independently. When leading calls the student explained: “you’re making more executive decisions versus individual skills that need to be done.” This emphasizes the importance that paramedic educators have a comprehensive field internship program for paramedic students. Experiential learning is so much more than counting individual skills and types of patients seen. Students are incredibly engaged and eager to experience paramedic medical practice during their internships. As emergency medical services educators it is important to take advantage of this opportunity to include the entire paramedic skillset, incorporating team leadership as much as possible.

**Other observations.**

Entry into emergency medical services begins by becoming an EMT. In most cases an EMT course comprises roughly one-tenth of the education a paramedic will receive. While the conversation is growing among stakeholders in emergency medical services regarding effective strategies to teach and evaluate leadership in paramedics, similar dialogue does not seem to be occurring at the EMT level. Developing leadership is a process rather than a single event or experience. Foster et al. (2013) noted that: “opportunities to step up and demonstrate leadership come every day” (p. 5). While professional attributes of EMTs are present in EMT textbooks, there is less time devoted to teaching and assessing leadership in EMT students. The National Registry Team Leaders and Team Member forms were specifically designed for paramedics, but may have use in evaluating EMT team performance as well. An opportunity exists to have an
expectation that EMTs are going to be leaders, and to introduce leadership concepts early in their emergency medical services educational journey, should they choose to pursue paramedic training. Maxwell (as cited in Foster et al., 2013, p. 87) noted: “The single biggest way to impact an organization is to focus on leadership development. There is almost no limit to the potential of an organization that recruits good people, raises them up as leaders and continually develops them.” Several tools have already been developed for paramedics and may be adapted for use in EMT courses.

Serving as a mentor or teacher is a characteristic on the list of the common 15 paramedic leadership characteristics. Nollette (2010) presented a case for how powerful mentorship is as a tool in developing social skills in a “cooperative learning environment” (p. 23). In the article it is suggested that paramedic students serve as mentors to EMT students. Sharing experience and wisdom developed throughout a career helps elevate the performance of others. Emergency medical services faculty members have an opportunity to mentor students, and students with more experience have the ability to mentor junior emergency medical services students, creating natural partnerships whereby leadership is being developed at each level. Mentoring programs should be considered by emergency medical services programs as a process that may positively affect the entire spectrum of leadership within the emergency medical services profession, long after leaving the classroom.

Emergency medical services educators fundamentally assess the learning styles of students to know how best to approach teaching strategies for individuals or groups of students. Students are encouraged to know their own learning style preferences so they may leverage them when learning course material. With the exception of one study
participant, none of the participants shared that they had completed a leadership style inventory. The one participant who had did so as part of an undergraduate business course. A team of experts assembled by Gallup explored decades of data regarding effective leadership. One conclusion reached by Gallup is that individuals must know their own leadership strengths and weaknesses. Different people bring various strengths to their leadership positions. Rath and Conchie (2008) explained that:

Without an awareness of your strengths, it’s almost impossible for you to lead effectively. We all lead in very different ways, based on our talents and limitations. Serious problems occur when we think we need to be exactly like the leaders we admire. (p. 10)

It is important for emergency medical services educators to consider whether the use of a leadership style inventory would improve the overall leadership development of paramedic students. As a tool, such an inventory would be useful in larger group discussions regarding leadership, and would allow for in-depth personal reflection. One of the paramedic students summarized the importance of being self-reflective, saying:

I think you need to be introspective throughout your career as a paramedic and just through[out] life – that’s the only way you learn how to do things better, and just particularly with leaders, I think one of the best leadership qualities is being introspective and being able to be self-aware.

Furthermore, Dugan and Komives (2007) believed that student leadership development is enhanced through increased levels of self-awareness regarding their ability to work with others.
The general sentiment shared by study participants is that leadership cannot be taught in the classroom. There was agreement that while leadership principles are able to be discussed, and that there is the opportunity to lay some groundwork in the classroom, paramedic leadership must be experienced in the field. Participants specifically referred to lecture and PowerPoint when the question was asked whether leadership could be learned in a classroom. Emergency medical services educators need to develop classroom strategies that go beyond the traditional lecture format. Many participants expressed that their participation in this research stimulated them to think about paramedic leadership in new ways. Collectively, 35 paramedic students identified 73 leadership characteristics, each with a rationale. Engaging students in a facilitated dialogue of important leadership characteristics would stimulate conversation about what it means to be a leader. Moreover, students have many experiences that have helped shape their views of leadership. Adding panel discussions of experienced emergency medical services leaders into the classroom environment has the potential to enrich the leadership education experience of paramedic students. Finally, student-led case reviews of field internship patient encounters, with a focus not only on pre-hospital medical practice, but also the leadership aspects involved, changes the emergency medical services classroom into a dynamic, interactive learning environment.

**Recommendations**

Based upon the data collected during this study, the researcher respectfully offers the following recommendations:
First and foremost, emergency medical services stakeholders need to consider the development of additional innovative tools to strengthen the teaching, evaluation, and learning outcomes for paramedic students’ leadership abilities.

Stakeholders leading the development of paramedic curricula need to seek innovative strategies to include team building and leadership training based upon desired learning outcomes.

Paramedic students find scenarios play a pivotal role in their development as paramedics, including paramedic leadership. Use of simulations should be a priority educational strategy.

Establish mentoring programs for paramedic students to mentor EMT students or junior paramedic students.

Invest in ongoing development of leadership skills in emergency medical services instructional staff and paramedic preceptors.

Utilization of a comprehensive leadership evaluation tool for use during all phases of paramedic education.

Paramedic students need to receive high-quality and regular feedback regarding their leadership performance, especially during the experiential learning components of their education.

Professional ethics as a component of leadership warrants additional discussion with paramedic students, including the ability to distinguish ethics from morals, with specific emergency medical services program outcomes.

Emergency medical services instructors need to place an emphasis on good followership (team members) as much as team leadership (team leader).
• Emergency medical services instructors and preceptors must recognize the profound influence they have upon paramedic student leadership development, remaining cognizant of their own leadership behaviors.

• Scenarios need to reflect the challenges paramedic students will confront in the field requiring them to adapt, remain calm, collaborate with team members, communicate effectively, think critically, be decisive, delegate, listen, interact respectfully, and exhibit self-confidence and self-reflection.

• Paramedic students must be allowed to engage in complex scenario work that mimics all aspects of fieldwork – team members and team leader must be allowed to collaborate as they would in a real emergency.

• Recognize the important opportunity to include the entire paramedic skillset, incorporating team leadership evaluation during field internship training.

• Leadership concepts and evaluation should be an expectation for EMT students, beginning to nurture leadership development early.

• As a self-reflective process and to identify individual leadership strengths, emergency medical services educators should consider the value of having paramedic students complete a leadership style inventory.

• Use of engaging reflective exercises such as student-led critiques or case reviews should be included in paramedic courses to allow peers the opportunity to provide professional feedback and for students to receive it.

**Further Research**

While there has been extensive study regarding leadership, there is little to no research specific to leadership in emergency medical services. As a study, this project
represents an exploration of the leadership characteristics important for paramedics to possess, through the voices of paramedic students. Furthermore, this research sought to explore what experiences and educational strategies help to shape the concepts and leadership abilities of aspiring paramedics. Identification of a common set of leadership characteristics, as described by 35 paramedic students, would allow for a more precise research project designed to better understand the 15 characteristics delineated in this study. The 35 paramedic students in this study did not describe themselves as possessing the leadership characteristics of: anticipate needs, patient advocate, responsibility, scene presence, and take charge, but did so when referencing paramedics in action or essential paramedic leadership skills more broadly. Further study may reveal information as to why these characteristics are not identified by paramedic students when describing leadership characteristics within themselves. Building upon the data from this study, a more refined project may be possible, specifically exploring the overall description, importance, or ranking of the 15 common leadership characteristics identified in this study. Additional research focusing on perceptions of emergency medical services educators or experienced paramedics, regarding leadership, provides additional opportunity for study.

**Summary**

Exploring any topic holds the promise to gain a better understanding of a particular phenomenon. This study sought to understand three questions: (a) how do paramedic students describe their leadership characteristics: (b) what experiences have helped paramedic students formulate their concepts of leadership; and (c) what strategies do paramedic students identify as being helpful in developing their leadership skills
during their education. Several recommendations have resulted for the many stakeholders involved in educating paramedic students. Foremost among the recommendations is to develop learning outcomes for paramedic students’ leadership abilities. Additional key recommendations include: development of paramedic curricula that includes robust leadership training, frequent use of scenarios that includes assessment of leadership performance, and establishment of mentoring programs designed to nurture leadership skills early. The work of paramedics is caring for others as members of complex interdisciplinary teams, and at times people’s lives are at stake. It is paramount that all with an interest in emergency medical response seek to develop the most capable paramedic leaders in the interest of optimal patient care.
References


How to use scenario lab instruments in the scenario lab phase. (2014, June 22). Retrieved from National Registry of EMTs:


National Registry of EMTs. (2013). Introduction to the paramedic psychomotor skill competency package. Columbus, OH.


NVivo qualitative data analysis software (Version 10) [Computer software]. Burlington, MA: QSR International.


Appendix A

March 14, 2014

<First, Last Name>
<Address Line 1>
<Address Line 2>
<City, State, Zip>

**Invitation to Participate in Research**
“Exploring Paramedic Student Leadership Characteristics In Emergency Medical Services Education Programs: A Grounded Theory Study”
IRB#: 14-XXXXX

Principal Investigator: Michael G. Miller
Creighton University – Interdisciplinary EdD Program in Leadership

Dear <Program Director>:

Thank you for providing me the opportunity to extend an invitation to your current paramedic students to conduct my doctoral research study titled: “Exploring Paramedic Student Leadership Characteristics in Emergency Medical Services Education Programs: A Grounded Theory Study.” The purpose of this study is to seek to understand how paramedic students construct their understanding of effective leadership. Respondent leadership characteristics and other data will serve to enhance paramedic student leadership development strategies.

I am inviting all currently enrolled paramedic students who are 19 years of age or older to participate in this research study. Eligible paramedic students must be actively engaged in or have completed the field internship phase of their education. Student participation is voluntary and will not involve any form of remuneration. Students who agree to participate will be asked to meet with the researcher in a digitally recorded face-to-face interview lasting approximately 45 minutes, but no longer than 90 minutes. At a date and time following the interview, participants will be requested to read and verify accuracy of a confidential transcript of their interview. There are no known risks to students participating.

If you accept the invitation for your students to be contacted about participating in this research project, please distribute a copy of the individual Student Letter of Invitation. I would like to coordinate specific dates and times agreeable to you for me to come to your program location to conduct the interviews. My intent is to make participation as convenient as possible, and would appreciate the ability to utilize a private and comfortable office or classroom for the interviews. All program information and student responses will be confidential.
Please contact me at your convenience if you have any questions regarding this research project. I very much appreciate your consideration of this invitation to participate. It will be a distinct privilege to meet with and interview your students. I look forward to beginning data collection as soon as possible with subsequent data analysis. Once analysis is complete, I will gladly share with you the results of my study.

Best regards,

Michael G. Miller
Doctoral Student
Creighton University, Graduate School
mikemiller@creighton.edu
402.250.6358 (cell) | 402.280.1189 (office)

Enclosure: Consent Form
Student Letter of Invitation
March 14, 2014

Invitation to Participate in Research
“Exploring Paramedic Student Leadership Characteristics in Emergency Medical Services Education Programs: A Grounded Theory Study”
IRB#: 14-XXXXX

Principal Investigator: Michael G. Miller
Creighton University – Interdisciplinary EdD Program in Leadership

Dear Paramedic Student:

Thank you for providing me the opportunity to extend an invitation to you to participate in my doctoral research study titled: “Exploring Paramedic Student Leadership Characteristics in Emergency Medical Services Education Programs: A Grounded Theory Study.” The purpose of this study is to seek to understand how paramedic students construct their understanding of effective leadership. Your feedback will serve to enhance paramedic student leadership development strategies.

I am inviting all currently enrolled paramedic students who are 19 years of age or older to participate in this research study. Eligible paramedic students must be actively engaged in or have completed the field internship phase of their education. Your participation is voluntary and will not involve any form of compensation. You are not expected to get any benefit from being in this research study other than the satisfaction of contributing to research on paramedic leadership. If you agree to participate you will be asked to meet with the researcher for a digitally recorded face-to-face interview lasting approximately 45 minutes, but no longer than 90 minutes. At a date and time following the interview, you will be requested to read and verify the accuracy of a confidential transcript of your interview. There are no known risks associated with your participation.

If you accept the invitation to participate in this research project, I will coordinate a specific date and time for us to meet at or near your paramedic program’s location. Your instructors will be helping me in making all of the necessary arrangements. All of the information you share will be confidential.

Please contact me at your convenience if you have any questions regarding this research project. I very much appreciate your consideration of this invitation to participate. It will be a distinct privilege to meet with you. Once analysis is complete, I will gladly share with you the results of my study.

Best regards,
Michael G. Miller  
Doctoral Student  
Creighton University, Graduate School  
mikemiller@creighton.edu  
402.250.6358 (cell) | 402.280.1189 (office)

Enclosure: Consent Form
Appendix C

Interview Protocol
“Exploring Paramedic Student Leadership Characteristics In Emergency Medical Services Education Programs: A Grounded Theory Study”

IRB#: 14-XXXX

Demographics:
Date/Time:
Location:
Interviewer: Mr. Michael G. Miller
Interviewee Code Number:
Email Address:
Hometown:
Age:
Ethnicity:
Gender:

Introduction:
My name is Mike Miller, a doctoral student at Creighton University, in Omaha, NE. I am a paramedic and registered nurse and have worked for nearly 30-years in emergency medicine. Currently, I work at Creighton University as a faculty member for the EMS program.

Thank you for agreeing to be interviewed for this research project regarding the leadership characteristics prevalent among paramedic students. The information you share will help me to explore concepts related to the development of effective paramedic leadership. With your permission, I would like to digitally record our conversation so that I am able to accurately analyze your responses. Do I have your permission to continue recording our conversation? You may also see me making notations as we talk. All of your comments will remain confidential (ask interviewee to read consent form). Please let me know if we need to take a break at any time. You are also welcome to ask any questions as the interview proceeds. Do you have any questions for me before we begin?

Questions:
1. Tell me about yourself...

2. Why did you decide to become a paramedic?

3. What skills do you have that will make you a good paramedic?

4. What leadership skills are essential for paramedics to possess?

5. Which of these leadership skills do you think are particularly strong for you?
Questions continued:

6. What experiences have taught you how to be a paramedic leader?

7. Is it possible to learn leadership skills in the classroom? If so, explain...

8. Can you think of a situation where you witnessed paramedic leadership in action? Briefly describe the situation.

9. Please provide examples of leadership training you may have received during your paramedic education.

10. Is there anything that needs to be done during your paramedic education to help you become a paramedic leader? If so, what?

11. Is there anything else about paramedic leadership you would like me to know about that I have not already asked?

Facilitative Questions: (may or may not be necessary)

Please tell me more about that?

Would you be able to provide me with a specific example of that?

Please clarify that for me?

How did that make you feel?

What was the effect of that experience on you?

What was your reaction to that behavior?
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<tr>
<th>Description</th>
<th>Reflective Notes</th>
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</table>

March 13, 2014

Michael G. Miller, MS, BS
Graduate School
Leadership Program (EdD)

RE:
IRB #: 14-17013
TITLE: EXPLORING PARAMEDIC STUDENT LEADERSHIP CHARACTERISTICS IN EMERGENCY MEDICAL SERVICES EDUCATION PROGRAMS: A GROUNDED THEORY STUDY

Dear Mr. Miller,

Thank you for submitting the above mentioned proposal to the Institutional Review Board office for review. This project has been determined to be exempt from Federal Policy for Protection of Human Subjects, as per 45CFR46.101 (b) 2/3. This IRB approval is for a 3 year period. The following documents were received, reviewed, and approved:

2. Study Design dated August 1, 2014
3. Invitation to Participate in Research (Program Director) dated March 14, 2014
4. Invitation to Participate in Research (Paramedic Student) dated March 14, 2014
5. Information Letter
6. The submitted Survey
7. Letter of Agreement dated March 12, 2014 (Johnson County)
8. Letter of Agreement dated March 12, 2014 (HealthONE EMS)

Continued approval is conditional upon your compliance with the following requirements:

1. Compliance with the Creighton University IRB policies and procedures
2. Problems must be reported using the Reporting Form for Reportable New Information. Problems requiring report can be found in the IRB Policy 134 “Reportable New Information”
3. All protocol amendments and changes to approved research must be submitted to the IRB and not be implemented until approved by the IRB. Please use the modification form when submitting changes to protocol or consent documents.
4. This study cannot continue after the expiration date, which is March 12, 2017.
5. You are required to submit a renewal/termination prior to this date. If you wish to continue the project, the renewal must be in the IRB office on week prior to the expiration date.

If you should have questions during the course of this project, please call the IRB office at (402) 280-2126 and one of the administrators will assist you, or you may email the office at irb@creighton.edu.

Sincerely,

Christine Scheuring, B.S.,
Administrator, Institutional Review Board

The Creighton University is fully accredited by the Association for the Accreditation of Human Research Protection Program, Inc. ® (AAHRPP)

Creighton University has an Assurance on file with the Department of Health and Human Services: Assurance Identification No. FWA 00001078, the expiration date: July 6, 2016
IRB Registration Numbers: IRB #1Biomedical IRB # IRB00000155 (Expiration July 13, 2015); IRB #2 Social Behavioral IRB # TIRB20067 (Expiration July 13, 2015)

Creighton University has an Assurance on file with the Food and Drug Administration (FDA) Assurance Identification No. FWA00001078, the expiration date July 6, 2016
IRB Registration Numbers: Registration/identification No. IRB00000155
Appendix E

Research Participant Overview (When Consent Documentation is Waived)
“Exploring Paramedic Student Leadership Characteristics In Emergency Medical Services Education Programs: A Grounded Theory Study”

IRB#: 14-17013
Principal Investigator: Michael G. Miller
Creighton University – Interdisciplinary EdD Program in Leadership

Invitation
You are invited to take part in this research study. The information in this form is meant to help you decide whether or not to take part. If you have any questions, please ask.

Why are you being asked to be in this research study?
You are being asked to be in this study because you are a paramedic student currently enrolled in a CAAHEP accredited paramedic program, with knowledge and experiences as a paramedic student regarding leadership characteristics needed to be a paramedic leader.

What is the reason for doing this research study?
This research is designed to better understand the concepts related to the development of effective paramedic leadership skills in paramedic students.

What will be done during this research study?
You are asked to participate in a digitally recorded interview lasting approximately 45 minutes but no longer than 90 minutes. At a date and time following the interview, you will be requested to read and verify accuracy of a verbatim transcript of your interview. You may be asked follow up questions if needed but no more than three times and for no more than 30 minutes each time.

What are the possible risks of being in this research study?
There are no known risks to you from being in this research study.

What are the possible benefits to you?
You are not expected to get any benefit from being in this research study other than the satisfaction of contributing to research on paramedic leadership.

What are the possible benefits to other people?
A possible benefit from this research may be an enhancement of the EMS community’s knowledge of leadership formation in paramedic students, including the development of strategies to improve leadership skills in paramedics.

What are the alternatives to being in this research study?
Instead of being in this research study you can choose not to participate.

What will being in this research study cost you?
There is no cost to you to be in this research study other than the time necessary to share your experiences during the interview.

Will you be paid for being in this research study?
You will not be paid or compensated in any way (for example, no extra credit will be awarded) for being in this research study. There will be no impact upon your academic performance, positively or negatively.
What should you do if you have a problem during this research study?
Your welfare is the major concern of every member of the research team. If you have a problem as a direct result of being in this study, you should immediately contact me using the information listed at the end of this consent form.

How will information about you be protected?
Reasonable steps will be taken to protect your privacy and the confidentiality of your study data. Data will be kept in locked and password protected files, including hardcopy and electronic data. Published results in the researcher’s dissertation or future publications will not disclose the names of paramedic programs or individual students. Following completion of the doctoral student’s research, all data will be destroyed.

The only persons who will have access to your research records are the sole researcher, the student’s dissertation committee members, the Institutional Review Board (IRB), and any other person or agency required by law. The information from this study may be published in scientific journals or presented at scholarly meetings but your identity will be kept strictly confidential.

What are your rights as a research participant?
You have rights as a research participant. These rights have been explained in this consent form. If you have any questions concerning your rights, talk to the investigator or call the Institutional Review Board (IRB), telephone 402.280.3200 – Main Directory at Creighton University, 2500 California Plaza, Omaha, Nebraska, 68102.

What will happen if you decide not to be in this research study or decide to stop participating once you start?
You can decide not to be in this research study, or you can stop being in this research study (“withdraw”) at any time before, during, or after the research begins. Deciding not to be in this research study or deciding to withdraw will not affect your relationship with the investigator or with any emergency medical services educational program or organization.

You will not lose any benefits to which you are entitled.

If the researcher gets any new information during this research study that may affect whether you would want to continue being in the study, you will be informed promptly.

Verbal affirmation of understanding regarding participation
You are freely making a decision whether to be in this research study. Choosing to participate means that:
1. you are 19 years of age or older,
2. you have read and understood the parameters of your participation,
3. you have had the scope of your participation explained to you,
4. you have had your questions answered, and
5. you have decided to be in the research study.
March 12, 2014

Creighton University
Institutional Review Board
ATTN: Christine Scheuring
2500 California Plaza
Omaha, NE 68102

RE: Creighton University IRB#: 14-17013

Dear Ms. Scheuring,

We are familiar with Michael Miller's research project entitled *Exploring Paramedic Student Leadership Characteristics In Emergency Medical Services Education Programs: A Grounded Theory Study*. I understand the [enter Research Site] EMS program's involvement to be extending an invitation to our paramedic students to meet with Mr. Miller to conduct interviews. Interviews will take place privately at our program location and will be conducted confidentially.

We understand that this research will be carried out following sound ethical principles, that participant involvement in this research study is strictly voluntary, and that confidentiality of participants' research data is ensured, as described in the *Invitation to Participate in Research*.

Therefore, as a representative of the [enter Research Site] EMS program, I agree that Michael Miller's research project may be conducted at our organization.

Sincerely,

Program Representative Name
Representative Title
Appendix G

Research Participant,

Thank you again for agreeing to volunteer your time to answer my research study questions related to paramedic student leadership. Without you sharing your thoughts, ideas, and experiences, my study would simply not be possible.

Attached is a written transcript of our conversation. An important step in the research process is to ask you to read through the transcript and ascertain whether it fairly reflects the conversation we had. Is the written data trustworthy?

Before you begin your review of the transcript, please realize it reflects our natural conversational language, which would rarely be the way we might write something. Please do not give undue attention to spelling and grammar. Most of us would like to have an opportunity to edit what we say when we see it in print or hear it playing back in a recording. Please know this is not the intent of your review of the transcript. At the time you chose the words that came naturally to you and they are worthy, valid, and respected contributions of your voice in helping me to better understand paramedic student leadership.

As you review the transcript I am not asking you to add to, or delete anything. I simply need you to verify that the transcript, a written document prepared from a recording of our conversation, accurately reflects our discussion. Remember your contributions are confidential and will not be attributed to you or your program in any way.

If you have any questions regarding this review process, please contact me at your convenience. I respectfully request that you take the time to read your transcript and respond with an email affirming that it accurately reflects our conversation. A response from you no later than Wednesday, April 9, 2014, would be greatly appreciated, or as soon as possible.

I look forward to hearing from you soon.

Best regards,

-Mike
# Appendix H

## Emergency Medical Services Education

## Paramedic Program

### Professional Behaviors Performance Evaluation

<table>
<thead>
<tr>
<th>Affective Domain Attributes</th>
<th>Competent</th>
<th>Needs Improvement</th>
<th>Unsatisfactory</th>
<th>NA</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Integrity</strong></td>
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<tr>
<td>Examples include but are not limited to: honesty; being trusted with the property of others; can be trusted with confidential information; complete and accurate documentation of patient care and learning activities.</td>
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<tr>
<td><strong>Reflective Practice</strong></td>
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<td>Examples include but are not limited to: accepts evaluation &amp; constructive feedback in a positive manner; shows willingness to learn; asks appropriate questions; interacts with simulated patients &amp; all personnel professionally.</td>
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<td><strong>Empathy</strong></td>
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<td>Examples include but are not limited to: shows compassion for others; responds appropriately to the comments/responses of peers and/or emotional response of patients &amp; family members; respects others; demonstrates a calm, compassionate, &amp; helpful demeanor toward those in need; supportive &amp; reassuring to others.</td>
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<td><strong>Respect</strong></td>
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<td>Examples include but are not limited to: being polite to others; not using derogatory or demeaning terms; behaving in a manner that brings credit to the profession.</td>
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<td><strong>Self-Motivation</strong></td>
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<td>Examples include but are not limited to: takes initiative to complete assignments; takes initiative to improve and/or correct behavior; takes on and follows through on tasks without constant supervision; shows enthusiasm for learning &amp; improvement; constantly strives for excellence in all aspects of patient care &amp; professional activities; takes advantage of learning opportunities.</td>
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<td><strong>Teamwork/Diplomacy</strong></td>
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<td>Examples include but are not limited to: places success of team above self-interest; does not undermine the team; helps &amp; supports other team members; flexible and open to change; collaborates to resolve problems.</td>
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<td><strong>Self-Confidence</strong></td>
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<td>Examples include but are not limited to: demonstrates ability to trust own judgment; awareness of personal strengths &amp; limitations; exercises good personal judgment.</td>
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<tr>
<td><strong>Communication</strong></td>
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<td>Examples include but are not limited to: actively listens; speaks clearly; adjusts communication strategies to various situations.</td>
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<td><strong>Time Management</strong></td>
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<td>Examples include but are not limited to: consistently punctual; keeps appointments; completes tasks &amp; assignments on time; balances the rigor of program with work &amp; other personal commitments.</td>
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<tr>
<td><strong>Appearance</strong></td>
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<td>Examples include but are not limited to: clothing/uniform is appropriate, neat, clean and well maintained; personal hygiene &amp; grooming are appropriate; wears uniform when required.</td>
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<tr>
<td><strong>Patient Advocacy</strong></td>
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<td>Examples include but are not limited to: not allowing personal bias or feelings to interfere with patient care; placing the needs of patients above self-interest; protecting and respecting patient confidentiality and dignity.</td>
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<td><strong>Careful Delivery of Service</strong></td>
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<td>Examples include but are not limited to: mastering and refreshing skills; performing complete equipment checks; demonstrating careful and safe ambulance operations; following policies, procedures, and protocols; following orders</td>
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**Comments:** (please specifically respond to any item you have recorded as “Unsatisfactory” or “Needs Improvement”)

Instructor Signature: ______________________ Student Signature: ______________________
## Appendix I

### SUMMATIVE TEAM LEADER EVALUATION – SCENARIO LAB

**Student Name:** ________________________________________  **Date:** ________________________________________

**Instructor Evaluator:** _________________________  **Student Evaluator:** _________________________

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### SCORING

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<th>Score</th>
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<tr>
<td>N/A</td>
<td>Not applicable for this patient</td>
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<tr>
<td>0</td>
<td>Unsuccessful; required critical or excessive prompting; inconsistent; not yet competent</td>
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<tr>
<td>1</td>
<td>Successful; competent; no prompting necessary</td>
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**Actual Time Started:** ______  **SCORE**

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<tr>
<th><strong>Score</strong></th>
<th><strong>Description</strong></th>
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<tr>
<td>Takes charge</td>
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<tr>
<td>Addresses safety concerns and is safety conscious at all times</td>
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<td>Creates, implements and revises an action plan</td>
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<td>Assesses situation and resources and modifies accordingly</td>
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<td>Receives, processes, verifies and prioritizes information</td>
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<td>Performs tasks accurately and in a timely manner</td>
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<td>Utilizes appreciative inquiry</td>
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<td>Uses closed-loop communication</td>
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<tr>
<td>Reports progress on tasks</td>
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<tr>
<td>Communicates accurately and concisely while listening and encouraging feedback</td>
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<tr>
<td>Reconciles incongruent information</td>
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<tr>
<td>Leaves ego/rank at the door</td>
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<td>Demonstrates confidence, compassion, maturity and command presence</td>
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<tr>
<td>Maintains situational awareness</td>
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<tr>
<td>Maintains accountability for team’s actions/outcomes</td>
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**Actual Time Ended:** ______

### Critical Criteria

- Failure to recognize life-threatening injuries or illness
- Failure to take or verbalize appropriate PPE precautions
- Failure to address safety concerns
- Failure to provide spinal precautions when indicated
- Failure to assess or appropriately manage problems with airway, breathing, oxygenation or ventilation
- Failure to complete management of the patient within the given time limit
- Failure to initiate transport within 10 minutes for trauma patients
- Exhibits unacceptable affect with patient or other personnel
- Uses or orders a dangerous or inappropriate intervention
- Requires excessive prompting or a single critical prompt by team members
- Failure to receive a total score of 10 or greater
- Receives a 0 in any single scoring category

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Appendix J

SUMMATIVE TEAM MEMBER EVALUATION – SCENARIO LAB

Student Name: ______________________________ Date: ______________________________

Instructor Evaluator: _________________________ Student Evaluator: ______________________________

Signature                      Signature

SCORING

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<tr>
<th>Score</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Successful; competent; no prompting necessary</td>
</tr>
<tr>
<td>0</td>
<td>Unsuccessful; required critical or excessive prompting; inconsistent; not yet competent</td>
</tr>
<tr>
<td>N/A</td>
<td>Not applicable for this patient</td>
</tr>
</tbody>
</table>

Actual Time Started: ________

Advocates safety concerns and is safety conscious at all times
Demonstrates followership – is receptive to leadership
Performs tasks accurately and in a timely manner
Reports progress on tasks
Utilizes appreciative inquiry
Uses closed-loop communication
Immediately suggests corrective action if a harmful intervention is ordered/performed by others
Communicates clearly and professionally with Team Leader, crew, bystanders and others, and accepts feedback
Demonstrates confidence, compassion, maturity
Leaves ego/rank at the door
Maintains situational awareness
Maintains professionalism and demonstrates appropriate affect toward patient and other team members

Actual Time Ended: ________

Total /12

Critical Criteria

___ Failure to recognize life-threatening injuries or illness
___ Failure to take or verbalize appropriate PPE precautions
___ Failure to address safety concerns
___ Failure to correct any dangerous or inappropriate intervention
___ Performs any action or uses any equipment in a dangerous or inappropriate manner
___ Failure to suggest corrective action if a harmful intervention is ordered/performed by others
___ Failure to function as a competent EMT
___ Exhibits unacceptable affect with patient or other personnel
___ Failure to receive a total score of 6 or greater
___ Receives a 0 in any single scoring category