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An Examination of Job Embeddedness Factors and Their Influence on Longevity and New or Established Status of Physician Assistant Faculty

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Abstract

The Physician Assistant (PA) profession has grown at a rapid rate with an expected increase of 31% by 2028 (Bureau of Labor Statistics, 2019). PA educational programs are expanding to fill the demand. However, faculty shortages have persisted for years. During the 2017-2018 academic year, 75.5% of new faculty were recruited directly from the clinical environment with no prior experience in PA education, and for those who leave academia, 25.7% report a return to clinical practice (PAEA, 2018). New PA faculty are often not provided adequate mentorship or guidance which can influence perception of satisfaction in their academic positions.

Job embeddedness (JE) is the theoretical framework containing three constructs of fit, links, and sacrifice which house job satisfaction variables that influence an employee's retention in their role (Mitchell, et al., 2001). In this quantitative research study, job satisfaction variables including but not limited to clinical to academic support, institutional leadership, working clinically, clinical to academic stress, promotion potential, and fair treatment selected from the PAEA 2018 Faculty & Program Director Survey were utilized as independent variables in multiple regression models to determine how these factors influence faculty longevity and their predictive value of identifying if faculty were new or established.

Satisfaction with institutional leadership, agreeing with being treated fairly, and stressful transition from clinical work had negative relationships with longevity but positive relationships with being new faculty. Being male was associated with a decrease in years of employment and women correlated strongly with being new faculty. Results revealed a counterintuitive inverse relationship between satisfaction with JE variables and longevity with all faculty, indicating that with increased satisfaction in JE variables, there was decreased longevity in PA faculty careers.

When examining new or established faculty, a direct relationship between JE variables was identified, indicating that the greater the satisfaction in JE factors, the greater the likelihood that PA faculty were new. New faculty were also found to have a relationship with increased clinical to academic stress and decreased length of employment. Decreased longevity was associated with males, Hispanic, Latino, or Spanish participants and those who previously worked clinically. The explained variance in all models was consistently low, between 1%-4%.

Future research is needed to examine and discover predictors of longevity, particularly in differentiating the experiences of new versus established PA faculty in relation to longevity. Additional recommendations involve securing detailed quantitative and qualitative information from new faculty at incremental benchmarks of employment to increase understanding of their job satisfaction experiences and trends toward retention and attrition. Future studies should investigate current trends of poor retention of males and minorities in PA education, as well as the influence of past employment in clinical roles, in efforts to promote greater diversity in the field. Lastly, PAEA surveys require investigation into significant structural and content modifications toward efforts of greater inclusivity. Distinguishing new faculty and established faculty experiences can aid in gaining clearer insight into job satisfaction factors to potentially enhance retention in PA education.

Keywords: physician assistant, PA education, surveys, physician assistant faculty, job embeddedness, job satisfaction, fit, links, sacrifice, PAEA, AAPA, ARC-PA

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Dedication

To the true loves of my life, Carly and Jack. Everything I do, I do for you. You have taught me the meaning of loving beyond measure. You are both maturing into superb young adults who are kind, thoughtful, generous, responsible, and self-directed. I grow prouder of you every day. I hope you are proud of your mom, too.

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Chapter 1: Introduction

Background and Context

There is an increased need for qualified, competent, and properly trained academicians in physician assistant (PA) education. During the past 30 years, the number of accredited PA programs in the United States has increased 370%, with a 66.2% increase between 2008 and 2018 (American Academy of Physician Assistants [AAPA], 2020). As programs steadily increased, the influx of faculty followed at a lower rate of 47.9%. During the 2017-2018 academic year, the average full-time faculty capacity for all reporting programs was 1,763.7, but the number of filled positions was 1,619.9, a shortage of 8.2% in line with 7.1% in 2017 and 8.3% in 2016. In contrast, student enrollment increased 10.6% between 2015 and 2017 (Physician Assistant Education Association [PAEA], 2016, 2017, 2018). This indicates that, as the number of programs and students increased, a shortage in PA faculty persisted. Also, during the 2017-2018 academic year, 55.9% of physician assistant programs reported that at least one faculty member had left, compared with 52.7% in the 2016-2017 academic year and 54.5% in the 2015-2016 academic year, revealing problematic faculty longevity in physician assistant education (PAEA 2018, 2017, 2016).

Lack of academic experience, substantially lower pay scale than clinical work, and scarce interest from clinicians to shift into academic medicine are looming impediments for recruitment. Over the years, despite the growth in number and capacity of PA educational programs, faculty shortage trends have persisted, creating a strain on programs to sustain steady expansion of qualified instructors (Glicken & Miller, 2013). Of all new faculty with three or less years of employment in the 2017-2018 academic year, 75.5% were recruited directly from the clinical environment with no prior experience in PA education (PAEA, 2018). During the 2014-

2015 academic year, this value was 66.3%, and during the 2013-2014 academic year was 73% (PAEA 2014, 2015). While variation exists between each academic year, there is a consistent longitudinal trend of a majority of new faculty entering academia from the clinical field without prior teaching experience.

If PA programs are to preserve excellence in advancement of highly skilled clinicians, especially as supply struggles to meet demand, it is paramount that the educators charged with this responsibility are valued, supported, and respected. Factors such as organizational support, departmental leadership, mentorship, fairness in compensation and decision making, autonomy, and respect of work-life balance all contribute to satisfaction, retention, and job embeddedness (JE) of faculty (Mitchell, et al., 2001; Lee, et al., 2014; Holtom, et al., 2019).

Job Embeddedness Definition

Throughout this study, the theory of Job Embeddedness (JE) is referenced. Terrence Mitchell, Brooks Holtom, and other colleagues developed the JE theory in 2001 detailing a culmination of elements that influence employee retention from a different angle than traditional employee turnover (Mitchell, et al., 2001). Three constructs within JE create the well-rounded philosophy and include fit, links, and sacrifice. Fit is how employees perceive their compatibility within their job, organization, and community. Links are employees' connections to both organizational/institutional components and to the community in which they live and work. Sacrifice refers to any benefits regarding employment, community, relationships, opportunities, and preferences that employees would have to forfeit if the decision was made to leave. The greater the employees fit, links, and sacrifice connected to their work, home, and community, the greater the job embeddedness, and the decreased likelihood of leaving (Mitchell, et al., 2001).

Defining the Physician Assistant Profession

Physician assistants are clinicians in primary care and specialty fields who take medical histories, perform physical examinations, order and interpret laboratory and diagnostic tests, diagnose medical conditions, establish and administer treatment plans, prescribe medications, and assist in surgery. The training and practice of PAs maintains comprehensive focus on patient education, preventive care, and management of chronic care patients while also supporting broad primary care needs of all patients. PAs are nationally certified and state licensed mid-level practitioners (AAPA, n.d.). In collaboration with supervising physicians, (Accreditation Review Commission on Education for the Physician Assistant, Inc., [ARC-PA], n.d.) PAs are interdependent, semi-autonomous clinicians who provide equal caliber primary care to that of physicians and significantly improve access to high quality healthcare especially in medically underserved areas (Mittman, et al., 2002).

History of the Profession

During the early 1960s, both physicians and educators identified a deficit in quantity of primary care providers to serve the community (AAPA, history section, n.d.). Discussion within the medical community galvanized a method to supplement, advance, and bolster primary medical care where a deficiency in physicians existed. Eugene A. Stead Jr., M.D. of the Duke University Medical Center, conceived the idea for the PA profession and brought it to fruition, basing the PA program curriculum on his familiarity with the accelerated training of physicians during World War II (AAPA, history section, n.d.; Cawley, et al., 2012). In 1965, four medically trained Navy Hospital Corpsmen entered the first official student class of PAs, graduating in October 1967.

Increase in Employment Growth

The United States Department of Labor, Bureau of Labor Statistics employment projections for 2018-2028 estimate steep increases in employment growth for several health care fields. Physicians will increase by 7%, registered nurses will increase by 12%, physical therapists will increase by 22.0%, nurse practitioners will increase by 26.0%, and physician assistants will increase by an extraordinary 31.0% (Bureau of Labor Statistics, 2019). With this rise in demand for each profession, there will be commensurate need for qualified faculty to educate and train clinicians. These fields have a shortage of faculty in their educational programs, so without changes in the industry such as enhanced mentoring programs and organizational support, the academic outlook is precarious. Recruitment of talented and qualified faculty will become critical for supply to parallel demand, and steps must be taken to ensure the successful transition of new faculty from clinical practice to academia (Falzarano & Zipp, 2012). As evidenced above by the U.S. Bureau of Labor Statistics, the PA industry has a projection for significant growth over the next decade and will require an adequate arsenal of PA educators to meet the demand. Sustainability of the profession is contingent upon success of academic programs to proliferate the needed quantity of providers.

Shortage of Faculty

There is a shortage of healthcare practitioners and educators in many fields including physician assistant, nurse practitioner, registered nursing, and allied health (Odiaga, 2018). Current growth of the PA profession significantly affects the demand for program expansion and increased faculty (Cawley, et al., 2016). This reveals an urgency for PA programs, directors, seasoned faculty, organizational administration, and national PA associations to envision and execute action strategies for faculty recruitment and retention. Among educators, a common

definition in the industry of "new" faculty are those within the time frame from recruitment until about three years of academic experience (Puri, et al., 2012). Between the years of 2014 and 2017, approximately 62.1% of all PA faculty had three or fewer years of academic experience in any PA program, 71.8% of new faculty were recruited directly from clinical jobs with 14.1% of all faculty having previous experience in PA education (PAEA, 2014, 2015, 2017). This provides optics into the trends of new faculty primarily coming to academia from clinical work with little exposure to PA education. From 2014-2017, the most prominent reason for leaving an academic position was job change, but during the 2017-2018 academic year, this was further differentiated for the first time to reflect that return to clinical practice at 25.7% was the most common reason for leaving a PA academic position (PAEA, 2019).

These statistics reveal the longitudinal trend of the majority of faculty having three or less years of academic experience with over a quarter of them leaving academia to return to clinical jobs. Most PA faculty are trained clinicians, not trained educators. The risk of faculty retreating back to the clinical setting when dissatisfied with academic jobs is significant and accentuates a clear issue with long-term retention. Low faculty retention rates in any program prompt inferior caliber education and economic burden for universities housing programs that need to continually invest in recruitment efforts and training for new educators (Graeff, et al., 2014). Financial incentive to return to clinical work is solidified by the salary discrepancy between clinical and academic fields.

Average median pay for clinical PAs in the United States was $108,610 in 2018, versus an estimated $96,000 for PA educators (Bureau of Labor Statistics, 2019; PAEA, 2018). Of the 66.8% of faculty who continue to work clinically in some regard, 36.2% of them are provided the opportunity for clinical release time from their program in order to pursue clinical hours

(PAEA, 2018). While this is not an official practice among universities that house PA programs, the benefits of keeping ties with the clinical world, such as enhanced teaching, credibility with students, and increased job satisfaction are worthwhile for programs to consider (Gonzales, et.al., 2019; NONPF, 2017).

Workload and pursuing work-life balance are sources of stress that can lead to faculty attrition. A 2014 mixed-methods study involving participants from an array of academic fields sought to explore the role of stress on the work-life balance of professors (Delello, et. al., 2014). One of the standout findings revealed heavy workload entwined with extreme institutional pressures provoking burnout. Untenable workload requiring dedication of long hours creates undue stress of balancing work and personal life, leading to dissatisfaction in academia. A suggested solution by the researchers included curtailment of traditional timelines and expectations when faculty are expected to take on additional workload, thus creating incentive for educators to feel valued for their commitment (Delello, et. al., 2014).

Most PA educators who come from the clinical environment are not well versed in research or publishing and do not fit into the conventional mold of tenure in higher education (Hegmann & Axelson, 2012). Only 18.6% of PA educators hold tenure or are on a tenure track, but tenure requirements and research are considered among the least satisfying aspects of their academic position (PAEA, 2018).

The Association of Academic Health Centers (AAHC) surveyed chief executives (CEOs) of academic health centers regarding faculty within their institutions. Eighty-one percent of CEOs noted nursing to be the most prevalent field of faculty shortage, and 77% of CEOs declared shortages in allied health fields consisting of physical therapy, occupational therapy, speech and language pathology, and physician assistant, among many others (Association of

Academic Health Centers, 2010, para. 3). In an American Association of Colleges of Nursing (AACN) survey, more than 56% of the 714 nursing schools reported, "1,236 full-time faculty vacancies for the 2014-15 academic year," during a time when, "7% of nurse faculty positions nationwide remain vacant and 78,000 applicants to bachelor and advanced-degree nursing programs were turned away," due to faculty shortage (Robeznieks, 2015, para. 2&3). With proper interventions and resources accessible to clinicians interested in shifting into academia, there is a greater incentive to teach, as well as mitigate fear and dissatisfaction with the overall process, creating longevity in academic careers.

Problem Statement

Longitudinal data has proven that physician assistant programs historically recruit faculty from the clinical fields (PAEA, 2014, 2015, 2016, 2017, 2018). Clinical PAs have little to no academic experience and enter careers of teaching with scarce preparation for the transition. They may have perceptions that academic careers are an easy transition from clinical, not realizing job components such as heavy workload, research, meeting with and mentoring students, service work, committee meetings, and hours in preparation for teaching (McKenna, 2018). Typically, PA educators are expected to focus on teaching and service, bypassing the research, publishing, and typical tenure requirements of higher education which could put them at a disadvantage relative to the industry (Cawley, 2010).

In many cases, organizational support including proper mentoring is absent or insufficient, creating a stressful transition into academia and ambiguity with job roles. Additionally, salary discrepancies from clinical work compounded by increased workload and asymmetry of work-life balance can increase stress and accelerate job burnout, all which crescendo in lower job satisfaction. In most of the attrition, the faculty members return to clinical

work, presumed to be less stressful, provide more equitable work-life balance and higher compensation. Programs that offer clinical release time for PAs to remain connected to clinical work could potentially usurp some of the disconnectedness of the career change (NONFP, 2017). Ultimately, each program that suffers recurring attrition sustains a ripple effect with remaining faculty, organizational resources, and valued loss of intellectual assets, risking quality of programmatic outcomes and future generations of qualified clinicians.

Purpose

The purpose of this investigation is to examine how job embeddedness factors affect longevity and the new or established status of PA faculty employment in the United States, utilizing data from an established national study. Job embeddedness is the compilation of dynamics that impact retention of employees, classified under the constructs of fit, links, and sacrifice (Mitchell, et al., 2001). It is differentiated from job turnover because of specific focus on the collection of components that influence retention rather than the inward reflection people experience when quitting a job (Reitz & Anderson, 2011). New faculty for this study are defined as having three or fewer years of PA educational experience, and established faculty are those who have greater than three years of experience in PA education. The goal is to determine any significant relationships between institutional, program, and individual factors such as past employment, gender, race, organizational support, workload, work-life balance, professional development and components of job satisfaction, and how they impact longevity and new or established status of PA faculty.

Research Questions

This is a quantitative research study that uses multiple regression analysis to predict job embeddedness factors that impact the longevity and new or established status of employment of

PA faculty within established accredited programs in the United States. This analysis will aid in identifying which factors influence job satisfaction, retention, and attrition of PA faculty utilizing the following research questions:

1. How do job embeddedness factors related to fit influence the longevity of PA faculty in the U.S.?
2. How do job embeddedness factors related to links influence the longevity of PA faculty in the U.S.?
3. How do job embeddedness factors related to sacrifice influence the longevity of PA faculty in the U.S.?
4. Is there a relationship between job embeddedness factors in the category of fit and being a new or established PA educator?
5. Is there a relationship between job embeddedness factors in the category of links and being a new or established PA educator?
6. Is there a relationship between job embeddedness factors in the category of sacrifices and being a new or established PA educator?

Significance of Study

The outcomes of this study will add to the body of literature and knowledge for colleges and universities that house physician assistant programs to address the perpetual issue of faculty attrition. The study will also focus on potential determinants within organizational support and job satisfaction that administration can utilize to encourage faculty retention for successful program outcome consistency and longevity.

Gaining a clearer understanding of circumstantial significance to PA faculty attrition and retention can better prepare PA programs and their institutions to provide essential support,

resources, incentives, and ongoing intervention to encourage job embeddedness and endurance of the great commodity of talented, seasoned faculty. This study strives to provide the most significant factors that encourage or discourage job embeddedness of PA faculty and offer institutions guidance to cultivate the strengths required for optimal retention and job satisfaction of faculty.

Organization of Study

The remainder of this study will be organized in the following structure: chapter two will review and analyze relevant correlated literature. Within the literature review, I will explore PA education, certification, and maintenance of licensure to provide deeper understanding of the profession. Then, I will discuss recruitment of PA faculty, career transition from clinical to academic, mentoring, and professional development of new faculty. Standards on faculty-student ratios will be detailed. I will further delve into clinical release time, tenure status, organizational support, attrition and retention of faculty, retention in relation to gender bias, and the financial loss due to attrition. Then, I will examine PA faculty job satisfaction, stress and burnout, and organizational justice. Finally, I will introduce the topic of job embeddedness and illustrate how this theory conceptualizes my theoretical framework.

Chapter three will describe the methodology and research design of this study including the data instrument, process of data collection, preparation of data, and execution of data analysis. I will utilize data obtained from the Physician Assistant Education Association Faculty & Directors Survey to examine trends of PA faculty recruitment and retention and how selected elements of faculty employment and experiences impact job embeddedness in PA education. Multiple regression will be used to analyze data, with independent variables representing core components and relevant influencers of job embeddedness and dependent variables of years in

primary position representing longevity in a faculty role and new or established differentiating between years of experience. New faculty are defined as those with less than three years of experience, and established faculty are defined as those with greater than three years of experience.

Chapter four will concentrate on results and findings of the study as well as render an analysis of the data collected. Chapter five will discuss findings and ramifications of the study and include recommendations for future research.

Chapter 2: Literature Review

The purpose of this literature review is to explore and understand prior research and theories related to longevity of employees, ultimately leading to the concept of job embeddedness. I will also examine experiences of new faculty entering PA education in comparison with those of established faculty and the relationship with job embeddedness factors. Review of studies and established theories will aid in structuring the theoretical framework for the study. In this chapter, I will examine a culmination of factors that contribute to employees, especially medical faculty, attrition, and retention. There are studies that provide insight for physician assistants; however, the bulk of information has also been gleaned from medical schools and nursing faculty.

First, I will write about PA education, certification, and maintenance of licensure for better understanding of the scope of the profession. Then, I will discuss recruitment of educational faculty from the clinical field. I will then explore how new faculty transition into academia, their experiences with mentors and professional development programs. I will touch on industry standards regarding student/faculty ratios then write about organizational support and factors which have been studied that strongly influence attrition and retention of faculty. Further, I will discuss gender bias and salary discrepancies, and the financial loss organizations encounter due to attrition. Next, known components of job satisfaction, stress, and burnout of faculty, and organizational justice platforms are reviewed. Lastly, I will discuss job embeddedness as a conceptual framework, with focus on the job embeddedness theories that have evolved since their 2001 introduction. In the conclusion, I will discuss gaps in the literature and provide a summation of the literature review.

PA Education, Certification, and Maintenance

As the healthcare needs of Americans evolve and broaden, the demands for quality healthcare providers has also increased. The Association of American Medical Colleges estimates that the United States could endure a shortage of 21,000 to 55,000 primary care providers by 2023 (Heizer, 2019). The shortage is not necessarily a lack of primary care providers, but an inefficient system. There is a geographical shortfall of providers in rural or impoverished areas in demand, a rising uninsured demographic now estimated at 14% of the population, administrative duties taking providers away from patient care as well as the trend of physicians burning out before retirement (Kerns & Willis, 2020). Additionally, the growing aging population is key in the higher demand for primary care. The number of Americans over the age of 65 has already reached an all-time national historical high. As the last of the baby boomer generation reaches retirement age in 2029, there is a projected 73% increase in the 65 and older population requiring comprehensive care of long-term illnesses and co-morbidities (Haddad & Toney-Butler, 2020; Kerns & Willis, 2020). With high expectations regarding the future of primary care, the industry anticipates a struggle to deliver.

The Healthcare Advisory Board analysis of healthcare models recommends more efficient utilization of primary care providers for the sickest populations while employing nurse practitioners and physician assistants to supply the market with thousands of new primary care providers by 2025 (Kerns & Willis, 2020). The National Center for Health Workforce Analysis projected 9,000-10,000 annual graduates from PA accredited educational programs by 2026 (Hooker & Muchow, 2014). There is evidence the trend may steadily achieve or surpass those estimations earlier than expected, as there were 9,287 newly certified PAs in 2018, a 26.5%

increase from 2013 (National Commission on Certification of Physician Assistants [NCCPA], 2019).

The Accreditation Review Commission on Education for the Physician Assistant, Inc. (ARC-PA) is the recognized accrediting agency that defines the standards for PA education and performs regular evaluations of national PA education programs to ensure standards compliance (ARC-PA, n.d.). The ARC-PA (n.d.) describes the curriculum for PA education to include, "basic medical, behavioral, and social sciences; introduction to clinical medicine and patient assessment; supervised clinical practice; and health policy and professional practice issues," (About PAs, para. 2). The typical PA educational program ranges from 24 to 36 months in length, averaging 27 months of didactic instruction and clinical rotations culminating in a master's degree (AAPA, n.d.; PAEA, 2018). PA educational curricula are modeled after those of medical schools with demanding didactic and clinical training (AAPA, n.d.).

Upon successful completion of an accredited PA program, graduates must pass the Physician Assistant National Certification Exam (PANCE) administered by the NCCPA and then may apply for licensure in the state(s) where they choose to practice medicine. To maintain certification, every two years PAs must complete 100 hours of continuing medical education (CME), and every ten years must pass the NCCPA physician assistant national recertification exam (PANRE) (NCCPA, 2019).

The National Commission on Certification of Physician Assistants (NCCPA) is the only national certifying organization for physician assistants and functions as the benchmark to the public that certified PAs obtain and maintain rooted principles of clinical acumen and expertise, intellectual skills, and professionalism from commencement into practice forward through their careers. The organization is a vocal champion of the PA profession, advocating their essential

role as health care providers who supply cost-effective, high caliber medical care to millions of people annually (NCCPA, n.d.). The aforementioned 9,287 certified PAs in 2018 was officially the largest annual total since the inception of NCCPA certifications in 1975 (NCCPA, 2018). Since the origin of NCCPA, there are more than 131,000 certified PAs in the United States. The most heavily populated states for all certified PAs and the states with the ultimate number of recently certified PAs include New York, California, Pennsylvania, Florida, and Texas. Of PAs certified within the past year, 72.5% are comprised of people under the age of 30, and 85.6% identify as white (NCCPA, 2018). This indicates that a large majority of PAs are first career professionals who followed an early sequential educational path without significant racial disadvantage in higher education.

The American Academy of Physician Assistants (AAPA), founded in 1968 is the national professional society for PAs, representing the profession in all 50 states, the District of Columbia, U.S. territories, and all armed services among all medical and surgical specialties. Their mission states, "AAPA leads the profession and empowers our members to advance their careers and enhance patient health," (AAPA, about, our mission section, n.d.). AAPA details the scope of practice of PAs by their broad, generalist medical education that proliferates proficient clinicians who perform a complete battery of primary care duties from medical interview to diagnosis, treatment, and long-term management.

The 2019 AAPA Salary Survey reported on the different medical specialties in which PAs work. Surgical subspecialties hold a large percentage of clinical PAs at 27.4%, further broken down into top surgical subspecialties of orthopedic surgery at 10.9%, cardiothoracic vascular surgery at 3.4%, and neurosurgery at 2.2%. Primary care PAs comprise 20.8%. Internal medicine subspecialties were measured at 12.2%, further broken down into general practice at

5.2%, cardiology at 2.9%, gastroenterology at 1.6%, and oncology at 1.3%. Emergency medicine PAs comprised 9.4%, pediatric subspecialties were 1.4%, and a category "other" of 28.8% consisted of specialties like psychiatry, hospice and palliative care, obstetrics and gynecology, addiction medicine, pain management, public health, and dermatology. Unlike medical doctors, physician assistants can change specialties an unlimited number of times during their career, which increases their versatility and marketability (AAPA, n.d.). This may contribute to why the physician assistant profession was rated as number one in the 2019 U.S. News & World Report Survey of best health care jobs and number three on the 100 best jobs list (U.S. News & World Report, 2019).

Recruitment

As of June 2019, there are 246 accredited physician assistant education programs in the United States with an estimation of 304 programs by April 2022 (ARC-PA, 2019). According to the PAEA Program Report 34, which represents academic year 2017-2018, there are 1,974 full-time employed faculty in those programs, and of the 246 active programs, 132 (55.9%) of them have at least one vacant faculty position (PAEA, 2019). In the 2016-2017 academic year, 175 (74.2%) programs reported seeking to hire new faculty or staff (PAEA, 2018). The most prevalent variables reported for barriers to hiring new faculty in 2017-2018 in order of importance were lack of qualified candidates, salary, candidates' lack of teaching experience, and geographic location (PAEA, 2019). Unfortunately, in a field where the majority of the population is employed clinically, this statistic of lack of teaching experience is unlikely to appreciably change. New faculty are acquired from the clinical field, as there are limited higher education programs designed to create qualified PA academicians. As previously stated, in 2018, 75.5% of faculty were new to academia after pursuing a career change from clinical employment

(PAEA, 2018) with a retrospective longitudinal trend of similar magnitude from years prior to 2018.

Transition

PA educators function at the complex crossroads of medicine and teaching (Forister & Blessing, 2007). Experienced medical clinicians may look to academia for a change in career, but little support exists to help navigate the transition and longevity of their positions, often causing ambiguity, hesitation, and regret (Lambert et al., 2015). Despite intelligence, breadth of knowledge, and success in clinical practice, there is no guarantee those qualities will translate into academic expertise, or a smooth foray into a career of teaching. A broad disconnect also exists between the general assumption and the reality of what a career in academia truly entails. To bridge this gap and encourage more clinicians to teach, a network of support and guidance must exist (Lambert et al., 2015).

For most practicing clinicians, their only true experience with and knowledge of academia is personal reflection on their own educational path and exposure to professors in the programs of their chosen fields (Fain, 2011). Perception of a career in higher education often does not match the reality of the demands of an academic position. Some envision substantial personal and professional fulfillment playing an integral role in student's mastery of skills or concepts. Some believe there to be optimal opportunity for work-life balance due to the impression of flexible work hours with summers and holidays off (Culleiton & Shellenbarger, 2007). Opportunity to "give back" to the profession can be viewed as another incentive (Weidman, 2013, p. 105).

Conversely, unfamiliarity with the process of cultivating a professional development plan perpetuates the notion of academia as an untouchable ivory tower (Fain, 2011), especially in

regard to the exclusory culture deeply interwoven throughout many institutions of higher learning (Otty & Wrightsman, 2011). With little to no training as educators, clinically-seasoned, aspiring faculty are not only confronted with learning the balance between required teaching, research, and administration responsibilities to reveal their professional development, they must also naturalize to a vastly different culture from clinical work, adapt to new surroundings, and fulfill substantial expectations (Frantz & Smith, 2013). While there can be excitement with the prospect of utilizing a myriad of clinical experiences to provide students with real world challenges, the daunting mission to attempt such an identity transformation from "expert clinician to novice educator" can be traumatic (Otty & Wrightsman, 2011, p. 17).

Medical professionals who have tested the temperature of academic waters have spent time as clinical field instructors during student internships (Fain, 2011), lectured as guest speakers, or contributed as adjunct or part-time faculty members, ushering a somewhat easier transition into full-time academic positions (Otty & Wrightsman, 2011). During the 2017-2018 academic year, 53% of faculty reported that their immediate past employment as clinicians included preceptorship of PA students, 13.6% reported employment in PA education at a different program, and 4.2% reported working in a non-PA educational program (PAEA, 2019). Moreover, preparing for change through self-initiative and research regarding analysis of learning needs and goals and design of platforms to meet those needs is a valuable head start into successful teaching. Having a solid grasp of Bloom's Taxonomy of cognitive domains, which maps out stages of thinking and understanding, can significantly decrease stress when shifting into an academic position (Fain, 2011).

Most widespread throughout the literature about the transition from clinician to academic were the collective emotional and psychological ramifications reported by small, interviewed

groups (Frantz & Smith, 2013). Confidence and sense of competence declined very quickly, as new faculty felt unprepared and unsupported in their new journey. One study indicated that if not addressed early, these issues cause individuals to develop anxiety expressed by defensive cynicism, which negatively impacts their performance and outlook (Frantz & Smith, 2013). A small qualitative Australian study of 14 registered nurses utilized a storytelling approach to investigate the experience of novice teachers as they transitioned into their academic roles (McDermid, et al., 2013). Most stories echoed a sense of overwhelm by the unanticipated demands of the role, many of which caused high levels of stress. A general feeling of working harder and longer in academia was not unusual, especially when there were expectations to teach in areas outside of their personal expertise or comfort zones. Long preparation hours created feelings of inadequacy, anxiety, and panic, despite previous confidence and expertise in clinical practice (McDermid, et al., 2013). Balancing feelings of ineptitude while simultaneously thwarting all-encompassing culture shock contributed greatly to overall job dissatisfaction (McDermid, et al., 2013; Warner, 2015).

There are few studies who effectively explore all components of the process of medical clinicians transitioning to academia, but those which exist are based on small sample groups and are typically limited to one program within one institution with some exceptions. Most reported research related to this career transition is qualitative in nature, based on questions requiring subjective responses of respondents' personal experiences with their journey, and comes from programs like nursing which have historically suffered a deficiency of educators (Warner, 2015).

One nursing study performed a meta-synthesis of seven established qualitative studies from fields including nursing, physical therapy, health, and social care, which examined the identity shift associated with a career transition from clinician to academic. The researchers

isolated the central theme of identity shift and equated this theory to four phases of adjustment, which roughly transpired over a period of one to three years. The phases included "feeling new and vulnerable," "encountering the unexpected," "doing things differently," and "evolving into an academic" (Murray, et al., 2013, p. 392). During the first stage, participants claimed to feel, "under-credentialed," and experienced, "feelings of discomfort, stress, under-confidence, disempowerment, and loss of security and fear which led to self-doubt," (Murray et al., 2013, p. 392). New faculty are hesitant to bombard their colleagues with questions for fear of appearing incompetent or ignorant and felt that more experienced colleagues were not accessible or engaged in addressing the needs of new faculty (Warner, 2015). During the second stage, participants expressed bewilderment regarding the inaccuracy of their perception of what a job in academia would consist. Some were blindsided by expectations to immediately take on complicated roles and responsibilities with relentless volume and were confused at the programs' immediate trust in their ability to handle everything well (Murray, et al., 2013; Weidman, 2013).

Inevitably, new faculty in this and similar studies felt unprepared, hesitant, and insecure when gauging execution of their academic role and were shocked at their unenlightened view of job requirements and expectations (McDermid, et al., 2013). The third phase, involving doing things differently, was perceived as adjusting to the stark differences and unrealistic expectations of academic work viewed as a fluid role with amorphous boundaries, versus their previous clinical work which was more task-based with specific roles and duties (Murray, et al., 2014). Participants incurred higher stress levels with skills previously unfamiliar to them in clinical work, including lecture construction, teaching methods, test question writing, and student assessment (Weidman, 2013).

Faculty attrition was more common in this phase, as the seemingly endless workload overflowed into personal and family life, tempting new educators to return to the more routinized and predictable schedule of patient care where expectations were more realistic (McDermid, et al., 2013). The fourth phase of evolving into an academic occurred after lengthy adjustment periods, trial and error, and gaining confidence in their new roles in education, completing their initial journey of identity shift (Murray, et al., 2014). It is noted that these studies were not nationwide among faculty and were limited to nursing. While a snapshot study into this field is quite valuable, representation among other medical educational fields would be beneficial to compare and contrast.

A PAEA Survey for the 2016-2017 academic year included data from new PA faculty recruited from the clinical field with three or fewer years of academic experience. Participants provided information about their transition into academia, with choices that ranged from, *completely untrue* = 1 to *completely true* = 5. When asked if they felt they had enough program support during the transition from clinical work to academia, an estimated 38% of respondents chose the category of *somewhat true*, an estimated 28% chose *completely true*, and an estimated 18% chose *somewhat untrue*, with a median response of 4.0 on a 1-5 scale. When surveyed about their stress level during transition to academia from clinical work, with choices that ranged from *not stressful at all* = 1 to *extremely stressful* = 5, 28% of respondents chose *somewhat stressful*, 26% chose *slightly stressful*, 21% chose *moderately stressful*, and close to 10% chose *extremely stressful* with a median of 3.0 on a 1-5 scale (PAEA, 2018). This indicates that the majority of new faculty felt moderately to completely supported, yet simultaneously experienced moderate stress levels with their transition into academia.

Too few formal studies exist to substantiate accurate recommendations for the clinician-to-academic transitional process. Certainly, further studies should consider obtaining subjective experiences of newly appointed faculty to determine if these findings hold across disciplines in health professions and identify in which profession(s) the need for recommendations is greatest. Research is essential to explore the effects of mentor-mentee relationships among seasoned and new faculty who share the clinic to classroom experience to prepare strategies which will enhance the transitional process. The known research regarding the transition of clinicians to academia is quite conclusive regarding participants feeling overwhelmed, fearful, anxious, and discouraged at the transition experience with limited knowledge, mentoring, or resources. This alone creates an imperative to intervene with a well-thought-out, systematic, and multi-tiered development process (Frantz & Smith, 2013).

Mentoring

With active proliferation of PA programs in a climate where there are abundant opportunities for clinical employment, propagation of mentorship programs for new faculty and supportive organizational environments are imperative (Graham & Beltyukova, 2015). A mentor is described as someone with greater experience or more advance rank who mentors, instructs, and assists in maturating a rookie educator (Carey & Weissman, 2010). In a small study by Pinto-Zipp, Maher and Falzarano (2015) in the field of Physical Therapy (PT), the purpose was to investigate what degree of mentoring, if any, is being implemented for inexperienced, entry-level physical therapy faculty. Of 66 study participants, only 15 reported ever having a faculty mentor, with only ten receiving mentorship within their own PT department. Of these, 19.7% reported an informal choice of their mentors where 9.1% state that mentors informally chose their mentees. Within responses to the task of identifying the significant objectives with

mentorship relationships, 22% claimed the most important was "providing guidance to orienting and navigating the academic culture," and 13% cited "providing guidance in transition into the academic culture" (Pinto-Zipp, et al., 2015, p. 99). The word "time" was noted in response to challenges associated with faculty mentoring relationships in 60% of respondents.

Overall findings were consistent with the mentoring process, ultimately influencing a sense of value and loyalty to their program (Pinto-Zipp, et al., 2015, p. 99). Although limited to a small sample size within a singular discipline, the study results provided reason to further research whether or not the industry is suitably adapted for consistent or formal mentoring of new faculty. The findings of this study imply that existing faculty lack the time and resources to take on this challenge, and new faculty are left to navigate the unfamiliar setting without proper guidance.

Within every dimension of academia, new faculty need mentors to initiate smoother transition into unfamiliar local culture, customs, and roles. Mentors are essential to instill supportive structure, act as sounding boards, and function as ongoing resources for new faculty. This is particularly imperative for practicing medical providers making the switch to education, as the transition can be quite jarring (Fain, 2011). Everything from the language to the environment is unfamiliar and having a mentor to share insider perspective on subjects such as networking, research, books, classes, educational opportunities, rules, regulations, and access to resources offers much needed guidance. Direction with job expectations and demands, career, curriculum, and established communication strategies are vital to longevity and success of new faculty (McDermid, et al., 2013). New academics also need to take responsibility in this process by helping to identify their strengths, weaknesses, and goals, and where they believe they need the most assistance in navigation, which can be areas such as professional development,

emotional support, attaining proper work-life balance, leadership, time management, research, and networking (Carey &Weissman 2010).

A 2015 quantitative study using multiple regression analysis sought to examine factors that have potential to predict PA faculty intent to leave their teaching positions. Independent variables consisted of workload, autonomy, distributive justice, role conflict, and organizational support. The dependent variable was intent to leave. The chosen factors of organizational support, role conflict, and age were revealed to be significant predictors of faculty intent to leave (Coniglio & Akroyd, 2015). Discussion from the study findings indicated that proper interventions and resources need to be accessible to professionals making the transition from clinic to classroom to enhance preparedness for the full circle of academic responsibilities, reduce or eliminate the potential for high stress and dissatisfaction with this process, and breed a self-sustaining mentorship culture (Coniglio & Akroyd, 2015). Established mentoring programs which thoroughly address all necessary aspects of transitioning, including adjusting to departmental and institutional culture, professional development, teaching and research guidance, networking, and work/life balance are necessary for successful program outcomes, long-term growth, and higher faculty retention rates (Coniglio & Akroyd, 2015).

The concept of isolation of new faculty without mentors was first documented in the 1980s through works of early researchers. These early works suggest that while new faculty enter academia with a more utopian vision of freedom, autonomy, and fortuity for scholarly development, these expectations often do not match the reality of their experiences. Effectual mentorship that addresses career maturation, psychological consequences, and overall guidance can help bridge the expectation with substantive experience (Savage, et al., 2004). Investigation and research into mentoring strategies and outcomes that are applicable and pragmatic for health

care fields is integral for optimal success in keeping up with the skyrocketing demand for qualified and competent faculty in educational programs dedicated to producing skilled clinicians.

The most successful outcomes of transitioning into academia were supported by strong mentorship. This support can come in many forms including one-on-one mentoring, collaboration in groups or with peers, formal or informal, virtual, a combination of any or all, and many others (Carey & Weissman, 2010; Cowin, et al., 2012). Important factors to consider are compatibility, accessibility, shared goals and values, perception of confidence and competence, trust, and mutual benefit (Cowin, et al., 2012). While not always fostered by academic environments, mentorship requires extensive time and patience, cultivation and resources, and perhaps even more importantly that optimal mentor is honest, ethical, responsible, considerate, and generous, and has characteristics the mentee may wish to emulate (Carey & Weissman, 2010).

While these relationships should be mutually beneficial, as with any interpersonal exchange, there is always potential for drawback. Misunderstandings regarding roles or boundaries, inequitable goals, jealousy, and competition can become problematic. Advice is a suggestion, not a requirement. Nurturing the proper bond with time, patience, and mutual respect can help thwart such obstacles (Carey & Weissman, 2010).

A recurring theme in the literature is that support from mentorship results in improved professional development, job satisfaction, and retention of faculty. When mentored faculty comprehend the expectations involved in an academic position such as aspects of teaching, research, and rules of tenure, it enhances skill development, incorporation into culture, and self-confidence (Falzarano & Zipp, 2012). In turn, feeling valued encourages new faculty members'

commitment and loyalty to their department, leading to retention. One study by Lowenstein, Fernandez, and Crane (2007) centered on prevalence and predictors of medical school faculty intent to leave academic careers. Of the 561 survey respondents, 40% reported contemplating their departure from academic medicine within five years noting disappointment in the progress of their career. The same study discovered the turnover for medical school faculty averaged 8-10% per year. Forty-two percent of respondents reported seriously considering leaving academic medicine within five years, with 55% of respondents attributing their decision to a lack of mentoring within their program (Lowenstein, et al., 2007). Another study focused on women and minority health professions faculty and the effect mentoring had on attrition. The study found that with institution of a positive mentoring program, after five years the retention rates increased from 20% prior to implementation of the program, to 58% for the first year and 81% for the second year with a 100% advancement to tenure and promotion (Falzarano & Zipp, 2012).

Mentorship is a key factor in new faculty retention. Very often in academic medicine where faculty are overworked and understaffed, new faculty are thrown into the mix and expected to hit the ground running. For clinicians just transitioning into the faculty role, this trial by fire is a large factor in inevitable faculty attrition (Dunham-Taylor et al., 2008). Effective mentorship can be the single most influential way to successfully develop and retain new faculty for long-term placement. When effort is not put toward mentoring new faculty, time and resources are cyclically squandered, perpetuating the lack of qualified faculty crisis (Dunham-Taylor et al., 2008).

Professional Development of New Faculty

New faculty start their careers at a disadvantage with high industry expectations to maneuver the intricacies of academe (Zaweski, et al., 2019). There is an upward climb to master

requirements like curricular development and design, advising, assessment, creation of syllabi, and exam questions along with the overall requirements of scholarship, service and teaching. Fundamentally, new faculty need basic instruction on competencies to set the groundwork for success in academic education, including teaching, learner-centeredness, interpersonal and communication skills, professionalism and role-modeling, program and curriculum design and implementation, program evaluation, scholarship development, leadership and mentorship (Zaweski, et al., 2019). To address these necessary competencies, PAEA began a program in 1996 for faculty with two or less years of experience. The Basic Skills Faculty Development Workshop focuses on areas such as objective and test question writing, syllabi development, and student assessment. PAEA offers several different categories of faculty workshops throughout each academic year for a fee. It is at the discretion of each PA program to fund new faculty to attend these events (PAEA, n.d.).

Participation in an introductory workshop as well as developing a network of new colleagues in which to forge an interconnected community has been known to result in heightened job satisfaction, growth in scholarly work, and improved retention rates (Quincy, et al., 2012). A 2012 study investigated effectiveness of these workshops. All faculty and program director members of PAEA were invited to complete an online survey related to experiences and outcomes of past participation in PAEA sponsored basic skills workshops. Overall results revealed that attendees experience hastening of their perceived mastery of teaching skills, with the bonus of increased colleague relationships which, in turn, positively affects job satisfaction (Quincy, et al., 2012). In 2017, the PAEA Education Forum hosted approximately 900 attendees (PAEA, 2017). It is imperative that program directors and organizations support this foundational training, ultimately preparing new faculty for the challenges that await them.

Glicken and Blessing (1998) authored an article published by the early predecessor to *The Journal of Physician Assistant Education*, the leading publication for PA educators. The authors implored implementation of instructional workshops focusing on classroom teaching, curricular design, academic assessment, and evaluation, providing new faculty recruited from the clinical arena with valuable resources. This movement led to inauguration of the PAEA Faculty Development Institute (FDI) that has grown into a powerful force of knowledge and skill-building for new PA educators (Essary, et al., 2009). PAEA programs for faculty development continue today with the FDI, which has expanded into utilizing webinars, conferences, certificate programs, and tools to navigate teaching, scholarship, and service for all PA faculty (PAEA, n.d). As a member of PAEA, educators have the opportunity to take advantage of all resources that have sprouted from the efforts of the PAEA FDI. A website accessible only to members, paealearning.org (n.d.), is dedicated to providing professional development resources to PAEA members of every level of PA educator careers. Within this platform is the digital learning hub created in 2015, providing access to professional development resources which are especially valuable for educators who cannot attend the in-person education forums and events (PAEA, n.d.). More national PA programs, especially those with new faculty, should take advantage of these valuable resources, and encourage their organizations to support such endeavors.

An existing national program aims to transform the way aspiring non-medical faculty members are groomed for their careers. The Preparing Future Faculty Program (n.d.) involves 43 doctoral degree granting institutions and more than 250 partner institutions which includes a formalized system of mentoring in all aspects of professional development for many disciplines except healthcare (Council of Graduate Schools, 2019). The common goal is to address faculty roles, responsibilities, expectations, and education regarding universal academic requirements in

teaching, research, and service (Fain, 2011). This established program could be a model for the healthcare industry to emulate and become a beacon of information for all educational healthcare programs to reference when creating mentoring framework.

From 1998-2001, The Duke University Physician Assistant Program, in conjunction with funding from Pfizer, began offering a one-year fellowship program to graduates of accredited PA programs with master's degrees, NCCPA certification, and at least one year of clinical experience. The goal was to provide a disciplined apprenticeship for PAs interested in transitioning to academia. Theoretically, this practice offered new faculty personalized engagement in teaching to usurp barriers to recruitment and retention.

From 2001-2006, a federal grant funded the program until 2007, when funding came from a Health Resource & Services Administration (HRSA) Primary Care Training Grant. Of the eleven fellowship graduates, nine were hired as full-time PA faculty, and two chose to return to clinical practice.

As of 2010, five of the nine remained as active PA educators, two of which were in PA education for seven or more years, surpassing the typical average lifespan of a PA faculty position (Hills & Dieter, 2010). In the 2017 PAEA Faculty Survey, the average number of years PA faculty had been in their position was four, with a range of 0.1 to 30 years, and a standard deviation of 4.6 years (PAEA, 2018). This small representative of a fellowship program designed to create PA faculty could have implications that there is a greater inclination to stay in academia following intensive faculty mentoring. Currently, according to the Association of Post Graduate PA Programs (2020), there are 84 post graduate programs in 42 specialties, none of which are in PA education.

In 2015, PAEA began the Future Educator Fellowship, designed to provide opportunities for active PA students to learn and appreciate careers in PA education and inspire leadership advancement (PAEA, 2019, learning website). Each year, fifteen students are chosen to participate in this fellowship. A collection of mentors and educators comprising the Future Educator Development Steering Committee foster meaningful and goal-directed educational experiences and are readily available to the students with the objective of guiding them into a career of medical education (PAEA, n.d.). The fellowship also provides insight into other requirements of academic careers including scholarly activities and research. The institutions that house PA programs often place pressure on PA educators to participate in research and publishing. It is crucial that PA faculty can rise to meet those demands. However, new PA faculty recruited from the ranks of clinical PAs do not enter education with the knowledge or background in research or academic writing. As they transition into their new roles, time restraints are often barriers to engage in research and publishing, and PA program directors tend to divert precedence toward teaching, service, and clinical care (Hegmann & Axelson, 2012).

Many platforms detailed above are in place to provide tools to new educators and students who think they are on a path to become educators. Professional development is beneficial for any unseasoned employee, especially when new to an industry. The only known fellowship for PA education disbanded years ago, and most of the above-mentioned platforms are only available to members of the organizations that sponsor them. Individual programs should actively utilize membership benefits and encourage new faculty to explore the tools at their disposal. While not a structured fellowship or arranged mentorship, a self-directed new faculty could accelerate their foundational knowledge and skills with timely engagement of available resources. With programmatic support and encouragement to take the time to probe

online resources, attend basic skills workshops, seek out colleague relationships, and integrate professional development platforms, there may be greater likelihood of positive retention outcomes.

Standards on Faculty/Student Ratios

IDEA Education, a nonprofit research organization committed to improving student learning in higher education, recommends that smaller class sizes are optimal training environments. Analysis of over a decade of student data revealed lower faculty to student ratio with smaller class sizes result in higher achievement and retention rates and more effective, enthusiastic teaching (Pohorski, 2015). The National Center for Education Statistics (NCES) reports that the ratio of full-time-equivalent (FTE) students to total FTE faculty in all degree-granting postsecondary institutions was 14.0 in 2017 (*Digest of Education Statistics,* 2018).

Information on faculty to student ratio benchmarks in PA education is obscure and inconsistent between programs. Standard A2.02 of the 2019 ARC-PA Accreditation Standards for Physician Assistant Education states, "The program *must* have at least three FTE *principal faculty* positions, of which two FTE *principal faculty* must be filled by PA faculty who are currently *NCCPA-certified."* Standard A2.03 states, "*Principal faculty must be sufficient* in number to meet the academic needs of enrolled students and manage the administrative responsibilities consistent with the complexity of the program" (http://arc-pa.org, n.d.). This leaves much room for interpretation, as the definition of "sufficient" does not offer clear quantitative parameters of student/faculty ratio (ARC-PA, 2019).

As an example of this, two longstanding PA programs in New Jersey are compared. As of 2019, the three-year private Seton Hall University Physician Assistant Program admits a cohort of 60 students annually, totaling 180 students every academic year. There is one program chair,

one assistant chair, one medical director, ten full-time faculty, and one administrative secretary (Seton Hall University, 2019). The three-year public Rutgers University Physician Assistant program admits a cohort of 50 students each year, totaling 150 students every academic year. There is one department chair, one program director/vice chair, one medical director, four assistant directors, ten principal faculty, and five administrative assistants (M. McQuillan, Personal Communication, November 6, 2019). While measuring and comparing faculty workload between the two programs would take a great deal more study, on the surface it appears that the Rutgers program houses fewer students but employs far more faculty and staff.

The standard indicating that the faculty must be "sufficient" in number has a great component of subjectivity that is not specifically addressed within the accreditation process and can only be abstractly assessed by faculty reflection on job satisfaction and all related factors such as workload, organizational support, and work-life balance. Future comparative studies between similar programs focusing on student to faculty ratio and job satisfaction components could provide valuable insight.

Research very often compares job satisfaction studies between PA, nursing, and medical school programs, so it is warranted to investigate how nursing and medical school standards for faculty/student ratio correlate and contrast to PA standards stated above. *Standard III-A* of the Certification of Nursing Education Association (CNEA) is similarly vague to that of PA programs and states, "The program's faculty are qualified, diverse and adequate in number to meet program goals" (NLN, 2016, p. 16). The Interpretive Guidelines regarding student/faculty ratio state:

> "There is an adequate number of faculty to meet the program's goals and support students in accomplishing learning outcomes…The program's established faculty/student

ratios in classroom, clinical simulation and laboratory settings, including all distance education environments, meet the standards set forth by the professional organizations and regulatory agencies. Faculty/student ratios are designed to support the implementation of a variety of teaching/learning methodologies, and the assessment and evaluation of student learning outcomes, as appropriate for program type" (NLN, 2016, p. 16).

The Liaison Committee on Medical Education (LCME) *Standard 4.1 Sufficiency of Faculty* indicates, "A medical school has in place a sufficient cohort of faculty members with the qualifications and time required to deliver the medical curriculum and to meet the other needs and fulfill the other missions of the institution" (LCME, 2019, p. 5). All of these ambiguous standards offer very little guidance for PA programs, nursing programs, and medical schools to provide consistency or uniformity. As these educational programs continue to populate and proliferate, the number of qualified faculty must follow suit to comply with the standards of their governing bodies. When standards are vague or cryptic, programs have a difficult task of determining the ideal ratio, and more importantly, obtaining organizational support to ensure fair workload and adequate work-life balance. These discrepancies could encourage faculty who are unhappy at one institution to leave for another with more equitable ratios that positively influence workload.

Clinical Release Time

In 2017, 66.8% of faculty reported working clinically in addition to their academic positions. The majority, 36.2% are given release time from their PA program to maintain a part-time clinical position, and 17% report working both on the release time and additional hours of their own time. The average number of hours per week of clinical work is 12.1 (PAEA, 2018).

When study participants were polled about the importance of clinical work arrangements when applying for or choosing a position at a PA program, on a five-point Likert scale of 1-5, with 1 = *very unimportant* and 5 = *very important*, the mean was 4.1 indicating that applicants had vested interest in maintaining the ability to devote some time to clinical work (PAEA, 2018).

There are no existing standards or official recommendations for PA faculty to continue clinical work. While many references in this paper elude to faculty leaving education for clinical jobs, there is no substantive literature on PA faculty continuing part-time clinical work while maintaining jobs as educators. When this is the case, the nursing profession is a wealth of information in which to investigate. The National Organization of Nurse Practitioner Faculties (NONPF) requires faculty to maintain active clinical practice if they are to teach didactic courses and supervise clinical student experiences. The organization fully supports faculty who practice clinically and have current patient care guidelines knowledge which ultimately benefits their educational programs (NONPF, 2017). They find that faculty who actively practice medicine are better equipped to assist students in applying evidence-based practice in a manner that aligns with current standards and guidelines. Additionally, the organization has found benefits of increased student and faculty satisfaction, provision of more clinical sites and preceptors, greater collaborative scholarly opportunities, preferable patient outcomes, and students experiencing a smoother transition to becoming providers (NONPF, 2016). Other perceived benefits of faculty practice included integrating real-world examples into teaching and lending significant credibility to the experience and skills of program faculty (Gonzales, et. al., 2019).

Rutgers School of Health Professions was the first in the country to implement a faculty practice model for PAs within a New Jersey hospital. In 2017, New Jersey Medical School faculty wished to expand its usual practice and services offered by clinical physicians. This led to

creating an opportunity for PA faculty to contribute to continuity and quality of patient care while providing clinical rotations for Rutgers PA students (Verbanas, 2017). PA students learning from faculty didactically and clinically gives more credibility to the program through learning encounters that straddle classroom and clinic.

Tenure Status

Tenure is designed to preserve academic freedom and the integrity of research without influence from outside forces like corporations, special interest groups or the government, and the quality of teaching. Academic tenure is an indefinite appointment that has specific restrictions for termination (AAUP, n.d.). The National Education Association (2019) stands by the construct of tenure, academic due process, and faculty self-governance and that the institution of tenure should be protected. Practices that threaten the bedrock of tenure and the foundation of job security essential to academic and intellectual freedom diminish the stability of scholarly practice (NEA, 2019).

In the 2017 PAEA survey, 18.6% of PA faculty reported being tenured or on a tenure track, and when asked about satisfying aspects of the academic job, tenure requirements and research opportunities were among the five least satisfying items reported (PAEA, 2018). It is thought that the low number of tenured PA educators is a result of faculty coming from clinical, not academic roots, and that most do not possess doctoral degrees. The PA profession itself is dissimilar from other health professions in that it does not fit the traditional mold of academia and the institutions that sponsor PA programs have widespread variability in contract systems and emphasis on research and publishing (Cawley, 2010). Most faculty do not enter the field with expertise in research or writing and are typically charged to aim focus primarily on teaching

and service, creating large contrast with the traditional basis of tenure (Hegmann & Axelson, 2012).

Organizational Support

In general, faculty remain new to academia with the median number of years in a faculty position in the 2016-2017 academic year at 3.0, and 2014-2015 academic year at 2.5 (PAEA, 2016,2018). It is important for institutions to nourish longevity of success in their programs and investigate why faculty choose to leave or continue their faculty positions. Using tools and interventions to predict and prevent faculty turnover is in every institution's best interest. A regression analysis by Congilio and Akroyd (2015) sought to investigate demographic, human capital, organizational, and environmental elements and their influence in predicting PA faculty resolution to leave their current position. The study was a non-experimental, cross-sectional predictive quantitative model utilizing a random sampling of PA faculty from the PAEA database. Results indicated the strongest correlation was between organizational support and intent to leave. In institutions where the perception of organizational support was great, faculty had low intent to leave their positions (Coniglio & Akroyd, 2015). In this investigation out of 20 scrutinized variables, only three; organizational support, role conflict, and age were predictors of PA faculty intent to leave, representing 40% of the variance, indicating that there are other non-identified predictors.

A study by Graham and Beltyukova (2015) found consistent results with Coniglio and Akroyd regarding the significance of a supportive or non-supportive academic environment and its impact on faculty attrition, with focus on a deficiency of perceived organizational support (Graham & Beltyukova, 2015). A follow-up study published in 2017 revealed consistent results with the addition of predictors including, "recognition by administration, support of scholarly

work, support of the PA program by administration, a fair promotion process, and a sense of institutional community," (Beltyukova & Graham, 2017, p. 10). Additionally, through this research, the Supportive Environment Scale emerged, grouping influential factors into four main categories: institutional support, workload, relationships and autonomy (Beltyukova & Graham, 2017). These categories hold the keys for administrators to study and nurture new faculty to encourage growth and retention.

One exhaustive literature review sought to determine the organizational, personal, and job-related factors influencing productivity, retention, and overall satisfaction of faculty (Nyquist, et al., 2000). Some of these identified elements included faculty resources, promotion opportunities, mentoring, relationships with colleagues, culture of and commitment to the organization, participation in organizational decisions and autonomy, consistent workload parameters leading way to work-life balance, and enthusiasm for the job. Categories and attributes of job satisfaction models for both academic medicine and higher education were remarkably similar (Reed, 2006). Both sectors of education could glean valuable wisdom by delving into research findings from their academic counterparts.

Attrition and Retention

The workforce has evolved dramatically in the last century, but for an organization to excel, it needs to maintain and preserve its finest talent (VanZyl, 2019). One study of 26 medical schools in the United States sought to investigate the extent and reasons academic faculty consider departing from their institutions or academic medicine altogether and how organizational cultures have confounded the choice to leave (Pololi, et al., 2012). The study utilized the C-Change Faculty Survey to gauge perceptions. Findings among faculty attrition due to dissatisfaction included, "lower senses of relatedness/inclusion, engagement, self-efficacy,

values alignment, and institutional commitment to improve support for faculty," and, "negative perceptions and distress about the non-relational and ethical culture of the workplace," (Pololi, et al., 2012, p. 861). Faculty felt exposed and detached from their coworkers, leading to loneliness and obscurity, and experienced moral suffering regarding unethical practices of the institution clashing with their personal values (Pololi, et al., 2012). Inclusiveness, open communication, organizational encouragement for faculty integration, and invitation to participate in decision-making policies could be more inviting to faculty to not only encourage retention but forge an upsurge in job satisfaction.

Between 1986 and 2003, the top three reported explanations for departing positions in PA educational programs were career advancement (21.6%), return to clinical practice (18%), and geographic relocation (16.2%) (Reed, 2006). This longitudinal trend continues to the most recent statistics. During the 2017-2018 academic year, 132 (55.9%) of programs reported that at least one faculty member had left, which is a 3.2% rise in departures from the 52.7% reported in the 2016-2017 academic year. The top reason for faculty departure was to return to clinical practice at 25.7% (PAEA, 2019).

With the rise and expansion of PA programs, faculty vacancy rates remain relatively static. The nationwide faculty vacancy rate average from 2013 to 2018 was 7.356%, which is significant for a field where academic programs have grown at a rate of 27.6% in the same time frame (ARC-PA, 2020; PAEA, 2015, 2016, 2017, 2018, 2019). These statistics provide focused insight to the insufficiencies of intervention by organizational leadership to retain PA faculty, and risk continued cyclical attrition with loss of faculty talent and revenue. A 2018 survey on vacant faculty positions in nursing released by the American Association of Colleges of Nursing (AACN) reveals a nurse faculty vacancy rate of 7.9% (AACN, 2019), very similar to the trend in

PA programs. The same academic year, US nursing schools turned away 75,029 qualified applicants due to a deficiency in faculty, classroom space, and clinical preceptors, with faculty shortage being highlighted as the top barrier (*AACN Fact Sheet—Nursing Faculty Shortage*, n.d.).

Retention and Gender Bias

PA education is a female-dominated profession, with women representing 68.2% of all PA faculty in 2017, and 72.5% of all recently certified PAs in 2018 (PAEA, 2018, NCCPA, 2019). It would serve organizations well to cater to specific factors that influence retention among women. A sampling of these determinants include enhanced networking and teamwork between male and female faculty, conscientious efforts toward meeting times and childcare parameters, and salary equity (Reed, 2006). Salary reports reveal that male PA faculty earn an average of $8,000 annually more than women (PAEA, 2018), implying to women that, compared to their male counterparts, their dedication to PA education is less valuable to organizations. When female faculty at Johns Hopkins protested this egregious discrepancy, the Department of Medicine intervened with a multidimensional program to ameliorate career barriers biased by gender. Consequently, retention, and promotion of female faculty to associate professor increased by 550% over a five-year period (Reed, 2006). There are unfortunately still many glass ceilings for women to break, and medical academics are not immune. In a female dominated profession, PAs should have more bargaining power and respect.

Globally, the gender pay gap reported for 2018 is 32.0%, or a 68% average disparity to equality, which is a negligible improvement since the year prior. Currently, the United States ranks at a 28% gender pay gap, with 72% of its overall gender gap closed: a decrease of 2% since 2015 (The Global Gender Gap Report, 2018). The United States ranks at 51 out of 142

nations in overall wage equality and 23rd for gender pay equality. If current rates remain stagnant, the overall global gender gap will close in 165 years in North America. While the gender pay gap has tapered since 1980, there has not been substantive change during the past 15 years. In 2018, women's earnings were 85% of men's, representing a 15-cent pay gap between genders (Graf, et al., 2019).

Higher Education perpetuates gender pay disparities in both pay and rank. In a 2015 study, men were found to comprise a disproportionate ratio of full professors by more than double that of women despite equivalent qualifications. While salary increase percentages were slightly higher for women in 2015, this ultimately left the pay gap unchanged or even greater because male faculty started at a significantly higher earning, resulting in a larger increase for a proportionately lower percentage of their salary (Hatch, 2017). An Ohio State University study utilized human resources data, following 23,000 faculty members' information regarding salary, gender, age, faculty rank, start year, FTE, and tenure status for four years. When controlling for experience, clinical appointment, fiscal year, and department fixed effects, a substantial gender wage gap of 21.4 % was identified at the university (Chen & Crown, 2019). Most concerning, 27% of this gap has no rationale other than gender, as there was no other observable difference in characteristics, pointing directly to overt discrimination for the disparity, with faculty rank and appointment type the most notable.

Reflecting as far back as 1983, wage inequality among clinically practicing PAs has been recognized despite comparable education and experience. This inequity was studied again in 2009, and the outcome remained consistent even when controlling for a number of variables such as experience, medical field, and number of working and on-call hours (Smith, et al., 2017). Twenty years of data highlighted the gender compensation inequality trend of clinically

practicing PAs, revealing the median total pay of women at 87% of what men are paid for the same work (Smith, et al., 2017). This has far-reaching effects of job satisfaction and retention as female PAs consider their retirement viability. One study exposed the finding that while 45% of female PAs desire a plan to retire by the age of 62 or under, 27% of females aged 55 and older felt that unsatisfactory income would never allow them to retire as compared to 8% of males in the same age range (Coombs, et al., 2013). For a female-dominated industry, these standards are shameful and need to change.

Financial Loss Due to Attrition

Low retention rates of faculty impact institutions of higher education in many ways, but there are significant financial repercussions including filling vacant positions, recruitment costs, and financial hiring incentives (Kaminski & Geisler, 2012). Another financial implication is the loss of intellectual resources which is the bedrock of academic medical centers (Girod, et al., 2017). The financial losses from attrition of medical faculty can be staggering. The average expenditure of recruitment, hiring, and lost clinical income cost of replacing a medical generalist ranges up to $115,554, whereas the replacement of a specialist can soar to $286,503 (Nausheen, et al., 2018).

Another estimate of replacing one clinical faculty member is projected somewhere between $155,000 and $559,000 with respect to medical specialty. One academic health center reports that 5% of the annual budget is dedicated to turnover expenses (Pololi, et al., 2012). Attrition of a moderately experienced faculty member is akin to the loss of valuable time and effort invested by more senior faculty to train and mentor, program investment to provide resources, and the institution's obligation to search for a replacement (Forister & Blessing,

2007). Loss of an experienced faculty member is also an asset forfeiture of considerable acquired knowledge and training that could have ultimately benefited the program (Abate et al., 2018).

Job Satisfaction

Historically throughout the literature, there are numerous internal and external variables in academia that shape job satisfaction including goal attainment, recognition, devotion to the work, workload, and promotion (Reed, 2006). In a study by the Association of American Medical Colleges, every full-time faculty member who taught in the 30 academic years from 1978-2008 was tracked for 10 years to determine attrition percentages, resulting in a reported attrition of 38-40% in that time frame (AAMC, 2019). Academic medical faculty surveys at the University of Michigan Medical School were utilized to gauge job satisfaction, and the strongest predictors consisted of "autonomy, work-life balance, departmental leadership, salary compensation, and being mentored" (Chung, et al., 2010, p. 985). There was also strong positive correlation with effective mentoring relationships, institutional culture, peers, and feeling valued.

Another survey completed in 2009 by nearly 10,000 full-time faculty from 23 medical schools in the United States yielded similar results (Bunton, et al., 2012). In particular, departmental and institutional leadership stood out as predictors of job satisfaction, as leaders' influence, whether positive or negative, have a strong impact on faculty. Autonomy also had a large impact, as higher levels of burnout were a result of lack of schedule control and too many hours devoted to work. Additionally, a feeling of worth by faculty secondary to culture, opportunities for faculty input and open communication, and equity within the institutions revealed strong influence for positive job satisfaction. The absence of these factors led to poor job satisfaction and higher attrition. Faculty turnover itself waxed problematic for retained

faculty, resulting in decreased morale, imbalanced workload, and division within environmental culture (Bunton, et al., 2012).

Younger faculty were more prone to leaving academic medicine due to dissatisfaction with the field, which is notably troublesome for a variety of reasons. An aging faculty population will eventually need to give way to new academicians with fresh ideas and youthful energy. Investments in these talents require long-term plans for retention to create the next generation of educators (Pololi, et al., 2012). Millennials tend to demand more security and allegiance from an organization than they are prepared to reciprocate, requiring modification of recruitment techniques and organizational support criteria to ensure longevity. The general perception of millennials leads organizations to prioritize mentorship in aiding young growth and development that may pave a cleaner road to retention (VanZyl, 2019).

All PA faculty in the United States were surveyed about job experiences and satisfaction yielding an individual response rate of 60.3% (PAEA, 2018). This section of the 2018 PAEA Faculty & Directors Survey was adapted from the Higher Education Research Institute Faculty Survey (HERI). Experiences in the PA program contained variables rated on a 1-5 scale with 1 = *strongly disagree* and 5 = *strongly agree*. Higher rated variables included, "My teaching is valued by faculty in my program," with a mean of 3.7, "My service is valued by faculty in my program," with a mean of 3.5, and "Faculty are sufficiently involved in program decision making," with a mean of 3.4. Somewhat lower rated variables included, "Administrators consider faculty concerns when making policy," with a mean of 3.1, and "Faculty are hired and paid fairly," with a mean of 3.0. Job satisfaction questions were rated on a 1-4 scale with 1 = *not satisfied* and 4 = *very satisfied*.

The following are some variables within the survey and their corresponding mean scores: "autonomy and independence" 3.9, "departmental support for work/life balance" 3.7, "faculty development opportunities outside institution" 3.5, "faculty development opportunities within institution" 3.4, "salary amount" 3.2, "institutional leadership" 3.3, "program management/leadership" 3.7 and "teaching workload" 3.6 (PAEA, 2018). Overall, faculty are relatively satisfied nationwide, which does not align with the high rate of attrition, indicating that the study may yield different results if new faculty with less experience and seasoned faculty were reported separately. It is also possible that faculty who have recently left academia do not participate in the survey, and their opinions and are not factored into these statistics.

In the same survey, PA faculty were asked what the most and least satisfying aspects of their jobs were. The most satisfying factors were autonomy and independence, didactic or clinical teaching environment, clinical work arrangement, curriculum, and departmental support for work/life balance. The least satisfying aspects of their job were fairness of salary relative to other faculty, institutional leadership, research opportunities, salary amount, and tenure requirements (PAEA, 2018). This aligns with most research throughout higher education and medical education where autonomy, teaching environment, salary, and departmental and organizational leadership collectively have the largest impact on retention and attrition.

Stress and Burnout

When demands of work become overwhelming, employees can fall into a cycle of deceleration where they become disconnected, cynical, and weary, which ultimately decreases productivity. There is a close correlation to an educator's job satisfaction and their emotional attachment to their institution (Nagar, 2012). Stress has a cacophony of definitions, but when related to occupational stress, it refers to, "any affect-laden negative experience that is caused by

an imbalance between job demands and the response capability of the workers. When job demands are too high to cope with, stress reactions are likely to occur" (Nagar, 2012, p. 45). American social psychologist Christina Maslach, co-author of *The Maslach Burnout Inventory*, defines burnout as, "a syndrome of emotional exhaustion, depersonalization, and reduced personal accomplishment that can occur among individuals who work with people in some capacity" (Forister & Blessing, 2007, p. 10). She emphasizes that the issue lies within the social work environment rather than the individuals experiencing the effects.

Burnout can play an instrumental role in faculty turnover and discontent in job responsibilities and performance (Forister & Blessing, 2007). Definitions of the three identified factors of burnout include emotional exhaustion, where one feels drained of energy, depersonalization, when there is a negative disconnect between the individual and the people he or she serves, and lack of personal satisfaction, which relates to unfavorable reflection of one's own work (Cordes & Dougherty, 1993). A culmination of these factors in an employee results in a decline in organizational commitment, decompensation of health, decrease in work attendance, all which ultimately lead to the decision to quit.

For PA educators, especially those new to academia with role ambiguity and overwhelming workload, emotional exhaustion and diminished commitment to their program are more prevalent (Forister & Blessing, 2007). Female educators tend to have higher scores on emotional exhaustion and reduced personal accomplishment, whereas male educators are represented more prominently on depersonalization (Nagar, 2012). In a 2011 study examining the degree of generational significance on work-related perspectives, millennials are shown to be more likely to have a decreased constitution for higher stress positions and are more prone to quitting due to lack of experience, whereas older workers have a more robust aptitude for

tolerating stressful positions. Both generations, however, have a higher predisposition to retention with enforced, reliable management practices in addition to strong recognition and reward conventions in their organizations (Abate, 2018).

Heightened productivity in the workplace can be encouraged by curtailing excess stressors, which have negative consequences for organizational performance and commitment as well as overall job satisfaction. Lower stress in the workplace aligns with increased job satisfaction and organizational commitment commensurate with increased overall productivity, efficiency, and well-being, in addition to a decreased likelihood of absenteeism and attrition (Nagar, 2012). Clinicians such as physicians, nurses, dentists, pharmacists, and physician assistants face a high degree of burnout with factors including increased workload, increased demand for health services and administrative burden. Although larger studies focus primarily on physicians, smaller studies involving physician assistants find parallels concerning burnout rates that fall between 34% and 64% (Essary, et al., 2018).

When PA faculty were surveyed about stressors in the 2018 PAEA Faculty & Directors Report, variables were rated on a 1-3 scale with 1 = *not at all a source of stress* to 3 = *a source of extensive stress*. "Self-imposed high expectations" ranked as the top stressor with a mean of 2.2, "increased work responsibilities" ranked second with a mean of 2.1, "institutional procedures and 'red tape' " ranked third with a mean of 2.1, "managing household responsibilities" ranked fourth with a mean of 1.9, and "colleagues" ranked fifth with a mean of 1.9 (PAEA, 2018). The higher stressors imply that PA educators have high standards and can be frustrated by the rigmarole involved in higher education processes of policy and procedure.

Organizational Justice

Organizational justice is a term that defines an employee's impression of fairness in aspects of ethical principles, incentives, prospects, and actions, significantly influencing an employee's opinions and approach to institutional management (Yean & Yusof, 2015). The higher the perception of fairness, the greater the trust, commitment, and performance of the employee toward the organization. When employees are psychologically submersed in their work, retention escalates but can be troubled by negative influences of administration and social climate (VanZyl, 2019). These concepts align with decades of research of organizational justice separate from medicine in the business sector, generalizing that employee perception and ethical milieu are strongly associated with institutional trust, job satisfaction and commitment, and retention (Pololi, et al., 2012). Levels of an employee's sense of connection, identification with, and sense of duty to an organization is known as organizational commitment, which has three subgroups: affective, continuance, and normative (Nagar, 2012).

Affective commitment is when employees take pride in their connection to the organization, share similar values, and actively contribute to the success of the organization out of personal satisfaction. Continuance commitment aligns with workers who fear leaving their position due to the unknown in terms of position or cost repercussion and remain where they are because they feel they personally need the organization to subsist. Normative commitment refers to a sense of obligation to stay out of loyalty and indebtedness related to the benefits the employee has gained by working there, such as the organization's time and resources. They stay because they morally feel it is the right thing to do (Nagar, 2012).

Statistics from the American Association of Medical Colleges (AAMC) reveal an overall faculty attrition rate of 38% from academic medicine within ten years of initial employment.

First time assistant professors who had only worked for one academic institution make up 43% of that number (Nausheen, et al., 2018). The departure was attributed to a variety of factors such as salary, institutional culture, support and leadership, lack of advancement opportunities, burnout, and moral distress. Additionally, not feeling valued or recognized by their organization was a motivating factor to leave (Girod, et al., 2017). Nursing faculty exit interviews at California State University revealed that a significant precursor to resignation was a feeling of isolation (Genrich & Pappas, 1997). A survey at the University of Colorado, School of Medicine associated determination to leave academic medicine with lack of reward or promotion for high caliber teaching and excellent clinical service (Lowenstein, et al., 2007).

Theoretical Framework

A litany of research regarding employment retention and attrition spanning decades has focused strongly on well-known factors such as organizational support and commitment, job satisfaction, and job alternatives (Reitz & Anderson, 2011). Research during the past two decades has pivoted focus from those standards to a broader construct called job embeddedness (JE), a concept that arose from the business sector and has since infiltrated the educational arena from organizational psychology. The JE theory is a more comprehensive, forward thinking concept than past research that exclusively examines circumscribed concepts of job satisfaction, retention, attrition, and organizational theory.

All of those prior conceptualizations are valid and have merit in research. However, when examining job turnover, JE expands the scope to include internal and external factors not explored through a singular lens (Lee, et al., 2001). The early hypothesis of JE began as early as 1995 at the University of Washington when Tom Lee, Terry Mitchell, and other colleagues, who had long studied voluntary employee turnover, switched focus. Lee had an epiphany in realizing

that when theorizing employee turnover, the objective consistently concentrated on the reason people leave rather than considering why people stay. The introspective researchers justified their own long-term employment at the same university with fit and comfort in the organization, links to the university, local community and devoted students, and the imposed sacrifices that would occur if they left, including the struggle placed upon their doctoral students. Incidentally, one of their doctoral students at the time, Brooks Holtom, is now the most published JE scientist (Lee, et al., 2014). JE was originally unveiled in 2001 in the Academy of Management journal article, "Why People Stay: Using Job Embeddedness to Predict Voluntary Turnover," one of the most widely referenced articles on the theory (Mitchel, et al., 2001).

The original JE model by Mitchell and Lee in 2001 broke ground in the organizational practices research community and has been cultivated and further developed by other researchers like Ramesh and Galfand in 2010 (Ghaffar & Khan, 2017). The central question explored by researchers prior to and since the introduction of the JE concept is the "why" of employees staying at or leaving their jobs. Research leading up to evolution of JE strongly focused on work attitudes, subsequently proven to portray only a modest portion of the comprehensive topic of retention and attrition (Mitchell, et al., 2001). The foundation of this theory extends back to 1951, when Lewin described a "life space" in which a person exists as a whole, where all facets of a person's life are interconnected creating a complex grid. The linkages can be inconsequential or significant in both number and approximation (Reitz &Anderson, 2011).

Lewin also detailed the concept of "embedded figures," which are essentially puzzle pieces or images buried in a person's background that are difficult to detach from one's life or surroundings, enmeshing him or her to those links (Mitchell, et al., 2001). While employee retention remains central, the conglomeration of usual factors extends far beyond confines of the

workplace. Determinants comprise a complex network of psychological, social, and financial influences both on and off the job. The network compares to a web or nexus of forces that moors an employee to their position and justifies the greater diversity of variance within retention (Zhang, et al., 2012). Deviating from schematics of previous decades of research, the concept of JE changes the narrative to spotlight retention and the composite view of variables versus turnover and a more myopic focus on employer-employee relationships (Reitz & Anderson, 2011). Three fundamental elements embody job embeddedness and increase the probability of job retention: fit, links, and sacrifices (Holtom, et al., 2019).

These three critical components of JE remain solid throughout the evolution of the theory. Fit is an individual's perceived congruity and comfort with the organization such as job aspirations, personal morals and ethics, and job-related skills and expertise. Links are the relationships a person has with the organization and community such as colleagues, family, friends, groups, networks, and environments. Sacrifice entails the perceived benefits (material, psychological, emotional, professional, and personal) that could be forfeited if one were to leave a job. These could be large like financial sacrifices of pensions, or more personal like the loss of a treasured community, disrupting children's lives by switching schools, or exchanging a pleasant commute for a stressful one (Reitz & Anderson, 2011).

Fit

Fit describes an employee's overall perceived compatibility with the job, the organization and surrounding community (Zhang, et al., 2012), filtering down to relationships, involvement, and interaction with colleagues in a work environment (Wnuk, 2016). Fit is crucial to sustainability in an employment position and represents the congruity between the employee and a multitude of factors including career goals, demands of the position, necessary knowledge,

skills and abilities, benefits, personal ethics, values, friendships, community, and even such elements as climate (weather, political, religious), geography, and amenities. The more harmonious the fit, the more embedded the employee is to their position and the organization (Mitchell, et al., 2001; Reitz & Anderson, 2011; Zhang, et al., 2012). Leadership and skills training nurture employee fit by encouraging growth and success within an occupation. Supporting incrementally elevated autonomy speaks to organizational commitment for long-term growth and prosperity through incentives for consequent productivity (Holtom, et al., 2019).

Links

Links are defined as the extent of formal or informal associations between people, institutions, or activities, or any factors that bind the employee to the organization and the community including surroundings, friends and colleagues, both personal and work (Reitz & Anderson, 2011). In academia, social support networks and professional relationships carry weight with increased job satisfaction (Graeff, et al., 2014). Institutions that foster relationships between their employees and professional colleagues and associations by paying for memberships or promoting networking have a positive correlation to embeddedness. Workers develop consultation systems with others to share information, collaboration, and direction, while actively forming an elite group of members (Holtom, et al., 2019). These social, psychological, and financial connections draw the employee into the intricate web of links that embed them into their organizational position (Mitchell, et al., 2001; Zhang, et al., 2012).

PA educators coming from the clinical world also keep links to their roots by continuing to work clinically part time. In the 2017 Faculty Survey results, 66.8% of faculty reported also working clinically. Of those, 36.2% worked clinically on release time from their program, 17% on release time and additional hours of their own time, and 13.6% on their own time all in the

average ranges of 8-12 hours per week (PAEA, 2018). This shows a desire for PA educators to keep solid footing in the clinical career they know as they balance their career identity between academic and clinician. PAs who juggle their career identity between two worlds can encounter struggle in maintaining links in one direction due to the competing demands of both fields.

Sacrifice

If employees choose to leave their positions, the element of sacrifice engages, where links are broken and perceived loss of psychological, social, or material costs ensues. Essentially, sacrifices equate to what the employee would have to forfeit in order to leave. Anticipated benefits of switching jobs such as higher compensation or rank influence the sacrifice of other factors like an easier commute, familiar workmates, alluring benefits, or withdrawal from an accustomed community (Mitchell, et al., 2001; Reitz & Anderson, 2011; Zhang, et al., 2012). When employees have amassed professional skills, credentials, and associated status within their organization, the decision to leave can be difficult, especially when debating the surrender of those resources in exchange for adapting to a new position with alternate required training and reputation building. Employees with benefits like autonomy, pliable work roles, incentives, close family resources, and supportive community carefully weigh potential sacrifice before terminating their employment (Holtom, et al., 2019).

Progress in JE doctrine has exposed further forms of influences on embeddedness which affect overall job satisfaction including, "1) on-the-job and organizational embeddedness, 2) occupational embeddedness, 3) community embeddedness, and 4) family embeddedness in the community," (Holtom, et al., 2019, p. 2). Job embeddedness can be propagated through resources like on-site teaching, tuition reimbursement, and intermingling with colleagues, particularly through company sponsored networking opportunities. Providing employees more

autonomy and power to make decisions and take responsibility for their work product is motivating and creates a sense of ownership and belonging. Incentivizing work product, offering performance-based rewards and fluid performance evaluations can invigorate and ingrain employees in their organizations. Qualities of the job that enhance JE include meaningful considerations from the personal lives of employees. These include strong ties with family members who bond them to their local communities, intertwining familial support with balancing job and home responsibilities. Lastly, professional communities that yield positive networking opportunities strengthen links with others in their industry (Holtom, et al., 2019).

Much of the antecedent research which focuses on overall job embeddedness has paved the way for subsequent research, delving into prediction of voluntary turnover beyond the 2001 dyadic traditional model of organizational and community embeddedness. More global measures have provided inclusivity to variables not factored into the original model. In their study, Crossley, Bennet, Jex and Burnfield (2007) developed "Factor Loadings of Global Job Embeddedness Items" which include, "1. I feel attached to this organization, 2. It would be difficult for me to leave this organization, 3. I'm too caught up in this organization to leave, 4. I feel tied to this organization, 5. I simply could not leave the organization I work for, 6. It would be easy for me to leave this organization, and 7. I am tightly connected to this organization." (Crossley, et al., 2007, p.1035).

In this research study, initial evidence of the validity of the global embeddedness construct was identified as a measure of job embeddedness. Its findings extended beyond traditional models of turnover by Mitchell, et al. (2001), by predicting additional variance in voluntary turnover. It was able to predict intentions to search for new employment and quit present employment, and the emphasis of analyzing job embeddedness as a key facet in the

decision-making process (Crossley, et al., 2007). Implications of this study have great potential to aid organizations in implementing strategies to encourage retention, such as nourishing peer and community relationships, offering flexible scheduling and autonomy, providing thoughtful promotional policies, and more.

While most JE research has concentrated on positive outcomes, Ng and Feldman (2010) demonstrated possible negative effects, focusing on organizational embeddedness. They proselytized that increasing organizational embeddedness gives way to longitudinal deterioration in social and human capital development. Their theory illustrates that highly embedded employees have weakening networks of relationships within their organizations and industries, ultimately damaging their economic value to organizations. The same researchers went further into potential negative repercussions of JE and supported a theory that work-to-family and family-to-work conflicts increased over time for employees, especially those with egocentric characters (Ng & Feldman, 2012). Other downsides of JE revolve around employees who feel "stuck" in disadvantageous jobs due to components of links and sacrifices, causing lack of motivation, resentment, and participation in detrimental on-the-job conduct (Crossley et al., 2007).

The encompassing realistic significances of JE are the conditions and factors that encourage employees to stay employed and feel satisfied in their jobs. When organizations tap into the elements that reinforce JE including the fit, links, and sacrifices that align with their industry and community, probability of retention of talent, increased productivity, overall happiness, and job satisfaction is plausible.

This study is intended to probe into factors which impact PA faculty recruitment and retention. As discussed, the majority of PA educators come to academia with clinical experience

but with little to no experience in education (PAEA, 2019). Trends in PA education show that slightly over half of all programs report a shortage in faculty after educators leave their positions, with the top reason of returning to clinical practice (PAEA, 2019). The expansive reasoning of PA educators leaving their positions will be explored to gain further insight of the problem, in the hope of providing solutions. In the spirit of the job embeddedness theory, this study will explore circumstances of attrition and retention, including but not limited to, job satisfaction elements like workload and salary, mentoring, professional development, organizational support and effectiveness of leadership, all in their relation to the constructs of fit, links, and sacrifice. The goal is to predict job embeddedness factors that impact the longevity of PA faculty employment in the United States.

Conclusion

While there is some preliminary and older research on factors related to retention and attrition of PA faculty, most of the information comes from studies within medical schools and nursing programs. PAEA gathers data annually to provide insight into faculty recruitment, factors of job satisfaction, salaries, organizational support, transitional support, factors of job experiences, and satisfaction. However, the surveys do not attract high response rates, and there is little to no data captured on new faculty that have chosen to depart from PA education. Most faculty who leave education return to clinical work. Capturing detailed data from these clinicians as to why they chose to leave is quintessential to the puzzle of PA faculty retention and job embeddedness.

The Physician Assistant Educational community is struggling to fill and retain faculty positions within programs nationwide. As new programs emerge and existing programs expand, the demands on short-staffed faculty to maintain excellence in preparing future generations of

competent PAs are unrelenting. Recruiting new faculty from the clinical sector is commonplace, but well-known to end in attrition due to a variety of negative influences such as lack of mentorship, lower salary, underwhelming organizational support, unsustainable workloads, and work-life imbalance.

Incentivizing employment as faculty within PA programs is essential for the longevity of the industry. Organizational support with factors such as formal mentoring, encouragement, and financial support to participate in national conferences to learn basic educational skills and engage in continued faculty development opportunities, autonomy, shared decision making, and salary equity are all valid areas to cultivate. High faculty turnover rates are not compatible with the consistent expectations of quality education, nor the momentum to rival the monumental expected growth of the PA profession. Encouraging job embeddedness of PA faculty by actualizing work environments that are rewarding, supportive, respectful of talent, fair in compensation, and have realistic expectations of workload and stressors will energize, inspire, and propel excellence in PA education.

Chapter 3: Methodology

In this chapter, I will detail the design and methodology of my study including the survey instrument employed for data collection, a synopsis of the subjects and population, the variable selection, and rationale. I will provide a thorough delineation of the variables and a summary of statistical models and data analysis. This chapter concludes with consideration of limitations of the data and methods utilized.

Overview

The purpose of this study is to utilize PAEA data from the 2017-2018 academic year to examine PA faculty job embeddedness (JE). This consists of elements such as organizational support, stress with transitioning from clinical work into PA education, incentives, obstacles, and job satisfaction, and how these factors influence longevity and faculty status as new or established in PA education.

Throughout the literature review, the experiences of new faculty defined as having three or fewer years of PA academic experience was highlighted. Most new faculty enter PA education directly from clinical work with little to no background in PA education and may have a different perspective than seasoned faculty (PAEA, 2018). Inexperienced PA educators have exhibited decreased longevity in academia, often leaving within the first three years of their career transition. Longitudinal trends in PA education reveal the most common reason for faculty departure is return to clinical medicine (PAEA, 2019).

The core theory of JE is the collection of factors determining the "why" of employees remaining at or leaving their jobs (Mitchell et al., 2001). Within the JE construct, factors of retention or attrition fall into three categories: fit, links, and sacrifices.

Fit conceptualizes the employee's perceived compatibility within their position, the organization, and surrounding community. Fit also encompasses specific ideas of compatibility, including the employee's knowledge, skills, and abilities to fulfill their position, and their ability to grow and succeed through training and nurturing by leadership, and opportunities for professional development (Mitchell, et al., 2001; Reitz & Anderson, 2011; Zhang, et al., 2012).

Links are employees' connections to colleagues, career-related activities, or to the organization itself. An example of this is a job-related social support network, or professional associations and networking opportunities in which the employer provides support personally, financially, and professionally (Reitz & Anderson, 2011).

Sacrifices are benefits or advantages employees would be faced with giving up should they choose to leave for another position elsewhere. This includes rank, salaries, benefits packages, job-related resources, skills honed for their specific position, autonomy, or any perceived loss of psychological, social or material cost (Mitchell, et al., 2001; Reitz & Anderson, 2011; Zhang, et al., 2012). The objective of this study is to determine any meaningful relationships between institutional, program, and individual factors such as past employment, gender, race, organizational support, salary, work-life balance, professional development and components of job satisfaction, and how they influence longevity and new or established status of PA faculty.

Research Questions

This is a quantitative research study that uses multiple regression analysis to predict job embeddedness factors that impact the longevity and new or established status of PA faculty within established accredited programs in the United States. This analysis will aid in identifying

which factors influence job satisfaction, retention, and attrition of PA faculty utilizing the following research:

1. How do job embeddedness factors related to fit influence the longevity of PA faculty in the U.S.?
2. How do job embeddedness factors related to links influence the longevity of PA faculty in the U.S.?
3. How do job embeddedness factors related to sacrifice influence the longevity of PA faculty in the U.S.?
4. Is there a relationship between job embeddedness factors in the category of fit and being a new or established PA educator?
5. Is there a relationship between job embeddedness factors in the category of links and being a new or established PA educator?
6. Is there a relationship between job embeddedness factors in the category of sacrifice and being a new or established PA educator?

Data Source

The data used in this study comes from the Faculty & Directors Survey created by the Physician Assistant Education Association (PAEA), which includes questions adapted from the Higher Education Research Institute (HERI). PAEA administers the PA Program Faculty & Directors Survey to all PA program faculty and directors in accredited programs of the United States, and participation is voluntary. Intended data collection uses include benchmarking, modification of the hiring, and salary determination process, recognition of elements impacting recruitment and retention of faculty, particularly satisfaction and quality of life factors.

The aim of the survey was to collect information from physician assistant faculty and program directors on a wide variety of topics including those related to faculty recruitment and retention, demographic information, professional background, salary information, job experiences and satisfaction, health and well-being, research and scholarly work, and a variety of additional categories (PAEA 2018, 2019). For this study, only data from faculty will be used. In addition to demographic questions, the survey questions are primarily Likert style responses, with a portion of questions providing open-ended response options for additional comments. Completion time for participants was estimated at 20-25 minutes (PAEA, 2017).

This dataset was selected for a variety of reasons. It is produced by the Physician Assistant Education Association (PAEA) and is a culmination of information provided by PA faculty and program directors within PA programs in all 50 United States, providing excellent geographical representation. The dataset provides data on faculty demographics, past employment, salaries, and components of job experiences and satisfaction. This 2017-2018 study utilizes the third and most recent version at the time of this research of the Faculty & Directors Report since its launch in 2014. Prior to the creation of the Faculty & Directors Reports, all information about faculty and program features was combined in the Program Report which is produced annually. The survey collects information from faculty during the traditional second semester of each academic year (PAEA, 2018).

The Faculty & Directors Survey for the academic year 2017-2018 collected information in 10 sections: Program and Respondent Profiles, Demographics, Professional Background, Current Position, Clinical Work, Faculty and Program Director Salaries, Medical Directors, Job Experiences and Satisfaction, Research and Scholarly Work, and Professional Service. The purpose of this survey was to establish crucial attributes of PA program personnel in addition to

salary and trends that gauge faculty benchmarking, research, recruitment, and retention. Information collected directly from PA faculty, program directors, and medical directors provides data on demographics, job satisfaction, roles and responsibilities, and salary.

The survey was open from March 29, 2017 to June 4, 2017. An email was sent to program directors of all 226 accredited PAEA member programs in the US at the time of survey distribution, with a survey link and instructions to distribute to the core/principal faculty and medical directors of the programs. It was requested that program directors present a headcount of people in these roles to PAEA to determine response rates more accurately. Interval email and phone call reminders were sent out until closing of the survey. Of the 226 PA programs in existence at the time, 202 programs participated for an overall program response rate of 89.4%. The response rate from individual faculty, program directors, and medical directors within each participating program was 60.3%. Salary and workload data are self-reported and consequently have potential to be misreported, but the data source did not specify the direction of possible error. Notably, response rates for these items were lower than for other questions, likely a reflection of the sensitivity of the question matter (PAEA, 2018).

This issue warrants some perspective with an example. A 2011 regression study utilized sensitive topics of weight and obesity of public-school students to examine the effect of self-reported systematic bias and the discrepancy between self-reported and accurate values of the same criterion (Bauhoff, 2011). Results indicated that self-reported weights were underestimated and averaged 2.4%-7.6% lower than the accurately measured data and that both males and females over-report their height and under-report their weight. The researcher speculated that self-reported data bias influenced by exogenous factors and perceived social norms have large potential to skew statistical results (Bauhoff, 2011). This type of research finding leads the reader

to hypothesize that self-reported sensitive data for categories like salary and workload may be misreported in the direction of the perceived value to the participant. Social desirability bias, or a proclivity of survey respondents to answer questions that is perceived favorably by others, may come into play with income misreporting (Harini & Lassen, 2017).

In comparison to other surveys about Physician Assistants, the PAEA surveys are the only available surveys that specifically spotlight detail of PA faculty. Surveys from the American Academy of Physician Assistants (AAPA) are valuable datasets but are more relevant for studies centered on clinical PAs who are actively practicing medicine and do not have full-time teaching roles.

During the 2016-2017 academic year, 66.8% of PA faculty reported working outside of their full-time academic jobs a mean of 12.1 hours per week in clinical positions (PAEA, 2018). Of all respondents, 36.2% reported working clinical hours on release time from their program, 13.6% reported working clinical hours strictly on their own time, and 17% reported working clinical hours both on release time from the program and additional hours on their own time (PAEA, 2018). In addition, raw data are only available to researchers who are members of the AAPA organization. PAEA also conducts surveys related to curriculum and students, which were not relevant for this study (PAEA, 2018, 2019).

Data Collection Procedure

Confidentiality and anonymity were maintained, as all data were sent to the primary researcher de-identified and in raw form. Each participant was assigned a randomized, anonymous ID number by PAEA, with the option of providing an email address in order to be entered into incentive drawings. Incentives offered to individual respondents included entrance into a drawing to win an iPad mini and a drawing for complimentary registration to the Annual

Education Forum to programs that achieved a 90% response rate. Once the drawings were completed, email addresses were permanently removed from the dataset. Any program names provided from respondents were replaced by anonymous ID numbers. No data of individual respondents was released to PA programs or any other entities.

Subjects

This study uses retrospective data collected by the PAEA. The Faculty & Directors Survey from the 2017-2018 academic year included 202 programs, or 89.4% of all PAEA program member programs at the time of the survey administration in 2017. The individual response rate of faculty was 1,114, or 60.3%.

Data Preparation and Missing Cases

Coding

Participants were asked to provide information about the race they identified with. The race question asked for participants to choose from the following options: American Indian or Alaskan Native, Asian, Black or African American, Native Hawaiian or other Pacific Islander, or White or European American, or they could also specify that they preferred not to answer. If a respondent chose "white," this was represented by a 1, and all other options for that participant were recorded as N/A. Any participant who chose the "prefer not to answer" option was viewed as missing data and was deleted. I then changed all N/A responses to 0 to create a dichotomous variable for race.

Gender was coded as a dichotomous variable with 0 representing males and 1 representing females. Six responses outside of the binary male/female options including transgender and prefer not to answer were deleted. There were no missing answers in the gender category. Ethnicity was coded as 1 for any respondent who identified as Hispanic, Latino, or

Spanish, and as 0 for not Hispanic, Latino, or Spanish. Any participant who did not provide this information was deleted.

The immediate past employment control variable originated from the question, "Please indicate your immediate past employment prior to becoming faculty at your current PA program. Check all that apply," with options of "PA education at a different program," "other educational program (non-PA)" "at same sponsoring institution," "worked fewer FTE at same program," "clinical practice (including precepting)," "clinical practice (no precepting)," "unemployed," and "other." Participants chose options that applied to them, resulting in a 1 for that selection, and the remaining choices were recorded as N/A. I then replaced the N/As with zeros to make this variable dichotomous. Then, dummy variables were created. For this study, immediate past employment in PA education at a different program was coded as 1 and the remaining options were reference groups coded as 0.

The independent variable of work clinically originated from the question, "Do you work clinically?" with options of, "Yes, on my own time," "Yes, I receive release time from my program," "Yes, I receive release time, and I work additional hours on my own time," and "No." The response of, "Yes, I receive release time, and I work additional hours on my own time," was coded as 1, with the remaining options as reference groups coded as 0.

Missing Cases

In total, there were 1,114 observations based on 53 variables within the dataset. Blank rows in the dataset representing four observations were deleted. Seventeen extraneous variables were provided in the dataset that were not indicated for this study and were deleted. No observations were lost with this deletion. The remaining 36 variables contained 12,561 N/As primarily concentrated in the five race variables and six immediate past employment variables.

These variables logically contained a large number of N/As, as the nature of the questions led participants to choose one option of many, leaving the remaining options not chosen, thus being labeled as N/A as the default for answers not chosen. Missing responses which included blank responses and all "prefer not to answer" options were eliminated, resulting in 53 deletions from the race categories and 114 deletions from the immediate past employment categories. When creating the dichotomous race variable, all remaining N/As were then changed to 0.

When the category of gender was made binary into male and female, six participants who selected the "other" option were identified and deleted. The ethnicity category had a total of ten missing responses which were also deleted, four of which were deleted when the gender "other" entries were deleted, leaving six remaining missing ethnicity responses that were eliminated.

The N/As within the remaining observations were equally distributed among 20 of the 22 independent variables, comprising about 5% from each. Two independent variables, clinical to academic support and clinical to academic stress, contained a larger sum of NAs at 29% of the total responses. This is likely due to established faculty skipping the questions with content related to transitioning as new faculty. Total deletions of missing cases were associated with 420 deleted observations, leaving a remainder of 694 observations for this study.

Longevity, for the purposes of this study, is represented by the dependent variable Length of Employment (Length_Employ). The survey which was the source of the dataset asked participants to reveal the year they were hired or started their current academic position. The survey for this study was done in 2017, so subtracting the year of their start date from 2017 provided the total length of employment in years.

For interest in results of newer faculty, defined throughout the literature review as three or fewer years of experience as an educator (Graham & Beltyukova, 2015; PAEA, 2018), a new

binary variable was named New or Established (NeworEstab), with 1 representing faculty with three years of experience or fewer, and 0 representing faculty with more than three years of experience.

Demographics of Sample

Gender: 66.91% identify as female, 33.09% identify as male.

Race: 1.15% identify as American Indian. 2.59% identify as Asian, 4.32% identify as Black, .29% identify as Hawaiian or Pacific Islander, 91.22% identify as white. The original survey contained a multiracial category, but that information was not provided in the dataset.

Ethnicity: 4.46% identify as Hispanic, Latino, or Spanish.

Past Employment: 3.88% reported prior employment as PA educators, 1.29% reported prior teaching in non-PA education at the same institution, 1.01% reported working fewer FTE at the same PA program, 70.07% reported clinical practice with precepting, 30.78% reported clinical practice without precepting, and 0.14% reported being unemployed. This adds up to more than 100% which means about 6% of participants choose more than one past employment option.

Variables

The following paragraphs include descriptions of variables from the survey instruments and my analysis with further explanation of variables with multiple components. The data include an array of variables related to physician assistant program faculty. I utilized my literature review and conceptual model to guide my variable selections.

Independent Variables

The independent variables for each research question are job embeddedness factors which have been discussed throughout the literature review and my conceptual model. There is

some fluidity between the JE constructs of fit, links, and sacrifices, giving way to the potential for subjectivity when analyzing which categories apply to specific factors. For example, the overarching concept of job satisfaction is vast, and various contributing factors can fall into any of the three JE categories depending on their context. For the purpose of this study, I will disseminate the available data factors that best align with each construct of JE and provide corroborating rationale.

Fit. Mitchell, et.al. (2001) describe the fit of an employee as compatibility with the organization and environment, including career goals, specific job expertise, skills, and knowledge. Provision of support when starting any new position can easily belong within fit, as steady, incremental training in a position allows employees to acquire the proper knowledge and skills to confidently fulfill the role. This is especially vital when clinical PAs transition into academic positions and require a great deal more direction. Question 20 of the dataset states, "Please choose the option that most closely describes your response to the following statement."

- "My program provided enough support and resources to help me transition from clinical work to academia."

Responses provided ordinal variables measured on a Likert scale of 1-5 with 1 = *completely untrue*, 2 = *somewhat untrue*, 3 = *neither true nor untrue*, 4 = *somewhat true*, and 5 = *completely true*, represented by the below survey item.

An important component of fit is employees' perception of how their contributions and opinions are valued, as personal beliefs, individual comfort level, and general work climate are integral to the concept (Mitchell, et.al, 2001). People feel more suitable in their role if their voice is heard and when they feel important and respected in the workplace by colleagues at all levels. Decision making input from team members at every job level can reinforce an organizational

culture that encourages collaboration (Zhang, 2013). Question number 44 states, "Below are some statements about your PA program. Please indicate the extent to which you agree or disagree with each of the following." This question provides ordinal variables measured on a Likert scale of 1-4 and a not applicable option, with 1 = *strongly disagree*, 2 = *somewhat disagree*, 3 = *somewhat agree*, and *4* = *strongly agree*. Representatives of fit within the data set congruent with the above concepts of employees feeling valued, heard, and respected, are the following items:

- "Faculty are sufficiently involved in program decision-making."
- "Administrators consider faculty concerns when making policy."
- "Faculty here respect each other."

Appropriate leadership fosters evolution of success in the workplace, and inspiring leaders galvanize employees to excel and ultimately foster trust. Trust in leadership prompts engagement which in turn results in productivity and profitability (Price, 2018). When employees are engaged and successful, all the components of fit within their position align. Question number 46 states, "Please rate how satisfied you are with the following aspects of your job," measured on a Likert scale of 1-4, and a not applicable option, with 1 = *not satisfied*, 2 = *marginally satisfied*, 3 = *satisfied*, and 4 = *very satisfied*. To represent the variable of institutional leadership, two items providing ordinal variables were selected and include:

- "institutional leadership"
- "program management/leadership"

In any job, workload is a key feature to compatibility. If employees feel overwhelmed with quantity of work, stress and dissatisfaction are likely to ensue (Ringl, 2013). Too little involvement or contributions to work projects could create a situation of not feeling valued or

challenged. Workload is an essential component of fit. A credible repercussion of a fulfilling balanced workload within organizational fit is generation of positive feelings that make employees feel useful and that their efforts are worthwhile (Ringl, 2013). Question number 46 detailed above in institutional leadership provides an ordinal variable and includes the item,

- "teaching workload"

Links. The perception of being valued as part of a cohesive work group and treated equally are important achievements within the construct of links. The stronger the associations and support network provided by the employer, JE becomes more solid (Reitz &Anderson, 2011). Question 44 detailed above contain two applicable items consisting of ordinal variables:

- "I am treated fairly in my program."
- "My teaching is valued by faculty in my program."

Encouraging and supporting employees to build networks, strengthen associations, collaborate, and find camaraderie is an integral aspect of JE (Mitchell et al., 2001). The more integrated an employee perceives themselves within an organization, the more value is dedicated to their position. Question 46 detailed above contains two items providing ordinal variables which state,

- "faculty development opportunities outside institution (e.g., conferences)"
- "faculty development opportunities within institution (e.g., grant workshops)"

Faculty who maintain part-time clinical positions are more relevant when offering real-world examples; they gain more credibility with students and are more connected to the profession in which they are preparing students to enter (Gonzales, et. al., 2019). Maintaining clinical skills and knowledge by keeping active in the role and preserving connection to the clinical field makes for more effective instructors and higher job satisfaction in the academic role (NONPF,

2017). Having the support of the educational program to allot them time during the work week to participate in clinical work can add to job satisfaction and embeddedness. Question 38 states,

- "Do you work clinically?" and has four choices in the form of nominal variables listed as "Yes, on my own time," "Yes, I receive release time from my program," "Yes, I receive release time and I work additional hours on my own time," "No."

Sacrifice. If an employee enters a job and encounters a stressful transition into the role yet chooses to remain in the job once comfortably acclimated, leaving would require a sacrifice of more time, energy, and strain. As discussed in the literature review, when clinicians become academicians, they can experience a stressful transition from a field where they are competent and comfortable to an environment where there is a sense of culture shock and inadequacy in relation to preparedness (McDermid et al., 2013). Once an educator successfully endures the transition, retreating to clinical work can pose a sacrifice of the time and effort devoted to their journey. Question 21 provides an ordinal variable response measured on a Likert scale of 1-2 with 1 = *not stressful at all*, 2 = *slightly stressful*, 3 = *somewhat stressful*, 4 = *moderately stressful*, and 5 = *extremely stressful* utilizing the item:

- "How stressful was your transition from clinical work to academia?"

Income relative to an employee's job is likely one of the most significant motivating factors that influences workers to stay or leave. When deciding whether to remain at a job or leave, the potential loss of a higher wage is a sacrifice to be considered. Three items in the dataset were relevant to salary. Question 44 referenced above has one salary related item providing an ordinal variable which states:

- "Faculty are hired and paid fairly."

Question 46 referenced above has items representing salary which provide ordinal variables stated as,

- "salary amount"
- "salary relative to other faculty"

A job that supports the well-being of employees and respects the equilibrium between the priorities of work and home life is an enormous asset and would be a sacrifice to give up. The potential for promotion from one's current position could be at risk when considering leaving a position for another. Exchanging a short, easy commute from home with a long, traffic-ridden commute would also be considered a sacrifice. Benefits packages are extremely variable and considering giving them up for lesser offerings presents risk. Autonomy in a position indicates trust between the employee and the organization, freedom to fulfill job requirements in the manner which is most amenable to the employee, and discretion to make viable unilateral decisions within the scope of job descriptions are perks that would be very difficult to forfeit. The following are ordinal variables representing sacrifice,

- "departmental support for work/life balance"
- "promotion potential"
- "schedule flexibility"
- "other benefits (e.g. healthcare plan)"
- "autonomy and independence"

Tenure in an academic position is a mechanism to guard academic freedom which is essential for continuity in progression of knowledge by protecting the quality and integrity of programs and teaching (AAUP, n.d.). Those who have worked toward and earned tenure would consider this a

sacrifice to lose by leaving their position for an untenured position. Question 46 regarding aspects of job satisfaction detailed above contains an ordinal variable representing sacrifice,

- "tenure requirements"

Dependent Variables

There are two separate dependent variables for this study. First is years in primary position, a continuous, and more specifically an interval variable which represents the concept of longevity. Second is new or established, a dichotomous variable which will differentiate between new faculty with three or fewer years of PA education experience and established faculty with greater than three years of experience. Job embeddedness is a complex theory regarding retention, attrition, and satisfaction of employees, encompassing a vast degree of qualitative variables.

A quantitative outcome measurement of job embeddedness factors is reasonably reflected in the number of years in which PA faculty remained in their positions. Time in years is a concrete, measurable reflection of retention and longevity. Data available through the PAEA Faculty & Directors Survey regarding amount of time employed as faculty is obtained through the survey question number 18, which was a fill-in-the-blank style question:

- "In which year were you hired by your current program? Please enter the full 4-digit year (e.g., 2016)."

The new or established variable was acquired by coding the data from survey question number 18 into a dichotomous variable with 1 representing faculty with zero to three years of PA education experience and 0 representing faculty with greater than three years of experience.

The data for this study was acquired from a 2017 survey, so any recorded response will be subtracted from 2017 to determine how many years they had been employed by their PA program at the time of the survey.

Control Variables

Gender. Gender is a categorical variable. Females are represented with 1, and males are represented with 0. The PA education profession is female dominated with women representing 68.2% and men representing 31% of the sample (PAEA, 2018).

Race. Race is a categorical variable with 1 representing white/Caucasian and 0 representing reference groups including American Indian or Alaskan Native (Race_AmInd), Asian (Race_Asian), Black or African American (Race_Black), Native Hawaiian or other Pacific Islander (Race_HlorPI).

Ethnicity. Ethnicity is a categorical variable with 1 representing Hispanic, Latino, or Spanish and 0 representing non-Hispanic, Latino, or Spanish.

Immediate Past Employment. The past employment control variable is categorical and originated from the question, "Please indicate your immediate past employment prior to becoming faculty at your current PA program. Check all that apply," with options of "PA education at a different program," "other educational program (non-PA)" "at same sponsoring institution," "worked fewer FTE at same program," "clinical practice (including precepting)," "clinical practice (no precepting)," "unemployed," and "other." For this study, immediate past employment in PA education at a different program was coded as 1, and the remaining variables were reference groups coded as 0.

Racially underrepresented groups were small in this sample and did not substantively change with the deletions. Race representation of white changed from 88% to 91% and not white

changed from 9% to 8.7%. Ethnicity of Hispanic, Latino, or Spanish changed from 4.3% to 4.4%.

Model and Analysis

Multiple regression is used to analyze the data. There are two dependent variables in this study. One is a continuous numerical variable representative of longevity, or years of employment. The other is a dichotomous variable labeled New or Established which is representative of new faculty who possess three or fewer years of employment and established faculty with greater than three years employment.

Independent variables in this study were ordinal, all extracted from results of Likert style survey questions representing the broad categories of fit, links and sacrifice of job embeddedness. Ordinal variables have two or more categories where the categories can be ordered or weighted, but they cannot be assigned a specific value such that one response is, for example, twice as positive as another response (Laerd statistics, 2018). This type of data intrinsically orders the level of categories in which participants respond, with the caveat that intervals between variables are not verifiably equal, as many categories have risk of interpretation subjectivity (UCLA, n.d.). For example, when subjects answer Likert-style survey questions, the interpretation between the responses of "somewhat agree" and "somewhat disagree" could be disparate depending on the survey taker, their definition of the options, and their experiences or circumstances. One respondent's "somewhat disagree" could fall much closer to or further from the idea of "somewhat agree" than another respondent. If it cannot be determined with certainty that the interval values between these two examples are equal, the variables cannot be characterized as numerical. The variables can, however, be labeled as ordinal (UCLA, n.d.).

Multiple regression is widely used to make predictions about the dependent variable(s) based on the observed significance of the independent variables and allows combinations of numerous variables to generate ideal predictions of the dependent variable (Allison, 1999). There are assumptions for multiple regression; regression residuals, or unexplained variations, must be normally distributed, a linear relationship is assumed between the dependent variable and the independent variables, the residuals are homoscedastic meaning the regression model's dependent variable prediction was consistent across all values of the dependent variable, and that the observations are independent of each other (Casson, et.al.).

An advantage of multiple regression is the flexibility to use either categorical independent variables or continuous variables as well as the use of multiple independent variables to explain variation in a dependent variable (Keith, 2015). The multiple regression model can be statistically significant overall but can contain insignificant independent variables indicating that those independent variables have no effect on the dependent variable in the model. When multiple regression is employed for prediction purposes, the sample used in the study is applied for optimal indication of an intrinsic phenomenon within a specific population (Osborne, 2000). Overall fit or explained variance of the model can also be discovered through multiple regression, recognizing the proportionate input of each of the independent variables to the total variance explained (Laerd, 2018).

For this study, multiple regression is an ideal way to predict how the independent variables within the categories of fit, links, and sacrifice predict longevity and new or established status of faculty employment within physician assistant programs in the United States. The independent variables are ordinal variables representative of job embeddedness categories under the broad constructs of fit, links and sacrifice. The dependent variable of years employed as PA

faculty, representative of time or longevity, is a continuous numerical variable. The other dependent variable of new or established is a dichotomous variable. Race, gender, ethnicity, and immediate past employment are utilized as control variables for this study. Race is a dichotomous variable with 1 representing white/Caucasian and 0 representing non-white/Caucasian. Ethnicity is a dichotomous variable with 1 representing Hispanic, Latino, or Spanish and 0 representing not Hispanic, Latino or Spanish. Gender is a categorical variable where 1 represents females and 0 represents males. Immediate past employment is a dichotomous variable with 1 representing PA education and 0 representing all others. All non-demographic variables were measured on a Likert-type scale. Ultimately, the goal of multiple regression in this study with the chosen variables is to identify trends that indicate why a large proportion of PA faculty leave academia and to identify new faculty. Identified trends can potentially help individual PA programs and the PA education industry to modify recruitment and retention strategies to positively affect job embeddedness and longevity.

Correlation matrices were run to show correlation coefficients between the sets of variables for each category of fit, links, and sacrifice. Relationships between independent variables were examined to look for multicollinearity. Interpretation guidelines for Pearson's correlation coefficient indicates a negligible strength of association with values from 0.00 to 0.30 (.00 to -0.30), a low positive (negative) association with values from 0.30 to 0.50 (-0.30 to -0.50), moderate positive association with values from 0.50 to 0.70 (-0.50 to -0.70), high positive association with values from 0.70 to 0.90 (-0.70 to -0.90) and very high positive association with values from = 0.90 to 1.00 (-.90 to -1.00) (Jaadi, 2019). The strengths for the correlations in this study raged between 0.51 and 0.69, with the majority falling between 0.51 and 0.55, indicating a moderate positive correlation. Simple linear regressions were completed for each independent

variable/dependent variable pair. The non-redundant variables in the analysis will be used to find the best fitting model, which will in turn, be used to make predictions about the dependent variable.

Table 1: Fit Correlation Matrix

Fit Correlation Matrix								
		ClinToAcad_ Support	Fac Involve	Fac Respect	Fac Concerns	Rate_ Leadership	Rate_ ProManage	Rate_ Workload
ClinToAcad_ Support	Pearson Correlation	1	0.31	0.31	0.34	0.27	0.39	0.34
	Sig. (2-tailed)		0	0	0	0	0	0
	N	695	695	695	695	695	695	695
FacInvolve	Pearson Correlation	0.31	1	0.5	0.58	0.37	0.62	0.42
	Sig. (2-tailed)	0		0	0	0	0	0
	N	695	695	695	695	695	695	695
FacRespect	Pearson Correlation	0.31	0.5	1	0.45	0.32	0.54	0.31
	Sig. (2-tailed)	0	0		0	0	0	0
	N	695	695	695	695	695	695	695

Table 1: Fit Correlation Matrix continued

Fit Correlation Matrix								
		ClinToAcad_ Support	Fac Involve	Fac Respect	Fac Concerns	Rate_ Leadership	Rate_ ProManage	Rate_ Workload
FacConcerns	Pearson Correlation	0.34	0.58	0.45	1	0.56	0.55	0.42
	Sig. (2-tailed)	0	0	0		0	0	0
	N	695	695	695	695	695	695	695
Rate_Leadership	Pearson Correlation	0.27	0.37	0.32	0.56	1	0.53	0.43
	Sig. (2-tailed)	0	0	0	0		0	0
	N	695	695	695	695	695	695	695
Rate_ProManage	Pearson Correlation	0.39	0.62	0.54	0.55	0.53	1	0.47
	Sig. (2-tailed)	0	0	0	0	0		0
	N	695	695	695	695	695	695	695
Rate_Workload	Pearson Correlation	0.34	0.42	0.31	0.42	0.43	0.47	1
	Sig. (2-tailed)	0	0	0	0	0	0	
	N	695	695	695	695	695	695	695

Table 2: Links Correlation Matrix

Links Correlation Matrix						
		FairTreat	TeachingValued	Rate_DevelopOut	Rate_DevelopIn	WorkClinically
FairTreat	Pearson Correlation	1	0.56	0.33	0.31	-0.01
	Sig. (2-tailed)		0	0	0	0.85
	N	695	695	695	695	695
TeachingValued	Pearson Correlation	0.56	1	0.31	0.26	-0.03
	Sig. (2-tailed)	0		0	0	0.441
	N	695	695	695	695	695
Rate_DevelopOut	Pearson Correlation	0.33	0.31	1	0.52	0.04
	Sig. (2-tailed)	0	0		0	0.293
	N	695	695	695	695	695
Rate_DevelopIn	Pearson Correlation Sig. (2-tailed)	0.31	0.26	0.52	1	0.01
	N	0	0	0		0.734
WorkClinically	Pearson Correlation	-0.01	-0.03	0.04	0.01	1
	Sig. (2-tailed)	0.85	0.441	0.293	0.734	
	N	695	695	695	695	695

Table 3: Sacrifice Correlation Matrix

Sacrifice Correlation Matrix											
		ClinTo Acad_ Stress	Fair Hire	Rate_ Salary	Rate_ Fair Salary	Rate_ Promot ion	Rate_ Schedu le	Rate_Oth Benefits	Rate_ Tenure	Rate_Supp Balance	Rate_ Indep
ClinToAca d_Stress	Pearson Correlation	1	-0.19	-0.17	-0.18	-0.25	-0.19	-0.14	-0.18	-0.38	-0.16
	Sig. (2-tailed)		0	0	0	0	0	0	0	0	0
	N	695	695	695	695	695	695	695	695	695	695
FairHire	Pearson Correlation	-0.19	1	0.67	0.66	0.46	0.3	0.26	0.13	0.42	0.3
	Sig. (2-tailed)	0		0	0	0	0	0	0	0	0
	N	695	695	695	695	695	695	695	695	695	695
Rate_Salar y	Pearson Correlation	-0.17	0.67	1	0.69	0.53	0.28	0.28	0.15	0.33	0.25
	Sig. (2-tailed)	0	0		0	0	0	0	0	0	0
	N	695	695	695	695	695	695	695	695	695	695
Rate_FairS alary	Pearson Correlation	-0.18	0.66	0.69	1	0.51	0.3	0.26	0.14	0.38	0.25
	Sig. (2-tailed)	0	0	0		0	0	0	0	0	0
	N	659	695	695	695	695	695	695	695	695	695
Rate_Prom otion	Pearson Correlation	-0.25	0.46	0.53	0.51	1	0.32	0.33	0.21	0.41	0.33
	Sig. (2-tailed)	0	0	0	0		0	0	0	0	0
	N	695	695	695	695	695	695	695	695	695	695

Table 3: Sacrifice Correlation Matrix continued

Sacrifice Correlation Matrix											
		ClinToAcad_Stress	Fair Hire	Rate_Salary	Rate_FairSalary	Rate_Promotion	Rate_Schedule	Rate_Oth Benefits	Rate_Tenure	Rate_Supp Balance	Rate_Indep
Rate_Schedule	Pearson Correlation	-0.19	0.3	0.28	0.3	0.32	1	0.28	0.13	0.52	0.47
	Sig. (2-tailed)	0	0	0	0		0	0	0	0	0
	N	695	695	695	695	695	695	695	695	695	695
Rate_OthBenefits	Pearson Correlation	-0.14	0.26	0.28	0.26	0.33	0.28	1	0.17	0.27	0.2
	Sig. (2-tailed)	0	0	0	0	0	0		0	0	0
	N	695	695	695	695	695	695	695	695	695	695
Rate_Tenure	Pearson Correlation	-0.18	0.13	0.15	0.14	0.21	0.13	0.17	1	0.13	0.13
	Sig. (2-tailed)	0	0	0	0	0	0	0	0	0.001	0.001
	N	695	695	695	695	695	695	695	695	695	695
Rate_Supp Balance	Pearson Correlation	-0.38	0.42	0.33	0.38	0.41	0.52	0.27	0.13	1	0.4
	Sig. (2-tailed)	0	0	0	0	0	0	0	0.001		0
	N	695	695	695	695	695	695	695	695	695	695

Table 3: Sacrifice Correlation Matrix continued

Rate_Indep	Pearson Correlation	-0.16	0.3	0.25	0.25	0.33	0.47	0.2	0.13	0.4	1
	Sig. (2-tailed)	0	0	0	0	0	0	0	0.001	0	
	N	695	695	695	695	695	695	695	695	695	695

IRB Approval

After I decided on the model and analysis for this study, all required documents were submitted and approved by the Seton Hall University Internal Review Board (IRB). This course was vital to ensure the privacy and safety of all human subjects in which my study involves. Throughout this process, all data was always securely stored, and password protected.

Limitations

Several limitations exist in relation to my research study. The data was extrapolated from an existing dataset, versus an original data tool designed specifically for my study. I was unable to modify details of the dataset including creation, selection, or distribution of questions. For this reason, there was some researcher subjectivity in the interpretation and classification of dataset items when assigning them to categories of fit, links and sacrifice. Supporting rationale was provided to justify categorization.

Another limitation stems from the fact that the PAEA Faculty & Directors Survey contains data that is self-reported by participants which cannot be accurately verified, thus allowing the opportunity for misreporting. Individual responses are provided with subjective interpretation of the questions and their accompanying scales. One respondent may interpret the options on the Likert scales very differently from another. Another limitation lies in definition of

terms within survey questions. The survey did not provide a glossary of terms, so it is assumed the respondents agree with understanding and definitions of all terms. For example, the phrase "institutional leadership" could be interpreted as administrators within the specific school, or those representing the entire college or university.

Additionally, when choosing variables that coincide with the categories of fit, links, and sacrifice, there is a large degree of subjectivity utilized. There are variables that could be rationalized to belong in some or all categories depending on the lens and perspective of the researcher. The categorization is up for debate, but the results of the study could lead the way for better understanding of these challenges.

Lastly, as discussed throughout the data preparation and missing cases section, there were many N/As and blank responses. Missing data could pose as a limitation to accurate analysis of job embeddedness, and whether longevity played a role in this limitation.

Conclusion

This chapter provided a synopsis of the methodology used in my study. Within this chapter were descriptions of dataset items from which I derived my variables, the scales in which responses were measured, definitions of my sample population, and explanations of my quantitative analysis process.

Chapter 4: Results

The goal of this research is to investigate the relationship of job embeddedness factors, specifically factors related to fit, links, and sacrifice on longevity and the new or established status of Physician Assistant faculty employment and in the United States via interpretation of data from an established national study. This chapter will focus on analysis of the methods detailed in chapter 3, utilizing multiple regression. Each posed research question will be reiterated followed by a detailed interpretation of corresponding data analysis. There will be a concise interpretation summary at the end of the chapter.

This study utilized a dataset from the Physician Assistant Education Association (PAEA) Faculty & Program Director survey with retrospective data collected between March 29, 2017 and June 4, 2017. Of the eligible 226 PA programs at that time, 202 programs participated in the study for an overall response rate of 89.4%. Individual faculty, program directors, and medical directors within each program yielded a response rate of 60.3%, consisting of 1,114 participants. After data cleaning, my study was based on 694 observations.

Multiple Linear Regression Results

Research Questions

1. How do job embeddedness factors related to fit influence the longevity of PA faculty in the U.S.?
2. How do job embeddedness factors related to links influence the longevity of PA faculty in the U.S.?
3. How do job embeddedness factors related to sacrifice influence the longevity of PA faculty in the U.S.?
4. Is there a relationship between job embeddedness factors in the category of fit and being a new or established PA educator?

5. Is there a relationship between job embeddedness factors in the category of links and being a new or established PA educator?
6. Is there a relationship between job embeddedness factors in the category of sacrifices and being a new or established PA educator?

These questions will be disseminated to isolate each individual factor in each of the three categories of job embeddedness.

Fit and Longevity.

How do job embeddedness factors related to fit influence the longevity of PA faculty in the U.S.?

I utilized multiple linear regression models to determine if longevity or years in primary position as a PA educator predict job embeddedness and investigated each individual variable within the fit category while controlling for gender, race, ethnicity, and past employment. These independent variables include, "My program provided enough support and resources to help me transition from clinical work to academia" (ClintoAcad_support), "Faculty are sufficiently involved in program decision-making" (FacInvolve), "Administrators consider faculty concerns when making policy: (FacConcerns), "Faculty here respect each other" (FacRespect), "institutional leadership" (Rate_Leadership), "program management/leadership" (Rate_ProManage), and "teaching workload" (Rate_Workload).

Of the seven independent variables under the fit category, two were statistically significant, clinical to academic support and institutional leadership. All but one of the models in the fit category, "program management/leadership," were predictive of length of employment with statistically significant F-tests. The adjusted R^2 values show that the models explained that 1% to 2% of variance in length of employment explained by the models, which is very small.

The clinical to academic support variable is statistically significant in predicting length of employment with a p-value of 0.003. Each incremental increase in perception of clinical to academic support correlates with a 0.59 decrease in years of employment.

The institutional leadership variable is statistically significant in predicting length of employment with a p-value of .005. Each incremental increase in participant satisfaction with institutional leadership correlates with a 0.74 decrease in years of employment. This indicates that the greater the perceived institutional leadership the fewer years they stayed in their academic position.

I found gender to be a statistically significant variable in all but one model under the fit category, "program management/leadership," with p-values all below 0.05. Being male was associated with a decrease in length of employment. Ethnicity was statistically significant in all but two models; "the program management/leadership" model and faculty are sufficiently involved in program decision-making model, indicating in the remaining models that being Hispanic, Latino, or Spanish was associated with a decrease in length of employment. Past employment in a clinical position was statistically significant in all models and associated with a decrease in length of employment within the fit category. In the models where gender, ethnicity, and past employment were all statistically significant, this indicates that participants who were Hispanic, Latino, or Spanish, men, and people who previously worked in a clinical setting as PAs had decreased longevity as PA faculty after controlling for other factors.

Table 4: Fit Length of Employment Regression

FIT	Independent Variables								
	ClintoAcad_ Support			Fac Involve			Fac Concerns		
Control Variables	Beta	STD Error	Sig	Beta	STD Error	Sig	Beta	STD Error	Sig
Length of Employment	-0.59	0.2	0.003	-0.15	0.29	0.595	-0.48	0.26	0.061
Gender (0=M, 1=F)	-1.12	0.52	0.032	-1.07	0.52	0.041	-1.12	0.52	0.032
Race (0=other, 1=white)	0.24	0.86	0.782	0.17	0.86	0.84	0.22	0.86	0.797
Ethnicity (0=not Hispanic/Latino/Spanish)	6.81	3.21	0.034	6.18	3.22	0.055	6.5	3.22	0.044
PastEmploy (1=PA ed, 0= other)	-8.58	3.42	0.012	-8.17	3.44	0.018	-8.5	3.43	0.014

Table 4: Fit Length of Employment Regression continued

FIT	Independent Variables								
	Fac Respect			Rate_ Leadership			Rate_ ProManage		
Control Variables	Beta	STD Error	Sig	Beta	STD Error	Sig	Beta	STD Error	Sig
Length of Employment	-0.53	0.32	0.102	-0.74	0.24	0.002	0.08	0.25	0.755
Gender (0=M, 1=F)	-1.17	0.53	0.027	-1.16	0.52	0.026	-1.03	0.53	0.051
Race (0=other, 1=white)	0.24	0.86	0.779	0.08	0.85	0.93	0.15	0.86	0.865
Ethnicity (0=not Hispanic/Latino/Spanish)	6.32	3.22	0.05	7.02	3.21	0.029	6.07	3.23	0.06
PastEmploy (1=PA ed, 0= other)	-8.21	3.43	0.017	-8.9	3.42	0.009	-8.13	3.44	0.018

Table 4: Fit Length of Employment Regression continued

FIT	Independent Variables		
	Rate_Workload		
Control Variables	Beta	STD Error	Sig
Length of Employment	-0.31	0.26	0.238
Gender (0=M, 1=F)	-1.14	0.53	0.031
Race (0=other, 1=white)	0.19	0.86	0.824
Ethnicity (0=not Hispanic/Latino/Spanish)	6.39	3.23	0.048
PastEmploy (1=PA ed, 0= other)	-8.4	3.44	0.015

Links and Longevity

How do job embeddedness factors related to links influence the longevity of PA faculty in the U.S.?

I ran multiple linear regression models to determine if longevity or years in primary position as a PA educator predict job embeddedness utilizing each individual variable within the links category while controlling for gender, race, ethnicity, and past employment. These independent variables include, "I am treated fairly in my program" (FairTreat), "My teaching is valued by faculty in my program" (TeachingValued), "faculty development opportunities outside institution" (Rate_DevelopOut), "faculty development opportunities within institution" (Rate_DevelopIn), and "Do you work clinically?" (WorkClinically).

Among the five variables in links, two were found to be statistically significant, the fair treatment and work clinically variables. There was a significant negative relationship between the perception of being treated fairly in the participant's PA program and length of employment,

interpreted as the higher the perception of being treated fairly, there was a 0.67 decrease in years of longevity.

The work clinically variable was rendered from the question, “Do you work clinically?” and had four choices in the form of nominal variables listed as, “Yes, on my own time,” “Yes, I receive release time from my program,” “Yes, I receive release time, and I work additional hours on my own time,” and “No.” These variables were recoded using, “Yes, I receive release time, and I work additional hours on my own time” was coded as 1, and reference variables coded as 0. Working clinically had a negative relationship with longevity, meaning if a PA faculty member worked clinical hours in addition to their academic job, they had decreased years of employment in PA education.

All models in the links category were statistically significant, indicating that they are predictive of PA faculty length of employment; however, they all had very low predictive variances between 1% and 4%. The two models with the statistically significant independent variables indicate that perception of fair treatment and working clinically significantly predict decreased longevity in PA education. The models with non-statistically significant independent variables including teaching is valued by faculty in my program, and faculty development opportunities both inside and outside institution indicate that the models do not predict longevity in PA education.

The fair treatment model also revealed statistical significance for the control variables gender, ethnicity, and past employment indicating participants who were Hispanic, Latino, or Spanish, males, and had prior clinical employment as PAs had a decrease in longevity or length of employment in PA education. The work clinically model had similar findings for the control variables as the fair treatment model but did not reveal significance for ethnicity.

Table 5: Links Length of Employment Regression

LINKS	Independent Variables								
	FairTreat			TeachingValued			Rate_DevelopOut		
Control Variables	Beta	STD Error	Sig	Beta	STD Error	Sig	Beta	STD Error	Sig
Length of Employment	-0.67	0.32	0.035	-0.28	0.39	0.476	0.18	0.27	0.506
Gender (0=M, 1=F)	-1.2	0.53	0.023	-1.07	0.52	0.041	-1.04	0.52	0.048
Race (0=other, 1=white)	0.26	0.86	0.759	0.18	0.86	0.835	0.13	0.86	0.879
Ethnicity (0=not Hispanic/Latino/Spanish)	6.51	3.22	0.043	6.15	3.22	0.057	5.97	3.23	0.065
PastEmploy (1=PA ed, 0= other)	-8.37	3.43	0.015	-8.12	3.43	0.018	-8.1	3.44	0.019

Table 5: Links Length of Employment Regression continued

LINKS	Independent Variables					
	Rate_DevelopIn			WorkClinically		
Control Variables	Beta	STD Error	Sig	Beta	STD Error	Sig
Length of Employment	0.17	0.24	0.475	-2.23	0.55	0
Gender (0=M, 1=F)	-1.02	0.53	0.053	-1.1	0.52	0.033
Race (0=other, 1=white)	0.15	0.86	0.859	0.04	0.85	0.961
Ethnicity (0=not Hispanic/Latino/Spanish)	5.94	3.23	0.066	6.13	3.18	0.055
PastEmploy (1=PA ed, 0= other)	-8.05	3.44	0.019	-8.31	3.4	0.015

Sacrifice and Longevity

How do job embeddedness factors related to sacrifice influence the longevity of PA faculty in the U.S.?

As with the previous two categories, I ran multiple regression models to determine if longevity, or years in primary position as a PA educator, predict job embeddedness when controlling for variables under the category of sacrifice within the dataset. These variables include, "How stressful was your transition from clinical work to academia?" (ClinToAcad_Stress), "Faculty are hired and paid fairly" (FairHire), "salary amount" (Rate_Salary), "fairness of salary relative to other faculty" (Rate_FairSalary), "departmental support for work/life balance" (Rate_SuppBalance), "promotion potential" (Rate_Promotion), "schedule flexibility" (Rate_Schedule), "other benefits" (e.g. healthcare plan), (Rate_OthBenefits), "autonomy and independence" (Rate_Indep), and "tenure requirements" (Rate_Tenure).

Two independent variables in the sacrifice category were statistically significant, clinical to academic stress and promotion potential. With every increase in level of perceived stressful transition from clinical work to academia, which were measured on a five-point Likert scale from "not stressful at all" to "extremely stressful," there was a decrease in length of employment of 0.62 years. For the promotion potential variable, the more satisfied the PA educator was with promotion potential, the relationship with length of employment decreased by 0.47 years.

All models in the sacrifice category, except for autonomy and independence, were predictive of length of employment in PA education, despite the very small variances between 2-3% explaining longevity. Both significant independent variables, clinical to academic stress and

promotion potential, also have statistically significant models with negative relationships indicating that they both significantly predict decreased length of employment in PA education.

Outstanding variables within the sacrifices category that did not yield statistically significant results were faculty are hired and paid fairly, salary amount, fairness of salary relative to other faculty, departmental support for work/life balance, schedule flexibility, other benefits, autonomy and independence, and tenure requirements.

Control variables ranged in significance among all the sacrifice models, but past employment held a consistent negative relationship with length of employment, indicating that the PA faculty with prior employment in clinical positions were less likely to stay in PA education. Some non-significant variables including fair hire, fair salary, departmental support for work/life balance, other benefits, autonomy and independence, and tenure requirements revealed a significance with gender revealing males with a higher satisfaction in those independent variables. Ethnicity was significant in the fair hire and fair salary variables with a higher satisfaction in those variables with Hispanic, Latino, or Spanish participants.

Table 6: Sacrifice Length of Employment Regression

SACRIFICE	Independent Variables								
	ClinToAcad Stress			FairHire			Rate_Salary		
Control Variables	Beta	STD Error	Sig	Beta	STD Error	Sig	Beta	STD Error	Sig
Length of Employment	-0.62	0.21	0.003	-0.48	0.25	0.058	0.24	0.25	0.344
Gender (0=M, 1=F)	-0.66	0.54	0.218	-1.14	0.52	0.03	-1.01	0.52	0.054
Race (0=other, 1=white)	0.1	0.85	0.905	0.17	0.86	0.843	0.09	0.86	0.914
Ethnicity (0=not Hispanic/Latino/Spanish)	6.09	3.2	0.058	6.64	3.22	0.04	5.91	3.23	0.068
PastEmploy (1=PA ed, 0= other)	-8.3	3.41	0.015	-8.12	3.43	0.014	-8	3.44	0.02

Table 6: Sacrifice Length of Employment Regression continued

SACRIFICE	Independent Variables					
	Rate_FairSalary			Rate_SuppBalance		
Control Variables	Beta	STD Error	Sig	Beta	STD Error	Sig
Length of Employment	-0.18	0.22	0.424	-0.07	0.25	0.765
Gender (0=M, 1=F)	-1.11	0.53	0.036	-1.07	0.52	0.043
Race (0=other, 1=white)	0.18	0.86	0.835	0.15	0.86	0.858
Ethnicity (0=not Hispanic/Latino/Spanish)	6.38	3.24	0.049	6.14	3.22	0.057
PastEmploy (1=PA ed, 0= other)	-8.3	3.44	0.016	-8.14	3.44	0.018

Table 6: Sacrifice Length of Employment Regression continued

SACRIFICE	Independent Variables								
	Rate_Promotion			Rate_Schedule			Rate_OthBenefits		
Control Variables	Beta	STD Error	Sig	Beta	STD Error	Sig	Beta	STD Error	Sig
Length of Employment	-0.47	0.22	0.035	-0.5	0.34	0.134	-0.13	0.27	0.642
Gender (0=M, 1=F)	-0.93	0.52	0.077	-1	0.52	0.056	-1.06	0.52	0.044
Race (0=other, 1=white)	0.09	0.86	0.918	0.12	0.86	0.888	0.15	0.86	0.86
Ethnicity (0=not Hispanic/Latino/Spanish)	5.65	3.22	0.079	5.98	3.22	0.064	6.2	3.23	0.055
PastEmploy (1=PA ed, 0= other)	-7.9	3.43	0.021	-8.1	3.43	0.019	-8.22	3.44	0.017

Table 6: Sacrifice Length of Employment Regression continued

SACRIFICE	Independent Variables					
	Rate_Indep			Rate_Tenure		
Control Variables	Beta	STD Error	Sig	Beta	STD Error	Sig
Length of Employment	0.12	0.39	0.752	-0.13	0.18	0.472
Gender (0=M, 1=F)	-1.04	0.53	0.049	-1.07	0.52	0.041
Race (0=other, 1=white)	0.14	0.86	0.867	0.11	0.86	0.894
Ethnicity (0=not Hispanic/Latino/Spanish)	6.07	3.23	0.06	6.2	3.22	0.055
PastEmploy (1=PA ed, 0= other)	-8.11	3.44	0.019	-8.21	3.44	0.017

Fit and New or Established

Is there a relationship between job embeddedness factors in the category of fit and being a new or established PA educator?

The fit category had three independent variables with a statistically significant relationship to being a new or established PA educator: faculty concerns, faculty respect, and institutional leadership. All models with statistically significant independent variables were also statistically significant, and were predictive of faculty being new or established, but all had very low variances between 1%-4%.

The first statistically significant independent variable and model was administrators considering faculty concerns when making policy. The FacConcerns variable was statistically significant in predicting if faculty were new or established with a p-value of .003 and each incremental increase in agreeing that faculty concerns are addressed by administrators when making policy was associated with a .06 greater likelihood of being new faculty. The model itself was statistically significant with a p-value of .008 indicating it was predictive of faculty being new or established but with a very low 1% variance of being new or established explained by the model.

The FacRespect variable was statistically significant in predicting if faculty were new or established with a p-value of 0.015 and signified a .06 increase in likelihood of faculty being new. The model revealed statistical significance with a p-value of 0.027 and the combination of variables for this model significantly predicted if faculty was new or established, but the variance was very low at 1%.

Institutional leadership was significant with a p-value of <0.001, and the model itself was statistically significant with a p-value of <0.001 significantly predicting if faculty is new or

established, but with a low variance of 4% explained by the model. Increased satisfaction with institutional leadership correlates with an incremental .09 increase in likelihood of being new faculty, indicating that with every increase in satisfaction with institutional leadership, the likelihood of being identified as new faculty also increases.

The remaining variables within the category of fit were not statistically significant and include support when transitioning from clinical work to academia, faculty being sufficiently involved in program decision-making, program management/leadership, and teaching workload. The significant models were all predictive of faculty being new along with a significant control variable of gender where new faculty are more likely to be female after controlling for other factors.

The only independent variable within the fit category that emerged as significant for both the longevity and the new or established models was institutional leadership. However, in the longevity model, there was a negative relationship indicating the greater the satisfaction with institutional leadership there was a decrease in longevity. In the new or established model, increased satisfaction with institutional leadership correlated with an increased likelihood of being new faculty.

Table 7: Fit New or Established Regression

FIT	Independent Variables								
	ClintoAcad_Support			FacInvolve			FacConcerns		
Control Variables	Beta	STD Error	Sig	Beta	STD Error	Sig	Beta	STD Error	Sig
New or Established	0.03	0.02	0.059	0.03	0.02	0.179	0.06	0.02	0.003
Gender (0=M, 1=F)	0.07	0.03	0.022	0.08	0.03	0.021	0.08	0.03	0.017
Race (0=other, 1=white)	-0.07	0.06	0.27	-0.07	0.06	0.265	-0.07	0.06	0.235
Ethnicity (0=not Hispanic/Latino/Spanish)	-0.03	0.06	0.565	-0.04	0.06	0.517	-0.03	0.06	0.563
PastEmploy (1=PA ed, 0= other)	0.04	0.09	0.698	0.03	0.09	0.752	0.02	0.09	0.797

Table 7: Fit New or Established Regression continued

FIT	Independent Variables								
	FacRespect			Rate_Leadership			Rate_ProManage		
Control Variables	Beta	STD Error	Sig	Beta	STD Error	Sig	Beta	STD Error	Sig
New or Established	0.06	0.02	0.015	0.09	0.02	0	0.01	0.02	0.796
Gender (0=M, 1=F)	0.08	0.03	0.013	0.08	0.03	0.014	0.09	0.03	0.021
Race (0=other, 1=white)	-0.07	0.06	0.242	-0.06	0.06	0.354	-0.04	0.06	0.297
Ethnicity (0=not Hispanic/Latino/Spanish)	-0.04	0.06	0.446	-0.03	0.06	0.656	-0.02	0.06	0.538
PastEmploy (1=PA ed, 0= other)	0.03	0.09	0.779	0.02	0.09	0.789	0.01	0.09	0.712

Table 7: Fit New or Established Regression continued

FIT	Independent Variables		
	Rate_Workload		
Control Variables	Beta	STD Error	Sig
New or Established	0.03	0.02	0.19
Gender (0=M, 1=F)	0.08	0.03	0.015
Race (0=other, 1=white)	-0.07	0.06	0.267
Ethnicity (0=not Hispanic/Latino/Spanish)	-0.04	0.06	0.547
PastEmploy (1=PA ed, 0= other)	0.05	0.09	0.63

Links and New or Established

Is there a relationship between job embeddedness factors in the category of links and being a new or established PA educator?

The links category contains five independent variables, two of which have a significant relationship to being a new or established PA educator; fair treatment in the program, and faculty development opportunities within institution. Both significant independent variables also had statistically significant models which were predictive of faculty being new or established.

The FairTreat variable, with a p-value of 0.001, was statistically significant in predicting if PA educators are new or established. For every incremental increase in agreeing that there was perceived fair treatment in the program, there was an .08 increase in likelihood of being new faculty. The FairTreat mode had statistical significance with a p-value of 0.003, and the variables within the model were also predictive of new or established faculty, however the explained variance in predicting if faculty is new or established was very low at 1%.

The second statistically significant independent variable within the links category was faculty development opportunities within the institution with a p-value of 0.008. For every incremental increase in satisfaction with faculty development opportunities within the institution, there was a .05 increase in likelihood of being new faculty. The Rate_DevelopIn model was statistically significant with a p-value of 0.017 and significantly predicts if PA educators are new or established but has a low predictive variance of 1%.

Gender was statistically significant in the significant links models. Males had a relationship with the variables in longevity. Females had a relationship with being new faculty in the new or established models.

The category of links had three other variables that were not significant and include my teaching is valued by faculty in my program, faculty development opportunities outside institution and working clinically

The variable and corresponding model that had aligned significance with the longevity research question which stated I am treated fairly in my program. However, there was a negative relationship between FairTreat and longevity implying that the more the participant agreed with how fairly they were treated, there was a decrease in years of employment. In the new or established model, the greater the level of agreeing with the perception of being treated fairly, the more likely the participant was new faculty.

Table 8: Links New or Established Regression

LINKS	Independent Variables								
	FairTreat			TeachingValued			Rate_DevelopOut		
Control Variables	Beta	STD Error	Sig	Beta	STD Error	Sig	Beta	STD Error	Sig
New or Established	0.08	0.02	0.001	0.06	0.03	0.063	0.03	0.02	0.173
Gender (0=M, 1=F)	0.08	0.03	0.011	0.08	0.03	0.021	0.07	0.03	0.023
Race (0=other, 1=white)	-0.08	0.06	0.23	-0.07	0.06	0.253	-0.07	0.06	0.286
Ethnicity (0=not Hispanic/Latino/Spanish)	-0.04	0.06	0.453	-0.04	0.06	0.526	-0.04	0.06	0.537
PastEmploy (1=PA ed, 0= other)	0.02	0.09	0.813	0.03	0.09	0.749	0.03	0.09	0.736

Table 8: Links New or Established Regression continued

LINKS	Independent Variables					
	Rate_DevelopIn			WorkClinically		
Control Variables	Beta	STD Error	Sig	Beta	STD Error	Sig
New or Established	0.05	0.02	0.008	0.04	0.04	0.288
New or Established	0.08	0.03	0.016	0.07	0.03	0.023
Race (0=other, 1=white)	-0.06	0.06	0.309	-0.06	0.06	0.311
Ethnicity (0=not Hispanic/Latino/Spanish)	-0.03	0.06	0.309	-0.03	0.06	0.558
PastEmploy (1=PA ed, 0= other)	-0.03	0.09	0.7	0.04	0.09	0.663

Sacrifice and New or Established

Is there a relationship between job embeddedness factors in the category of sacrifices and being a new or established PA educator?

The sacrifice category has the largest number of independent variables totaling 10. Among those, three were statistically significant in the new or established models. After I performed multiple linear regression, I found the independent variables of stressful transition from clinical work to academia, faculty are hired and paid fairly, and fairness of salary relative to other faculty to be statistically significant. All three corresponding models were also statistically significant in predicting if faculty were new or established.

The ClinToAcad_Stress variable is statistically significant in predicting if PA educators are new or established with a p-value of 0.007. The greater the perceived stress during transition from clinical to academic work correlated with a .04 increase in likelihood that faculty was new.

The ClinToAcad_Stress model was statistically significant with a p-value of 0.016, and significantly predicted if faculty were new or established with a very small cumulative effect of 1% from all the variables.

Clinical to academic stress is the only independent variable and model in the sacrifice category that is significant in both the longevity model and the new or established model. An increase in clinical to academic stress has relation to both a decrease in longevity and an increased likelihood of faculty being new. This is also the only significant variable in the sacrifice category where gender is not statistically significant.

The second statistically significant variable in the sacrifice category was FairHire with a p-value of 0.003. With the perception of increased agreement that faculty are hired and paid fairly, there was a .06 increase in likelihood that faculty are new. The model itself was statistically significant with a p-value of 0.008 and the combination of variables significantly predicted if faculty are new or established but had a very low variance of 1% explained by the model.

The last variable within the sacrifice category to show statistical significance was fairness of salary relative to other faculty with a p-value of 0.00. The greater the satisfaction with fairness of salary, there was a 0.07 increase in likelihood that faculty was new. The model was statistically significant with a p-value of 0.000 and the combination of variables was predictive of faculty being new or established despite a low 3% variance explained by the model.

The remaining independent variables within the sacrifice category were not statistically significant. The variables were salary amount, departmental support for work/life balance, promotion potential, schedule flexibility, other benefits, autonomy and independence and tenure requirements.

Table 9: Sacrifice New or Established Regression

SACRIFICE	Independent Variables								
	ClinToAcad Stress			FairHire			Rate_Salary		
Control Variables	Beta	STD Error	Sig	Beta	STD Error	Sig	Beta	STD Error	Sig
New or Established	0.04	0.02	0.007	0.06	0.02	0.003	0.02	0.02	0.199
Gender (0=M, 1=F)	0.06	0.03	0.075	0.08	0.03	0.011	0.08	0.03	0.018
Race (0=other, 1=white)	-0.06	0.06	0.319	-0.07	0.06	0.275	-0.07	0.06	0.256
Ethnicity (0=not Hispanic/Latino/Spanish)	-0.03	0.06	0.576	-0.04	0.06	0.527	-0.03	0.06	0.576
PastEmploy (1=PA ed, 0= other)	0.05	0.09	0.57	0.03	0.09	0.77	0.03	0.09	0.724

Table 9: Sacrifice New or Established Regression continued

SACRIFICE	Independent Variables					
	Rate_FairSalary			Rate_SuppBalance		
Control Variables	Beta	STD Error	Sig	Beta	STD Error	Sig
New or Established	0.07	0.02	0	0	0.02	0.961
Gender (0=M, 1=F)	0.09	0.03	0.009	0.08	0.03	0.022
Race (0=other, 1=white)	-0.08	0.06	0.189	-0.07	0.06	0.295
Ethnicity (0=not Hispanic/Latino/Spanish)	-0.03	0.06	0.61	-0.04	0.06	0.54
PastEmploy (1=PA ed, 0= other)	0.03	0.09	0.741	0.04	0.09	0.698

Table 9: Sacrifice New or Established Regression continued

SACRIFICE	Independent Variables								
	Rate_Promotion			Rate_Schedule			Rate_OthBenefits		
Control Variables	Beta	STD Error	Sig	Beta	STD Error	Sig	Beta	STD Error	Sig
New or Established	0.01	0.02	0.456	-0.04	0.03	0.087	0.02	0.02	0.238
Gender (0=M, 1=F)	0.08	0.03	0.02	0.07	0.03	0.025	0.07	0.03	0.025
Race (0=other, 1=white)	-0.07	0.06	0.286	-0.07	0.06	0.304	-0.07	0.06	0.292
Ethnicity (0=not Hispanic/Latino/Spanish)	-0.03	0.06	0.55	-0.04	0.06	0.508	-0.03	0.06	0.607
PastEmploy (1=PA ed, 0= other)	0.04	0.06	0.699	0.03	0.09	0.763	0.04	0.09	0.64

Table 9: Sacrifice New or Established Regression continued

SACRIFICE	Independent Variables					
	Rate_Indep			Rate_Tenure		
Control Variables	Beta	STD Error	Sig	Beta	STD Error	Sig
New or Established	0.01	0.03	0.862	0.02	0.01	0.13
Gender (0=M, 1=F)	0.075	0.03	0.022	0.08	0.03	0.02
Race (0=other, 1=white)	-0.066	0.06	0.296	-0.06	0.06	0.333
Ethnicity (0=not Hispanic/Latino/Spanish)	-0.035	0.06	0.546	-0.03	0.06	0.574
PastEmploy (1=PA ed, 0= other)	0.036	0.09	0.701	0.04	0.09	0.636

Chapter 4 Summary

The six research questions in this study resulted in 44 regression models where each independent variable in three categories of fit, links, and sacrifice was investigated for relationships that predicted longevity, or length of employment, while controlling for gender, race, ethnicity and past employment of PA faculty.

In the questions where longevity was the dependent variable, six independent variables in the regressions were statistically significant. Three variables in the fit category; program support and resources to transition from clinical work to academia and institutional leadership, two variables in the links category; fair treatment in program and work clinically, and two variables

in the sacrifices category; stressful transition from clinical work to academia and promotion potential.

All longevity models with statistically significant independent variables were statistically significant in predicting length of employment, but the variance in length of employment explained by the models were consistently very low, between 1% and 4%. In these models, clinical to academic support, institutional leadership, fair treatment, work clinically, clinical to academic stress, and promotion potential all had a negative predictive relationship with longevity, indicating that those independent variables and models predicted a decrease in length of employment. The only models that failed to show significance were program management/leadership, departmental support for work/life balance, and autonomy and independence.

Control variables with statistical significance included gender, ethnicity, and past employment. In the statistically significant models and independent variables within fit, the relationship with gender, ethnicity, and past employment indicated that males, Hispanic, Latino, or Spanish participants, and those who previously worked clinically had decreased length of employment. For links, the findings were similar, but ethnicity was not significant in the work clinically model. In the sacrifice category, only past employment in a clinical setting had a relationship with decreased longevity.

All new or established statistically significant independent variables were also in statistically significant models which predicted if faculty were new or established, but similar to the longevity models, the variance in all models was extremely low.

Three independent variables in fit, two in links, and three in sacrifice categories were statistically significant, totaling eight statistically significant variables. In fit, faculty concerns,

faculty respect, and institutional leadership were all shown to have a positive relationship with new faculty. In links, fair treatment, and faculty development opportunities inside institution also had a positive relationship with new faculty. Three independent variables in sacrifice were also correlated with being new faculty: clinical to academic stress, fair hire, and fairness of salary.

Models for all statistically significant independent variables in the new or established regressions were all significant for predicting if faculty were new or established but also followed the very low variance pattern of previous models in the study. The only statistically significant control variable in the new or established models was gender which revealed a strong relationship with women being new faculty.

Variables with crossover significance from longevity to new or established regression models were institutional leadership in the fit category, fair treatment in the links category, and clinical to academic stress in the sacrifice category. Satisfaction with institutional leadership had a negative relationship with longevity, but a positive relationship with being new or established indicating that higher satisfaction with institutional leadership coincided with new faculty and decreased longevity. Perception of incremental levels of agreeing with being treated fairly in the program was associated with being new faculty and decreased longevity. Stressful transition from clinical work to academia had a positive relationship with new faculty and a negative relationship with longevity, illustrating that with each incremental increase in stress during the transition, there was an increased association with new faculty, and a decrease in longevity.

Gender was statistically significant in all models except for the clinical to academic stress in both dependent variable models. Males correlated strongly with a decrease in years of employment and women correlated strongly with being new faculty. Chapter 5 will discuss

interpretations of regression results and summary of study findings, recommendations for practice, recommendations for future research, limitations, and final conclusions.

Chapter 5: Conclusions

The purpose of this study was to examine how job embeddedness factors in the categories of fit, links, and sacrifice affect length of employment and new or established status of PA faculty in the United States. This chapter will consist of an interpretation and summary of the multiple regression results, recommendations for practice, recommendations for future research, limitations, and final conclusions.

Research Questions

1. How do job embeddedness factors related to fit influence the longevity of PA faculty in the U.S.?
2. How do job embeddedness factors related to links influence the longevity of PA faculty in the U.S.?
3. How do job embeddedness factors related to sacrifice influence the longevity of PA faculty in the U.S.?
4. Is there a relationship between job embeddedness factors in the category of fit and being a new or established PA educator?
5. Is there a relationship between job embeddedness factors in the category of links and being a new or established PA educator?
6. Is there a relationship between job embeddedness factors in the category of sacrifices and being a new or established PA educator?

Summary and of Interpretations of Findings

The study sample included 1,114 participants from 202 accredited Physician Assistant programs in the United States representing 89.4% of all PAEA program member programs in 2017. The individual response rate was 60.3%. Following PAEA data cleaning prior to their analysis, the

study represented 1,084 total respondents, 877 of which were faculty, 134 were program directors and 73 were medical directors. Faculty responses were used for the purposes of this study. New faculty are defined as having three or fewer years of experience, and established faculty as having greater than three years of experience. Data cleaning for my study resulted in 694 observations.

Fit and Longevity

Fit is the first element in the Job Embeddedness (JE) theory developed by Terrence Mitchell, Brooks Holtom and other contributing colleagues in 2001 (Mitchell, et al., 2001). Fit is an employee's perceived affinity or satisfaction within their institution or organization. Aligning with the JE theory, the greater the perceived match between an employee's knowledge, skills, and abilities and the requirements of their position within their organization, the greater the perceived organizational fit. When an employee has a strong impression of fit with their workplace, the greater the likelihood of their longevity within the organization (Mitchell, et al., 2001).

Utilizing longevity as the dependent variable, I ran multiple linear regression models for the seven independent variables within the fit category while controlling for gender, race, ethnicity, and past employment to determine if any relationships were predictive of longevity or length of employment of PA faculty. These independent variables include, "My program provided enough support and resources to help me transition from clinical work to academia," "Faculty are sufficiently involved in program decision-making," "Administrators consider faculty concerns when making policy," "Faculty here respect each other," "institutional leadership," "program management/leadership," and "teaching workload." Two independent variables in the fit category were statistically significant, clinical to academic support and

institutional leadership. Each incremental increase in perception of clinical to academic support and each increase in participant satisfaction with institutional leadership correlated with a decrease in years of employment. All models but one within fit were statistically significant in predicting length of employment, with a negligible variance in length of employment for all models.

The concept of a PA program providing ample support and resources to a newly hired faculty member during transition from clinical work to academia aligns with the fit category, as targeted guidance and training assist the employee with their comfort level and confidence in the role, leading to a feeling of belonging (Carey & Weissman, 2010; Cowin, et al., 2012). However, the clinical to academic support variable had a negative relationship with years of employment indicating decreased longevity with increased support. This is an odd finding, as one would associate increase in support with increased longevity. From the perspective of established faculty, this could also be representative of feeling less supported if the attention is focused largely on new faculty, skewing the data in a negative direction. The dataset did not have details about the quality or content of the support, merely the vague description of "enough" support. The only viable factor I can consider with this unexpected relationship is the sense of overwhelm that has been repeatedly documented throughout the literature that a new faculty member experiences with the shift in career from clinical to academic (McDermid, et al., 2013; Franz & Smith, 2013; Warner, 2015). Perhaps the amount of support is arbitrary and does not translate into easy utilization or understanding of the new resources.

The relationship between organizational support and mentoring have been studied in correlation with longevity and intent to leave an academic position. The findings in my study contradict some other recorded findings in the literature. One study involving a random sampling

of PA faculty highlights the inconsistency with my findings, as there was a strong correlation between organizational support and intent to leave, where the greater the support, the greater the longevity (Coniglio & Akroyd, 2015). Mentoring is an integral aspect of the transition from clinical to academic work, and studies have stressed its influence on the process.

Another study with physical therapy faculty found that mentoring was an important factor in offering direction in adapting and maneuvering academic culture, ultimately building loyalty for their organization (Pinto-Zipp, et al., 2015). However, the study indicated the prevalence of established faculty lacking the time and resources to effectively accomplish ample mentoring. Ultimately, more information is needed from this dataset as to the quality and quantity of the support and resources that were offered during the transition. It can be inferred from prior studies comparing programmatic support and mentorship during a clinical to academic transition, that if there is ample quality support, the trend is for increased longevity. Very few studies are specific to PAs, so there may be substantive differences in this process in other academic industries.

In my study, there was a negative relationship between institutional leadership and longevity indicating that an increase in faculty satisfaction with institutional leadership coincides with a decrease in years of employment. Like the variable above related to clinical to academic support, there is potential that this finding is skewed by established faculty viewpoints of leadership who could be more cynical or less trusting of administration than new faculty. Additionally, being satisfied with institutional leadership does not necessarily equate to how matters trickle down or are handled at the programmatic level, nor does adequate institutional leadership automatically translate into happiness or intrinsic fit in one's primary job role.

One study examined nursing faculty and their organizational commitment based on perceived leadership support and other factors within job satisfaction (Gutierrez, Canella, Carver,

2012). An interesting finding was that before nursing faculty were able to perceive an emotional attachment to their organization, they first needed to develop feelings of obligation toward their organization to continue working there. This requires a socialization process during the initial transition phase which persists for an undetermined time before developing a committal bond with their institution (Gutierrez, Canella, Carver, 2012).

This information can reflect upon why PA faculty in my study may have a negative relationship with institutional leadership. It is reasonable that it takes less time to perceive personal commitment to program leadership that offers more frequent and intimate contact hours, mentoring and direction, than institutional leadership that traditionally provides far less, if any, personal interaction and mentoring. Bonding with the leaders who directly mentor and guide new faculty is likely to transpire faster than that with hands-off administrators and have a greater influence on retention. The study also concluded that perceived personal organizational fit (PPOF) is influenced by faculty perceived organizational support (POS) and global job satisfaction (GJS), implying that PPOF could serve as a viable measure to predict faulty attrition (Gutierrez, Candella, Carver, 2012).

The findings in this study align with the JE theory, as the greater the perception of fit between faculty and their organization, the greater their emotional bond and the more committed they will be to their organization. The findings in my study, while contradictory to the bedrock of JE theory, could be influenced by other variables not included in my study. While the independent variables do glean perceptual information of amount of clinical to academic support and satisfaction with institutional leadership, the variables do not offer introspective information about the participant's intrinsic feelings of fitting into the environment in which they are receiving the support. Qualitative studies have revealed new faculty feelings of incompetence,

anxiety, ineptitude, vulnerability, and inadequacy during the transitional stages (McDermid, et al., 2013; Murray, et al., 2013; Warner, 2015). These emotions may usurp any discernable adequacy of support amount, as new faculty may be hesitant to ask questions and draw attention to these feelings. The independent variables in my study could be too restrictive in detail and depth to capture this information.

Gender was statistically significant in all models with predictive independent variables within the fit category, emphasizing males as more likely to have a decreased length of employment. It is notable that 68.2% of the participants from the dataset were female PA faculty, and 31% were male. This statistic could play a role in why males in this study are shown to trend toward decreased length of employment. Males comprise the minority in PA education and the physician assistant career in general, which is a female dominated profession, with women representing 72.5% of PAs certified in 2018 (NCCPA, 2019).

One study examined data for the pattern of men joining and leaving female-dominated occupations in the United States and found an inordinate trend toward attrition among novice males embarking on female-dominated career fields (Torre, 2019). Approximately eight out of ten men employed in typically female predominant jobs previously held positions in male-dominated professions. Only about a quarter stayed in the jobs that were female-dominated whereas the majority left to pursue either a male-dominant or neutral position.

Another study examined the effect of occupational gender stereotypes on the interests of males entering occupations traditionally dominated by females (Forsman & Barth, 2016). Occupation titles that were feminine and masculine stereotyped were identified, including titles like nurse, therapist, teacher, librarian, and flight attendant which held a female connotation, and titles like auto mechanic, warden, firefighter, and construction manager which were more

strongly associated with males. The study results revealed that males preferred occupations without titles or those with traditional male descriptors over titled or female descriptor jobs. An example of this was changing a title from "emergency room nurses use analytical skills" to "people in this job use analytical skills" (Forsman & Barth, 2016, page 465). Additionally, the study found that males in female-dominated jobs are often awarded an inordinately greater amount of leadership positions. This phenomenon has been coined "the glass elevator effect" in prior literature where men implicitly or knowingly exploit preferential leverage (Forsman & Barth, 2016, page 470).

Another significant control variable within the predictive models of fit was past employment in a clinical setting, which was associated with a decrease in length of employment. This aligns with PAEA data from the 2017-2018 academic year that revealed the most common reason at 25.7% for leaving PA education was to return to clinical practice (PAEA, 2019). Most PA educators, 76.1%, reported their immediate past employment was clinical practice, which indicates that if a faculty member leaves their academic position, the most likely career destination would be back to clinical practice. The literature has shown that when PA educators retreat to their clinical roots, they are choosing the less stressful option which offers higher compensation and increased quality in work-life balance (NONFP, 2017). The significant correlation between previous employment in a clinical position and decreased longevity may have less to do with the statistical model and align more with the sample size displaying a large percentage of PA educators with clinical backgrounds. Any significant attrition of PA faculty is going to coincide with PAs who have a clinical work history who in turn, have greater fit with their roots as clinicians. The lack of fit in PA education may be the significant factor highlighting their true fit in clinical medicine.

The non-statistically significant variables within fit were faculty involvement in program decision making, administrators consider faculty concerns when making policy, faculty respect for one another, program management/leadership, and teaching workload.

Fit and New or Established

In the new or established models, new faculty are defined as possessing three or fewer years of experience in PA education. Three significant variables in the fit category in the new or established model were "administrators considering faculty concerns when making policy," "faculty respect for one another," and "institutional leadership." The FacConcerns variable had a positive relationship with being new or established, interpreted as when there is stronger perception that administrators consider faculty concerns when making policy it coincides with being new faculty. The same relationship holds true for faculty respect, as new faculty share a more fervent perception of communal respect among fellow faculty. Institutional leadership, discussed in detail previously in this chapter, had a negative relationship in the longevity model and has a positive relationship with new faculty who have an increased satisfaction with leadership within their organizations.

Faculty who perceive that their concerns are considered by administration likely have stronger fit in their organization when feeling that their opinions matter. One study examined faculty involvement in university-wide decision-making in relation to enrollment, academic and non-academic (athletics, recreational activities) quality (Carroll, Dickson & Ruseski, 2013). It showed that faculty involvement in university decisions may positively affect student enrollment, particularly in the graduate level, subsidized funding, and overall quality which in turn positively affects faculty research and university reputation. Notably, the collaboration was shown to increase equitable resource allocation which directly influences academic quality. Faculty who

provide constructive insight to administrators and subsequently witness productive improvements based on their observations likely have better fit in their position and organization. The correlation in my study with new faculty perception that their opinions matter to administrators could have positive influence within job fit.

The effects of mutual organizational respect were examined in a longitudinal qualitative analysis study. Appraisal respect, or recognition for competence or the drive to obtain it, and recognition respect related to values or interests were investigated within a collaborative organizational structure (Wiedner, Mantere, 2018). General findings indicated that continual contact, positive interaction, and open communication were key to acquiring mutual trust, confidence, and ultimate respect between individuals and larger teams.

Findings in my study indicate that a perception of mutual faculty respect is indicative of being new faculty. This could have implications that new faculty perceive their colleagues as open to their questions and appreciative of active efforts toward achieving competence as PA educators. While the finding does not go so far as new faculty feeling or being confident or competent, it does elude to the possibility of new faculty feeling supported via the perception of respect from their team, which can positively influence new faculty fit.

The only independent variable and model in the fit category that was statistically significant for both dependent variable research questions was institutional leadership. Institutional leadership had a positive relationship in determining if faculty is new or established, indicating that with every increase in institutional leadership, the likelihood of being new faculty also increased. Relationships between faculty and institutional leadership were explored earlier in this chapter and revealed a negative relationship with longevity, indicating that the stronger the institutional leadership the less likely PA faculty were to stay. Considering the positive

relationship with new faculty, novice educators may have a more optimistic or positive perception of institutional leadership than established faculty. There are no research studies to back up this claim; however, one can glean that with the decision to forge ahead with a career change from clinical to academic. New faculty are likely attracted to institutions that are reputable, known for their positive treatment of employees, opportunities for growth and longevity, and administration that provides direction for program success.

For new faculty, the importance of clear guidance, mentorship, role and expectation setting, and orientation to academic culture have previously been mentioned as vital for confidence, comfort in role, and ultimately, longevity or job embeddedness in PA education (Cowin, et al., 2012). There are no known studies specific to PA education, especially studies that focus on new faculty. It can be inferred that when there is supportive institutional leadership, satisfaction and job embeddedness of new faculty should increase. I believe clinicians without fine-tuned knowledge of the dynamics of academic organization and government may blindly presume strong PA programs are a direct circumstance of successful institutional leadership, thus the significant relationship.

Links and Longevity

Links is the second category of the JE theory that refers to the formal or informal connections that a person has with their institution or organization, the people within their work environment, home environment, neighborhood, community and anything associated with the bubble in which they live and work. The stronger the links a person has with these elements, the more embedded they are in their workplace (Mitchell, et al., 2001).

Two of the five independent variables in links were statistically significant through multiple linear regression, “I am treated fairly in my program” and the work clinically variable.

Fair treatment had a negative relationship with length of employment, indicating that with greater perceived fairness of treatment, there was a decrease in length of employment. The model was also statistically significant indicating increase in fair treatment had predictive power of decreased length of employment but had a very low predictive variance of 2%. Superficially, this seems like an odd finding. However, this study did not define or contextualize "fair treatment" but rather left it up to the participant to apply their own interpretation, which could extend further than a superficial rationale. Similar to the theory posed earlier with institutional leadership, this could also reflect the contrast between how new faculty feel they are treated versus how established faculty may feel if the focus of attention in programs lies with new faculty.

Fairness plays a large role in organizational justice, a term that is influential in the perception of institutional management (Yean & Yusof, 2015). Organizational justice is closely related to JE links because when there is a perception of fairness, what follows is trust, commitment and elevated performance due to a sense of duty, obligation, and moral responsibility to the organization (VanZyl, 2019). However, when there is a collective impression of fair treatment in an organization, it may apply unique pressure on work-related products which surpass the individual perceptions. This could mean that the perception of fair treatment triggers a response of higher goal attainment, which can influence stress levels when competing with the elevated productivity of the collective group (Moon, 2017).

The variable representing if faculty continued to work clinically was statistically significant and had a negative relationship with length of employment indicating that working clinically was associated with a decrease in years of employment in PA education. The model was also statistically significant implying that working clinically was predictive of decreased

length of employment but had a small predictive variance of 4%. The dataset revealed that 66.8% of PA educator respondents also work clinical hours (PAEA, 2017). This could be the main reason behind the correlation of decreased PA education longevity. When a majority of people in the dataset are shown to work a clinical job, if they leave PA education for any reason, it will reflect upon this variable as a negative effect.

There is relevance with the working clinically variable and the links category, as staying active in clinical medicine while teaching these concepts to students keeps faculty connected or "linked" to the skillsets that are being taught, and to the industry in which they are preparing students to work. Educators who remain active in clinical work are viewed as more credible and relevant by students, and their active work increases effectiveness in connecting with students, other educators, and with associated research projects (Gonzales, et al., 2019; NONPF, 2017). It also allows the PA educator to keep ties with their clinical roots, colleagues, and medical facilities, while remaining connected to the educational aspect of medicine. However, working clinically can also be seductive to return to full-time for a variety of reasons including financial incentive where compensation is an average of $12,000-$13,000 more annually when compared to PA education (Bureau of Labor Statistics, 2019; PAEA, 2018). As stated earlier in this chapter, more than a quarter of PA educators return to clinical practice.

Significant control variables of gender, ethnicity, and past employment showed a relationship between men, Hispanic, Latino, or Spanish faculty, and those who had prior clinical employment as PAs with a decrease in longevity in PA education. The three non-statistically significant independent variables were teaching being valued by other faculty in the program, faculty development opportunities outside the institution and within the institution.

Links and New or Established

The links category which has five related independent variables revealed two with a significant relationship to being a new or established PA educator. These variables are "fair treatment in the program" and "faculty development opportunities within institution." Both models with these variables were statistically significant, although both with very small variances explained by the model. This indicates that the perception of fair treatment and an institution providing faculty development both have relationships with being new faculty.

Fair treatment was explored earlier in this chapter. The variable had a negative relationship with longevity but a positive relationship with being new faculty where a greater perception of being treated fairly in their program was associated with being new faculty. One thing of note is that the term "fairly" in the question of being treated fairly was not defined and had subjective interpretation. For example, it is unclear if fair treatment refered to salary, workload, office conditions, relationships with colleagues, distribution of supplies or benefits, or something else. The perception of being treated the same as everyone else can refer to equity or equality, which have very different meanings. Equity in the workplace includes compensation, support, learning and development options, opportunties for advancement and success, and thoughtfully divided workloads for a common goal (Link, 2019). Equality is rooted in a non-discriminatory interpretation involving components such as gender, race, disability, religion, nationality, sexual orentation or age where workplace biases can play a role in treatment (Baer, 2020). While the variable was significant in my study, the interpretation can be varied.

Faculty development opportunities within the institution had a positive predictive relationship with being new or established, indicating that satisfaction with these events had a relationship with being new faculty. A qualititative study examined new faculty satisfaction with

development initiatives through their institutions based on the observation that new educators often struggle when acclimating to faculty roles (Puri, et al., 2012). It concluded that new faculty had strong interest in extensive faculty development programs particularly involving topics on teaching, scholarship, promotion, tenure, and methods to acclimate to academic culture. This coincides with the positive relationship with new faculty in my study, and their desire to enhance linkages to their academic community.

Sacrifice and Longevity

Sacrifice within the JE theory illustrates the perceived forfeiting of any benefits of a job when considering leaving. These can include elements such as personal and professional connections, salary amount, employer provided benefits like stock options or pensions and health insurance, promotion potential, position and stability within an organization, desired commute time, flexible work schedule, neighborhood and community in which the employee lives, and accrued perks with job longevity (Holtom, Lee, Sabylnski, et al., 2001). Considering the sacrifice of perceived benefits of a position can influence an employee's decision on whether to stay or leave.

In this study, sacrifice is the category with the largest number of variables where my multiple regression analysis yielded two statistically significant variables. When controlling for gender, race, ethnicity, and past employment of PA faculty, perception of stressful transition from clinical work to academia predicted decreased length of employment of PA faculty. Each incremental increase in clinical to academic stress correlates with a 0.62 decrease in years of employment indicating that faculty who endured higher stress levels when transitioning were less likely to stay in their academic position. On a Likert scale of 1-5 with 1 = *not stressful at all* and

5 = *extremely stressful*, respondents who indicated their immediate past employment was clinical practice rated their stress levels during transition as a mean of 2.9 (PAEA, 2019).

Clinicians who shift into academic medicine can encounter a stressful transition for a variety of reasons, examples of which include unfamiliarity with academic culture or expectations, unpreparedness for role change and competency shift, and lack of mentoring (Frantz & Smith, 2013; Otty & Wrightsman, 2011). A great deal of time, effort and dedication is expended when transitioning job roles, investments that would be sacrificed if leaving the job due to enduring increased stress.

A study involving nursing faculty was designed to analyze participants' intent to stay in the faculty role by establishing the degree to which role ambiguity, self-reflected perception of instructional competence, and interpersonal support impacted stress with their job role (Cranford, 2013). It also sought to examine how stress was related to their satisfaction in transferring into academia and their intent to remain in their positions. The most significant variables in this study included a sense of exhaustion at the end of each day, and a constant uphill workload battle with no end in sight.

Additionally, there was a perception of not knowing how to navigate time management efficiently with their heavy task workload. The independent variable of role ambiguity in the study accounted for 44% of the variance of role strain, indicating a lack of mentoring or guidance with transition into the academic role. When looking at the relationship between role strain and intent to stay, role strain explained only 11% of the variance which likely indicates there are other independent variables that are not accounted for in this model. Interestingly, variables such as age, years of clinical experience and level of education were not significant factors in role strain. However, age was considered a potential factor in intent to stay as the mean

age was 50.6 years, representing an age group that traditionally expresses organizational commitment as they approach retirement age. Compensation did play a large role in intent to stay, as the majority felt undercompensated and the trend was that they worked a second job to offset the income disparity (Cranford, 2013).

This study aligns with many of the theories regarding the transition of PAs from clinical to academic positions. While the literature is largely lacking specificity regarding PAs, it has highlighted that transitioning into academia from a clinical role involves a scarcity of mentoring, lack of clear expression of role expectations, and the inadequate support necessary to properly acclimate into the academic industry including guidance on workload, policy and culture (Franz & Smith, 2013; McKenna, 2018; NONFP, 2017).

A qualitative study concluded that when new faculty perceived a lack of support and preparedness, a rapid decline of morale, assurance and job suitability ensued (Franz & Smith, 2013). Other similar qualitative studies have reported strong perceptions of overwhelm during the transitional period, leading to increased stress levels and overall job dissatisfaction, expectation anxiety, feelings of failure and ineptitude, and culture shock culminating in self-doubt and higher rates of attrition (McDermid, et al., 2013; Murray, et al., 2013; Warner, 2015).

A large portion of the literature regarding new faculty stress targets acclimation to culture and general lack of support. When entering academia with a clinical mindset, it should be recognized that clinicians are socialized in a different way than academicians, generating a greater likelihood of culture shock (McDonald, 2010). While camaraderie and socialization among new faculty is a gateway to a reliable support system, established faculty often have time and commitment constraints preventing adequate mentorship, which in turn, enforce an obligatory culture of new faculty autonomy, contributing to transitional stress.

The independent variable promotion potential was statistically significant in predicting a negative relationship with length of employment; each increase in satisfaction of promotion potential correlated with a decrease in years of employment. Promotion potential is housed in the sacrifice category because leaving a position for another could pose a missed opportunity for promotion in an established position in a familiar organization.

The findings in this study of increased satisfaction with promotion potential related to decreased length of employment contradict much of the available research. One study determined that the effect of promotion on job satisfaction is likened to the reward of a wage increase of 69% (Kosteas, 2011). Receiving a promotion has an association with a 9.8% increase in job satisfaction probability, but also indicates that in the years following promotion, this relationship decreases in significance culminating in an overall significant but incrementally shrinking impact on job satisfaction over time.

The contradictory results in my study regarding promotion potential could be reflective of gendered experiences with consideration that my dataset is highly representative of women. A 2019 longitudinal study sought to investigate gender differences in advancement in academic medicine careers and found that women were less likely than men to achieve professor rank and hold senior leadership positions (Carr, et al., 2019). It also concluded that women are more likely to remain in their position or receive promotion to higher rank if their academic productivity is steady, regardless of their pursuance of research or further education versus less accomplished males who more readily receive promotions. These findings are certainly not exclusive to educators, medicine, or administrators. Research reveals that the disparity in promotion rates is one of the primary reasons for the persistent universal gender pay imbalance which has remained

relatively unchanged for years, with the United States ranking at a 28% gap, equating to women earning 82 cents for every dollar men make (The Global Gender Gap Report, 2018).

Women in PA education may be satisfied with the theoretical potential for promotion but could be conditioned to believe that the probability of promotion is dubious when compared to their male counterparts. This could be a factor affecting the relationship with decreased years of employment.

With the two significant variables in sacrifice, gender and past employment were consistent control variables, with male gender and past employment in a clinical setting having a negative relationship with both independent variables. Men and PA faculty who previously worked clinically have increased clinical to academic stress and higher satisfaction with promotion but a decreased length of employment.

Remaining independent variables in the sacrifices category that did not yield significant results were faculty are hired and paid fairly, salary amount, fairness of salary relative to other faculty, departmental support for work/life balance, schedule flexibility, other benefits, autonomy and independence, and tenure requirements.

Sacrifice and New or Established

Ten variables are housed in the sacrifice category, three of which were statistically significant in the new or established models, all having a relationship with being new faculty: clinical to academic stress, faculty are hired and paid fairly, and fairness of salary relative to other faculty. All models were also statistically significant in predicting if faculty were new or established, but the variances were extremely small.

Clinical to academic stress was written about in detail earlier in this chapter, concluding that the stress when transitioning to academia where there is often a lack of mentorship and

guidance into the new language and culture can pose many barriers to longevity (Frantz & Smith, 2013; Otty & Wrightsman, 2011). The experience is unique to new faculty, so it is not surprising that there is a positive correlation. I will revisit this topic further in later sections of this chapter.

The faculty are hired and paid fairly variable was significant, where the stronger the satisfaction, the more likely the relationship with new faculty. This is another variable where interpretations of the word "fairly" can be broad. One study investigated practices of hiring committees and found inconsistent and peculiar methods in which candidates' qualifications including research, teaching, and service credentials were evaluated (White-Lewis, 2019). Aversion to diversity and preferences of individual committee members generally held priority over organizational or criteria-based needs. This brings light to the lack of clear standardization when hiring new faculty, rendering many processes a popularity or likability contest.

Fairness of salary relative to other faculty has a significant correlation to new faculty where satisfaction level of fairness of salary positively predicts if faculty are new. This variable assumes that new faculty have knowledge of colleagues' compensation. At public institutions, this may be available searchable knowledge, but private institutions typically do not make this information publicly available (Kreuter, 2012). Fairness of salary relative to other faculty did not have a significant relationship to years of employment, so there could potentially be a new faculty conceptual assumption of equity in pay with colleagues. In the 2017 faculty dataset, fairness of salary relative to other faculty and salary amount were reported among the least satisfying aspects of their job (PAEA, 2018).

Compensation is an important factor in sacrifice, as leaving a job could result in loss of perceived adequate compensation or associated benefits such as tuition remission, reimbursement policies for things like commute expenses or travel for academic enrichment

activities, affordable cost of living relative to the location of employment, and impact on general expenses (Mitchell, et al., 2001).

In summary, all significant variables and models in the longevity models had a negative relationship with length of employment, indicating that regardless of the incremental levels of satisfaction with the independent variables there was a decrease in length of employment. In the new or established models, all significant independent variables and models were predictive of faculty being new.

Gender, ethnicity, and past employment were significant in most longevity models, with white males who had a clinical past employment history having a relationship with decreased length of employment as PA faculty. In the new or established models, there was a predilection of women associated with being new faculty.

In my study, I did not uncover a substantially more influential dimension of JE among fit, links, and sacrifice in predicting longevity or being new or established faculty. Each category contained a model that was significant for both dependent variables, but none with compelling variance or impact. However, the most salient findings that can correlate to practical implications were the results of the models from both dependent variables and their relationship to the independent variable of clinical to academic stress in the sacrifice category. Clinical to academic stress was significant for a decreased length of employment in PA faculty with past employment in clinical medicine, and with new female faculty. This will be addressed further in recommendations for practice.

Superficially, the overall findings among models with the control variable of longevity seem to inherently contradict the foundational tenants of job embeddedness theory. After exploring much of the supporting literature, an expected outcome was that any increased

satisfaction in the independent variables such as clinical to academic support, institutional leadership, or promotion potential should equate to an increase in job embeddedness. Fit in PA education should be increased with adequate support and resources when transitioning from clinical work to academia, leading to increased longevity. Provision of release time for part-time clinical work should theoretically provide opportunity for links in both clinical and academic industries by staying connected to clinical roots, and higher perception of credibility in the academic setting. Potential for promotion in a faculty role, in theory, should deter PA faculty from leaving and sacrificing the opportunity of moving up in the ranks of academia.

As previously stated in this paper, of all new faculty in the 2017-2018 academic year, 75.5% came to PA education directly from clinical practice and had no prior education experience. Returning to clinical practice was the most common reason for attrition in PA education, at 25.7% (PAEA, 2018, 2019). Longitudinal studies also report return to clinical practice as a consistent top reported reason for attrition (Reed, 2006). The largely significant findings of my study revealed high levels of satisfaction for components of job embeddedness, with unexpected coinciding decreased longevity. Globally based on my study findings, it appears that higher likelihood of attrition in the PA education industry is inevitable regardless of satisfaction with JE factors, especially for PAs who started their careers in clinical medicine.

There is a counter argument to job embeddedness that is not as prevalent in the theoretical literature. Being satisfied with job conditions, perks, connections, and favorable attributes does not necessarily equate into enjoying the job itself. This is where interpretation of job embeddedness theory diverges, and embeddedness can compare to a feeling of being stuck instead of dedicated. In early theoretical research, job embeddedness was likened to being immersed in a net or web which influences an employee to stay. However, the embeddedness in

relation to being stuck in a position can also provide motivation to stay due to other factors that tie a person to their job or organization (Allen, Peltokorpi & Rubenstein, 2016). Research involving the JE theory widely focuses on its favorable effects, but alternate interpretations of original JE theory point out faults of it focusing on quantity of associations rather than quality, and degree of ties to an organization without distinction of the connections being desirable or undesirable.

In the literature, the JE theory has a more positive outcome with employees who tend to put their organization's interests in front of their own, which often works more favorably for companies. For example, adherence to tenants of loyalty and commitment under the influential power of their organizations has been shown to lead to elevated employee JE (Shah, et al., 2020). However, employees who are embedded based on personal benefits such as tuition reimbursement, retirement packages, professional development opportunities, or other incentives may be satisfied with these JE factors, but unhappy in their job roles (States News Service, 2016). Being unhappy in a role does not necessarily mean employees' work product will be adversely affected. Essentially, this more evolved view of JE espouses that being embedded is intrinsically neutral, but the attributes of the employee's JE factors make them positive or negative.

This contrasting interpretation of JE could more closely align with my study results of the significant independent variables negative relationship to longevity of PA faculty. It is possible that new PA faculty have positive opinions of the factors represented by the independent variables in the study, yet satisfaction with those factors do not equate to happiness in their academic position, which in turn, provokes decrease in longevity. Retrospective happiness in

their clinical role may overshadow their ability to be content in an academic environment. This theory may correlate with the high percentage of attrition in lieu of returning to clinical work.

Recommendations for Practice

The results of this study provided several important implications for future practice. The most salient variable in the study derived from the question "How stressful was your transition from clinical work to academia?" The stress that new faculty experience as they navigate the shift into an unfamiliar work environment is a driving factor against longevity in an academic career. Entering any new career field without basic knowledge of its language or culture pose substantial challenges. New faculty who do not possess academic experience face a possibility for an abrupt and traumatic identity shift which has the potential for diminished sense of qualifications and competency (Coniglio & Akroyd, 2015). A logical intervention is an increase in consistent, quality mentorship for new faculty.

Prospective faculty could take positive action to learn more about the career field prior to applying for PA education positions. For example, candidates who are interested in a career change from clinical to academic could take advantage of informational interviewing, which consists of informal conversations with connections inside the industry. This could allow applicants to gain insight about the motivation, skills, and foundation necessary to succeed, and what to expect during the career transition (Smith, 2020). Learning about benefits and challenges, views of workload, and culture can increase candidate preparedness for transition expectations or discourage other candidates who had a dystopic vision of a career in academia.

Introduction to and continual support for the new language of academia is an integral aspect of mentorship which should be provided. Additionally, PA education is often a technology filled abyss with a variety of software, platforms, and programs used for teaching and

administrative purposes, all of which new faculty need assistance in learning, implementing and remaining abreast (Cranford, 2013). Outside of the rare established mentor programs for new faulty, the vast majority of literature eludes to seasoned faculty not having the time or resources to effectively mentor new faculty (Graham & Beltyukova, 2015; McDermid, et al., 2013). Additionally, when mentorship is offered, it has been found to be piecemeal and inadequate in caliber and quantity due to experienced faculty time restraints and commitments (Pinto-Zipp, et al., 2015).

In an industry where 75% of new faculty are recruited from the clinical field and the number of educational programs has more than doubled in a span of 20 years, one of the top reported barriers to hiring new PA faculty is lack of teaching experience (ARC-PA, 2020; PAEA, 2019). While there may be a decent pool of applicants who desire a career change from clinical, inexperienced faculty can pose a risk to quality of program effectiveness and cause interruption of program dynamics for increased mentoring (Graeff, et al., 2014).

During the 2017-2018 academic year. 55.9% of PA programs reported at least one faculty vacancy, creating a widening gap with an uphill battle (PAEA, 2019). This combination of factors seems to represent a double-edged sword to acquiring competent new PA educators. Historically, only four PA programs have offered academic fellowships which allow potential candidates to test drive the PA educator role prior to committing to career change (Herrick, et al., 2020). There are limited follow-up studies to report whether those faculty positions were sustained, but the Duke University fellowship which existed from 2001-2006 resulted in nine out of eleven candidates being hired as PA faculty, with five of the nine remaining as educators as of 2010 (Hills & Dieter, 2010). While few in number, these programs can pose as examples for institutions to model and improve upon. This venture could be cost-prohibitive for some

programs to implement, but historical data of high PA faculty attrition and recruitment costs may be considerations in decision making (Kaminski & Geisler, 2012).

As stated earlier, established faculty often lack the time and resources to effectively mentor new faculty. With investment from institutions, established faculty could be offered incentive and release time to properly mentor new faculty, or spearhead fellowship programs. PAEA offers fee based in-person workshops that address educator competencies and basic skills (PAEA, n.d.). Individual programs could adapt similar information into more formal onboarding processes for new faculty with the support of institutional leadership (Herrick, 2020). Institutional and programmatic leadership should work together to forge a plan that works best for their programs to ensure that new faculty are fully supported in every way with the end goal of minimizing the transitional stress, increasing job satisfaction and embeddedness, and ultimately longevity of faculty.

Another pipeline could be preparing PA students for careers in PA education. The focus of PA programs is to create competent clinicians who practice through a patient-centered, team-based approach to medicine (AAPA, n.d.). Since 2015, PAEA has offered fifteen PA students annually an opportunity to participate in a year-long fellowship, working with a network of educational mentors with the goal of providing foundational experience in promoting careers in PA education (PAEA, 2019, learning website). This program coincides with their active enrollment as PA students in an accredited nationwide program. There is no data to date of PA students choosing a career path in academia as a result, or its persuasion for longevity as PA educators. Theoretically, this idea could be key in narrowing the gap in vacant faculty positions nationwide as the growth of the industry continues.

PA programs require students to complete clinical rotations to satisfy the established standards under the ARC-PA. Many programs nationwide also offer opportunities for students to choose elective rotations during their schooling. Individual programs could create a non-clinical elective rotation which can introduce students to the fundamental components of PA education, using care not to violate confidentiality standards of student information. Through an elective rotation, students can learn the basic components of curricular development, test question writing, organization and government of higher education, aspects of teaching, scholarship and service, and pedagogical approaches to teaching. Additionally, this type of elective rotation could spark interest in leadership positions that advocate for PAs through legal processes, local organizations, and government representation.

Recommendations for Future Research

Future research could address the differences in faculty perceptions at incremental benchmarks of their careers to capture more specific data. The clinical to academic stress is clearly more prevalent for new faculty, and it is likely the perception of that particular stress fades with time for retained faculty. Taking into consideration a good portion of PA faculty are new to academia, assessments to date are feasibly influenced by a great deal of recency biases. The more recent the stress of enduring a career transition, the more expected it will be reflected in the research. My recommendation is to differentiate the research by years of employment as PA educators. Information gathered from faculty who have been in the position for up to a year, up to three years, up to five years, and longer than five years will provide critical perspective to this mission, and provide the industry with more specificity in which to address obstacles in longevity and job satisfaction of PA faculty. Specialized interventions at these distinctive time benchmarks could have much greater potential for positive change.

Evaluation of the experiences of PA faculty rely heavily on PAEA surveys and subsequent data. There are inherent flaws in the survey that need improvement to capture more specific and accurate data. Most of the survey used for the dataset in my study lumped PA faculty into one collective group when in fact, experiences for faculty at varied stages is quite disparate. For example, questions regarding transition from clinical to academic work, stress with transition, or experiences with mentoring logically apply to new faculty but are asked of all faculty. Perspective of a new educator with six months experience, versus that of a seasoned educator of ten years will drastically differ. Aggregated responses skew the perspective of these important topics. Future PAEA surveys should have sections designed solely for new faculty to capture data on PA educators with three or fewer years of experience. This group is known to have been chiefly recruited directly from the clinical field with little to no experience in PA education and has higher tendency of attrition to return to clinical work (PAEA, 2014, 2015, 2018).

Gathering information via PAEA surveys specific to new faculty can aid in targeting critical details which can help programs improve retention of this vulnerable group. Topics should include specifics on organizational support during transition such as the quality and quantity of mentoring or resources, scaled feelings of competency and preparedness, elements of academia that they found to be the most difficult to adjust to, confidence levels, if their expectations of the field match the reality they have experienced, any regrets they have about leaving full-time clinical medicine, and perceived benefits or disadvantages of PA education. Elements of trust were also not explored, like trust that new faculty have in their mentors, programs or institutions supporting them. Some of these recommended topics may require a

qualitative approach to capture the emotion, stress and individualized experiences involved in the transitional process.

A portion of the variables in the PAEA Survey were not explicitly described and could be improved to remove subjectivity. Some of the information was based on vague quantitative descriptors. For example, when asking respondents for feedback about clinical to academic support, the stem of the question asked if they had "enough" support without providing details into what that meant to each respondent. Essentially, this is a question that could be broken down into several more descriptive options. Detailed questions can target specific amounts of time to specific activities dedicated to their transition, types of mentoring offered, definitive resources made available, and particular aspects of the transition that were more difficult that perhaps required additional attention. The original dataset assumes that asking about "enough" support is all encompassing, where the question should be much more comprehensive.

Other terms lacked specificity, such as the term "fair" used in statements such as, "I am treated fairly in my program," "Faculty are hired and paid fairly," and "fairness of salary relative to other faculty." More definitive terms or explanations can be provided for future survey questions in attempts to standardize understanding and implications. Items related to salary were also unclear if they referred to salary alone or total compensation including benefits like retirement plans or tuition remission.

In future PAEA studies, established faculty who have exemplified retention and longevity can be examined through a different lens to focus on job satisfaction factors that have influenced their stamina in PA education. Comparing this group with new faculty can ultimately impact early training dynamics and retention strategies. Insight from separate groups can also galvanize common threads between them to weave a solid network of job embeddedness factors.

Additionally, future research targeting solely new faculty experiences can use this group as an independent variable in a quantitative study to glean information on retention and attrition. Utilizing new faculty as an independent variable along with other variables such as those related to mentoring, preparedness, perceived competence, and confidence may provide greater insight into the experiences of new faculty.

Another angle would be to capture information from new PA educators who left prior to participating in the PAEA study. Any new faculty who did not remain in their teaching position for three or more years likely have the most critical data to offer regarding job satisfaction and retention. If these former faculty would be willing to participate in a study, or if their programs conducted any exit interview with commonality in questions, this data could offer valuable insight. Additionally, qualitative research with this group could be extremely influential in future adjustments to recruitment and onboarding of new faculty.

Institutional leadership stood out as a variable that is perceived differently between new and established faculty, with new faculty having a potential for heightened optimism toward leadership. It is possible that the negative relationship associated between established faculty and leadership is due to the primary attention in programs dedicated to new faculty. This imbalance of support could plausibly be skewing overall impressions of relationships perceived by established faculty. Studies capturing more detailed information of the factors propelling the conceivable disparate perceptions between the two groups could be instrumental in obtaining clues regarding job embeddedness of faculty.

PA education is female dominated with 68.2% of the sample from this study represented by women, and 31% represented by men (PAEA, 2018). Research has shown that traditionally only a quarter of males who enter female dominated professions tend to stay, with the majority

leaving to pursue a more traditionally male dominated or neutral career (Torre, 2019). A study focusing on men in PA education can provide valuable insight into their attrition and retention trends to help with recruitment strategies, encouraging more male PAs into teaching roles.

The findings associated with promotion potential and women in PA education intimated that women had a reluctance toward achieving promotion when comparing their role with male counterparts. Career advancement requires employees to self-promote their skills and accomplishments. Advertising skills, talents, and achievements via networking and performance reviews is essential to build a reputation and work repertoire (Pazzanese, 2020). Societal norms likely play a large role in women's aversion to self-promotion. Women are less inclined to self-advocate due to lower confidence at work and fearing unfavorable repercussions despite equal work performance with their male counterparts (Jones, 2019). Research shows that women self-rated their work performance in a more negative light than equally performing males (Exley & Kessler, 2019). Future studies can delve into factors surrounding perspective of women's confidence and self-perceived competence in their roles as PA educators.

The lack of diversity in PA education demonstrated by the study findings were thought provoking. In the longevity regression models, decreased longevity was associated with participants who identified as Hispanic, Latino, or Spanish. This is concerning, considering the ingrained lack of racial diversity in PA education with 91.22% of my study demographics identifying as white and 4.46% identifying as Hispanic, Latino, or Spanish. Communities in need of increased medical care should have providers that represent their communities, and the current lack of diversity in the profession is not representative of the fabric of the community in which PAs serve.

The most recent ARC-PA standards as of September 2020 have added language regarding diversity and inclusion for students, faculty, and staff (ARC-PA, 2020). While stated in nonspecific language, the standards require demonstration by programs of their support for implementation of recruitment, retention, and promotion strategies for diversity and inclusion. In response to support compliance with the new standards, PAEA published the "Diversity, Equity & Inclusion Toolkit" to assist programs in achieving diversity goals (PAEA, 2020). While goals should be individualized for each program, the toolkit provides worksheets to assist in formulating working definitions, creating goals, designing strategies, and implementing ideas.

Limitations

Data for my study was extrapolated from an existing dataset from PAEA, without any ability to adjust the design or details. This left room for interpretation subjectivity, especially in the designation of independent variables into job embeddedness categories of fit, links, and sacrifice. Additionally, complied data was all self-reported which has potential for inaccuracy and misreporting. Without very specific definition of terms in survey questions, there is no conventional standard in which responses are offered. Likert style questions can be subjectively interpreted. Another limitation was data missingness where respondents did not always answer every question in the survey instrument or selected the N/A option. Accuracy of analysis could be impacted due to these factors. Few studies outside those specific to the PA education industry through PAEA translated directly to experiences of physician assistants. Many studies throughout the literature review examined nursing or medical education. Another limitation is the lack of data from former PA faculty who had already left PA education to return to clinical work. Important perspective could be gleaned from those who chose to leave academia within the first 0-3 years and were not surveyed.

Conclusion

This research study aimed to identify the relationship between specific independent variables of job embeddedness and their impact on the longevity or length of employment and new or established status of PA faculty. Nationwide PA programs struggle to fill vacant faculty positions, and often the candidate pool consists of clinicians with no prior academic experience. Elevated stress when transitioning from clinical work to academia was shown to have a relationship with decreased longevity of white males with a past career history of clinical medicine, and with new faculty. This variable fell in the sacrifice category of job embeddedness, possibly providing some evidence that personal stress tolerance surpassed the reasonable perceived loss of a position in PA education.

Most findings in this study regarding longevity were counterintuitive to the primary focus of the JE theory where if an employee is satisfied with components of fit, links, and sacrifice, they are less inclined to leave a position. In my study, the increased level of satisfaction with chosen elements did not align with the expected outcome of decreased attrition. This could be a consequence indicating that most PAs with a background in clinical medicine are better suited for that career path over PA education.

Lesser studied and recognized consequences of JE theory have explored avenues where high job embeddedness correlation does not necessarily match with someone's level of happiness in their position, but rather a situation of being stuck. An employee could be satisfied with variables like support, institutional leadership, promotion potential, and fairness of treatment and salary, yet not experience fulfillment or happiness in their job role. The high percentage of PA faculty departing to return to clinical medicine could imply retrospective regret over career change when comparing their differing levels of happiness from each field.

Potential interventions to aid in improving recruitment and longevity in PA faculty roles, include creating more opportunities at the PA student level to explore the career option of PA education, further studies specifically focusing on new PA faculty and their transition experiences, and increased mentoring and fellowship interventions for new faculty.

The PA profession continues to expand, and the need for qualified PA educators also grows. The more intervention to close the widening gap of supply and demand, the more prepared future PAs will be as both clinicians and educators. As we look to new generations of PAs, the industry needs a pipeline in which to direct skills and knowledge into PA education. The same ineffective methods to recruit faculty have proven an inevitable road to attrition for too many years. With targeted goals of positive change as motivation for innovation and modification to current practices, a clear and steady path for properly trained and sustained PA educators can be built. New research can guide the industry to increased clarity of the explicit needs of new faculty and even a dedicated PA education career path early in student programs. With perseverance and focus, the filling of faculty vacancies with longevity of PA educators will match the rising demand of a rapidly expanding industry.

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Appendix

IRB Approval Letter

May 11, 2020

Dr. Katie Smith
Seton Hall University
School of Health and Medical Sciences

Re: 2020-085

Dear Mrs. Saunders,

The IRB is in receipt of the application for your study entitled "An Examination of Job Embeddedness Factors and Their Influence on Longevity of Physician Assistant Faculty." After reviewing the inclusive content, the proposed study was deemed to be "Not Human Subjects Research" and is therefore beyond the purview of the Institutional Review Board. Therefore, you are under no obligation to submit any further correspondence to the Seton Hall University Institutional Review Board regarding this effort, unless of course there are any modifications made to the design or intent of your study that may otherwise change the designation to human subject's research. If you plan to create any future correspondence with the Institutional Review Board about this study, please reference the ID# listed above.

Sincerely,

Director, Institutional Review Board
Seton Hall University

Office of the Institutional Review Board
Presidents Hall · 400 South Orange Avenue · South Orange, New Jersey 07079 · Tel: 973.275.4654 · Fax 973.275.2978 ·
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