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Professional Competency Development Utilizing Emotional Intelligence in Medical Programs

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ABSTRACT

The purpose of this mixed methods study was to examine the perceptions of physician assistant faculty about emotional intelligence. The study sought to determine PA educators' familiarity with EI as a construct and to elicit perceived barriers in implementing EI within PA educational programs. The data were collected from a both a focus group of physician assistant faculty was convened from a university in New England and an online cross-sectional survey of randomized physician assistant faculty throughout the United States. The quantitative portion of the research investigated the perceptions faculty held about emotional intelligence. Additionally, the survey asked participants to identify the professional competencies students struggle with most often. Finally, the survey asked about faculty perceptions of barriers to implementing curriculum that addresses the development of emotional intelligence. Findings from the research determined physician assistant faculty were aware of emotional intelligence as a concept. The focus group and those participating in the online survey perceived professionalism as the most significant struggle for students. Additionally, both groups identified time as the greatest barrier in adopting emotional intelligence as a construct within the curriculum. The findings contribute to the gap of knowledge that exists in physician assistant educational literature on emotional intelligence and its use in graduate medical programs. The research serves as a springboard to examine ways to efficiently implement emotional intelligence training within the graduate medical school curriculum.

Keywords: *Physician Assistant, Emotional Intelligence, Medical Competencies*

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CHAPTER 1

INTRODUCTION

The rapidly changing healthcare environment has increased the emotional and psychological challenges facing students in medical training programs. Current application selection processes ensure students are capable of the academic rigors encountered in medicine, but few studies have examined the emotional stamina students need to meet those challenges and still fewer have explored the development of a non-cognitive measure, such as an emotional intelligence (EI) tool for applicant screening. Studies about emotional fortitude as a measure of aptitude have been largely neglected in the medical literature. The purpose of this study is to document healthcare faculty's perceptions of EI, their beliefs about whether and how it can be taught, and to explore solutions in its use to identify applicants emotionally suited to meet the demands of today's shifting healthcare climate.

The metamorphosis of the healthcare environment in the United States, over the last twenty years, has increased the stressors experienced by medical providers. Medical school accreditors have expressed a three-fold concern about the tensions facing medical graduates in the coming years. Their trepidation is caused by an increased number of insured Americans, an increased need for primary care providers to meet the demands of the aging baby boomer generation, and patient safety concerns in an exponentially busy and complex office, clinic, or hospital setting.

The first iteration of the Affordable Care Act (ACA) established in 2010 gave the option of health coverage to all Americans, leading to an increased demand for qualified health providers. The Kaiser Family Foundation (2017) determined that, before the ACA, 41 million Americans lacked health coverage. After nationalized healthcare became a reality in 2010, it

provided 13 million more United States citizens insurance coverage. The sudden influx of new patients and a decline in primary care providers have strained the medical system in the United States.

The lack of primary care resources can be attributed to fewer students choosing a career in family practice. Only 10 percent of medical school graduates seek jobs as primary care providers (Kernan, Elnicki, & Hauer, 2015; Tobler, 2010). Post-graduation loans and the lucrative nature of sub-specialties are also significant motivators for medical graduates to seek residencies in a sub-specialty. Minder (2016) claimed the average educational indebtedness facing medical graduates was \$200,000 while the mean entry-level salary of primary care providers was \$190,000 (Bureau of Labor Statistics, 2018). Compared to sub-specialists, primary care providers' salaries are four to five times less. The disparity in salaries and the financial burden of educational loans are the main reasons for the paucity of new primary care providers. As a result, patients experience delays when seeking the most beneficial medical services; preventive medical screening exams and routine annual exams. Tobler (2010) estimated nearly half of all primary care providers in the United States are unable to see new patients. Patients fortunate enough to see primary care providers wait on average six weeks to do so (Tobler, 2010). Additionally, with the retirement of the baby-boomer cohort of family physicians, some researchers have conservatively estimated a shortage of primary care providers in the range of 40,000-90,000 by the year 2020 (Kernan et al., 2015; Ruffins, 2011; Tobler, 2010). The challenge facing medical educators is two-fold. The first challenge is to identify intellectually and emotionally sound students who can offer economically viable care of the highest quality (Morales, 2014). Secondly, medical educators must be educationally prepared through formal

educational programs or through an experiential process to meet the complex needs of their students (Accreditation Review Commission on Education for the Physician Assistant, 2018).

The physician assistant (PA) profession has been found to complement physicians' practice to reinforce the base of primary care providers in the United States. The concept of PAs was first introduced by Dr. Eugene Stead at Duke University in 1957. Stead's initial construct involved expanding nursing roles to assist physicians (Physician Assistant Historical Society, n.d.). Later, Stead recognized the experience and medical skill set of medics returning from the Vietnam conflict. Although the contingent had minimal theoretical knowledge, they had developed significant practical skills. Stead envisioned a new sector of healthcare professionals, fashioned on the medical model of training. Stead's impetus for the innovative approach during this period was responding to the growing need for healthcare practitioners due to the 1965 passage of the Medicaid and Medicare laws (Physician Assistant Historical Society, n.d.). Initially, Stead's approach to PA training focused on PAs attaining specific competencies to care for primary care patients, while it was lean on teaching the theoretical concepts. As the profession grew in the post-Vietnam war era, applicants were found to have less field experience than their former colleagues.

Over the last several decades, applicants to PA programs have a measure of college experience and less military-medical experience than those in the early period of the profession (Bourne, Daher, Javaherian, Hewitt, & Wilson, 2012). As a result of the changing skill set of PA applicants, the Accreditation Review Commission on Education for the Physician Assistant (ARC-PA), the National Commission for the Certification of Physician Assistants (NCCPA), and the American Academy for Physician Assistants (AAPA) have worked to define competencies

and curricular components to guide the education, certification, and practice of PAs respectively (National Commission for the Certification of Physician Assistants, 2018).

The PA competencies are derived from the medical school framework. The PA competencies serve to guide students' attainment of medical knowledge and the development of professionalism, support the development of interpersonal and communication skills, and engage the students as life-long learners of medicine (American Academy of Physician Assistants, 2012). Today, PA practice is guided by various state laws and physician supervisory agreements and they continue to be accountable to professional standards defined in the competencies. As a result, PAs are held to the same medical and professional standards as physicians and are engaged in similar tasks as physicians (Wiler & Ginde, 2015).

As vital members of the healthcare team, PAs experience similar challenges beginning in training and continuing into clinical practice. Students enrolled in medical programs encounter stress related to the rigors of medical curricula and remaining abreast of current medical diagnosis and treatment (Othman, Yusof, Din, & Zakaria, 2016). Research has shown that unmanaged stress is detrimental to individuals; students experience stress as they struggle for balance between academics and socialization (Marshall, Allison, Nykamp, & Lanke, 2008; Subhani, Kamel, Mohamad Saad, Nandagopal, Kang, & Malik 2018; Yusoff, Rahim, Pa, Ja'Ar, Esa, & Mey, 2011). Moreover, Subhani et al. (2018) determined that stress responses have a detrimental effect on physical health, by decreasing the immune response, making one prone to infections and measurable metabolic changes. The long-term effects of stress extend beyond initial visceral responses and have been associated with long-term health concerns. Personal expectations, parental expectations, the rigor of academics, and caring for a wide range of individuals perpetuate stressful situations (Geslani & Gaebelein, 2013). Students who thrived in

undergraduate courses can be caught off-guard by the demands of medical education and subsequently develop unanticipated stress and depression (Johnson, 2015; Yiu, 2005). Additionally, students struggle during the first year of study, attempting to digest large boluses of information, prepare for exams and retain information for subsequent summative examinations (Othman et al., 2016). Students in medical programs are often forced to diversify their study techniques, adopting strategies to assimilate information for several courses simultaneously. Furthermore, some students experience intrapersonal and interpersonal problems and develop academic difficulties during their schooling, leading to additional stress and anxiety (Johnson, 2015; Brannick, Grichanik, Nazian, Wahi, & Goldin, 2013). Small amounts of stress have been found to motivate individuals and help them reach their goals, but too much stress becomes deleterious to the student, encumbering performance and leading to attrition from medical programs (Geslani et al., 2013; Johnson, 2015).

Physician assistants experience the same emotional stresses as physicians. Burnout is a common complaint seen in the healthcare professions. Benson, Peterson, Salazar, Morris, Hall, Howlett and Phelps (2016) defined burnout as a state of mental and physical exhaustion and irritability which can lead to pernicious patient care. Benson et al. (2016) found 64 percent of respondents experienced significant burnout symptoms daily. Chou, Li, and Hu (2014) found physician assistants were only second to nurses in the highest burnout rates. Physicians were found to be less symptomatic than their mid-level colleagues when tested in similar areas (Chou et al., 2014). Furthermore, Tisdell and Palmer (2018) concluded medical professionals have a higher rate of stress and burnout when compared to others in society.

The introduction of technology into the patient encounter through the use of electronic medical records (EMR) has become another source of stress for providers and can undermine the

patient-provider relationship. Asan, Smith, and Montague (2014) discovered providers employing EMR technology interacted with their patients less during a regular visit than providers who used paper charts. The EMR allows the family medical provider to bill at a higher level depending on screening question and preventive health questions they ask the patient. Although offices utilizing EMR technology have quicker reimbursement from insurance companies than antiquated forms of documentation, patient satisfaction suffers, raising the concern of increased stresses on new graduates. Unfortunately, interactions with the patient suffer as a result. Concern has been raised by patient advocates about the use of technology during medical visits disenfranchising both members of the doctor-patient relationship (Alkureishi, Lee, Lyons, Press, Imam, Nkansah-Amankra, & Arora, 2016; Jagosh, Boudreau, Steinert, Macdonald, & Ingram, 2011). A delicate balance must be maintained to ensure the patient feels affirmed while the provider completes requisite documentation, important for medical-legal purposes and accurate billing.

The Institute of Medicine published a report criticizing medical educators, calling for reform to address patient safety issues (Lucian Leape Institute, 2010). The committee recommended the development of competencies aimed at protecting the well-being of patients (Lucian Leape Institute, 2010). These competencies include “patient-centered care, the ability to work in interdisciplinary teams, employment of evidence-based practices, and the application of quality improvement concepts” (Lucian Leape Institute, 2010, p. 13). As a result, medical and allied health accreditation agencies have searched for ways to integrate the proposed competencies in the curriculum. Additionally, some researchers have challenged educators to incorporate Emotional Intelligence (EI) into the curriculum and have suggested there may be a

correlation between EI and how well students will assimilate competencies as they progress in their professional careers (Brannick et al., 2013; Cherry, Fletcher, & O'Sullivan, 2014).

Admission decisions were traditionally based solely on academic aptitude and lacked non-cognitive criteria for application selection. Traditional methods of evaluation such as grade point average (GPA) and scores on standardized testing do not incorporate non-cognitive measures of aptitude. EI offers educators an additional metric to ensure the success of their students. EI is a construct developed by Mayer and Salovey in 1995. Mayer and Salovey (1995) defined emotional intelligence as an individual ability to perceive, manage, and understand emotions in others and one's self. Initial research on EI sought to determine the role genetics played in an individual's emotional disposition. Research conducted by Arora, Ashrafian, Davis, Athanasiou, Darzi, & Sevdalis (2010) and Cherry, Fletcher, O'Sullivan, & Dornan (2014) affirmed individuals have a genetic emotional predisposition and are capable of strengthening their emotional responses. Mayer et al. (1995) found the management of emotional content requires individuals to be astute about the emotional needs of others while recognizing the emotional impact on the receiver. Additionally, higher EI requires a proactive and tempered response to the individual expressing the emotion such that another's emotion is acknowledged and validated (Arora et al., 2010). As an example, providers delivering disquieting news to a patient are often met with sadness and disbelief on the part of the patient. Providers skilled at conducting challenging interactions are able to empathize with their patients and offer a compassionate response.

Researchers have sought ways to incorporate EI in medical training. Brannick et al. (2013) advocated for a baseline EI as an admission criterion. Carr (2009) postulated that non-cognitive skills such as professionalism, inter- and intra-personal skills are an asset to those

providing medical care to patients. Johnson (2015) identified a correlation between emotion management and the degree of harmony in relationships with patients and colleagues. Health-care systems are dynamic organisms with distinct parts, working in unison for the well-being of patients, families, and communities (Bierema, 2018). The stress and uncertainty of a medical condition can be a source of stress for the patient and patient's family. Medical providers in tune with the emotions of their patients and their loved ones will be more likely to perceive stress and be poised to understand the source of the stress, responding in a manner that acknowledges the significance of the event. Unfortunately, few medical programs provide training in the necessary skill set to help providers in such tasks as delivering bad news to patients (Reed, Kassis, Nagel, Verveck, Mahan, & Shell, 2015). Patients expect their medical providers to be caring, empathetic, and to have good listening skills (Bharamanaikar & Kadadi, 2016). Jagosh et al. (2011) found physicians had better patient outcomes and improved patient satisfaction surveys when they were in-tune and empathetic to their patients.

Providers often incur stress as a result of ancillary tasks not related to patient care. The need to interact with others in the health care system such as insurance companies and specialists requires an additional emotional skill set. Reed et al. (2015) determined medical providers are more likely to experience discontent when not instructed and encouraged in handling difficult situations (Reed et al., 2015). An EI framework could be utilized to identify candidates best suited for the task and help identify students in need of further development of an EI skill set. Additionally, future selection of medical and allied health candidates needs to include individuals who are academically and emotionally poised to handle the stress and demands of the healthcare system (Chew, Zain, & Hassan 2013).

Accrediting agencies and medical faculty have encouraged the development of strategies focused on helping prepare medical school students to become academically successful and undaunted by the stressors in the era of rapidly changing healthcare. Medical educators are challenged to assess the emotional stamina of medical providers, realizing they will undoubtedly face pressures not faced by previous generations of clinicians. Two suggested approaches are testing EI in medical school applicants while others support enriching the EI of academically competitive students (Johnson, 2015; Côté, & Beers, 2005). Liu & Huang (2017) ascertained time, financial investment, and innovative curricular changes were significant barriers when attempting to incorporate EI into training and employ it through an evidence-based approach. To date, the use of EI in physician assistant school application decisions has been overlooked in the literature. This research explored the reasons for the use and non-use of non-cognitive measures in physician assistant education and medical educators' perceptions of the role of Emotional Intelligence in students demonstrating PA competencies.

Statement of the Problem

The problem of the study is the lack of research into the use of EI in physician assistant (PA) programs. As previously noted, the PA profession was developed to fill a practitioner gap in the United States. Although studies have been done assessing EI in medical school attendees, there is a knowledge gap as to the relevance of EI in PA programs. A plausible explanation is that PA educators are unfamiliar with EI as an educational construct. PAs are trained primarily as clinicians and not educators, and therefore may be unaware of the implications assessing EI poses for education (Swanchak & Walters, 2013). Efforts to help identify and support students during their didactic and clinical training is essential to the educational process. EI is another tool to help educators assess and form students into compassionate and caring professionals.

Purpose of the Study

The rapidly changing healthcare environment has increased the emotional and psychological stressors facing graduate practitioners. The increased stressors are the result of nationalized healthcare, increasingly busy medical practices, and a growing dearth of family practice providers which challenge medical educators to ensure medical graduates are poised for the challenges they will face.

The purpose of the study is to examine the perceptions medical educators have regarding EI as a malleable behavior, enabling students to learn a skill set to implement and manage emotional trials. Additionally, the study examined medical educators' awareness of EI through the lens of the professional medical competencies. Medical competencies serve as the touchstone of successful medical practice. Finally, the researcher examined barriers to the use of EI within curricular components of medical education.

Research Questions

The questions for this study are as follows:

1. Are PA educators aware of EI as a construct?
2. Is there a difference in the perception of EI as a trait or a learned behavior in faculty holding an educational degree versus a clinical degree?
3. Is there a difference in the perception of EI as a trait or a learned behavior in faculty with more educational experience than those faculty with less experience?
4. Do PA educators discern professional competencies with the construct of EI?
5. What are barriers to implementing EI within PA educational programs?
6. Are PA educators with institutional research requirements more likely to perceive EI as a learned behavior versus educators without an institutional requirement for

research?

Conceptual Framework

Transformative learning describes “learning that transforms problematic frames of reference to make them more inclusive, discriminating, open, reflective, and emotionally able to change” (Mezirow, 2003, p. 61). The vocation of medical educator requires transformative learning to occur in the discipline of medicine and education. Medical practitioners choosing to leave full-time clinical responsibilities and become educators often become disoriented with the educational milieu (Greenhill, Richards, Mahoney, Campbell, & Walters, 2018). Perplexity in the new professional discipline becomes a springboard for reflection on the processes of medical education culminating into clinical competence (Coryell, 2013). It is through reflection on these struggles and dialogue with colleagues that the transformative learning process occurs. As an example, medical practitioners may know the specific antibiotic to treat certain infectious diseases, but as medical educators, they need to be prepared to explain the physiological components of the different antibiotics to their students.

The transition in PA graduate medical education requires the principles of transformative learning by faculty. Such learning is a necessary struggle and ensures educators are armed with the latest evidence-based practice, ensures programs remain competitive and helps facilitate student success (Calkins & Harris, 2017). Van Meerkerk (2017) ascertained transformative learning is more than mere memorizations of new concepts; transformative learning represents deep engagement with a discipline. The outcome of the learning process represents a shift in perspective and action, leading to a change in the medical profession’s approach to instruction and presents an opportunity for change within the students (Coryell, 2013).

Assumptions

PA schools within the United States continue to develop and accept a wide range of students with varying backgrounds. Programs require students to have prerequisite biology and chemistry courses as well as some healthcare experience prior to applying to PA school. Additionally, the study assumes the focus group is representative of other PA programs as determined by the ARC-PA. It is assumed that participants in the quantitative portion of the study are graduate medical educators in PA studies with teaching responsibilities. Furthermore, it is presumed the respondents are a random sampling of programs throughout the United States.

Limitations

The focus group for the research was comprised of five members of one physician assistant program in New England. Therefore, the depth and breadth of data may not be applicable to a larger urban center. Secondly, the online survey tool was developed using face validity. Face validity is a form of internal validity. Gaber (2010) describes face validity as a subjective assessment of the degree to which research questions measure what they set out to measure. Face validity is an accepted method for evaluating research questions.

Rationale & Significance

This study sought to determine if barriers exist in including EI as a method to supplement PA education. It will be a springboard for further research in how to incorporate aspects of EI into the PA curriculum where students will benefit in managing the emotions associated with the rigor and volume of information students experience in training (Othman et al., 2016). Investment in medical education represents an investment in the future care of members of our families and communities (Hasegawa, Ninomiya, Fujii, & Sekimoto, 2016).

Farver, Smalling, and Stoller (2016) note EI as an important factor in determining an effective leadership style. The ability to function in a multi-disciplinary team is a key component to caring for ill individuals and helping families manage stress when a loved one is suffering infirmity. Johnson (2015) has been a proponent of the incorporation of EI in medical curricula and recognizes the various demands of medical education. While the curriculum for medical students extends over four years, PA education averages twenty-six months to completion. The condensed nature of PA education challenges faculty to incorporate EI creatively into the curriculum.

PA educators are confronted with a two-fold task within their milieu. PA educators must be poised to continually update their medical acumen to stay conversant with the standard of care within their medical area of expertise. Additionally, it is imperative that medical educators be familiar with the ongoing educational research in their discipline to remain competitive and meet the standards outlined by accreditation organizations (van Meerkerk, 2017). The changing dynamic of medicine engenders medical educators to be transformative learners. Yet, few PA educators have formal degrees in education, generating uncertainty in their role as practitioners of pedagogy (Physician Assistant Education Association, 2015). Sabel and Archer (2014) determined new medical educators felt a lack of preparedness as they transitioned from clinical work to one in education. It is precisely this disorienting move from clinician to an educator that precipitates the need for skills that will support transformative learning for new medical educators.

Definition of Terms

Accrediting agencies-an organization responsible for ensuring that educational activities are consistent within a program and meet an educational standard.

Affordable Care Act--the name given to a national healthcare initiative allowing all Americans access to healthcare coverage for medical conditions.

Competencies--a set of behaviors and principles required for interaction with patients, family, and other medical staff.

Data-driven research--a conceptual frame by which educational decisions are evidence-based (Liu et al., 2017).

Emotional intelligence--an ability to effectively interact with other individuals, groups and manages one's emotions successfully (Gutman & Falk-Kessler, 2016).

Graduate medical educator--an individual "qualified through academic preparation," "experience" or "with an advanced degree" suited to instruct graduate medical students (ARC-PA).

Medical curricula--courses and material taught at a university or school about health and disease prevention.

Medical educator--individuals dedicated to the instruction of students on physical exam, diagnosis, treatment, risk factors, and prognosis of disease processes (Accreditation Review Commission on Education for the Physician Assistant, 2018, p. 11).

Nationalized healthcare--medical coverage for a country in which participants are required to participate monetarily, either through the payment of premiums or taxes.

Personality traits--an inherited predisposition or characteristic which is thought by some psychologists to be an immobile part of the human person (Gutman et al., 2016).

Primary care providers--specialists trained in the overall care and well-being of patients and their families.

Standardized patient--a person who is professionally prepared to act as an individual needing healthcare intervention. SP typically following a rubric to ensure interactions from student to student is consistent.

Sub-specialist--an individual with extended training in a particular aspect of medicine, such as a cardiologist or a neurologist.

Conclusion

The rapid evolution of health care in the United States in the last decade has increased the stressors facing medical graduates entering practice. Nationalized health care, the retirement of baby boomer practitioners, and increasingly busy medical practices antagonizes efficient and safe health care delivery. In response, accrediting agencies have developed professional competencies to help students transition to safe and effective practice. While there is a growing fund of data to suggest EI helps support medical students, there is limited of research within PA graduate education.

The chapter that follows will examine the EI studies completed with medical and allied health programs. It will serve to link EI with the professional competencies. Chapter Three will compare and contrast PA education with that of physicians and will delineate the methods for a new research study. Chapter Four will identify the results of the qualitative and quantitative portions of the research. Finally, Chapter Five will discuss the results of the study and identify areas for further research in the topic of EI.

CHAPTER 2

REVIEW OF THE LITERATURE

This chapter provides the historical context of the medical competencies promulgated by the American Medical Association (AMA) in response to the findings of the National Patient Safety Foundation (NPSF) concerning patient safety. Additionally, the chapter will review the development of specific physician assistant (PA) competencies by the AMA, and investigate how professionalism, self-regulation, empathy, and self-awareness play important roles in patient safety and provider success. The researcher will discuss the historical development of the term *emotional intelligence* (EI). Finally, the researcher will examine the role of emotional intelligence (EI) as a measure for the medical competencies and propose a feasible tool for screening PA applicants. This research explores the openness of PA faculty to new educational constructs through a focus group. The researcher used the current work in the field to design a study that tested the willingness of PA educators from around the United States to delve into EI as a tool for their students.

Historical Context

The NPSF was formed in 1997 to address the growing concern for patient safety in medical practice. The NPSF and the AMA collaborated on the first version of physician competencies to acknowledge the need for improved strategies. Competencies in the medical profession serve to help students and practicing clinicians develop and maintain the necessary skills for medical practice. Upon graduation from a medical program, providers have entry-level skills to provide competent care of individuals. Competencies help forge a framework to develop the relevant bedside skills necessary for compassionate care. Through the continual study of changes in medicine, practitioners increase the depth and breadth of their medical acumen

(Bierema, 2018). Competencies serve to guide professional activities in a transformative way allowing them to become skilled in health restoration. Medical providers are required to be life-long learners dedicated to the continual pursuit of knowledge and understanding through experience, critical thinking, problem-solving, and collaboration (Bierema, 2018).

The medical competencies serve to form students who can become competent and caring providers. Tisdell et al. (2018) postulated that students are shaped by life-events that frame their interactions and reactions to others when competencies are not taught and modeled; therefore, students are less likely to adopt new psychosocial skills. Cohen, Sternlieb, Hansen, and Dostal (2016) affirmed significant improvement in doctor-patient relationships, less medical errors and less burnout among physicians when components of the medical competencies were explicit within the curriculum. Similarly, Holman, Porter, Pawlina, Juskewitch, and Lachman (2016) concluded similar findings; student outcomes were less favorable when the medical competencies were not explicit in the curriculum.

Despite genuine efforts to improve patient safety with the development of medical competencies, the Crico Report (2015) concluded communication failure continued to be responsible for 30% of all malpractice cases from 2009-2013 resulting in 1.7 billion dollars in losses within the health care system, causing educators and researchers to reexamine and further define professional competencies. As such, researchers have postulated a mutuality between professional competencies and EI (Arora, Ashrafian, Davis, Athanasiou, Darzi, & Sevdalis, 2010; Farver et al., 2016; Sarikaya & Yegen, 2017; Stoller, Taylor, & Farver, 2013).

PA Competencies

The PA profession is a unique vocation in which the clinicians are dependent practitioners, working in medical teams under a physician's license. PAs interacting with a

variety of personalities in a daily basis within a dynamic ecosystem. Variation in medical teams requires the ability to manage emotions in one's self, recognize, understand, and appropriately react to the emotions of colleagues and patients appropriately (Cherry et al., 2014; Reed et al., 2015). To ensure the development of these emotional skills, the American Academy of Physician Assistants (AAPA) fashioned competencies for the profession similar to those of the AMA to guide students through graduation and into clinical practice (Webb, Young, & Baumer, 2010). Discussions regarding PA competencies began in earnest in 1996 through 1998, and the final draft was ratified by the National Commission on Certification of Physician Assistants (NCCPA), the Physician Assistant Education Association (PAEA), American Academy of Physician Assistants (AAPA) and the Accreditation Review Commission on Education for the Physician Assistant (ARC-PA) in 2005 (Physician Assistant Historical Society, n.d.). Although the competencies direct the expected decorum of students, educators have struggled to find ways to demonstrate student proficiency with the competencies.

EI Development

Mayer and Salovey (1995) defined EI in their seminal work as, "the capacity to process emotional information accurately and efficiently" (p. 197). Mayer et al. (1995) explored emotional responsiveness in light of social and cultural influences. Later researchers contend EI was a product of one's genome; traits which are immobile characteristics of the personality (Arora et al., 2010; Cherry et al., 2014; Jones-Schenk & Harper, 2013). Additionally, trait theorists subscribed to the concept that predictable emotional responses emanate from external environmental stimuli. Other researchers challenged trait theory, claiming EI is a type of social intelligence; a learned and fluid characteristic of personality which can be molded and changed (Cherry et al., 2014). Purists in social intelligence theory contend emotional responses are

learned and develop in predictable patterns from an early age (Saxe, Carey, & Kanwisher 2004). As such, social intelligence theorists believe people learn emotional responses through modeled emotions. Most researchers, however, subscribe to the mixed theory of EI which holds that individuals have an emotional predisposition or an emotional baseline (Gutman et al., 2016; Iannucci, 2013). That research postulated emotional responses can be modulated, and individuals can become skilled at processing and understanding responses to formidable emotional events (Doherty, Cronin, & Offiah 2013; Webb et al., 2010).

Within the theory of EI, there are four aspects to one's emotional intelligence: the perception of emotion, understanding of emotion, the capacity to categorize emotion and the competence to manage emotion (Mayer, Salovey, Caruso, & Sitarenios, 2001). Each of these processes requires a specific skill set evaluated through a subject's responses to questions and pictures; the participant must select the emotion they believe is correctly represented. The section that follows will examine the similarities between EI and professional competencies.

EI and Medical Competencies

Examining components of the medical competencies, researchers see specific EI themes. Sarikaya et al. (2017) contended medical competencies contain the elements of EI and serve as a path for the attainment of professional aptitude and success. Unfortunately, there is no standard to ensure students are meeting competency requirements. Sarikaya et al. (2017) determined many EI skills are developed in the didactic phase of their training as students work collaboratively in learning, problem-solving, and navigating conflict within groups. Despite informal training in EI, many students struggle with rotational experiences; feedback given by preceptors is often informal and is observationally based (Ramani, Konings, Mann, & Vleuten, 2017). Furthermore, as is the case with PA rotations, students change rotation sites and have new mentors every four

to six weeks, making the modeling of appropriate behavior inconsistent. Medical residents have a minimum of three years working in hospitals and subspecialties; PAs have an average of twelve months of clinical rotations. Additionally, medical residents round with groups of attending physicians who model acceptable decorum during patient care. Although PAs may experience similar mentoring on internal medicine and hospitalist service rotations, they are not provided the same breadth and depth as residency programs. Despite their advanced training, many graduate practitioners lack the skill set to manage the emotional content experienced in medical teams and the emotional dispositions of their patients (Lusilla-Palacios, Castellano-Tejedor, Ramirez-Garceran, Navarro-Sanchis, Rodriguez-Urrutia, Parramon-Puig, Valero-Ventura, & Cuxart-Fina, 2015). Omid, Haghani, & Adibi (2018) determined clinical preceptors have a formational role when training students. Students observe the preceptor's interaction with colleagues, students, and medical teams within the hospital and clinic and are able to model appropriate behavior based on prior behaviors shaped by their mentor. Unfortunately, there is limited data on the medical competencies and preceptor influence as they relate to the PA profession. The PA competencies are similar to physicians and include interpersonal and communication skills, professionalism, patient care and system-based practice (American Academy for Physician Assistants, 2012). The PA competencies work to guide the emotional and professional development of PA students.

Interpersonal and communication skills relate to the ability to interact with patients, families, and others in the healthcare team effectively. Medical providers must have proficient verbal and non-verbal skills to care for patients. Communication must be sufficient that the patient is aware of the extent of his or her disease. Additionally, it is necessary that the provider allows time and space for questions that the patient or family may have regarding diagnostic

tests, treatment, and prognosis. O'Toole (2014) contended active listening is key for practitioners as it, “demonstrates empathy, respect, and trustworthiness” (p. 76). Weng et al. (2008) identified the importance of EI in determining the success of the patient-practitioner relationship yet few graduate medical programs offer training on bedside manner.

Professionalism. Medical accreditation organizations have emphasized the development of professionalism to guide the training of medical practitioners. Professionalism serves as a foundation to guide students through the clinical phase of training culminating in the role of a practicing provider. O'Sullivan, Van Mook, Fewtrell and Wass (2012) define professionalism as a self-regulated desire and ability that places the needs of patients ahead of their own for the attainment of health and wellness. Surprisingly, 10 percent of US medical schools surveyed by Birden, Glass, Wilson, Harrison, Usherwood, and Nass (2013) had no explicit focus on professionalism. Additionally, Gettig, Noronha, Graneto, Obucina, Lillian, Christensen, & Fjortoft, (2016) established that 60 percent of matriculated students posted unprofessional material online. This disquieting statistic is concerning and serves to discredit the reputation of the university and undermine the profession.

Professional competencies serve to inform students about vocationally appropriate decorum needed in the profession. The PA competencies are modeled under those of the AMA and the Accreditation Council for Graduate Medical Education (ACGME), yet there is an ongoing struggle to find a common definition of professionalism. Even within the same university, professionalism is defined differently between a pedagogue and a clinical preceptor as the focus of each specialist requires a unique approach. During the didactic phase of training, students focus on professional behaviors associated with class dynamics; belonging and actively participating in group learning. During the clinical phase of training, students are required to

actively apply their medical acumen to patients, each with a different personality and disease response. Patients' families also bring a level of stress and anxiety that must be successfully managed.

Systematic reviews have found a variety of ways professionalism is promulgated by educators; some are implicit while others are explicit (Birden et al., 2013). Professionalism within the PA competencies focuses on a symbiotic relationship with supervising physicians and the health care team (American Academy for Physician Assistants, 2012, p. 3). The PA competencies underscore the importance of “respect, compassion, integrity, and accountability to patients, society and the profession” (American Academy for Physician Assistants, 2012, p. 3). Despite the lack of consensus on an all-encompassing definition, Bierema (2018) suggests a way of remaining accountable to the competency of professionalism after graduation is to belong to professional organizations and become a leader within the profession.

Patient care and systems-based practice are general over-arching competencies that were developed to establish a decorum of behavior among students, providers, and patients. During the didactic phase of training, students often find the rigor and volume of information overwhelming requiring interdependence on classmates. Students often divide learning objectives among class members to consolidate the academic workload. Students then meet in small groups to exchange relevant information and engage in peer-to-peer instruction. Farver et al. (2016) found individuals with a higher EI were better suited as interdependent team players, attuned to conflict resolution, and demonstrated flexibility in the navigation of day to day interactions. Students unable to work within the group milieu struggle with the academic content, become mired down in minutia as compared to their peers. During clinical training, respect and affirmation of team members ensure the health and well-being of the patient and family. The

same competency also is a reminder to the provider of the judicious use of medical resources. Ensclosed within the broad categories of communication skills, professionalism, patient care, and systems-based practice, educators can discern the EI characteristics of self-regulation, empathy, and self-awareness.

Self-regulation. A crucial component of the professional competencies is self-regulation and includes the simultaneous deepening of integrity, confidence, and emotional resilience. Butler and Brydges (2013) defined self-regulation as the way in which, “individuals adaptively manage engagement in an activity by identifying goals, planning, and acting skills, and strategies, monitoring outcomes, and adjusting goals” (p. 1058).

The initial process of building a foundation for self-regulation occurs through student motivation and requires the attributes of integrity and the development of confidence throughout the didactic phase into the clinical rotations (Cho, Marjadi, Langendyk, & Hu, 2017). Through the integration of medical concepts and emotional resilience, students build confidence and an aptitude for complex biological processes and disease states. Sagasser, Kramer, Fluit, Weel, and Vleuten (2017) ascertained individuals who have successfully developed self-regulated behaviors and test high on self-regulation were more likely to feel confident in their patient interactions. When the medical trainees faced uncertainty about a particular diagnosis, they were more apt to seek the knowledge and insight of their preceptors. Sagasser et al. (2017) also found that the type of collaborative behavior seen in these instances increased the integrity with the medical staff and allowed the students to form a niche within the group.

As the novice practitioner builds their self-regulated ethos, they build their confidence and expertise in disease processes and their approach to patients. Strachan (2015) postulated that the process of self-regulated learning motivates and propels practitioners to be disciplined in

continuous medical assessment and attainment. Additionally, Bierema (2018) claimed the greater practitioners are steeped into self-regulation, the more they will be poised to, “keep pace with constantly changing contests, exponentially increasing knowledge...advancing technology and intensifying political volatility” (p. 27). It behooves practitioners to stay abreast of national changes in medicine as well as the standard of care within their community as life-long learners (O’Sullivan et al., 2012).

The knowledge base of graduate medical education is a firm foundation to which additional facets are added throughout a practitioner’s career. Bierema (2018) established the importance of students in medical programs to be cognitively competent and persistent; they must be prepared to add to their foundation of knowledge. Additionally, the humility to seek the answers to growing edges requires a level of self-awareness and it helps providers to delve deeper into the medical sciences as well as the psyche of the patients they serve (Ahrweiler, Scheffer, Roling, Goldblatt, Hahn, & Neumann, 2014).

Empathy. Empathy is another trait foundational to patient care. Mercer and Reynolds (2002) defined empathy as an awareness of another’s feelings and a capacity to articulate an understanding of the patient’s feelings, assisting in the restoration of health. Initial research in empathy affirmed three distinct phases. The first involved active listening to the speaker. A second phase noted by Mercer et al. (2002) entailed expressing an understanding of the emotions of the speaker. Lastly, the final phase was an acknowledgment by the speaker that they were heard and understood by the listener. Kelm, Wormer, Walter and Feudtner (2014) further identified key components of empathy in their systematic review of the literature and included the ability to, “understand the emotional states of others and expressions of this understanding” (p. 2).

The benefits of high levels of empathy are clear in the literature. Medical professionals encounter high-intensity situations, dysfunctional family dynamics, unrealistic patient expectations, death and dying daily which contribute to high rates of burnout and depression (Kelm et al., 2014). Higher levels of empathy and EI in general help stave off burnout and psychological ailments in providers (Ahrweiler et al., 2014). Neumann, Bensing, Mercer, Ernstmann, Ommen, and Pfaff (2009) established that clinicians who are empathetic of patients during clinical encounters have a better patient-provider relationship than those who do not. Additionally, Hannawa, Shigemoto, and Little (2016) found when medical errors were made in practice, physicians with higher levels of empathy were more likely to be forgiven by patients than those providers with lower levels.

As noted previously, empathy in medical education is an essential component of medical education and serves to deter many untoward outcomes effecting provider performance and patient safety (Ahrweiler et al., 2014). Reflective practices, experiences with patients, whether real or standardized, were noted to foster empathy (Ahrweiler et al., 2014; Kelm et al., 2014). Conversely, negative educational role models and preceptors lacking empathy were found to be detrimental to students' development of empathetic relationships with their patients (Ahrweiler et al., 2014). A reason for the difference may lie in the balance expressed by practitioners with higher levels of empathy. One of the goals of medical education is to establish a baseline of empathy, expose the student to controlled scenarios in which they can reflect, receive feedback on their experience and refashion areas needing remediation. Hannawa et al. (2016) demonstrated the importance of reflection and empathy in patient care, finding a correlation between increased empathy and a reflective process in education. As an example, students glean insights into their behaviors and the emotions of patients when they have a debriefing time after

the encounter. Few medical programs have such interactive sessions. Mercer et al. (2002) found practitioners completing such training were more supportive of their patients and had better provider-patient relationships.

Self-awareness. Another compelling component of medical education is self-awareness. Self-awareness is defined as an ability to process and reflect on one's place in the world. Ramani et al. (2017) postulated self-awareness as an ability to shape attitudes and beliefs through internal and external feedback. Sternlieb (2015) identified that reflective practices such as meditation, journaling, and group debriefings were paramount in the process of shaping self-awareness. The development of self-awareness requires digesting feedback on academic and clinical skills from professors and preceptors and assimilating those skills as appended behaviors in practice. During the didactic phase of training, students are challenged as they attempt to balance their academic duties with personal desires and social obligations. A well-developed sense of self-awareness allows students to have harmony between the two. Additionally, the volume and rigor of medical training often lead students to reassess prior study strategies and adopt new paradigms for studying. For instance, students who have traditionally been visual learners will ramp up exploring other methods of learning based on their assessment of success and ability to set and change goals.

In clinical practice, medical debriefings with clinical faculty help facilitate self-awareness. Medical rounding is an arena to collaborate and determine the best treatment for a patient. Furthermore, morbidity and mortality rounds serve as a learning opportunity for the individual involved and should be free of reproach (Ramani et al., 2017). Medical faculty rely on debriefings to give groups and individuals insight on performance, in a controlled and supportive environment. The characteristic of self-awareness helps to traverse the pressures experienced

with the increase in productivity demands of the medical office and the need to listen to and connect with individuals to successfully treat their illness and to help heal them from their disease.

Role of EI in Education

The benefits of a higher EI in graduate studies and clinical practices is clear and is closely linked to the professional competency of professionalism (Webb et al., 2010). EI and the PA competency of professionalism have a pro-social and a pro-self aspect, requiring the skill set of social awareness and self-awareness. Mercer et al. (2002) defined self-awareness as a capacity to appreciate a patient's "perspective and feelings" and respond effectively (p. 10). The ability to respond in a manner consistent with professional competencies requires self-regulation. Butler et al. (2013) defined self-regulation as the way in which, "individuals adaptively manage engagement in an activity by identifying goals, planning, and acting skills, and strategies, monitoring outcomes, and adjusting goals" (p. 1058). Students new to the rigors of graduate medical education have varying skill set of self-regulation. Students accustomed to memorization as a sole source of learning soon realize the need to diversify their approach to challenging material and develop advanced critical thinking skills. While some students will rise to the curricular challenges facing them, others will struggle with finding a balance between social and educational requirements. Family and friends unfamiliar with the demands of graduate medical education may expect the same physical and emotional availability that an undergraduate curriculum had afforded. The ability of the student to self-regulate requires firstly, assessment and recognition of goals (Bierema, 2018). Secondly, self-regulation requires management of strategies to meet personal goals and professional expectations. Additionally, it requires an awareness of team dynamics. Students with high amounts of self-regulation may actualize those

skills, helping colleagues develop effective strategies for studying or serve in leadership functions within student government, fostering teamwork and collaborative efforts (Farver et al., 2016).

Incorporating EI in curricular components has been postulated to be advantageous for students (Côté et al., 2005). The rigors of postgraduate medical programs challenge students' intellectual capabilities while higher EI has been correlated with better adjustment within medical programs. Accrediting agencies have challenged administrators and faculty with the task of developing these essential skills of EI (Grewal & Davidson, 2008). A premise of EI is regulating internal stress and interactions with fellow students and colleagues. A second challenge is integrating EI into medical curricula. The approach suggested by Johnson (2015) requires the buy-in of administrators and faculty development. Until recently there was little data to support such curricular shift in medical education. Farver et al. (2016) affirmed EI helped in conflict resolution with colleagues and fostered teamwork between supervisors and associates. Ranasinghe, Wathurapatha, Mathangasinghe and Ponnampereuma (2017) asserted Sri Lankan medical students with higher EI were academically stronger than their fellow students. Additionally, higher EI correlated with improved bedside manner in patient care activities and greater patient satisfaction overall (Ranasinghe et al., 2017). Lamothe, McDuff, Pastore, Duval, & Sultan (2018) demonstrated significant retention of EI concepts when included as part of medical curricula. Liu et al. (2017) envisioned a methodology to integrate EI into medical classes. Lui et al (2017) advocated for evidenced-based educational praxis leading to the development of "social and emotional learning standards" through the development of best educational practice (p. 3).

EI as a Strategy. Perhaps one of the most logical uses of EI is a metric for admission decisions (Cherry, Fletcher, O'Sullivan, & Doran, 2014; Chew et al., 2013). Like physicians, PAs must be academically and emotionally competent to care for their patients. Practitioners with increased EI can manage the stresses of these interactions more successfully (Bharamanaikar et al., 2016). Libbrecht, Lievens, Carette, & Côté (2014) suggested using EI as a construct to predict how students will perform as practitioners. Two problems exist with adopting EI as a standard practice for admission decisions. The first problem is that it would be impracticable to administer an EI standardized test within the scope of an interview session. The second problem is that, although EI testing is a valid measure of EI competency, the time commitment needed to administer the exam and to score it make it a hindrance to use. Although self-reported EI offers a more efficient way to gather data on applicants, these exams have been criticized as not having an objective metric (Arora et al., 2010). Attempts have been made to glean meaningful and expeditious EI data from applicants. Allied health professions have developed essay measures of EI (Gutman et al., 2016). Unfortunately, no large studies exist evaluating the validity and reliability of essay-type instruments which would be required before they could be widely implemented (Gutman et al., 2016).

Medical faculty have proposed curricular changes that would evaluate, support, and nurture students in the emotional skill set necessary to manage the pressures they are bound to experience in the classroom and clinical practice. EI training has an array of positive effects including empowering medical students to understand and manage their emotions and those of their patients and families once in clinical practice (Mercado, Mercado, Myers, Hewit, & Haller, 2012). In the clinical setting, EI training encourages quality communication between providers

and patients and helps in the coordinating of medical care between teams in hospitals and the primary care setting.

Attempts have been made to quantify EI theory for use in practice. There are currently two formats which have been studied extensively, a self-reported platform and a professionally administered Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT). Research into self-assessment tools has identified less reliability and more variability than those administered by trained individuals. Self-assessment models have been found to measure an individual's beliefs rather than their behavior (Zeidner, Roberts, & Matthews 2002). As an example, Sarikaya et al. (2017) found no correlation between residents' self-reported EI with the EQ-I test and the EI observed by a team of examiners during interactions with patients and families.

Self-reported measures of EI are sometimes criticized as subject to self-report biases, thereby raising the question of validity (Cherry et al., 2014). Ogle & Bushnell (2014) described the phenomenon by saying participants will often choose the most "socially desirable" answer rather than their typical behavior to make themselves look better (p. 459). Humphrey-Murto, Wood, Puddester, & Moineau (2014) conveyed concern about self-reporting as exceedingly poignant when considering using EI as criteria for high stakes decisions. Several EI tests fall into this category including, Bar-On's Emotional Quotient Inventory (Bar-On EQ-i), Emotional Quotient Inventory (EQ-i), Schutte Emotional Intelligence Scale (SSREI), Situational Test of Emotional Understanding/Management (STEU/STEM) and the Wong & Law Emotional Intelligence Scale (WLEIS).

Conversely, the MSCEIT has been validated through interrater reliability and found to be a consistent predictor of EI (Abe, Evans, Austin, Suzuki, Fujisaki, Niwa, & Aomatsu 2013; Cherry et al., 2014; Cherry et al., 2014; Mayer et al., 2001). MSCEIT has been the most widely

utilized test, validated through interrater reliability (Arora et al., 2010; Humphrey-Murto et al., 2014). The MSCEIT assesses four aspects of EI including, awareness of emotion, the ability to identify the emotion, understand emotion, and the wherewithal to manage emotions in self and others (Mayer et al., 2001). MSCEIT evaluates a subject's responses to questions and pictures; the participant must select the emotion they believe is correctly represented. The tool tests participants in two separate categories, experiential and strategic. The experiential component is further delineated into perceiving emotions and utilizing emotions while the strategic portion is characterized by understanding and managing emotions (Arora et al., 2010).

The MSCEIT is more expensive than self-administered measures of EI. Additionally, evaluation with the MSCEIT requires interpretation by a psychologist trained in its use, limiting its wide implementation. Finally, the MSCEIT is time-consuming for the participants as compared to the self-administered measures.

As noted prior, a promising study conducted by Gutman et al. (2016) led to the development and use of an EI admission essay. The researchers used first- and second-year occupational therapy students as a standard measure of reliability. Although the concept was sound, unfortunately, the study sample size was small, and females predominated the study; the authors felt the results were not generalizable to other medical settings. It was the first attempt to design a self-reported tool that has a high rate of content validity and can be administered within a typical interview session.

The use of EI within curricula will benefit from viewing it through a data-driven research frame (DDRF). Ghazarian and Kwon (2015) defined DDRF as a process of making evidence-based solutions based on educational data. Colleges and universities are under increasing pressure to help students become successful. Accrediting agencies have charged colleges and

universities with the task of identifying creative solutions to increase graduation rates and decrease attrition. DDRF aids in the endeavor by identifying the problem to be solved, defining goals to reach the solution, establishing a tool for data collection and interpreting the results (Lui et al., 2017). The theoretical construct of EI in medical education and practice is logical; students with higher EI have more positive interactions with their peers (Grehan, Flanagan, & Malgady, 2011), they have less anxiety in their studies, and better patient-provider relationships in practice (Reed et al., 2015). The first step in defining solutions will be to test the hypothesis, namely identifying correlations between EI and practice performance. The data gleaned from the initial process will serve as a springboard for further research and potentially influence policy decisions. Clear goals and outcomes are important considerations for institutions to ensure financially sound decisions are made based on evidence-based practice. Within the realm of PA education, implementing another course within the curriculum will lead to an increased financial burden on the student and the institution.

Conclusions

Students enrolled in PA programs are challenged emotionally and intellectually by the rigors of medical programs and the changing landscape of healthcare. Nationalized healthcare has given the option of health coverage to all Americans increasing the demand for qualified health providers. Accrediting bodies have acknowledged the increased pressures facing medical graduates in the coming years and have suggested incorporating non-cognitive tools for managing the burdens they are bound to experience in their clinical practice. Twenty-first-century students are tasked by medical educators to develop their EI skill set. Some researchers advocate testing non-cognitive measures as part of admission criteria while others suggest

curriculum changes to nurture students to develop the emotional skill set necessary to meet the emotional demands of patients.

EI screening in PA applicants can be used along with other traditional measures of intelligence to determine the likelihood of success of the applicant. Additionally, baseline EI training may inform the need for EI within medical curricula to provide the tools necessary to encourage quality communication between providers and patients. EI is also an essential skill set needed to coordinate medical care within teams both in hospitals and the primary care setting. Although a precise definition of EI and a standard form of measurement does not currently exist, the research shows EI is a concept with value for further exploration. Further inquiry may be conducted by researchers who choose to investigate specific subsets of EI in providing criteria for admission decisions or by incorporating EI concepts into medical school curricula.

CHAPTER 3

METHODOLOGY

The medical literature is replete with emotional intelligence (EI) research in medical schools and residency programs. Sarikaya et al. (2017) affirmed a close correlation between the professional competencies and EI. The professional medical competencies underpin the professional, self-regulatory, empathetic, and self-awareness aptitudes needed for clinical success and practice. The efficacious nature of a higher EI in clinical practice results in conflict resolution, higher patient satisfaction, better patient-provider communication, and less practitioner burnout and stress (Farver et al., 2016; Johnson, 2015; Liu et al., 2017; Ranasinghe et al., 2017; Reed et al., 2015; Zeidner et al., 2002).

There is a paucity of research of EI in the physician assistant (PA) profession. Intuitively, the relevance of EI in PA education can be speculated due to the common training model PAs and physicians share. The majority of PA educators are former PA clinicians (Physician Assistant Education Association, 2015). PAs are trained as clinicians and often lack formal educational training as they enter teaching positions (Physician Assistant Education Association, 2015). The PAEA ascertained only eight percent of PAs in education had a formal degree in education (Physician Assistant Education Association, 2018). The National Commission on Certification of Physician Assistant (NCCPA) requires PAs to log 100 hours of continued medical education every two years to maintain clinical certification; there is not a similar educational requirement for PAs entering the educational realm from clinical practice. Furthermore, the Physician Assistant Education Association (2018) reported only 42 percent of programs offered the tenure option to PA faculty and less than two percent of programs with tenure as an option required faculty to engage in educational research. Additionally, PAs

entering into academic medicine rated job security and work-life balance above research and tenure as important considerations in deciding to enter academia (Physician Assistant Education Association, 2018). Moreover, only 17 percent of PAs entering educational practice have experience as faculty, and PA programs often lack formal mentoring programs, a characteristic which further hinders the development of formal educational praxis (Hegmann, 2014). As a result, PA educators lack the support to advance their vocation in academia.

The importance of faculty mentoring must be underscored. Franko (2016) defines mentoring as an environment which supports, “the professional growth of academic faculty to promote excellence in teaching, research, and service” (p. 109). Furthermore, Van Melle, Lockyer, Curran, Lieff, St. Onge, & Goldszmidt (2014) contend faculty receiving mentoring support can successfully engage in educational scholarship, an essential foundation for transformative education. Moreover, mentorship helps new faculty develop characteristics of educational scholarship and lessens the likelihood of faculty attrition (Bucklin, Valley, Welch, Tran & Lowenstein, 2014). Varkey, Jatoi, Williams, Mayer, Ko, Files, Blair, & Hayes (2012) ascertained that woman proportionally lag behind their male counterparts in the areas of promotion and tenure, but through rigorous mentoring, can remain at par with their male colleagues. Unfortunately, PA educators are left to seek out their own training and education for educational endeavors.

The compressed nature of the PA curriculum and the lack of formal educational development for PA educators does not avail students the opportunity to observe modeling of professional standards of care as seen in medical residency programs (Lusilla-Palacios et al., 2015). PA students are trained as generalists and the accrediting body, the Accreditation Review Commission on Education for the Physician Assistant (ARC-PA), requires core rotations in

family medicine, pediatrics, obstetrics, gynecology, internal medicine, surgery, long-term care, and psychiatry (National Commission for the Certification of Physician Assistants, 2018). As a result, PA students are not afforded a significant opportunity for observational learning, which is efficacious in the development of professional competencies (Omid et al., 2018).

Design

The research design of this study relies on a mixed methods approach, given the sparseness of EI research within the PA profession. The selection of a mixed methods approach is supported by Johnson, Onwuegbuzie, & Turner (2007) who proposed several definitions of mixed methods design stating, mixed methods “offers a powerful third paradigm choice that often will provide the most informative, complete, balanced, and useful research results” (p. 129). The mixed methods approach supports the collection and synthesis of quantitative and qualitative data into research allowing for a more robust description of a phenomenon (Leech, & Onwuegbuzie, 2009). Heyvaert, Maes, & Onghena (2013) discerned two levels of mixed methods typology, a primary level, and a synthesis level. The primary level of mixed methods facilitates the assemblage of qualitative and quantitative data from subjects explicitly. The synthesis level of data collection is reserved for systematic reviews of the literature (Heyvaert et al., 2013). The primary mixed methods approach allowed a more thorough understanding of faculty members’ perception of EI and its application in PA education. Lastly, the mixed methods approach relies on a confirmatory process archetype. Pluye, Gagnon, Griffiths, and Johnon-Lafleur (2009) assert that the objective of confirmatory mixed methods is to test a specific hypothesis.

Qualitative Subject Selection and Setting. The author researched several mid-sized PA programs in the United States through the Physician Assistant Education Association faculty

database. New and developing programs were excluded from the search to ensure a full discussion of students over two cohorts.

A private physician assistant program in New England was selected as the site for the focus group. The author contacted the program director of the physician assistant program in New England to determine the program's interest in participating in a focus group discussion on EI. The program director discussed participation in the research with his faculty and five faculty members agreed to assist in the focus group. A mutually agreed upon date was arranged, and the faculty gave permission for the session to be Skyped and recorded. The interview protocol from the focus group may be found in Appendix A.

The university has an enrollment of 4,400 students in programs ranging from undergraduate education through doctoral studies. The physician assistant program offers a Master of Science upon completion. The university is accredited through the New England Commission on Higher Education, and the PA program has been accredited by the ARC-PA since 1996. The faculty participants had 30 years of aggregate teaching experience in PA education. Before participation in the study, participants were required to read and sign the full-disclosure form required by the University of Saint Francis Internal Review Board.

Participants were provided a copy of the Physician Assistant Competencies before the session to aid in the discussion. Permission was elicited from the group to allow recording of the session for transcription at a later time. Following a recorded conference call with the PA university faculty, a preliminary exploratory analysis of the faculty focus group transcript was performed as suggested by Creswell (2013). Text segments were identified, and data was coded into broad themes using AQUAD 7 freeware. Appendix B includes broad themes that were organized from the transcribed questions, and overarching propositions of the focus group were

coded. Themes were arranged from the transcript and supported with quotations from the focus group participants. A descriptive analysis was compiled using the themes and quotations. The themes were validated with the participants through member checking.

Qualitative Design. The researcher aimed to glean a deeper understanding of the knowledge faculty have of EI in PA education using a focus group. Krueger and Casey (2015, p. 2) described focus groups as a methodology which allows for the “systematic analysis of patterns and perceptions” that groups hold germane to a topic of interest. Furthermore, Cyr (2017) postulated focus groups help participants clarify beliefs they hold on topics. Groups have the power to plumb the depths of understanding of an issue that individuals may not have the capacity to do on their own.

The qualitative portion of the study had a three-fold objective. It sought to determine PA educators’ familiarity with EI as a construct. Since PA faculty are not required, by the ARC-PA, to maintain any specific level of evidence-based educational enrichment, those faculty with educational degrees may have a more intimate familiarity of EI as a construct. Secondly, the study sought to elicit perceived barriers in implementing EI within PA educational programs. The barriers may be related to the faculty’s comfort and understanding of EI as it applies to the educational milieu. Finally, the researcher aimed to investigate the understanding between professional competencies and the construct of EI. Although overlaps exist between EI and the professional competencies, faculty without formal educational training may vary on their articulation of the understanding between the two concepts. The focus group questions were developed based on the three objectives noted above and informed the quantitative portion of the study. The focus group discussion focused on the following questions:

1. How do PA educators use emotional intelligence in the professional development of your students?
2. What physician assistant competencies do you see most closely aligning with emotional intelligence?
3. Give an example when a student demonstrated one of the professional competencies.
4. Give an example of when a student demonstrated a low level of emotional intelligence?
5. What barriers prevent you from using emotional intelligence in the professional development of students?

Quantitative-Subject Selection and Setting. A secondary arm of the study was an online cross-sectional survey of randomized PA faculty members throughout the United States. The contact information for twenty-five randomly selected PA programs in the contiguous United States was acquired through the ARC-PA website. The faculty from the identified programs were sent emails obtained from the Physician Assistant Education Association (PAEA) database. A total of 198 faculty members were selected and sent an email requesting participation in the study. A copy of participants' rights and a twenty-seven question Research Electronic Data Capture (REDCap) survey was sent via the REDCap survey tool. Forty-four faculty responded to the survey invitation.

Quantitative Design. Firstly, the study sought to acquire descriptive statistics including demographic data on each faculty member; faculty academic rank, years in PA education, gender, race, professional degree, and current employment status. Secondly, the survey inquired about which PA competency each faculty felt students struggle with the most. The questionnaire asked participants to define EI as a genetic or malleable entity. Finally, the survey asked

participants to discuss how their program uses EI in their curricula. A copy of the survey can be found in Appendix C.

Descriptive and inferential statistical data were compiled after the return of the surveys using Excel software. The study set a p-value of < 0.05 as the benchmark for statistical significance. A confidence interval of ninety-five percent was used for the statistical results. A Chi-square test was utilized to detect a correlation between educational rank and identification of EI as a valid construct. Additionally, a comparison was made between academic degree, understanding of EI as a construct, and the correlation of EI in the professional competencies.

Participants' Rights

The study was approved by the host institution and the University of New England IRB. Participants in the focus group were given a copy and signed informed consent for the study. All survey participants were required to acknowledge the confidential nature of the study and the voluntary nature of their participation before completing the survey.

Limitations

The focus group for the research was comprised of five members of one physician assistant program in New England. Therefore, the depth and breadth of data may not be applicable to a larger urban center. Secondly, the online survey tool was developed using face validity. Face validity is a form of internal validity. Gaber (2010) describes face validity as a subjective assessment of the degree to which research questions measure what they set out to measure. While face validity is an acceptable method for research, it has not gone through the rigors of the scientific method.

CHAPTER 4

FINDINGS

The purpose of this mixed methods research was to determine the familiarity of physician assistant (PA) faculty with the concept of emotional intelligence (EI) as a malleable behavior, their awareness of the alignment of EI with professional competencies, and barriers to its inclusion in curriculum. Purposeful sampling was utilized to identify participants for the focus group. Creswell (2013) contends purposeful sampling relies on selecting individuals or groups that have familiarity with a particular aspect of the research question. The focus group was comprised of a PA school in New England and included five faculty members from the program. The demographics of the group may be found below in Table 1. Focus group participants each signed an informed consent and emailed those consents to the researcher before participating in the study. A copy of that consent letter may be found in Appendix D.

Table 1.

Focus Group Demographics

Participant	Gender	Degree	Years as a PA	Current clinical status
Faculty member 1	M	PA-C	44 years	Active
Faculty member 2	M	MS-PA	8 years	Active
Faculty member 3	F	PA-C	18 years	Active
Faculty member 4	F	MS-PA	12 years	Active
Faculty member 5	F	MS-PA	8 years	Active

The study employed a simple random sampling of PA faculty throughout the United States. An email was sent to 198 PA faculty from across the United States. HK (2016) described

simple random sampling as an arbitrary selection of participants. Responses were received from 44 PA faculty. Demographics of the participants are noted in Table 2.

Table 2.

Demographics of Participants

Gender	Percentage
Male	29.5% (n=13)
Female	70.5% (n=31)
Years in Education	
0-5	29.5% (n=13)
6-10	31.8% (n=14)
10-15	18.2% (n=8)
Greater than 16	20.5% (n=9)
Employment Status	
Full-time	93.1% (n=41)
Part-time	6.8% (n=3)
Employment Status	
Full-time	93.1% (n=41)
Part-time	6.8% (n=3)
Highest Degree Achieved	
Master's	68.2% (n=30)
Doctorate	27.3% (n=12)
Medical Doctor	4.5% (n=2)
Position Title	
Faculty	72.7% (n=32)
Program Director	22.7% (n=10)
Medical Director	4.5% (n=2)

Qualitative Results

The focus group questions were developed utilizing the research by Webb et al. (2010) as a frame. Webb et al. (2010) linked the Accreditation Council for Graduate Medical Education (ACGME) competencies with the EI concepts of self-awareness, self-regulation, motivation, and empathy as a springboard to discuss the development of EI in family practice residents. Since there is limited EI research in PA education, the questions developed by this researcher were rudimentary to ascertain the extent a group of PA faculty could articulate an applied understanding of EI. The focus group questions included the following:

1. How do PA educators use emotional intelligence in the professional development of students?
2. What physician assistant competencies do you see most closely aligning with emotional intelligence?
3. Give an example when a student demonstrated one of the professional competencies.
4. Give an example of when a student demonstrated a low level of emotional intelligence?
5. What barriers prevent you from using emotional intelligence in the professional development of students?

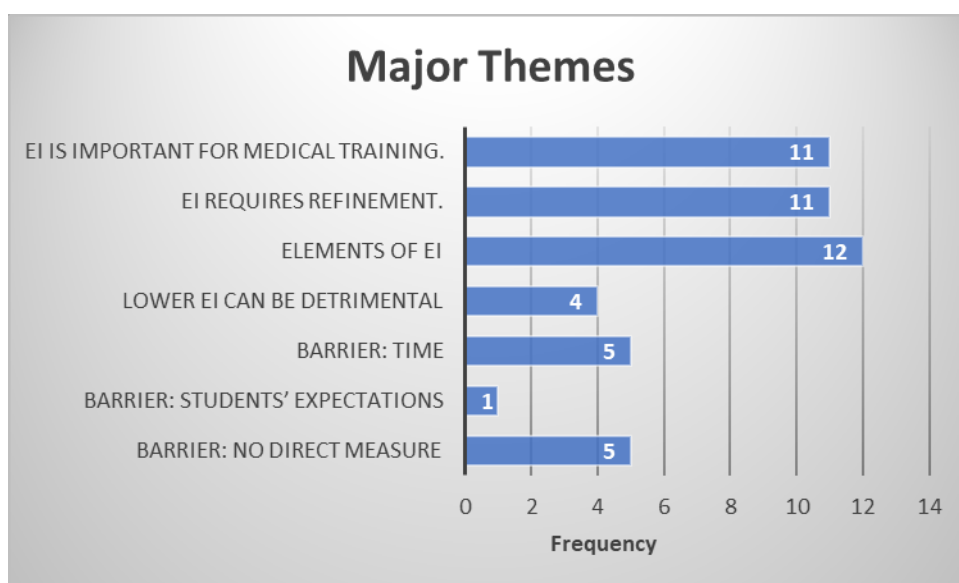
The author followed the six-step process outlined by Creswell (2013) to analyze and interpret the data garnered from the focus group. The initial plan was to Skype with the focus group and record an audio discussion for future reference. Technical difficulties prevented Skyping with the group, leaving the author with solely an audio recording of the session.

The session was recorded with the permission of the focus group. The session was then transcribed to a word document. Text segments were identified, and the data was coded into broad themes using AQUAD 7 freeware. Appendix B includes the broad themes and sub-themes

that were organized from the transcribed questions, and overarching propositions of the focus group were coded. Themes were arranged from the transcript and supported with quotations from the focus group participants. A descriptive analysis was compiled using the themes and quotations. The themes were validated with the participants through member checking. A list of major themes can be found below in Table 3.

Table 3.

Major Themes



Qualitative Question 1. The first question posed to the focus group was, “How do you use emotional intelligence in the professional development of students?” The analysis of the first question yielded two themes, EI is important for successful navigation during medical training and EI requires refinement.

Theme 1. EI is important for successful navigation during medical training. The participants agreed EI represented “soft skills” that are not easily measured. The group felt EI was a crucial element in choosing applicants for their program and believed EI was crucial for successful navigation during medical training and medical practice. An example given by the

faculty involved a group debriefing session where the faculty asked, “How else would you say that or what’s a better way of saying that?” The group said having the students reflect on how statements could be interpreted had proved useful in interactions with students in previous years. Faculty member 1 acknowledged a “host of professional and ethical responsibilities” relating to EI. Students entering PA school have a range of EI; some are more skilled interacting with peers and faculty. Additionally, the faculty acknowledged a need for students to manage their behaviors while remaining present to a patient and their family.

Theme 2. EI requires refinement. Faculty member 3 noted their standardized patients are “trained in [a] kind of professional feedback.” The faculty utilize standardized patients to give students feedback to the quality of their bedside manner during their objective structured clinical examinations (OSCE) assessments. They revealed one of the OSCE activities simulates patient interactions when breaking bad news. The students are expected to demonstrate appropriate medical acumen and “professionalism” throughout the encounter. The faculty admit that they do not have a specific rubric to document professionalism, but the group agreed it is an attribute that they as a group can recognize and about which they can give students constructive feedback.

Summary Qualitative Question 1. The faculty expressed familiarity with the concept of EI and they believed it was an important characteristic possessed by successful students. Admittedly, except for the OSCE activities, faculty recognize they do not specifically teach soft skills within the curriculum.

Qualitative Questions 2 and 3. The second question the group was asked, “What physician assistant competencies do you see most closely aligning with emotional intelligence?” and “Give an example when a student demonstrated one of the PA competencies.”

Theme 1. Traits of EI. The analysis of the second and third questions yielded two themes, traits of EI and the importance of EI refinement. Three sub-themes were identified within the EI traits and include empathy and understanding, professionalism, and communication and collaboration.

Sub-theme 1. Empathy and understanding are important characteristics of EI. Faculty member 2 stated, “there are a whole host of professional and ethical responsibilities which I think would directly, reflect emotional intelligence aspects.” One participant offered, “I see care across the life-span fitting in here.” Faculty member 5 asked, “Are you referring to empathy across the life-span?” Faculty member 2 responded, “Absolutely.” Faculty member 2 also noted it was important to, “understand a patient’s perspective so you can be empathetic.” Faculty member 3 felt it was, “The student’s responsibility to be in tune with a patient’s needs” for understanding to be effective. The faculty member further described the importance of a provider to expressing understanding of a patient’s “perspective” in caring for their needs, particularly when those needs are beyond the scope of medicine. Faculty member 2 recalled an interaction with a student on a rural rotation with a population of Amish farmers. One of the children sustained a significant fracture of her arm, requiring transportation to the hospital. The opinion of the preceptor and the faculty was that the student demonstrated an understanding of the medical and emotional needs of the child by adequately addressing the medical needs of the child. The faculty also described the emotional intervention and empathy demonstrated by the student in being present to the family; describing the need for hospitalization and remaining with the child and comforting her while waiting for emergency services to arrive. Additionally, faculty member 2 lauded the student for her ability to transcend the language barrier of the family. The faculty

member stated, “that little girl probably got better emotional care from the student than she had gotten for many other caregivers that day.”

Sub-theme 2. Professionalism is another important characteristic of EI. After a short discussion, the group concurred that professionalism was a direct attribute of EI. Faculty member 3 noted, “We’ve built professionalism into each of our courses.” Another participant quickly jumped into the conversation noting that, “the opportunity that we have with the students to teach it [professionalism] is to model it as faculty.”

Sub-theme 3. Collaboration and communication are essential characteristics of EI. The faculty felt collaboration with other health care members, patients, and students was crucial to the successful navigation of medical training and in a career as a PA. The group provided two examples. The first was a student at an interprofessional educational (IPE) event. IPE events are required by the Accreditation Review Commission on Education (ARC-PA) and serve to allow students to interact with other students from a variety of disciplines, nursing, pharmacy, physical therapy, occupational therapy, and medical students. The experience helps students to develop a clearer understanding of the skill set each profession brings to the total health care of the patient. The groups of students are randomly mixed and given a patient problem that they work together to solve. Faculty member 3 described each profession has their, “own agenda, and [they] figured out a way to work together and get the information that they needed with respect for each other.” The faculty further described the way some students demonstrated reflective listening during the exercise. The faculty member recalled that the student was non-traditional and had a “real world” experience that provided the necessary tools to navigate the conversation successfully.

Theme 2. EI requires refinement. Faculty member 4 provided an example of a student who she believed was learning navigate interprofessional interactions and was willing to model

the new behavior to classmates. She described a second-year student who had just finished her interdisciplinary poster presentation. The student offered to speak with the underclassmen about her experience, “Oh I’d love to talk to the first-year students about what I just did, you know what I presented,” recalled the student’s advisor. The faculty member realized the student had recognized the importance of collaborating with members in the health care team to aid in building relationships that had the potential to extend beyond the poster event. The faculty believed the student demonstrated the attribute of collaboration and communication in that experience as well.

Summary Qualitative Questions 2 and 3. Two themes and three sub-themes were identified during analysis. The faculty articulated elements of EI including their understanding of empathy, understanding, professionalism, collaboration and communication as important aspects within the PA competencies. Furthermore, the focus group participants identified aspects of EI within the PA competencies.

Qualitative question 4. Group participants were asked, “Give an example when a student demonstrated a low-level of EI.” Two themes were identified for question four.

Theme 1. Low EI can be detrimental during medical training. When the question was asked the group broke out in laughter with and faculty member 3 stated, “Oh we have a couple recent examples for you.” The group described students who demonstrated a sense of entitlement during the didactic and clinical years. The faculty provided two examples they felt demonstrated a low level of EI. The first was during a video recorded OSCE. A student disputed her grade. Faculty member 3 recalled the student saying, “So-and-so said I didn’t do this [and] I didn’t do this, while on the video at 12 minutes and 30 seconds I did do that.” “And in the video at eighteen minutes, I did do that.” The student continued, “And I don’t understand why I didn’t get

the points on the exam.” The faculty admitted that the incident was a source of frustration for her. A second example given by the faculty involved the body language of students. Faculty member 5 noted that students would often default to “rolling their eyes,” when irritated and angry rather than expressing themselves collaboratively and professionally. The faculty member emphasized that behavior tends to harm the morale of the entire student body.

Theme 2. The ability to manage emotions is an essential characteristic of EI. Faculty member 5 noted students with more world experience seemed “to endure the subverted body language longer than those individuals with less experience.” The group agreed that within a class, EI competency occurs on a continuum. The faculty believed most students are, “able to keep themselves in check,” but there are those who exceed in the EI realm and those that do not. Faculty member 2 noted students who struggle with EI tend to have greater difficulty on rotations and their interactions in patient care situations. The faculty stated the best solution to counteracting behaviors of the students with a lower level of EI is to model appropriate behavior for them in the classroom and during their clinical experiences. Figure 1 shows the faculty’s perceptions of students’ difficulty in attaining competencies.

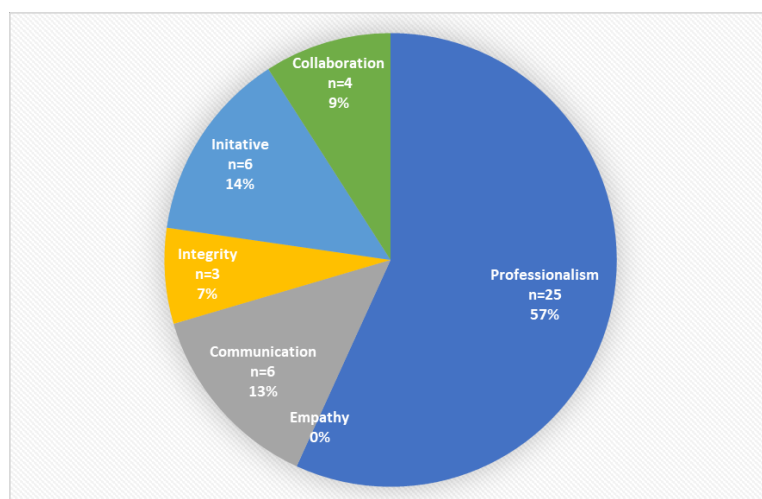


Figure 1. Competencies most difficult for students as rated by faculty.

Summary Qualitative Question 4. The faculty were able to quickly identify examples of students who demonstrated low levels of EI. The faculty felt lower levels of EI could be detrimental to medical training. It was clear the examples provided were sources of discontent by the faculty. Additionally, faculty felt older students had a more refined EI.

Qualitative question 5. The final question was, “What barriers prevent you from using emotional intelligence in the professional development of students?” Two themes were identified from the discussion with the group, time as a barrier and student expectations as a barrier.

Theme 1. Time as a barrier for including EI. Faculty member 2 felt, “Impediments to that [EI] I guess are basically, the zero-sum nature of our curriculum.” Faculty member 1 concurred and affirmed faculty member 2, “It [the curriculum] is so jampacked already, adding additional things or training comes at the expense of something else.” The ARC-PA is prescriptive in its curriculum standards. The depth, breadth, and rigor of the PA curriculum prohibit the addition of non-medical curricular components without effecting program length and the cost to students.

Theme 2. Student expectations as a barrier. The faculty also noted that students have come to expect a particular curriculum in PA school. The group suggested that the students know the standard curricular components and if “soft-skills classes” are added it could be “twisted” by the students. Faculty member 4 stated, “our culture does not support that kind of discussion in the classroom these days, so it would be a risk...very risky to touch on some of the subjects because you never know who that person is with less emotional intelligence to start with whose going to call you on something that was intended one way and being twisted another.”

Summary Qualitative Question 5. The faculty identified time and student expectations as the most significant barriers against formalized EI training within their PA program. The Physician Assistant Education Association (PAEA, 2017) found the average PA curriculum is 110 credit hours. The prescriptive nature of the ARC-PA curriculum requirements makes it difficult for faculty to incorporate unique experiences for students without affecting credit hours and the cost of attendance. Furthermore, the faculty felt the students have a clear idea of the curricular components in PA education, and deviation from those components put the program at risk to be reported to the ARC-PA by the students for not adhering to traditional methodologies.

Quantitative Results

A Research Electronic Data Capture (REDCap) survey was distributed to 198 PA faculty from twenty-five randomly selected PA programs within the United States. The names and emails of faculty were obtained from the Physician Assistant Educational Association (PAEA) database. The survey gathered demographic data on respondents and solicited opinions on EI. The survey asked participants to rate their understanding of EI on a Likert scale with “a” representing “Strongly Agree” and “e” representing “Strongly Disagree.” Additionally, the survey inquired about the use of non-cognitive measures for assessing applicants to their program. Also, the researcher sought to determine if faculty discerned a correlation between EI and the PA competencies. Finally, participants were asked if there were general barriers to the use of EI within their programs.

The researcher used a Chi-squared statistical test to identify a significant difference between respondents with educational degrees versus those with clinical degrees. The Chi-squared test is a valid measure to determine if a statistical significance exists between two groups

(HK, 2016). A p-value of 0.05 was used as a benchmark for statistical significance in the research and a confidence interval of 95%.

The survey response rate was 22.2% (n=44). Demographic data on the faculty responding may be found in Table 3. The majority of respondents were female, which corresponds to the gender predominance of the PA profession (Physician Assistant Education Association, 2018). The preponderance of faculty report working in education for 6-10 years (n=14), which represents a higher average than reported by the Physician Assistant Education Association (2018). Ninety-three percent of those queried are employed full-time (n=41) while 6.8 percent reported part-time employment with their university (n=3). The majority of those surveyed hold a master's degree (68.2%, n=30), while 27.3% (n=12) reported having doctoral degrees, and 4.5% (n=2) hold medical doctoral degrees. The majority of participants were faculty (72.7%, n=32), 22.7% (n=10) were program directors, and two (4.5%) reported they were the medical director of the program. The majority of respondents 61% (n=27) were required to engage in research as part of their duties as faculty members. See Table 3 for the full details of the participants' demographic data.

Cognitive measures. Participants were asked which cognitive measures they use for the selection of applicants. The choices provided included graduate record exams (GRE), science grade point average (GPA), chemistry GPA (C-GPA), overall GPA (O-GPA), or "other." One hundred percent of the respondents used at least one cognitive measure for applicant selection; on average, programs used 2.6 of the cognitive measures for applicant selection. The response suggests the importance cognitive abilities play in the selection of applicants most suited for successful completion of post-graduate education. Additionally, the survey asked faculty if their programs had a measure of non-cognitive ability as part of their applicant screening process. The

objective of the question was to determine the extent faculty used a non-cognitive criterion in their application process. The survey found 43.2% (n=19) utilized some non-cognitive measure for screening PA applicants.

Emotional Intelligence Definition. Faculty were asked to define EI. The objective of the question was to determine PA educators' awareness of EI as a construct. Forty-one of the participants provided a definition. Each of the responses was coded, and three themes were identified in the definitions provided by the faculty. The three themes included the management of emotions in self and recognition of emotions in others, recognition of one's own emotions, and the ability to manage another person's emotions. The first theme, management of emotions in self and recognition of emotions in others, most closely matches the definition of EI provided by Mayer et al. (1995). Half (n=22) of the survey participants identified the definition most closely resembling that of Mayer et al. (1995). Thirty-four percent of the participants (n=15) defined EI as, "an ability to express one's feelings; manage one-on-one interpersonal interactions through recognition of others' feelings and emotions." Other faculty, 7% (n=3) defined EI as, "the ability of an individual to perceive and respond appropriately to others while taking into account their emotional state and needs." Other participants defined EI as an ability to know one's feelings unrelated to the effect on others (39%, n=16). Participants described EI as, "the ability to know one's self in certain situations," while others described EI as an "ability to recognize and control one's emotions and behaviors." Finally, 17 % of faculty participants (n= 7) defined EI as an ability to understand another's feelings in a particular situation. Respondents used phrases such as "ability to deal with conflict," and "an ability to understand other people's feelings."

Degree and EI perceptions. The researcher also considered the difference between EI perceptions and the educational degrees held by faculty members. It was theorized that faculty with educational degrees were more likely to be aware of the concept of EI rather than those with clinical degrees. The researcher found no correlation between the type of degree and awareness of EI as a non-cognitive measure ($p=0.45$).

The researcher examined the data to determine if there was a statistical difference between faculty holding an educational degree versus a clinical degree and the correlation of identifying EI as an immobile trait. The Chi-test revealed a p-value of 0.07 for the correlation. The researcher also sought to determine if there was a statistically significant difference between individuals holding an educational degree and clinical degree and the belief that EI was a learned behavior. The p-value for the statistical calculation was 0.29, indicating no significant difference between the two groups.

The researcher also sought to identify faculty members' perception of EI as a genetic versus a learned behavior. The majority of participants, 63.6% ($n=28$) agreed that EI was a learned behavior. Eighteen percent of participants ($n=8$) were undecided about EI as a learned behavior while two participants (4.5%) said EI was not a learned phenomenon. Similarly, 70.5% ($n=31$) disagreed that EI was an immobile trait, predetermined by genetics. The same participants who said EI was not a learned behavior also believed EI was a genetically predetermined trait (4.5%, $n=2$).

Years of Teaching and EI perceptions. The researcher attempted to determine if a correlation existed between the number of years teaching and the opinion that EI was an immobile trait versus a learned behavior. Participants were asked to identify the range of years they had been involved in PA education. Participants were asked to select a scale of 0-5, 6-10,

10-15, or greater than 16 years. The results of the range of years in higher education can be found in Table 3. There was no correlation of years teaching and the opinion EI was an immobile trait versus a learned behavior, p-value 0.7 versus p-value of 0.9 respectively.

Competency challenges. Survey participants identified competencies needed for successful interactions with faculty, patients, families, and staff in which students struggled. Respondents were able to choose the PA competencies they felt students struggled with most frequently (Appendix E). The faculty identified professionalism as the one competency students struggled with the most during training (57%, n=25). The remainder of the responses concerning the competencies can be seen in Figure 1 of the Appendix. Interestingly, none of those surveyed believed the students struggled with empathy as a core competency. Faculty noted students did struggle with the following competencies: initiative (14%, n=6), communication (13%, n=6), collaboration (9%, n=4), and integrity (7%, n=3).

Each participant felt EI related to the PA competencies to some degree. The participants were asked which PA competency they believed EI was most closely associated. Faculty concluded EI was most closely associated with the ability to communicate with patients, family, faculty, and staff (36.4%, n=16). Thirty-one percent of participants believed EI correlated with the competency of professionalism (n=14). Twenty-two percent of respondents found EI corresponded to the ability to engage in patient care (22.7%, n=10).

Barriers to EI. The researcher asked respondents about perceived barriers in implementing EI within PA programs. Nine faculty surveyed answered the questions. Twenty-two percent of the respondents identified time as the greatest barrier to implementing EI while one participant noted the lack of adequate personnel as a barrier. Sixty-six percent of the

respondents listed “other” as the barrier for not implementing EI. No further explanation was given by the group.

Research and EI perceptions. Finally, the study compared faculty obligated to engage in research experience as a requirement of their institution versus those without an institutional requirement for research and the correlation between EI as an immobile trait versus a learned behavior. As noted in Chapter 1, PAs are trained as clinicians rather than educators. The researcher sought to determine whether there was a correlation between faculty engaged in research and those who were not to discern whether those in research would be more apt to understand EI. Chi-square testing found no relationship between those engaged in research versus those faculty who are not and whether they perceived EI as a learned behavior versus an immobile trait, p-value 0.9 versus p-value of 0.1 respectively.

Conclusion

The qualitative portion of the research determined the focus group had a working familiarity with EI. The discussion revealed seven themes including the importance of EI in success with patients and during training, the need for EI to be refinement in students, specific elements of EI, lower EI as a detriment to medical training, and lack of time, student expectations, and no quantifiable measure of EI were barriers in implementing EI within the curriculum. Additionally, the faculty recognized students fall on a continuum with EI. The faculty acknowledged a student’s EI is impacted positively through the modeling of acceptable behavior by faculty and other students.

The quantitative portion of the study had a 22% response rate. Half of the surveyed participants were able to identify a definition of EI similar to the primordial research conducted

by Mayer et al. (2001). The remaining participants described EI as either an ability to manage the emotional content within one's self or understand the emotions of another individual.

The focus group and the survey group were able to identify EI characteristics within the PA competencies. Both groups identified professionalism as the greatest struggle for students. Additionally, both groups identified time as the greatest barrier to implementing EI within the PA curriculum. As noted previously, proscriptive accreditation standards and the unwillingness of universities to add additional credit to programs makes the addition of EI to curricular components challenging. Interestingly, the survey participants did not identify empathy as a struggle for their students. Lastly, the survey statistical data found no significant correlations between understanding of the EI concept and educational degree, years teaching or faculty's participation in research at their university.

CHAPTER 5

DISCUSSION

The medical educational landscape is changing rapidly. The pressure on graduates of medical programs is increasing with the actualization of nationalized health care and the retirement of the Baby Boomer generation. Graduates face exponentially busier offices, clinics, and hospitals raising the concern of patient safety and provider burnout. It has been shown that practitioners with high emotional intelligence (EI) are better equipped to face the challenges of a rapidly changing medical practice in the twenty-first century (Abe et al., 2013; Bharamanaikar et al., 2016; Cherry et al., 2014; Cho et al., 2017). Additionally, research cited here has determined higher EI has been positively correlated with academic success and relatability to patients (Farver et al., 2016; Johnson, 2015; Grewal et al., 2008; Othman et al., 2016; Shapiro & Lie, 2004).

Research in emotional intelligence (EI) within physician assistant (PA) education is sparse while EI has been well studied in medical schools, residency programs, and nursing programs. This mixed-methods study examined physician assistant (PA) faculty understanding of EI and the role of EI within the PA curriculum.

The research questions are as follows:

1. Are PA educators aware of EI as a construct?
2. Is there a difference in the perception of EI as a trait or a learned behavior in faculty holding an educational degree versus a clinical degree?
3. Is there a difference in the perception of EI as a trait or a learned behavior in faculty with more teaching experience than those faculty with less teaching experience?
4. Do PA educators discern professional competencies with the construct of EI?

5. What are barriers to implementing EI within PA educational programs?
6. Are PA educators with institutional research requirements more likely to perceive EI as a learned behavior versus educators without an institutional requirement for research?

Analysis

Research within medical schools and residency programs supports the use of EI within the curriculum. There is a lack of research in PA education. The analysis which follows attempts to identify why PA programs are not more explicit about EI in their training programs.

Research Question 1. The first research question sought to ascertain if PA educators aware of EI as a construct. The focus group participants were able to identify many of the features of emotional intelligence including and its underlying importance to successfully navigation of the patient-provider relationship. More specifically, the focus group correctly identified interpersonal communication, empathy, communication, collaboration, and understanding the patient's perspective as essential to adequate EI. The focus group also identified professionalism as a component of EI. Professionalism encompasses an overarching component for patient care that is ethical, altruistic and acknowledges one's limitations during patient encounters. Mayer (1995) defined EI as "the capacity to process emotional information accurately and efficiently [that is] relevant to the recognition, construction, and regulation of emotion in oneself and others" (p. 197).

The survey group was able to articulate a more precise definition of EI. Forty-one percent of the survey participants identified the dual nature of EI, namely, an ability to manage one's emotions and an ability to successfully interact with another's emotions effectively. Study participants were able to describe EI as a concept important for educational and clinical experiences. Participants in the survey had the most consistent definition of EI, while the focus

group expressed EI in terms of the PA competencies such as professionalism. The focus group participants and the survey participants identified professionalism as a foundational component of EI and tantamount to successful clinical practice and the competency students struggle with the most during training.

Research Question 2. The second research question asked if there was a difference in the perception of EI as a trait or a learned behavior in faculty holding an educational degree versus a clinical degree? Four of the participants in the focus group hold Master's of Science degrees and one holds a Master's of Business in addition to a Master's of Science. Since none of the participants in the focus group were trained educators at the time of the interview, no meaningful data can be gleaned.

Thirty percent of those in the surveyed group reported having a Master's in Science as a PA while thirteen had educational degrees and one held a medical doctorate. Cherry et al. (2014) and Doeherty et al. (2013) recognize the ongoing debate regarding the mobility of EI. As affirmed by Cherry et al. (2014) most researchers subscribed to the mix disposition models which argue individuals have a genetically predisposed temperament, but one can develop a skill set to understand emotions of self and others more deeply. This researcher found no statistically significant difference between those with educational degrees versus clinical degrees and the understanding of EI as a fixed or learned behavior.

Research Question 3. The third research question sought to determine if faculty with more teaching experience identified EI as a trait or a learned behavior. As previously noted, PA faculty usually enter the educational milieu after several years of clinical practice (Physician Assistant Education Association, 2018). Only aggregate years of experience was provided by the

focus group; therefore, no definitive conclusion could be drawn utilizing data from the focus group.

The survey participants had the option of choosing 0-5, 6-10, 10-15, and greater than 16 years of teaching. The researcher did not find a significant difference in Chi-square testing for the definition of EI between those faculty with more years of teaching experience. Swanchak and Walters (2013) found that, without adequate mentoring, PAs entering medical education struggle with the scholarship of teaching. No other literature reviewed by this author has identified a correlation between years as an educator and educational concepts. Despite the non-significant finding, a larger sample may reveal significant results.

Research Question 4. The research examined if PA educators discern professional competencies with the construct of EI? The focus group and the survey participants both discerned professional competencies within the construct of EI. The focus group identified, empathy, communication, collaboration, professionalism, and understanding as essential competencies underpinning EI. Responses from the focus group and the survey group made it clear both groups found similarities between EI and the professional competencies for the PA profession. The groups agreed professionalism was the preeminent attribute for clinical practice. As noted previously, the competency of professionalism places the needs of the patient above the needs of the provider and encourages respect and compassion of patients without prejudice. Additionally, a significant proportion of faculty discerned other EI traits within the competencies including initiative (14%, n=6), communication (13%, n=6), collaboration (95, n=9), and integrity (7%, n=3).

Arora et al. (2010), Farver et al. (2016), and Van Melle et al. (2014) contended when EI

topics were explicitly included in the medical curriculum, students developed and retained a more advantageous skill set to interact with patients, staff, and families. Moreover, Humphrey-Murto et al. (2014) found increased job satisfaction among providers with higher EI.

Research Question 5. The researcher examined barriers to implementing EI within PA educational programs. The greatest barrier to the implementation of EI, identified by both groups, was time. The constraint of time is a consistent finding with previous research completed at medical schools (Côté et al., 2005; Johnson, 2015). The Accreditation Review Commission on Education for the Physician Assistant (ARC-PA) is prescriptive in the curriculum requirements for graduation. The average length of PA programs within the United States is twenty-four months. The focus group and the survey group felt it would be difficult to incorporate EI training within the curriculum without sacrificing another aspect of the curriculum or developing additional courses to an already robust and rigorous curriculum. Interestingly, none of the survey respondents identified student expectations as a barrier to implementing EI within the curriculum. Perhaps more survey respondents would have yielded a wider range of barriers.

As noted in the literature review, offering EI within the medical curriculum has positive implications including aiding in conflict resolution (Farver et al., 2016). Additionally, EI has been found to benefit increase satisfaction of patients and less burnout of medical personal (Johnson, 2015; Lui et al., 2017).

Research question 6. The final research question sought to determine if educators with institutional research requirements were more likely to perceive EI as a learned behavior versus educators without an institutional requirement for research?

The focus group reported that they were not required to engage in research at their facility although some facilitated student research projects. Conversely, the majority of survey

respondents reported they were required to engage in research as part of their vocation as faculty members (61.4%, n=27). It should be noted, participants in the survey portion of the study were more likely to be engaged in research than the average faculty, as reported by the Physician Assistant Education Association (2018), 61% versus 2%. It could be hypothesized those responding to the survey are more likely to appreciate the role of research in the educational milieu and the motivation for their participation in the study. It is worth noting that this researcher has not found any literature supporting or refuting a correlation between university research requirements and an understanding of EI as a construct. As noted previously, PA's are trained as clinicians, rather than researchers or educators, making it less likely they would be familiar with EI as a concept.

Implications

The focus group and survey group described familiarity with EI as a construct and were able to articulate a general understanding of how EI underpins the PA competencies. Additionally, the majority of participants in both groups identified an emotional temperament of students which is malleable to further refinement through educational activities, such as the "judgment-free environment" of standardized patient activities (Schweller, Ribeiro, Passeri, Wanderley, & Carvalho-Filho, 2018, p. 82). The limiting factor for the implementation of additional EI training for both groups was time and the proscriptive nature of national accreditation standards.

The research findings suggest PA educators are aware of EI, but the barriers of time and proscriptive nature of national accreditation standards may inhibit the effective and efficient development of EI into the PA curriculum. It would behoove the administrators of PA programs to look for novel ways of incorporating activities that widen the breadth and depth of students'

EI. The use of standardized patients is one such way to economically offer students feedback a safe climate to enhance their emotional skill set.

Conclusion

PA faculty acknowledged awareness of EI, despite not being able to articulate the nuances of EI. Most participants in the focus and survey groups listed professionalism as a key component of EI and a characteristic vital to success in graduate school and practice. Indeed, several components of EI are identifiable in the competency of professionalism including, serving the needs of a patient above the provider, respect, compassion, and integrity (American Academy of Physician Assistants, 2012). The competency of professionalism does not underscore the importance of professionalism as a skill to be developed. The researcher did identify that the focus group and the surveyed group believed students enter into PA programs with a particular emotional temperament and can learn additional skills to successfully interact with patients and manage their emotional characteristics.

The ARC-PA has specific curricular requirements for all PA programs. Participants in the study agreed that additional EI training may prove a fruitful endeavor. The focus group participants felt the implementation of EI training would come at the cost of another course component. Some survey participants felt the lack of institutional support and understanding of EI was a barrier to implementation as well.

Limitations

The survey used in the study was validated through face validity. Although face validity is an acceptable method for verifying findings, instruments using face validity have not withstood the rigors of repeated validation through the scientific method.

Several confounding factors may be seen as limitations within the survey and focus group. PA faculty have been in academia for four years (Physician Assistant Education Association, 2018). The participants in this research project had a proportionally greater number of years in education. Seventy percent of the survey group reported more than six years of PA education while the focus group reported thirty years of combined experience in teaching. Lastly, 61% (n=27) reported they were required to engage in research, which is proportionally higher than the average faculty member. Taken together, these limitations suggest the participants may have been more apt to respond, knowing the value research has within the educational milieu.

Suggestions for Future Research

Working many years as a clinician, the researcher has witnessed colleagues skilled at dealing with a wide range of patients' emotional states. Some of the most interesting interactions observed were clinicians dealing with difficult patients who were non-compliant with their medical treatment plan. Some practitioners were consistently successful in defusing a patient who was angry and anxious, while other colleagues were not as successful in the task. As the researcher transitioned from fulltime clinical practice into education, he began to appreciate the variety of social skills students had during patient interactions. Similar to his experiences in medicine, some students seemed to connect with individuals and families while others had the opposite effect. Students enter graduate education with different levels of emotional acumen. Perhaps, these behaviors are learned and conceivably, these behaviors and attitudes could be improved for the betterment of students and patients.

As the researcher's university began to increase the efficiency in the interview process, he stumbled on EI as a component in interviewing applicants. The university-based educators developed EI-based scenarios and asked each applicant to participate by describing how they

would approach a difficult scenario. Aligned with the implementation of this process, attrition dropped by twelve percent. The next logical step would be to study if students and practitioners with higher EI have better patient outcomes.

As an example, the American Diabetes Association (2017) estimated \$237 billion were spent in diagnosing and treating individuals with diabetes in 2017. Diabetes has a significant impact on a patient's emotional health including significant morbidity and mortality associated with the disease, including myocardial infarctions, renal disease, and cerebral vascular events. Using a retrospective study model, researchers could look at patient compliance, determined by a patient's hemoglobin A1C, and ascertain if there is a correlation with a provider's level of EI. The findings could further highlight the need for EI training in medical programs.

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Appendix A

Interview Protocol

Time of interview: 11:00 am

Date: TBD

Place: Zoom or Skype

Interviewer: Christopher Carlin

Interviewees: TBD

Description of Project: This interview session will seek to examine the role of emotional intelligence in PA education. I will ask a series of five questions and then open the discussion to the group. As previously discussed, I will be recording the session in order to transcribe the discussion. Additionally, I will be making notes as we go along. The session will take approximately 1 hour.

Questions:

1. How do you use emotional intelligence in the professional development of students?

Notes:

2. What physician assistant competencies most closely align with emotional intelligence?

Notes:

3. Give an example when a student demonstrated one of the PA competencies (e.g. Professionalism, Empathy, Communication skills, Integrity, Initiative, Collaboration.)

Notes:

4. Give an example of when a student demonstrated a low level of emotional intelligence?

Notes:

5. What barriers prevent you from using emotional intelligence in the professional development of students?

Notes:			
Appendix B			
Focus Group Themes and Codes			
Questions	Theme	Sub-Themes	Codes
1. How do you use emotional intelligence in the professional development of your student?	<p>1. EI is important for medical training.</p> <p>2. EI requires refinement.</p>		<p>1a. Important to find good applicants.</p> <p>1b. “Soft-skills” are important.</p> <p>2a. Assessed through standardized patients.</p> <p>2b. Assessed through OSKIs.</p> <p>2c. Indirectly measured.</p> <p>2d. Professional feedback from Standardized patients (SP).</p> <p>2e. SPs are trained in professional feedback.</p> <p>2f. Consistent and timely feedback on EI is important.</p>
2. What physician assistant competencies do you see most closely aligning with emotional intelligence?	1. Elements of EI.	<p>1a. Empathy.</p> <p>2a. Understanding.</p> <p>3a. Professionalism.</p>	<p>1a. Important skill across the lifespan</p> <p>2a. Having a patient perspective</p> <p>3a. Important trait for successful training and practice.</p> <p>1c. Modeling behavior.</p>

	2. EI requires refinement.		2. Students have an ability to incorporate behaviors into practice.
3. Give an example when a student demonstrated one of the professional competencies.	1. Elements of EI. 2. EI requires refinement.	1a. Collaboration and Communication. 2a. Empathy and Understanding.	1a. Works well with faculty and students. 1b. Works well with medial team. 1c. Validates the contribution of others. 1d. Willingness to go outside one's self. 1e. Human caring despite language barriers. 1f. Alternative way of expressing one's self. 2a. Difference between delivering care and caring for a patient. 2b. Important to internalize and demonstrate EI.
4. Give an example of when a student demonstrated a low level of emotional intelligence?	1. Lower EI can be detrimental. 2. Elements of EI.	1a. Body language. 2a. Management of emotions.	1a. Disengagement and eye rolling 1b. Absence of EI is frustrating for faculty and students. 2a. Important to manage emotions in classroom and in practice.

<p>5. What barriers prevent you from using emotional intelligence in the professional development of students?</p>	<p>1. Barrier: Time.</p> <p>2. Barrier: Students' expectations.</p> <p>3. Barrier: No direct measure of EI.</p>		<p>1. Accreditation standards dictate what must be taught.</p> <p>2. Students know what the curriculum should contain.</p> <p>3a. Standardized patients are an indirect measure.</p> <p>3b. OSKI performance is an indirect measure.</p> <p>3c. "Soft skills" are not easily measured.</p> <p>3d. A student's ability to use professional information roughly correlates to EI.</p> <p>3e. Anecdotal examples of EI.</p>
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Appendix C

Quantitative Survey

1. Which of the following best describes your current clinical rank?
 - a. Professor
 - b. Associate professor
 - c. Assistant professor
 - d. Instructor/lecturer
 - e. Other

2. How many years have worked in physician assistant education?
 - a. 0-5 years
 - b. 6-10 years
 - c. 10-15 years
 - d. 16 or more

3. What is your gender
 - a. Male
 - b. Female
 - c. Prefer not to answer

4. Which institutional description best describes your current academic position?
 - a. Private, non-profit institution
 - b. Public institution
 - c. Private for-profit institution
 - d. Military

5. Which best describes your race?
 - a. American Indian or Alaskan Native
 - b. Asian
 - c. Black or African American
 - d. Multiracial
 - e. Native Hawaiian or other Pacific Islander
 - f. White or European American
 - g. Other
 - h. Prefer not to answer

6. Which is the highest degree you currently hold?
 - a. Associate's degree
 - b. Bachelor's degree
 - c. Master's degree
 - d. Doctoral degree

7. Which of the following best describes your current position?
 - a. Faculty
 - b. Program director
 - c. Medical director

8. Which of the following best describes your current academic employment status?
 - a. Full-time (greater than or equal to 32 hours per week)
 - b. Part-time (less than 32 hours per week)
 - c. Per-diem

9. As part of your current academic duties are you required/expected to engage in research?
 - a. Yes
 - b. No

10. How many students are currently enrolled in each cohort
 - a. 20-30
 - b. 31-40
 - c. 41-50
 - d. 51-60
 - e. Greater than 60

11. Thinking about your current cohort of students, which of the following competencies do you find your students struggling with the most during their training?
 - a. Professionalism
 - b. Empathy/Compassion
 - c. Communication skills
 - d. Integrity
 - e. Initiative
 - f. Collaboration

12. What cognitive measures of success does your program assess on applicants to your program?
 - a. Graduate Record Exam (GRE)
 - b. Science Grade point average (GPA)
 - c. Chemistry GPA
 - d. Overall GPA
 - e. Other:

13. In a few sentences, how would you define emotional intelligence?

14. I feel an individual's level of emotional intelligence is a learned behavior?
 - a. Strongly Agree

- b. Agree
 - c. Undecided
 - d. Disagree
 - e. Strongly Disagree
- 15.** I feel an individual's level of emotional intelligence is immobile; determined by genetic predisposition?
- a. Strongly Agree
 - b. Agree
 - c. Undecided
 - d. Disagree
 - e. Strongly Disagree
- 16.** Does your program currently have a process of assessing non-cognitive measures of intelligence in applicants? (emotional intelligence questionnaire, essay questions, scenario-based questions)?
- a. Yes (If "yes" go to question 20)
 - b. No (If "no" go to question 27)
- 17.** If "yes" what measure(s) do you use?
- 18.** How long has your institution been using non-cognitive measures of applicants?
- a. 0-3 years
 - b. 4-6 years
 - c. 7-8 years
 - d. > 9 years
- 19.** What are the top 3 goals in utilizing non-cognitive measures of applicants at your institution?
- 20.** How do you feel the non-cognitive measures accurately predicts the emotional success of your students in your program?
- a. Very Good
 - b. Good
 - c. Acceptable
 - d. Poor
 - e. Very Poor
- 21.** How well do you feel the non-cognitive measures used in your program accurately predicts the success of students after graduation?
- a. Very Good
 - b. Good
 - c. Acceptable
 - d. Poor
 - e. Very Poor

- 22.** How satisfied are you with the non-cognitive measures your program uses for applicants?
- a. Very satisfied
 - b. Satisfied
 - c. Neither
 - d. Dissatisfied
 - e. Very dissatisfied
- 23.** I have received training on the non-cognitive measures my program uses for applications?
- a. Strongly Agree
 - b. Agree
 - c. Undecided
 - d. Disagree
 - e. Strongly Disagree
- 24.** If “no” What are the barriers to implementing non-cognitive measures to screen physician assistant applicants?
- a. Time
 - b. Money
 - c. Organizational support
 - d. Personnel
 - e. Other: (please specify)
- 25.** I would be willing to attend a workshop, webinar, or presentation on non-cognitive measures of intelligence and student success?
- a. Strongly Agree
 - b. Agree
 - c. Undecided
 - d. Disagree
 - e. Strongly Disagree
- 26.** How well do you feel emotional intelligence correlates with the physician assistant competencies?
- a. Strongly Agree
 - b. Agree
 - c. Undecided
 - d. Disagree
 - e. Strongly Disagree
- 27.** Please choose which physician assistant competency or competencies do you feel emotional intelligence best correlates?
- a. Medical Knowledge
 - b. Interpersonal and Communication Skills
 - c. Patient Care
 - d. Professionalism

- | | |
|----|---------------------------------------|
| e. | Practice-based Learning & Improvement |
| f. | Systems-based Practice |

Appendix D

IRB Focus Group Consent

Project Title: Professional Competency Development Utilizing Emotional Intelligence in Medical Education

Principal Investigator(s): Christopher Carlin PA-C, MDiv.

Introduction:

- Please read this form. You may also request that the form is read to you. The purpose of this form is to give you information about this research study, and if you choose to participate, document that choice.
- You are encouraged to ask any questions that you may have about this study, now, during or after the project is complete. You can take as much time as you need to decide whether or not you want to participate. Your participation is voluntary.

Why is this research study being done?

The purpose of this study is to determine physician assistant educators' familiarity with emotional intelligence and to ascertain barriers to the use of emotional intelligence in physician assistant education.

Who will be in this study?

The initial phase of the study involves a focus group consisting of faculty within the University of Saint Francis PA department to assess faculty experience of EI as a construct. Additionally, given a definition of EI, which PA competencies will PA faculty align most closely to EI. Finally, faculty will be asked to identify specific student behaviors they consider emotionally competent.

What will I be asked to do?

Participate in a focus group and answer open-ended question about EI.

What are the possible risks of taking part in this study?

None

What are the possible benefits of taking part in this study?

This study will help determine if barriers exist in including EI as a method to supplement PA education. It will be a springboard for further research in how to incorporate aspects of EI into the PA curriculum where students will benefit in managing the emotions associated with the rigor and volume of information students experience in training.

What will it cost me?

The time required to complete the focus group.

How will my privacy be protected?

Field notes and the audio recording file will be secured in a locked cabinet within the director of physician assistant studies office. After completion of the research, the field notes will be disposed in the HIPPA/FERPA approved container within the School of Health Science. The audio recording will be deleted, immediately after transcription of the session is completed.

How will my data be kept confidential?

Field notes and the audio recording file will be secured in a locked cabinet within the director of physician assistant studies office. After completion of the research, the field notes will be disposed in the HIPPA/FERPA approved container within the School of Health Science. The audio recording will be deleted, immediately after transcription of the session is completed.

What are my rights as a research participant?

- Your participation is voluntary. Your decision to participate will have no impact on your current or future relations with the University.
- Your decision to participate will not affect your relationship with the PA program or its constituents.
- You may skip or refuse to answer any question for any reason.
- If you choose not to participate there is no penalty to you and you will not lose any benefits that you are otherwise entitled to receive.
- You are free to withdraw from this research study at any time, for any reason.
 - If you choose to withdraw from the research, there will be no penalty to you and you will not lose any benefits that you are otherwise entitled to receive.
- You will be informed of any significant findings developed during the course of the research that may affect your willingness to participate in the research.
- If you sustain an injury while participating in this study, your participation may be ended.

What other options do I have?

- You may choose not to participate.

Whom may I contact with questions?

- The researchers conducting this study are Christopher Carlin (cscarlin@sf.edu) and advisor Dr. Carey Clark (cclark14@une.edu).
- For more information regarding this study, please contact Christopher Carlin (cscarlin@sf.edu)
- If you choose to participate in this research study and believe you may have suffered a research related injury, please contact Christopher Carlin (cscarlin@sf.edu), Dr. Carey Clark (cclark14@une.edu).
- If you have any questions or concerns about your rights as a research subject, you may call Olgun Guvench, M.D. Ph.D., Chair of the UNE Institutional Review Board at (207) 221-4171 or irb@une.edu. and/or IRB Chairperson, University of Saint Francis

2701 Spring Street, Fort Wayne, Indiana, 46808, (260)399-7700, email:
DFILLER@sf.edu.

Will I receive a copy of this consent form?

- You will be given a copy of this consent form.

Participant's Statement

I understand the above description of this research and the risks and benefits associated with my participation as a research subject. I agree to take part in the research and do so voluntarily.

Participant's signature or
Legally authorized representative

Date

Printed name

Researcher's Statement

The participant named above had sufficient time to consider the information, had an opportunity to ask questions, and voluntarily agreed to be in this study.

Researcher's signature

Date

Appendix E

Physician Assistant Competencies

Medical Knowledge

Medical knowledge includes the synthesis of pathophysiology, patient presentation, differential diagnosis, patient management, surgical principles, health promotion, and disease prevention. Physician assistants must demonstrate core knowledge about established and evolving biomedical and clinical sciences and the application of this knowledge to patient care in their area of practice. In addition, physician assistants are expected to demonstrate an investigative and analytic thinking approach to clinical situations. Physician assistants are expected to understand, evaluate, and apply the following to clinical scenarios:

- evidence-based medicine
- scientific principles related to patient care
- etiologies, risk factors, underlying pathologic process, and epidemiology for medical conditions
- signs and symptoms of medical and surgical conditions
- appropriate diagnostic studies
- management of general medical and surgical conditions to include pharmacologic and other treatment modalities
- interventions for prevention of disease and health promotion/maintenance
- screening methods to detect conditions in an asymptomatic individual
- history and physical findings and diagnostic studies to formulate differential diagnoses

Interpersonal & Communications Skills

Interpersonal and communication skills encompass the verbal, nonverbal, written, and electronic exchange of information. Physician assistants must demonstrate interpersonal and communication skills that result in effective information exchange with patients, patients' families, physicians, professional associates, and other individuals within the health care system. Physician assistants are expected to:

- create and sustain a therapeutic and ethically sound relationship with patients
- use effective communication skills to elicit and provide information
- adapt communication style and messages to the context of the interaction
- work effectively with physicians and other health care professionals as a member or leader of a health care team or other professional group
- demonstrate emotional resilience and stability, adaptability, flexibility, and tolerance of ambiguity and anxiety
- accurately and adequately document information regarding care for medical, legal, quality, and financial purpose

Patient Care

Patient care includes patient- and setting-specific assessment, evaluation, and management. Physician assistants must demonstrate care that is effective, safe, high quality, and equitable. Physician assistants are expected to:

- work effectively with physicians and other health care professionals to provide patient centered care
- demonstrate compassionate and respectful behaviors when interacting with patients and their families
 - obtain essential and accurate information about their patients
 - make decisions about diagnostic and therapeutic interventions based on patient information and preferences, current scientific evidence, and informed clinical judgment
 - develop and implement patient management plans
 - counsel and educate patients and their families
 - perform medical and surgical procedures essential to their area of practice
 - provide health care services and education aimed at disease prevention and health maintenance
- use information technology to support patient care decisions and patient education

Professionalism

Professionalism is the expression of positive values and ideals as care is delivered. Foremost, it involves prioritizing the interests of those being served above one's own. Physician assistants must acknowledge their professional and personal limitations. Professionalism also requires that PAs practice without impairment from substance abuse, cognitive deficiency or mental illness. Physician assistants must demonstrate a high level of responsibility, ethical practice, sensitivity to a diverse patient population, and adherence to legal and regulatory requirements. Physician assistants are expected to demonstrate:

- understanding of legal and regulatory requirements, as well as the appropriate role of the physician assistant
 - professional relationships with physician supervisors and other health care providers
 - respect, compassion, and integrity
 - accountability to patients, society, and the profession
 - commitment to excellence and on-going professional development
 - commitment to ethical principles pertaining to provision or withholding of clinical care, confidentiality of patient information, informed consent, and business practices
 - sensitivity and responsiveness to patients' culture, age, gender, and abilities
 - self-reflection, critical curiosity, and initiative
 - healthy behaviors and life balance
 - commitment to the education of students and other health care professionals

Practice-based Learning & Improvement

Practice-based learning and improvement includes the processes through which physician assistants engage in critical analysis of their own practice experience, the medical literature, and other information resources for the purposes of self- and practice-improvement. Physician assistants must be able to assess, evaluate, and improve their patient care practices. Physician assistants are expected to:

- analyze practice experience and perform practice-based improvement activities using a systematic methodology in concert with other members of the health care delivery team
- locate, appraise, and integrate evidence from scientific studies related to their patients' health
- apply knowledge of study designs and statistical methods to the appraisal of clinical literature and other information on diagnostic and therapeutic effectiveness
- utilize information technology to manage information, access medical information, and support their own education
- recognize and appropriately address personal biases, gaps in medical knowledge, and physical limitations in themselves and others

Systems-based Practice

Systems-based practice encompasses the societal, organizational, and economic environments in which health care is delivered. Physician assistants must demonstrate an awareness of and responsiveness to the larger system of health care to provide patient care that balances quality and cost, while maintaining the primacy of the individual patient. PAs should work to improve the health care system of which their practices are a part. Physician assistants are expected to:

- effectively interact with different types of medical practice and delivery systems
- understand the funding sources and payment systems that provide coverage for patient care and use the systems effectively
- practice cost-effective health care and resource allocation that does not compromise quality of care
- advocate for quality patient care and assist patients in dealing with system complexities
- partner with supervising physicians, health care managers, and other health care providers to assess, coordinate, and improve the delivery and effectiveness of health care and patient outcomes
- accept responsibility for promoting a safe environment for patient care and recognizing and correcting systems-based factors that negatively impact patient care
- apply medical information and clinical data systems to provide effective, efficient patient care
- recognize and appropriately address system biases that contribute to health care disparities
- apply the concepts of population health to patient care (American Academy of Physician Assistants, 2012)