

PHYSICIAN ASSISTANT STUDENTS' PERCEPTION OF EDUCATION

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ABSTRACT

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The purpose of this study was to examine PA students' perceptions of their professional training program in relation to stressors imparted by the hidden curriculum of the community of practice during the didactic and clinical years. The cross-sectional study design involved 50 in-person, semi-structured interviews (divided evenly between students in didactic and clinical cohorts) at one Physician Assistant training program in the New York City metropolitan region. Interviews sought to improve understanding about perceptions of stressors, particularly those imparted by the hidden curriculum, and examine mitigating factors within the community of practice.

Highlights of results were that daunting stresses in the didactic year were mitigated by faculty support, camaraderie among students, and, at times, students accessing important student services such as psychological counseling. The stressors were exacerbated by disorganized teaching mainly by guest lecturers, including frequent absences, which was perceived by students that their time was not a priority. The stressors of heavy course loads dwindled during the clinical year but were replaced by others related to the hidden curriculum of the medical hierarchy, including occasional depersonalization of patients, teaching by humiliation, and favoritism shown to medical students. The community of practice for Physician Assistant students is highly stressful and psychologically precarious. The culture of PA education would do well to strongly encourage self-care and a greater balance between professional preparation of mental and physical well-being in order to encourage professionalism, improve patient care, and cultivate higher levels of job satisfaction and well-being among students.

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DEDICATION

I would like to dedicate this work to my mom, Madlyn Lindsay, who has sacrificed so much of herself to see me succeed. Mom, I want you to know I have no words to express my gratitude for what you have done and continue to do for me, including moving to this country to provide more opportunities for me and my siblings. Thank you for your unconditional love, constant support, and teaching me that anything is possible. I love you always.

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Chapter I

INTRODUCTION

The position of Physician Assistant (PA) began with a proposal to the American Medical Association's House of Delegates in 1960. It was suggested at that time that former military personnel who had performed medical services could become peacetime physicians' assistants with subsequent training (Physician Assistant History Society, 2017). Since the nation was facing a burgeoning shortage as well as an uneven distribution of physicians throughout the country, the AMA endorsed the idea. The AMA began to accredit nascent programs. Duke University offered the first training program for PAs in 1965 (Yale School of Medicine, 2019).

A Physician Assistant is a health care professional who is licensed to practice medicine under the supervision of a physician (Jones, 2007). However, the necessity of the presence of a supervising physician is a matter of some debate. According to the American Academy of Physician Assistants (AAPA, 2016), in some settings, especially rural or underserved ones, a Physician Assistant may be the only medical personnel available. In a letter to the Social Security Administration, the AAPA stated that in such cases, "There is no requirement for a physician to be on-site when a PA delivers care" (p. 2).

Therefore, while there are some variations in physician supervisory requirements from location to location, as well as state to state differences in prescribing various levels of drugs, a PA is an empowered medical professional who may perform most duties

associated with being a physician. That is, they may examine patients, make diagnoses, write prescriptions for medicines and tests, interpret test results, and treat patients in all aspects of care from prenatal to hospice (AAPA, 2016).

As the shortage of physicians grew, programs to educate PAs proliferated. Today, there are over 240 such programs (Accreditation Review Commission on Education for the Physician Assistant [ARC-PA], 2019). PA educational programs have been accredited by ARC-PA since 2001; prior to that, PA programs were subject to review by the American Medical Association (ARC-PA, 2019). In an annual report released in 2017 by the National Commission of Certified Physician Assistants (NCCPA), it was noted that “the PA profession grew 53.8% over seven years, reaching 123,089 Certified PAs at the end of 2017” (p. 5).

Physician Assistant programs offer students a broad spectrum of medical knowledge. PA programs follow the attainment of a bachelor’s degree. They confer a master’s degree in science after a program of two years’ duration, although some students opt to take an additional 6 to 12 months to complete the courses.

Each cohort¹ of PA students goes through two distinct phases: a didactic phase and a clinical phase.

Didactic Phase

In the didactic phase, students are exposed to knowledge, mainly through courses. They also have simulated patient care experiences with life-like mannequins or cadavers, and, sometimes, train in community settings with actual patients, taking patient medical history or performing basic physical exams. In the clinical or clerkship phase, students

¹A cohort, in this case, is the class that will be graduating in a given year, for example, the class of 2018 or the class of 2019. The *Cambridge English Dictionary* (2019) defines “cohort,” under the specialized meaning of social science, as “a group of people who share a characteristic, usually age.”

are encouraged to apply their skills in actual health care settings while shadowing or being supervised by physicians.

During the didactic phase, students learn all aspects of patient care, both preventive and curative. Courses in anatomy, microbiology, immunology, neuroanatomy, pharmacology, making a diagnosis, interviewing patients, clinical medicine, internal medicine, pediatrics, obstetrics and gynecology, pathophysiology, biochemistry, gerontology, surgery, EKG interpretation, emergency care, and primary care are studied. In the didactic phase, many schools include behavioral, psychological, psychiatric, and social components as a means of training PAs to treat patients in a holistic way (Mercy College, 2019; SUNY Downstate Health Sciences University, 2019a).

Clinical Phase

During the clinical phase, students go through rotations in actual health care settings, including outpatient, inpatient, emergency, and operating room settings. PA students often are exposed to medical care for patients of all ages, ranging from newborns to those facing end-of-life issues in long-term care or in hospice. In addition to the hands-on medical experience, PA students continue to undergo training in psychosocial issues, as those issues relate to overall patient care (SUNY Downstate Health Sciences University, 2019b).

The clinical or clerkship year experience is often obtained through “shadowing” a physician or under the direct supervision of a physician. It can also be obtained through logged volunteer hours at a health care facility. These can include long-term care facilities, hospice centers, a community social service agency, hospitals, etc. (Northwestern University, 2019).

Aspiring PAs undergo rigorous training programs that make demands upon them intellectually, physically, mentally, and emotionally. This is a demanding professional

preparation program and requires taking and passing a national exam prior to becoming licensed. How current PA students are able to meet the challenges presented by these fluctuating demands is the basis for this study.

The Problem

In a 2010 study, Hernandez, Blavo, Hardigan, Perez, and Hage found that, while second-year medical students reported the highest levels of perceived stress, PA students reported the highest levels of depression and related medical symptoms among students in the medical fields (p. 36). A latent class analysis in the same study showed that nursing students had the highest probability of being healthy and adjusted (93%), while PA students had the lowest probability of being healthy and adjusted (40%) among all other health professional students (p. 37).

Another study by Kuhn, Kranz, Koo, Cossio, and Lund (2005) also suggested that PA students experience considerable stress. PA students undergo academic rigors that closely resemble those of medical students, and stress is a well-known factor in the training of medical students (Kuhn et al., 2005). Yet, neither medical students nor PA students are taught how to cope with the stresses they encounter as students.

Styles (1993) wrote:

That so many complete medical school feeling cynical, weary and disappointed is an indictment of the system that they have endured. In most medical schools, the environment itself is an all-prevailing pressure providing an authoritarian and rigid system; one that encourages competition rather than cooperation between learners. The inadequacies of personal supervision and the lack of a clearly discernible role for students reinforce this. (p. 46)

It seems as though, despite this issue being openly discussed for decades, not much has changed. In 2012, Marien and McKinna wrote, “Medical careers are associated with higher rates of psychological distress and psychiatric morbidity when compared with

other professions and the general population” (p. 654). In addition, more recently, in their 2016 study, Fares, Al Tabosh, Saadeddin, El Mouhayyar, and Aridi wrote:

It is acknowledged that physicians do not seek the same expert aid for themselves as they would offer their patients. In their preclinical years, medical students appear to espouse comparable behavior. To many, medicine is described as a never-ending path that places the student under heavy stress and burnout from the beginning, leaving him/her vulnerable and with insufficient coping methods. (p. 75)

Stress, burnout, and the ability to cope with it are important factors in PA students’ well-being. Improved understanding about the sources of stress in the life of a Physician Assistant student may give clues as to how to address this problem and prevent harm. This is especially true when it comes to the hidden curriculum as a source of stress. While there are other studies that examine the role of stress focused on the explicit aspect of the training process medical students undergo, this study will fill a gap in the research: the impact that the hidden curriculum, in particular, has upon PA students and how it should be addressed moving forward.

Purpose

According to social learning theory, learning takes place through “increasing participation in communities of practice” (Lave & Wenger, 1991, as cited in Smith, Hayes, & Shea, 2017, p. 211). In both their didactic and clinical years, PA students are inducted into a Community of Practice (CoP) of medical professionals. Within this CoP is not only the external curriculum but an internal curriculum that is less explicit but socially extremely powerful; a so-called “hidden curriculum” (Lempp & Seale, 2004). Lempp and Seale define a “hidden curriculum” as “the set of influences that function at the level of organizational structure and culture including, for example, implicit rules to survive the institution such as customs, rituals, and taken for granted aspects” (p. 770).

Being “implicit,” such influences are implied rather than spoken; thus, they are a “hidden” part of the curriculum. A kind of unarticulated code of conduct is transmitted to students as they interact with members of the CoP. “All learning involves both formal-explicit and informal-tacit elements,” said Hafler et al. (2011, p. 440). The informal, tacit elements comprise the hidden curriculum.

The idea of a hidden curriculum is illustrated by a scene in the movie *The Imitation Game*, the biographical dramatization of the life of scientist Alan Turing. Turing cracked the German code, *Enigma*, in World War II by using an invention of his own that presaged the computer. He turned the tide of the war in this way. As a child, Turing confided to a boarding school friend that, to him, people never say what they mean out loud. The social world operates according to codes people continually must decipher, yet it is expected that everyone knows what others mean.

The meaning beneath the social code in medical or other education is the “hidden curriculum.” Lempp and Seale (2004) found in their study that medical students experienced positive mentoring and role modeling from the members of their CoP. However, they also encountered a hidden curriculum that included indoctrination into a hierarchy and sometimes teaching by humiliation, inducing an atmosphere of competition and fear rather than cooperation and support.

As they are acculturated into the medical profession, are there unarticulated expectations and pressures that are communicated to PA students through the attitudes and practices of those already practicing in their CoP? This is the “hidden curriculum” that communicates to students, much as in a family, what is expected of them. Just as no one enjoys being the “black sheep” of a family because of an inability to interpret or live up to the unspoken expectations of its members, so no PA student would wish to occupy lower status by failing to interpret or live up to the profession’s unspoken expectations as communicated in its CoP.

Mandel and Schweinle (2012) found that there was a marked decline in empathy in PA students after the didactic year. Is there a “hidden curriculum” that speaks to the students (in code) that a lack of empathy is the mark of a professional within their community? What other impacts, negative and positive, does the hidden curriculum have on PA students? Is the educational environment, the CoP of medical professionals, the source of a potentially negative impact on students’ mental health, as Hernandez et al. (2010) suggested might be the case for PA students (p. 38)?

The purpose of this study was to take a step toward understanding the stresses PA students are under within their educational environment from their own perspectives as it pertains to the hidden curriculum, as well as soliciting feedback regarding their coping and suggestions for how their educational experience might be modified to be less stressful and emotionally harmful. The intent is to inform the development of evidence-based approaches to help reduce stress-related morbidities in PA students.

Research Questions

This study is guided by the following research questions:

1. Do PA students perceive a hidden curriculum that is part of their professional preparation program?
2. Are any of the aspects of the hidden curriculum particularly stressful for PA students?
3. Are there differences in the perception of the hidden curriculum between students during the didactic versus clinical phases of professional preparation?

Theoretical Framework

Kilbourn (2006) stated, “A fundamental assumption for any academic research is that the phenomena (data) that we wish to understand are filtered through a point of view (a theoretical perspective)” (p. 545). Kilbourn holds that “there is no such thing as a value-free or unbiased or correct interpretation of an event. Interpretations are always filtered through one or more lenses or theoretical perspectives” (p. 545). Therefore, it is important to state the theoretical framework of this research.

The framework for this study is that of Communities of Practice (CoP). CoPs are Etienne Wenger and Jean Lave’s (1991) highly influential concept of social learning. According to those researchers, learning is not just the downloading and ingesting of information. Rather, learning is “increasing participation in communities of practice” (p. 49).

As Wenger (1998) emphasized, a person’s very identity as a professional is formed through a CoP: “Because learning transforms who we are and what we can do, it is an experience of identity. It is not just an accumulation of skills and information, but a process of becoming—to become a certain person or, conversely, to avoid becoming a certain person” (p. 215).

For a CoP to qualify as one, members join together in an area of interest, which is the domain, and then learn together through interaction. This joint enterprise, interaction, and shared expertise and attitudes then create a sense of membership. It is through this CoP that people determine one another’s competence to be considered a participant or insider as opposed to someone more on the periphery or outside the group (Wenger, 1998). Would-be participants feel compelled to ally themselves with all the expectations and standards demanded, not only the overt expectations and standards but the covert ones too, the so-called “hidden curriculum” (Lempp & Seale, 2004).

In describing PA students, Hernandez et al. (2010) stated “The high number of mental and physical symptoms associated with this latent class indicates that there is a potentially negative impact of the educational environment on students’ mental health” (p. 38). Is there something about the induction of PA students into their CoP that is particularly deleterious to students’ psychological health? The education of PAs takes place within a CoP, and norms within that CoP must be taken into account when trying to pinpoint stress factors that affect student well-being. For example, induction into the norms and beliefs of that field may contribute to PAs’ documented decline in empathy after their first year (Mandel & Schweinle, 2012), as professional distance and impartiality are part of the “hidden curriculum” medical students experience (Lempp & Seale, 2004). The atmosphere in school might also encourage competition rather than cooperation, adding to student stress (Styles, 1993).

Assumptions

There is a hidden curriculum that exists in the professional preparation of health professionals, including PAs. This curriculum has its own implicit stressors and drawbacks and presents challenges to students that are unique from those students might otherwise face in the university (Bandini et al., 2016). This hidden curriculum has a direct impact upon the professional behavior students adopt as they move forward in their careers as well as how they view their education and the level of stress they experience (Bandini et al., 2016). Until this curriculum is openly discussed and its impact upon students acknowledged, it will continue to cause unnecessary stress during both phases of the learning process. This study aimed to create a foundation upon which future research can build.

Delimitations

This study is delimited in several ways. One delimitation is the sample that was studied. That is, the researcher studied a group of PA students from only one school. A second delimitation is that the data collected are qualitative and were only collected using one method, namely, a face-to-face interview. Therefore, the results of the study may be “transferable” rather than “generalizable” (Guba & Lincoln, 1989), as is the norm for qualitative research. A third delimitation is that only certain kinds of information were collected. This was informed in part by the need to preserve the confidentiality of both the research site and the participants.

Summary

Although all medical students experience elevated levels of stress compared to students in other fields of study and the general population, one study suggests that PA students are most at risk of having their stress levels translate into mood disorders (Hernandez et al., 2010). More research about the stress factors PA students experience in their education and training is needed. Such research can help contribute to an evidence-based approach that could help reduce stress-related morbidities in this increasingly important cohort of aspiring medical professionals.

Chapter II

LITERATURE REVIEW

This literature review examines a group of extant studies relevant to this study, the purpose being to take a step toward understanding the stresses Physician Assistant (PA) students are under within their educational environment from their own perspectives. This study, and the literature reviewed below, is intended to contribute to the longer-term agenda of developing an evidence-based approach that may help reduce stress-related morbidities in PA students.

Due to the paucity of studies specifically addressing PA education, studies of medical students were considered relevant. As Kuhn et al. (2005) theorized, “The academic demands of physician assistant programs are closely related to medical school and residency programs” (p. 167). Thus, studying the stresses of medical students may shed some light on the stresses of PA students. An examination of literature regarding physician stress and burnout will also be considered in this review in order to assess trends facing these professionals that might be applicable to PA students.

The situation of stress for PA students may be even more dire than for medical students. As mentioned previously, Hernandez et al. (2010) compared the stress experienced by students in an array of health-related fields. Their purpose was to test the hypothesis that latent class analysis could differentiate between students in various health-related fields of study and provide information on depression, stress, and clinical symptoms among them (p. 35). The researchers used the Perceived Stress Scale (PSS),

the Emotional Regulation Questionnaire (ERQ), the Beck Depression Inventory (BDI), and Medical Symptoms Questionnaire (MSQ) among a 386-participant sampling of health care students at Nova Southeastern University. The researchers divided their latent classes into three categories: (1) healthy adjusted student, (2) mildly depressed, and (3) severely depressed. PA students stood out in several ways.

While the results showed that second-year medical students reported the most perceived stress, PA students had the highest rates of depression and medical symptoms (Hernandez et al., 2010, pp. 36-37). While nursing students had the highest probability of being “healthy adjusted” students (93%), PA students had the lowest probability of being classified that way. They only had a 40% probability of being considered healthy adjusted students. PAs were the most prevalent in Class 2, “the mildly depressed” cohort. Members of this cohort presented greater than average medical symptoms (p. 37) related to stress. Fortunately, the smallest cohort of all appeared in Class 3, the “severely depressed.” First-year medical students had the highest probability of appearing in this class (p. 37).

While medical students perceived themselves as under more stress than the other health care students, medical students also seemed better able to cope with stress. Usually, their stress did not advance into mood disturbances. In contrast, PA students, perceiving themselves under lesser amounts of stress, were more likely to advance into mood disturbances (Hernandez et al., 2010, p. 38). This suggests that, while PA students experienced stress levels similar (actually somewhat less) to those of medical students, they did not have the tools to cope with that stress, or there is something unique about the PA educational experience or PA students that makes it harder for them to bear the heavy stress load.

Resources for this literature review included peer-reviewed journal articles and books, including those online. This review of the literature examines research in four areas:

- Stress in the Professional Preparation of Health Professionals
- Effects of Stress within Medical Schools and the Profession
- Hidden Curriculum Stressors
- Strategies to Combat Stress

Stress in the Professional Preparation of Health Professionals

Historical Perspective

Medical students present all manner of distress manifesting in the forms of depression and anxiety, as well as other mental and emotional distress. Several important existing literature reviews support this over the last five decades. Shapiro, Shapiro, and Schwartz (2000) did a systematic review of clinical studies on stress management in medical education from 1966 to 1999 (p. 748). Studies that appeared on Medline and PSYCHINFO during the time span were included if they had empirical data, examined the efficacy of stress management programs for medical students, and took place at traditional (allopathic) medical schools (p. 748). Only 24 of 600 studies were selected on the basis that they provided data (p. 749). After analyzing the results of these studies, the researchers' conclusion was that "medical education has deleterious consequences" (p. 748) and that interventions were both helpful and needed (p. 749).

Dyrbye, Thomas, and Shanafelt (2005) did a literature review published by the Mayo Clinic in order to "summarize the central themes of medical student distress reported in the literature" (p. 1613). Their research spanned nearly four decades, ranging from 1966 to 2004, using a search of MEDLINE and PubMed articles published during that time frame, as well as articles referred to within those articles. After a critical review of the articles, the researchers concluded, "Unfortunately, some aspects of the training process have unintended negative consequences on students' personal health" (p. 1613). The irony of this was not lost on the researchers. "Given that the aims of medical training

include teaching graduates how to ‘promote health’ and prepare for a career in an intellectually stimulating and socially meaningful profession, it is tempting to speculate that medical school would be a time of personal growth and enhanced health.

Unfortunately, the contrary appears to be true” (p. 1614). Stress, they found, is all too common in medical students, and it can lead to such deleterious effects as hampered academic performance, substance abuse, cynicism, compromises of integrity, and even suicide (pp. 1616-1617).

In 2006, Dyrbye, Thomas, and Shanafelt did a systematic review of peer-reviewed, English-language studies published between January of 1980 and May of 2005 on depression, anxiety, and other psychological distress signals among U.S. and Canadian medical students in order to compare medical students to the general population and other people of the same age. Forty such studies, derived from Medline and PubMed according to keywords and which met the researchers’ eligibility criteria, suggested elevated levels of depression and anxiety among medical students compared to peers in other fields in their age cohort (p. 354). Thirteen of the studies focused on depression, but one zeroed in on anxiety. Eight concentrated on mood disorders, and ten measured a combination of the previous symptoms. Anxiety and depression studies tended to be small, cross-sectional surveys in a variety of geographic settings, and limited for the most part to students from one school. There were 16 longitudinal studies included (p. 355). Well-known instruments, such as the Beck Depression Inventory (BDI) and the anxiety subscale of the SCL-90, among others, were used to evaluate the students (p. 355). The researchers concluded that “the existing literature consistently demonstrates higher overall psychological distress among U.S. and Canadian medical students relative to both the general population and age-matched peers” (p. 361).

Contemporary Research

The interest in stress and burnout among medical students is not one that has waned over time. More recent studies have been conducted to assess the stress levels and general mental health of medical students during both their undergraduate and graduate years with results that seem to complement the established body of data discussed above.

In their 2018 study, Macauley et al. sought to examine the anxiety that healthcare professions students experience. More specifically, they were interested in measuring three different categories of anxiety: test anxiety, trait anxiety, and state anxiety. This cross-sectional observational study observed 351 first- and second-year students enrolled in one of three academic programs—Doctor of Physical Therapy (DPT), Master of Physician Assistant Studies (PA), and Master of Science in Communication Science Disorders (CSD), and it should be noted that there were no exclusion criteria. The response rates for each program varied, with the CSD program seeing a 43% response rate (53/123), the DPT program seeing an 80% response rate (111/138), and the PA program seeing only a 21% response rate (19/90), for a total of 183 participants who completed the given assessments. The study found that 37.5% of male participants and 51% of female participants had “moderately high” (or worse) test anxiety, 83% of participants experienced state anxiety that was “greater than normal,” and 56% of participants had trait anxiety levels that were “higher than normal.” The researchers believed that “the prevalence and severity of anxiety among students are increasing,” and note that this problem has the potential to “decrease students’ academic performance, professionalism, and their ability to manage elements of patient care” (p. 176). They also noted that the results of their study further reinforced data that suggested that healthcare professions’ students experienced higher anxiety levels than the general population.

Another study, published in 2016, sought to determine the burnout prevalence specific in PA students (Orozco, Furman, Roman, Guthrie, & Jackson, 2016). The researchers selected study participants from PA students that were current members of

the American Academy of Physician Assistants' student academy ($n = 9,557$). A random sample of 1,200 of those students received an email containing a modified Maslach Burnout Inventory, and results were kept anonymous. While the survey response rate was low at 19% (230 students), the results of the study were nonetheless quite clear. Researchers found that PA students “were found to have emotional exhaustion and depersonalization means in the average range (indicating an average degree of burnout), and personal accomplishment scores in the low range (indicating a high degree of burnout)” (p. 1). The results also noted a relationship between age and depersonalization scores ($r = -0.166$, $p < 0.0114$) as well as the learning stage and personal accomplishment scores ($p < 0.01$), meaning that younger students and students in clinical training tended to have a higher degree of burnout than other PA students.

Additional studies supporting the aforementioned results have been conducted, this time examining the stress and burnout that medical students experience at specific stages in their studies. Fares, Al Tabosh, Saadeddin, El Mouhayyar, and Aridi (2018), for example, explored online databases for English-language scholarly resources relevant to the themes of stress and burnout in preclinical medical students. Articles published between 1953 and 2015 were extracted from Google Scholar, Scopus, Embase, MEDLINE, and PubMed. Fares et al. found that while the exact levels of reported anxiety and burnout ranged from study to study, elevated levels of stress were consistently reported by preclinical medical students.

Another study, conducted by Heinen, Bullinger, and Kocalevent (2017), employed a cross-sectional method to examine the perceived stress of 321 first-year medical students at the Medical Faculty of the University of Hamburg, Germany. The participants completed different assessments, including the Perceived Stress Questionnaire (PSQ-20), the Patient Health Questionnaire (PHQ-4), the Brief Resilient Coping Scale (BRCS), and the Self-Efficacy Optimism Scale (SWOP). The researchers found that medical students, in general, experienced higher levels of depression, anxiety, and perceived stress than

reference samples and concluded that “medical students’ perceived stress and emotional distress levels are generally high, with personal resources acting as a buffer, thus supporting the population-based general stress model” (p. 1). They recommended individual interventions for students who needed help coping with the challenges of the medical school curriculum. Yet another study, this time conducted by Ludwig et al. (2015), sought to determine at which point the decline in “personal wellbeing, leading to burnout and erosion of empathy” (p. 1) began in undergraduate students. They administered an online survey to all medical students enrolled at the Albert Einstein College of Medicine in the classes of 2014 as well as 2015 at the beginning of the first year of their college experience and then again at the conclusion of their third year. There was a 100% response rate with all 668 medical students participating. The researchers found “a significant increase in the proportion of students at risk for depression in their third year as compared to the first year as well as an increase in perceived stress” (p. 1).

A cross-sectional survey was performed at the University of California, San Diego, which included 647 pre-med and 1,495 undergraduates in other studies (Fang et al., 2010). The purpose of the study was to test the researchers’ hypothesis that premedical students would exhibit more depression than non-premedical students. The Patient Health Questionnaire was used to measure depression. The results showed that “premedical students were more likely to meet screening criteria suggestive of the presence of major depressive disorder and to exhibit more severe depression than non-premedical students” (p. e1). Family history was ruled out as a factor.

A national study of medical students and residents/fellows, encompassing 26,760 medical students and 20,475 residents/fellows in all specialty fields, was conducted in 2012. The study was done to compare burnout and other manifestations of psychological distress over stages from medical school to early career years as a physician and to contrast those findings with a probability sample of college graduates in the same age cohort in other fields. The results showed that medical students continue to outstrip their

age cohort in the general population when it comes to burnout and psychological distress (Dyrbye et al., 2014). “In comparison with U.S. college graduates, ages 22 to 32, medical students had a higher prevalence of high emotional exhaustion, high depersonalization, and burnout” (p. 445). Stress was found to be greatest during the training period, when “symptoms of depression, suicidal ideation, and a low sense of personal accomplishment were most prevalent” (p. 445). However, at every stage of a physician’s professional life, he or she experienced more stress than their comparable age cohort in the United States (p. 443).

Stress and Burnout Levels Across the Globe

Elevated levels of stress and its psychological consequences are not limited to the United States. In order to evaluate stressors and depression in medical students during their education, Dahlin, Joneborg, and Runeson (2005) found in a cross-sectional study of 309 students at Karolinska Institute Medical University, Stockholm, Sweden, that rates of depression in medical students were higher than age-matched controls in the general populace (p. 599). The Major Depression Inventory (MDI), with some small changes, was used to measure depression, as were DSM-IV diagnostic criteria as well as the Higher Education Stress Inventory (HESI). The results mirrored studies in the United Kingdom and the United States (p. 500). There were strong parallels between studies in the United States that measured the development of cynicism in medical students (p. 603).

Stress and its manifestation in negative psychological outcomes are widely recognized in the education experience of medical students and has been for at least 50 years. In the next section, stressors common to medical education and specific to PA students will be examined.

Stress Experienced by PA Students

O'Brien, Mathieson, Leafman, and Rice-Spearman (2012) stated, "It is reasonable to assume that the stress experienced by students in medical school is similar to that experienced by students in PA school" (p. 28). Their reason for this assumption was that PA education is structured in a similar way to medical education; indeed, "it was created to be similar to medical education in many respects" (p. 27). While medical students are required to finish 75 semester hours in the first two years, with a subsequent two years of clinical education, PA students complete 73 semester hours during their didactic year and then perform 48 hours of clinical practice. Both medical students and PAs must master a tremendous amount of information in about the same amount of time; then PAs have a condensed clinical educational experience. It is not unreasonable to assume that the pressures and stress are similar.

The purpose of the study by O'Brien et al. (2012) was to assess levels of stress and coping mechanisms among PA students. The design was descriptive and cross-sectional. The study cohort was 146 students at the Texas Academy of Physician Assistants. The Perceived Stress Scale (PSS) and the Brief COPE Inventory were used to assess stress levels and coping capabilities of the students surveyed. The study showed that PA students experience a great deal more stress than the general populace in the United States and that students use some healthy and some unhealthy strategies for coping with this stress (p. 25). Specifically, the students experienced high stress in areas such as "feeling nervous or stressed, feeling upset about unexpected happenings, being unable to control irritations in life, and an inability to handle personal problems" (p. 27).

The curriculum itself is a source of stress for PA students (O'Brien et al., 2012), but there are other stressors as well. Kuhn et al. (2005) did a survey of 27 PA students at the University of Texas Pan-American. The survey was constructed by faculty members at that institution. Using descriptive analysis, the researchers found that over 70% of respondents experienced changes in eating and sleeping habits due to program intensity

(p. 169). Forty-one percent reported that their relationships had undergone changes due to the moderate to significant amounts of stress they were undergoing (p. 169). Their course loads caused them moderate amounts of stress, and exams caused them significant stress, with the former affecting 58% of the students and the latter affecting 41% (p. 169). The students also suffered stress because of too much information to assimilate, too little time, their own perceived lack of organizational skills in managing their schedules, and financial considerations (p. 169).

In comparison to medical students, PA students fare rather badly with their stress loads. As noted earlier, Hernandez et al. (2010) showed that second-year medical students reported the most perceived stress, but PA students had the highest rates of depression and medical symptoms (pp. 36-37). PA students had the lowest probability of being classified as “healthy adjusted” students (40%). Populating the class of being “mildly depressed,” PA students presented higher than average medical symptoms related to stress (p. 37). PA students’ stress caused them to be more likely than other health care students, including medical students, to advance into mood disturbances (p. 38). PA students experience stress loads comparable to medical students and for many of the same reasons. Even when they perceive their stress loads to be lower than medical students, they are likely to be more affected by the stress, offsetting any gains in a slightly less stressful educational experience. It is a cause for concern.

On the other hand, according to *The Physician Assistant Education Association Report: by the Numbers: Student Report 3: Data from the 2018 Matriculating Student and End of Program Surveys* (Physician Assistant Education Association [PAEA], 2019), by using survey data from 142 accredited programs nationwide, with a total of 3,233 responses, it is concluded that Physician Assistant students are coping well with the stresses of their educational experience. Analysis of the data involved calculating descriptive statistics on several variables. The PAEA calls their surveys “the richest source of national PA student data available” (p. 2). Clearly, the sanguine results of this

data on the effects of stress on PA students must be taken into account. To wit: While PA students experienced stress as measured by the Perceived Stress Scale (p. 16), the average PA student felt confident in solving his or her own personal problems, felt fairly certain that things were going his or her way, usually felt that he or she could control important things in life, and more often than not avoided feelings of being overwhelmed (p. 16). This would seem to differ from other researchers' findings that PA students experience significant stress (O'Brien et al., 2012) and are not well-equipped to cope with it (Hernandez et al., 2010; Kuhn et al., 2005).

Burnout in Medical Students According to the National Academies of Sciences, Engineering, and Medicine

The National Academies of Sciences, Engineering, and Medicine conducted an in-depth consensus development study of burnout and its consequences among medical students. The extent of burnout among medical students is fairly high. One narrative review of peer-reviewed and English language articles looking into burnout in medical trainees with published dates between 1990 and 2015 found that "35 to 45 percent of medical students had high emotional exhaustion, 26 to 38 percent had high depersonalization, and 45 to 56 percent had symptoms suggestive of burnout" (Dyrbye & Shanafelt, 2015, p. 133). Those same researchers also found that the rate of burnout among medical students seems to be in an upward trajectory, and it is likely that even more students will experience the issue as time passes unless something is done to change the environment in which they are taught, particularly within the "hidden curriculum" of medical school, a topic discussed more thoroughly later in this review. They inferred that larger, prospective studies designed to better identify the cause-and-effect relationships that are impacting medical students are needed in order to design the best plan of action for change.

It should be noted that recent research has also shown that burnout seems to increase as students progress in their degree. A prospective cohort study consisting of

4,732 resident physicians in the United States conducted via questionnaire found that about 45% of medical residents reported burnout symptoms (Dyrbye et al., 2018). The researchers found that burnout varied greatly between specialties, with neurology, urology, ophthalmology, emergency medicine, and general surgery residents all reporting higher rates of burnout than residents in other fields, but that the issue persisted across all fields studied. Furthermore, the levels at which medical students experience burnout is higher than graduate students in programs unrelated to medicine (Dyrbye et al., 2014). The research, which encompassed a national survey of residents/fellows, medical students, and EC physicians with five years or less in practice, was conducted to examine the prevalence of general distress and burnout among early career physicians and trainees across different levels of their education and career and how that prevalence compared to the same issues in the general population. Researchers found that the highest levels of burnout and stress appeared to be found among trainees, but that issues like depressive symptoms, burnout, and even suicidal ideation were present at the other stages studied, too (Dyrbye et al., 2014). They also found that trainees and physicians experienced more stress and burnout at every stage studied than their peers in the United States population. This implies that medical students and physicians are undeniably under more stress and experience higher burnout than the rest of the population, which seems to imply that something about the career itself or the training required to pursue it is increasing levels of distress (Dyrbye et al., 2014). Interestingly, it appears that students in the United States experience higher levels of burnout than students from other countries, further indicating a system-specific issue impacting learners in the United States healthcare industry itself (West, Shanafelt, & Kolars, 2011). The study, published in 2011, included 16,394 residents, among which 8,571 were international medical residents and 7,743 were U.S. medical residents, and suggested that “suboptimal QOL and symptoms of burnout were common. Symptoms of burnout were associated with higher debt and were less frequent among international medical graduates” (p. 952). Collectively, these studies seem to

highlight an issue with learner burnout that is most prevalent among medical students, residents, and recent graduates in the United States.

Learner burnout is important to assess and prevent because it poses risks to both patient and practitioner on a few different levels. One cross-sectional study conducted in 2012 examined medical students and how their sense of responsibility was impacted by self-prescribing (Dyrbye et al., 2015). More specifically, the study examined the connection between depression, burnout, alcohol abuse, and prescribing beliefs, offering an important insight into how these factors can work together to create truly unfavorable professional circumstances. The study had 4,402 participants and yielded interesting information about burnout and quality medical care. The researchers stated that

in multivariate analysis, students with burnout were more likely to agree that each of the inappropriate prescribing behaviors was acceptable (ORs 1.15–1.51). Students with burnout were less likely to believe they had a personal responsibility to report colleagues with impairment due to alcohol or substance use (OR 0.87). (p. 485)

Students who were more burnt out and distressed, had worse attitudes toward ensuring safe care for their patients as well as upholding ethical standards in the workplace. This is a direct threat to patient safety, not to mention medical students' well-being.

In addition to the adverse outcomes above, learner burnout can also impact students' abilities to focus upon the task at hand, leading to medical error as well as a difficulty understanding and applying important information (Lu et al., 2017; West et al., 2006; West, Tan, Habermann, Sloan, & Shanafelt, 2009). In a prospective longitudinal study of both preliminary and categorical internal medicine residents located at Mayo Clinic Rochester from 2003 to 2006, researchers found that depression and burnout were directly related to self-perceived errors made by medical students (West et al., 2006). And because these errors only increased the personal distress of the students in question, these issues moved in a cycle that ultimately worsened the students' quality of life. Similarly, in another prospective longitudinal study of 380 medical residents by the same

researchers at the same institution, distress and fatigue were found to be independently related with self-perceived errors made by residents. Other areas impacted by burnout within medical students include professionalism and attrition (Dyrbye et al., 2018).

Effects of Stress Within the Medical Schools and the Medical Profession

We have seen that stress during medical studies is prevalent. Medical school is considered even more stressful than when a physician enters into practice. Dyrbye et al. (2014) conducted a study “to compare the prevalence of burnout and other forms of distress across career stages” (p. 443). The researchers conducted a national survey of medical students, as well as residents and physicians who were in the early years of their practice. Some 4,402 medical students, 1,701 residents, and 7,288 physicians in the first five years of practice completed the survey (p. 445). Statistical analysis showed the researchers that stress in medical school is more intense than residency and early practice. Indeed, Andrews (2011) found that death by suicide is the second-highest cause of death in medical school students. A multi-school study encompassing six medical schools and more than 2,000 students showed that medical students experience depression at rates 15% to 30% higher than their peers in other fields of study (Goebert et al., 2009). The researchers used surveys designed from the Center for Epidemiologic Studies—Depression Scale (CES-D) and the Primary Care Evaluation of Mental Disorders (PRIME-MD, measures for depression). These surveys were geared toward assessing if participants experienced depressive symptoms and if they had any suicidal ideation.

Many peer-reviewed journal articles on physicians begin on the note that doctors suffer more psychologically than any other profession, almost as if it is a given. For example, Moss and Smith (2006) opened their research study of a survey of LCME-accredited U.S. and Canadian medical schools about physician impairment and wellness in the curricula with the words, “The instance of psychological problems and substance

abuse among physicians is remarkable” (p. 1). The AMA has estimated that 15% of physicians will become “impaired” by psychiatric illness, alcoholism, or drug dependency (Berg, 2017).

The AMA is concerned about physician impairment and, thus, produced an education module with a new edition in June 2016. Produced by AMA’s Ethics Group and entitled “Understanding the Code of Medical Ethics: Physician Wellness and Professional Conduct,” the education module emphasizes physicians’ ethical requirements to promote wellness in themselves, their colleagues, and their profession (Berg, 2017). This module focuses on expectations for physicians to maintain their own health and wellness by having healthy lifestyle habits and ensuring that they have a personal physician whose objectivity is not compromised (Berg, 2017). In addition, physicians are expected to take action when their health and wellness are compromised by having an honest assessment of themselves, taking actions to mitigate the problem, taking appropriate measures in protecting patients, and guaranteeing their safety as well as seeking appropriate help as needed (Berg, 2017).

Burnout and Suicide in Medical Professionals

While burnout very well might begin during one’s studies, as indicated by the above literature, it is equally true that it often continues and worsens well into medical professionals’ careers. An abundance of studies has discussed physician burnout, including some that focus specifically on physician assistants. In this section, a general overview of burnout and suicide in the medical profession will be presented and examined to help illustrate the importance of establishing effective support systems for future practitioners and PAs before they ever leave medical school.

In their narrative review into the many factors behind workplace satisfaction and burnout, Pastores et al. (2019) define Burnout Syndrome as having “three primary features: emotional exhaustion, depersonalization, and diminished personal

accomplishment and impact[ing] 25–51% of intensivists and 28–42% of ICU nurses” (p. 554). It is a serious issue that can affect not only the professional experiencing it, but also the quality of care their patients receive. The researchers further state that “burnout has been linked to inefficiency, conflicts, absenteeism, and staff turnover. Importantly, burnout is associated with higher rates of medical errors, reduced quality of care, and lower patient satisfaction related to emotional exhaustion and depersonalization” (p. 554). It is important to note that not everyone who experiences burnout is dissatisfied with their career. It would seem logical to assume this—if someone is unhappy with their specific job or professional circumstances, then increasing burnout makes sense. But several studies have found that medical professionals, and specifically PAs, report moderate to high levels of burnout, even while being highly satisfied with their profession as a whole as well as with their specific roles.

Published in 2019, Osborn et al.’s study, “Physician Assistant Burnout, Job Satisfaction, and Career Flexibility in Minnesota,” surveyed 1,166 PAs certified in Minnesota about their current burnout and job satisfaction levels. The study’s response rate was 31.4%, with a total of 312 surveys available for analysis after accounting for exclusionary criteria. The researchers found that most participants reported either high levels (35.3%) or moderate levels of burnout (28.8%), with 35.9% reporting low burnout. Notably, this equals one in three PAs in the state who experience burnout and emotional exhaustion. Interestingly, however, 95.9% of respondents were either extremely satisfied, mostly satisfied, or satisfied with the PA profession, and 87.8% were satisfied with their current position (Osborn et al., 2019). Hooker, Kuilman, and Everett’s 2015 text, “Physician Assistant Job Satisfaction: A Narrative Review of Empirical Research,” supports these findings. After reviewing studies conducted on PA job satisfaction from 1966 to 2014, the researchers found that PAs generally reported high levels of job satisfaction across the board. Despite PAs generally reporting satisfaction with their careers, however, they also report high levels of burnout, specifically those in primary

care (Pastores et al., 2019). The question remains, then: if job dissatisfaction doesn't primarily drive burnout, what does?

Published in 2015, "How Psychosocial Factors Affect the Well-being of Practice Assistants at Work in General Medical Care?—a Questionnaire Survey," Goetz, Berger, Gavartina, Zaroti, and Szecsenyi (2015) sought to determine exactly what dictates the well-being of medical professionals and how those factors relate to job burnout. The researchers found that "higher scores of 'cognitive stress symptoms,' 'work-privacy-conflict,' 'emotional demand,' and 'role-conflict' and lower scores of 'general health,' 'satisfaction with life' and 'demanding for hiding emotions' and younger practice assistants explained a higher risk of burnout" (p. 5). This might indicate that despite enjoying their work, PAs are impacted by their psychosocial environment as well as their ability to cope with the emotional demands of the job. This is particularly relevant when it comes to PA students, who have been reported to experience the same issues during their studies (Orozco et al., 2016). Exploring this connection, as well as what kind of intervention could effectively address these issues when they first begin in students, could help improve the quality of life of students as well as practicing PAs significantly.

PAs aren't the only group experiencing job burnout, of course. A study by Shanafelt et al. (2015) had as its purpose to "evaluate the prevalence of burnout and satisfaction with work-life balance in physicians and U.S. workers in 2014 relative to 2011" (p. 1600). Both physicians in the United States and a probability sampling of other adults were surveyed. There were 6,880 physicians (a 19.2% response rate) who completed the survey (p. 1600). A pooled multivariate analysis, which adjusted for multiple factors, showed that rates of burnout are rising among physicians. Over half (54.4%) of physicians had at least one symptom of burnout in 2014 as opposed to the 2011 rate of 45.5%. The general population did not experience a comparable increase (p. 1600).

Center et al. (2003) note that the disparity between physician mental health and that of the general population has been true since at least 1858 (p. 3161). In their consensus statement, the authors state that research spanning from the 1960s showed physicians have had a higher rate of depression and suicide than the general population over the last five decades. “A systematic review of 14 international studies of suicide in physicians, in articles published from 1963 to 1991, found higher rates of suicide in physicians compared with the general population” (p. 3162). The consensus statement was derived when the American Foundation for Suicide Prevention convened a 2002 workshop on the topic of depression treatment and suicide prevention for doctors. The consensus was arrived at by 15 experts on matters related to physical health, medical education, depression, suicide, and other related matters. Their purpose was “to encourage treatment of depression and prevention of suicide in physicians by calling for a shift in professional attitudes and institutional policies to support physicians seeking help” (p. 3161). The researchers concluded that “the culture of medicine accords low priority to physician mental health despite evidence of untreated mood disorders and an increased burden of suicide” (p. 3161). What is more, the researchers found, when they seek help, physicians may face discrimination and even lose their licenses to practice medicine (p. 3161).

A report on data from the National Violent Death Reporting System by Gold, Sen, and Schwenk (2013) showed that physicians who take their own lives do not usually do so because of a tragic life event or other crisis. They are much more likely to commit suicide for job-related reasons. As a 2019 summary of research for CMJA stated, suicide is “an occupational hazard for physicians” (Albuquerque & Tulk, 2019, p. E505). In relation to non-physicians, the researchers say, physicians have a 40% greater chance of committing suicide (p. E505).

This means that the community of practice into which medical and PA students are being inducted is, in and of itself, a troubled place. Indeed, Center et al. (2003) indicated: “Addressing depression and suicidality in physicians more decisively may have a

multiplier effect for medical students, residents, and patients” (p. 3162) and, presumably, PA students and PAs who are part of the distressed community of practice.

Steven J. Stack (2016), the former president of the AMA, stated, “Future physicians begin medical school with mental health profiles that are better than those of college graduates who pursue other fields. But those profiles are reversed within two years of beginning med school ... it’s time to turn toward healing our own profession” (n.p.).

In the CoP of physicians, the dire facts are that about 400 doctors commit suicide annually (Andrews, 2011, p. 1). Indeed, the equivalent of an entire small medical school or a large medical school class is lost annually by physicians taking their own lives (p. 1). This means that at least one doctor a day is so consumed by inner turmoil, he or she commits suicide. What is more, doctors are usually effective when they seek to take their own lives and complete their suicide attempts more often than the general populace does (p. 1). In a much recent systematic review and meta-analysis of 80 studies, Dutheil et al., 2019 concluded that “physicians are an at-risk profession of suicide, with women particularly at risk” (p. 1). In addition, they recommended implementing studies to investigate the rate of suicide attempts/suicide ideation with other health-care workers.

Many physicians feel a strong professional stigma against a member of their profession, including themselves, being unwell (Gold et al., 2013, p. 6). Therefore, doctors cultivate an aura of complete competence. They don “the mask of relaxed brilliance” (Coombs, Perell, & Ruckh, 1990, p. 199) they were trained to adopt in medical school, and assume an identity, as Styles (1993) described it, of a detached, impartial, peerless, utterly unflappable, professional person (p. 46). The healer is not supposed to need healing.

The mask goes on during their educational experience with the CoP, in which they interact according to its standards. A CoP helps a person form his or her professional identity (Wenger, 1998). “Learning transforms who we are and what we can do, it is an

experience of identity. It is not just an accumulation of skills and information, but a process of becoming—to become a certain person or, conversely, to avoid becoming a certain person” (p. 215).

More than other people in the general population, physicians identify with their professional role (Gold et al., 2013). They seem like people who are supposed to exhibit cool competence, unparalleled authority, people who almost wield the power of life and death. When the human being within that potent professional role experiences breakdown, the shame penetrates to his or her very concept of the self.

Doctors may face litigation, suspension of license, and/or professional humiliation for mistakes that are and are not their fault. What is more, there is a burgeoning shortage of physicians, which is adding to, and will continue to add to, the strain on physicians. The Association of American Medical Colleges (AAMC, 2019) has stated that by the year 2030, there will be a shortfall of physicians in the United States of anywhere between 42,600 all the way up to 121,300 physicians.

Burnout in Medical Professionals According to the National Academies of Sciences, Engineering, and Medicine

In addition to the above research, the National Academies of Sciences, Engineering, and Medicine have released a comprehensive report studying the prevalence and impact of burnout upon practicing physicians. The report, entitled *Taking Action Against Clinician Burnout: A Systems Approach to Professional Well-Being*, was published in 2019 and is meant to both take a detailed look at burnout, as well as its causes and effects, and provide guidance to professionals moving forward to help revise behavior and institutions to minimize burnout and stress among medical professionals. The report was the result of an 18-month study conducted by 17 experts in their fields who collectively gathered evidence regarding physician burnout and its various impacts, reviewed that evidence, deliberated about the evidence, and then created the report along

with recommendations designed to create systemic changes aimed at reducing clinical burnout while also fostering professional well-being.

As discussed elsewhere in this literature review, physician burnout is not a new concept. In fact, there have been efforts to reduce the issue in the past. The problem is that, as the authors of the report state, these efforts have largely been unsuccessful: “The high rates of burnout reported among U.S. health care clinicians, and clinical students and trainees (“learners”), are a strong indication that the nation’s health care system is failing to achieve the aims for system-wide improvement” (National Academies of Sciences, Engineering, and Medicine, 2019, p. 1). The same report states that between 45% and 60% of medical residents and students and 35% to 54% of physicians and nurses in the U.S. experience “substantial symptoms” of burnout. The prevalence of this issue is worrisome because, while the personal consequences of burnout are unfortunate for the practitioners, the professional consequences could prove dangerous to patients as well as to society in general. Even ignoring the personal issues that burnout can cause, like increased alcohol use and an increased risk for both occupational injury and suicide, the potential harm to patients is immense:

Clinician and learner burnout adversely affects the quality of patient care. Clinician burnout is associated with an increased risk of patient safety incidents and malpractice claims, poorer quality due to low professionalism, reduced patient satisfaction, and diminished and ineffective communication between patients and clinicians. (p. 2)

The potential harm doesn’t stop there. Physicians experiencing significant and consistent burnout also pose risks for the organizations for which they work, increasing issues like turnover, reduced productivity, and clinician absenteeism. The potential cost for organizations as well as patients due to physician burnout is just as significant as the personal costs the victims face, in other words, making the creation of an effective program or system-wide change to reduce its prevalence even more important. This isn’t something that can be done purely from the physicians’ side of the work environment,

however, and it is imperative that organizations make systemic and fundamental changes to the ways in which physicians practice and are expected to perform, a topic discussed further later in the literature review.

It is no wonder that some succumb to coping with these pressures in unhealthy ways. Since PA students undergo similar stresses to medical students, it is reasonable to assume that they, too, fall into depression. What is more, medical students and PA students are inducted into a CoP where stress, burnout, and depression are common and where coping strategies are far from ideal; more so than in the CoPs of other careers. Unfortunately, the general atmosphere of stress and strain makes for a CoP that has a serious need, as the AMA has recognized, of healing itself. It is this CoP, with all its covert distress, into which medical students and PA students are being initiated.

Hidden Curriculum Stressors

An Overview of the Hidden Curriculum

In a CoP, there is a “hidden curriculum,” that is, a constellation of attitudes, expectations, and mindsets that are tacitly communicated and implicitly expected. How much does or does not the hidden curriculum add to the stress loads of students in medical training, including PA students? As noted in a previous section, medical students experience enhanced stress during their training. Both long-term literature reviews and current studies uphold this (Dahlin et al., 2005; Dyrbye et al., 2005, 2006, 2014; Fang et al., 2010; Marien & McKinna, 2012; Shapiro et al., 2000). PA students experience stresses similar to those of medical students (O’Brien et al., 2012). The intensity of the curriculum and information overload are sources of stress acknowledged by PA students (especially in regard to examinations), as are time and schedule management, and finances (Kuhn et al., 2005; O’Brien et al., 2012). However, the invisible elements of the

hidden curriculum, communicated without words (but usually loud and clear), may be stress-producing as well.

The concept of the hidden curriculum arose from educational literature and was first applied to medical education in 1994 when Hafferty and Franks wrote a seminal article entitled “The Hidden Curriculum, Ethics Teaching and the Structure of Medical Education.” From then on, the idea took hold that underlying, unspoken assumptions and expectations that are not formally communicated or embedded in the curriculum but are still part of the learning environment have a profound impact on what students ultimately learn about their profession and their responses to that learning. Indeed, Hafferty and Franks maintained that students’ professional identities are formed more by the hidden curriculum than by the knowledge and skill they learn (p. 861).

The hidden curriculum is imparted by educators without them necessarily being consciously aware of what they are “teaching” through unspoken means. However, medical educators are very aware of at least the concept, if not the content, of the hidden curriculum. Lawrence et al. (2018) did a scoping review of the term “hidden curriculum” in medical literature. They found among nine online databases that articles on the concept of the hidden curriculum numbered 3,747 articles, of which 197 met their criterion after an independent review by two reviewers (p. 650). Data were extracted, coded, and analyzed according to grounded theory.

Not only did the researchers find an abundance of riches in articles about the hidden curriculum in medical education, but they also found that the term had become more prevalent since 2012, with nearly half of the articles stemming from that time (Lawrence et al., 2018, p. 652). Clearly, the “powerful hidden curriculum” (p. 654), as the researchers called it, is recognized as important in medical education. What is more, especially in regard to the current study, the researchers say the “hidden curriculum” is understood traditionally as a mostly negative concept (p. 648). That is, it imparts elements that are not considered helpful to students.

Macleod wrote, in 2014, that the concept of the hidden curriculum should be reconsidered. Once again, the term was found to be in widespread use. Macleod performed a Google Scholar search of the term “hidden curriculum,” which yielded some 282,000 entries. When the search was narrowed to “hidden curriculum medical education,” there were still 84,300 entries. (p. 539). Overall, Macleod says, “The concept of ‘the hidden curriculum’ has become a part of the everyday discourse of medical education” (p. 539), and the concept abounds “in the academic and professional literature” (p. 539). The hidden curriculum, she says, maybe imparted with varying degrees of intentionality on the parts of educators and actors in various educational settings, but it may also have “unintended by-products” (p. 540). In general, it seems, those unintended by-products are considered to be negative.

The Hidden Curriculum and Student Stress

The hidden curriculum has been well-defined, but the ways in which it impacts students and affects their stress levels have not. There are a few different aspects of the hidden curriculum that affect students’ progress and overall sense of stress, with one of the most prominent being the inability of students to voice concerns over mentor behavior. This is well-illustrated by a study conducted by Neve and Collett (2018), where medical students took part in a program dedicated to explicitly exploring the hidden curriculum. The study was admittedly small, consisting of 7 tutors and 15 students, but the information revealed is supported by additional research discussed later in this section. The researchers equipped study participants with audio-diary methodology and instructed them to keep audio-diaries over the duration of two terms. The data were then qualitatively analyzed for content and key themes. Researchers found that the audio-diaries enabled students to more easily identify hidden curriculum experiences as well as the positive and negative ways in which those experiences affected them (Neve & Collett, 2018). Many of the participants expressed dissatisfaction at their inability to intervene in

these hidden curriculum sessions, with one stating that “the hidden curriculum here was that I am prepared to stand by as this consultant is rude to other staff, my placement partners, and patients. And standing by is the done thing” (Neve & Collett, 2018). This sentiment was echoed by students in a 2016 study of 25 Harvard Medical School students and 8 members of the faculty (Bandini et al., 2016). Researchers discussed the hidden curriculum with both the faculty members and students, including examining the moral, spiritual, and psychological challenges that they faced while caring for their patients and how these were impacted by the perceived hidden curriculum. Both groups emphasized that “‘bad’ behaviors, including ‘making fun of patients and objectifying patients’”, were not uncommon and that the decision to speak up or remain silent was a difficult one to make (p. 59). When mentors exhibited poor behavior as mentioned above, students are often placed under quite a bit of stress as they find themselves relatively helpless to intervene.

Because students are often unable to voice concern and instead must continue to observe doctor-patient interactions even when they disagree with the mentor’s behavior, they are indirectly pressured into maintaining the “medical hierarchy” as well as a culture that encourages tolerance of poor behavior. This is another aspect of the hidden curriculum that negatively impacts students. A 2016 study conducted with six clerkship rotations notes that students are particularly vulnerable when placed in a situation where poor behavior is consistently treated as “normal,” and some could even end up compromising their own values (Baird, Bracken, & Grierson, 2016). The study, which aimed to look at the relationship between the clerks’ perception of the social power their mentors wielded and their own perception of personal empowerment, offers the conclusion that positive “power wielders” positively impact students’ perception of personal empowerment and vice versa, with both situations impacting the students’ morale toward their studies and their tasks. And, as another research group notes in a position paper released by the American College of Physicians focusing on clinical

learning environments and the ethics involved in the hidden curriculum, “positive role models may reinforce the character and values the profession seeks to cultivate; negative ones directly contradict classroom lessons and expectations of patients, society, and medical educators” (Lehmann, Sulmasy, & Desai, 2018, p. 506). Students might find themselves learning one thing in a classroom, only to face something entirely different when shadowing professionals working in the field. This contradiction can create unnecessary stress in students, especially as they begin to form their own professional identity (Lehmann et al., 2018). This particular aspect of the hidden curriculum only serves to reinforce hierarchies within medicine as well as teaching students to tolerate, and potentially adopt, problematic and unprofessional behaviors (Doja et al., 2015).

The Hidden Curriculum and Socialization

Hafferty and Franks (1994) noted that there were many attempts throughout the 20th century to reform the medical curriculum, but none were effective. Thus, they found that changes to the traditional or formal aspects of the curriculum are fruitless in improving student experience and outcomes; what must be addressed is the learning environment and what students actually learn from it rather than what they are explicitly taught. This means a focus on the hidden curriculum through which students are socialized into the norms and mores of the profession.

Over 30 years ago, Hafferty (1988) noted that the literature on socialization into the medical profession focuses on the clinical years of training. He found a preference for this kind of thinking “based on the belief that the locus of socialization is best studied in the patient-centered years of clinical training” (p. 344). Yet, he maintained, there were “formatively important stages of the socialization process” (p. 344) that took place earlier. Part of this socialization process occurs through oral traditions passed down informally, with implicit lessons about the culture students are on the brink of entering. Hafferty (1988) wrote, “As initiates face the uncertainties of the admissions process and

the unknowns of medical training, they tell each other stories or tales highlighting issues of common concern or anxiety” (pp. 344-345). They engage in activities designed to confront stress. Yet, this earlier informal indoctrination into the attitudes of the CoP may account, in part, for declines in the levels of empathy felt by both medical students and PA students after their first (didactic) year of study, which is related to the stress they experience (Dyrbye et al., 2014).

Hafferty (1988) indicated that the enculturation of young initiates into the medical field takes place through one of humankind’s most powerful culture-transmitting devices: stories—more specifically for medical students, cadaver stories (p. 345). These stories are like initiation rites that impart to the listeners the way they should think, feel, and act under stressful circumstances in order to be insiders. Such a story, Hafferty stated “plays a pivotal role in transmitting group culture to newcomers, establishing orienting principles, defining areas and elements of social control, [and] setting up lines of demarcation, particularly in differentiating insiders from outsiders” (p. 345).

Unfortunately, the hidden curriculum in these well-known and widespread cadaver stories is that empathy has no place in a medical trainee’s mental and emotional universe.

Cadaver stories are a form of gallows humor (Hafferty, 1988, p. 345) designed to show young initiates how to handle their emotions when human physical vulnerability is exposed to its utmost in the form of a helpless, naked, dead body. Especially in preparation for anatomy lab, medical students teach each other to be emotionally unaffected, to be detached from human and empathetic considerations, to emulate those who see the body in death (and illness) as an insensate mass to be manipulated by clever people with medical training. To this end, most cadaver stories involve pranks that students at some other medical school played using dead bodies: Bringing a cadaver or part of a cadaver to a public place, sexually posing male and female cadavers in the lab, using a cadaver as a serving board for a feast, etc. No matter what they are doing, the pranksters at other schools are presented as cool, hip, and full of camaraderie. The

victims who respond with horror, fear, moral outrage, or disgust are portrayed as weak, out of control, and socially “out” (Hafferty, 1988). While we would hope that this behavior no longer exists, this sheds light on the CoP that existed in the past.

The powerful underlying message of cadaver stories is that one must assume an attitude toward the human body that is detached, impervious to emotion, and devoid of compassion or respect. This is a sort of initiation rite to join the fraternity/sorority of medicine. To identify with the group, one must suppress the parts of his or her identity that look upon the human body with empathy and feel distressed over its state or treatment. That might be too large a sacrifice for comfort, particularly since Hernandez et al. (2010) found that many PA students entered the field because they have compassion and respect for people. “Students indicated the reason they chose this particular career path was to make a difference by caring for others and making an impact on those in need” (p. 169).

Decline of Empathy

Empathy decline in medical students is well-documented. A systematic literature review by Neumann et al. (2011) from January 1990 to January 2010 showed that empathy decline is rampant and also that it hampers the development of professionalism and likely compromises health care (p. 996). The review of relevant studies led the researchers to conclude, “Distress seems to be a main cause of empathy decline” (p. 998).

Mandel and Schweinle found in their 2012 study that there is a marked decline of empathy after the first year in PA students. The purpose of the study was to find trends in empathy among PA students as they progressed in their studies. The participants in the study were students from PA classes from 2009 through 2014. They were surveyed at a northeastern university, with a total of 328 survey responses. The method used was a survey using the Jefferson Scale of Physician Empathy (JSPE), which was administered to the PA students at various times during their studies. Data analysis included both

parametric (ANOVA) and nonparametric (binomial) methods. The results showed that 62% had lower median JSPE empathy scores toward the end of their didactic training than at the beginning.

The researchers noted that this decline was found to be “similar to other health care providers’ education and supported the need for further conversation regarding a role for empathy assessment and curricula in PA education” (Mandel & Schweinle, 2012, p. 16). The decline in empathy between the second and third years of study was not statistically significant. The significance of the study is that these results beg the question of why one year of didactic training has such an impact on students’ empathy levels.

Dyrbye et al. (2014) explained in their previously mentioned national study that many studies have shown medical trainees experiencing burnout from the stress involved in their training, stress caused in part by the depersonalization of patients, including a certain hardening toward them (p. 445). Do depersonalization and cynicism increase stress? Or does stress cause increased depersonalization and cynicism? Is part of the stress students in medical training feel due to a loss of identity as an altruistic person as they discover they are to become inured to human suffering and callous toward physical vulnerability in order to belong in the community of practice? Kuhn et al. (2005) specifically name “depersonalization” and the “cultivation of cynicism” in medical students as a source of stress (p. 167). In fact, this depersonalization seems to augment feelings of helplessness and powerlessness during medical training, adding to students’ sense of stress (p. 167).

Dyrbye et al. (2010) did a study that had as its purpose, “To determine the relationship between measures of professionalism and burnout among U.S. medical students” (p. 1173). They opened their study to participation by all medical students at Mayo Medical School, University of Washington School of Medicine, University of Chicago Pritzker School of Medicine, University of Minnesota Medical School, University of Alabama School of Medicine, University of California-San Diego School

of Medicine, and the Uniformed Services University of the Health Sciences. There were 2,682 students who completed surveys (a 61% response rate). Their method included using the Maslach Burnout Inventory (MBI), the PRIME–MD depression screening instrument, and the SF-8 quality of life (QOL) assessment tool, as well as more personal questions. Data analysis was done through standard descriptive summary statistics, the Kruskal-Wallis test, bivariable logical regression, and multivariable analysis. The results were that “burnout was associated with self-reported unprofessional conduct and less altruistic professional values among students at 7 U.S. Schools” (p. 1173). Indeed, “students with burnout were significantly more likely to have engaged in each [minus one item] of the cheating/dishonest clinical behaviors” (p. 1176). That is, students cut corners they knew they should not have; they said patient examinations were complete when they were not and took various other unethical shortcuts (p. 1176). The devastating effects of reporting that a symptom did not exist when it was, in fact, unchecked, maybe imagined as detrimental. Significant to the current study is the result that stress seems to erode the kind of professional values that are considered core competencies in the medical profession, including empathy.

A study by Thomas et al. (2007) had as its purpose to investigate the association, if any, between high degrees of personal well-being and empathy. Participants were potentially all medical students in the state of Minnesota. Ultimately, 545 medical students returned completed surveys (a 50% response rate). The cross-sectional survey was comprised of valid and reliable instruments that measured empathy, distress, and well-being (defined as high quality of life). A multivariate analysis was done, the results of which were that higher quality of life (well-being) in medical students correlated with higher empathy scores (p. 181). Results also showed that, while medical students had higher empathy scores than a normative sample of a similar cohort and were also similar to other medical students, distress and well-being were both associated with empathy levels. The researchers recommended that enhancing student well-being may have

important effects on empathy, which they noted is widely associated with professional competency (p. 1179). The significance of this study to the current study is that, if the hidden curriculum of medical training is one that tends to obviate empathy, medical education is shooting itself in the foot by eliminating this important component of competency.

Strategies to Combat Stress and Burnout

Stress is noted to have devastating effects on both students and professionals in the medical field. How stress is managed plays a crucial role in the development of medical professionals. It is suggested that medical and allied health professional schools take a deeper look into this issue to mitigate future risks. It should be noted, however, that none of these strategies pertain specifically to the hidden curriculum and the implicit stress it causes because there is a current gap in the literature in this particular area.

Student Coping

When it comes to well-being, which is correlated with empathy, PA students, on the whole, appear to be doing well. *The Physician Assistant Education Association Report: By the Numbers* (Student Reports 1 through 3) shows that, for the most part, Physician Assistant matriculating students are handling stress well.

Student Reports 1-3 (PAEA, 2017, 2018, 2019) collected data from both matriculating and end-of-program students. The purpose of the study of matriculating students was to improve education, recruitment, and retention (p. 1). PAEA member program directors were contacted, ultimately providing 4,570 survey responses from PA students nationwide for the 2017 report (a 51% response rate), 4,050 for the 2018 report (a 42.1% response rate), and 4,845 for the 2019 report (a 45.8% response rate). The data were analyzed in all reports by producing descriptive statistics on the variables depicting

percentage, mean, median, standard deviation, range, and percentiles. The results in the aspect of Health and Well-Being are discussed in more detail in the following paragraphs. The researchers let the results speak for themselves. The significance of the current study is that, for the most part, the student reports of the PAEA 2017-2019 show that PA students are coping with stress fairly well.

The other aspects of Overall Well-Being are shown as a comparison of mean scores between the three studies:

Table 1. Comparison of Overall Well-Being Between PAEA Reports (2017-2019)

Overall Well-Being	2017	2018	2019
Quality of Life	8.1	8.1	8.3
Mental Well-Being	7.8	7.8	7.9
Emotional Well-Being	7.7	7.6	7.7
Physical Well-Being	7.7	7.6	7.7
Spiritual Well-Being	7.6	7.5	7.7
Level of Social Activity	6.9	6.9	7.2

Also, in the PAEA 2019 report, 31.1% of PA students felt their didactic year was more challenging than expected, as opposed to 17.2% who felt the clinical year was more challenging than they had anticipated (p. 59). A comparison of the nature of self-reported stressors PA students undergo during their didactic versus their clinical year might shed light on what aspects of their education might be causing students the most stress.

Confidence in one's abilities to meet challenges, manage personal problems and unexpected circumstances, cope with things required of the individual, control irritations

that arise in life, and overcome difficult situations are important parts of the Perceived Stress Scale. It is also important to know how well-prepared and confident PA students feel in the competencies they have been taught. The PAEA 2019 report revealed that students felt quite confident (an average of 4.23, with 5 being high on a scale from 1 = not at all confident to 5 = very confident) in their abilities to perform their upcoming duties as PAs (p. 66). The PAEA 2018 report revealed an average score of 4.28 (with 5 being on a scale from 1 = not at all confident to 5 = very confident) in their abilities to perform their upcoming duties as Physician Assistants (p. 62).

How are students managing the stress in their lives? Kuhn et al. (2005) found that most PA students cope with their stress in passive rather than active ways (p. 169). Such techniques would include friend and family time, screen time, listening to music, and engaging in spiritually enriching activities. Few actively sought out campus facilities and offerings such as gyms, faculty consultation time, psychological services, etc. While the students reported moderate to considerable stress (p. 177), a full 25.9% of them felt their stress-reducing techniques were only minimally effective. While 51.9% of the students felt that their stress-reducing techniques were moderately effective, only 22.2% felt that their stress-reducing efforts were highly effective.

On the whole, PA students score moderately well on aspects of Health and Well-Being that are related to both stress reduction and empathy. They also self-report moderately effective to highly effective stress-reducing techniques (mostly passive techniques) but with a significant proportion of students, almost a quarter of the sample in one study, reporting that their methods of coping with stress were only helping them minimally.

PA students undergo moderate to considerable levels of stress, comparable to the stress undergone by other health care students, including medical students. Although the majority of PA students appear, in general, to be handling stress well, there is room for PA students to receive more guidance and intervention in health and well-being so as to

reduce their stress, maintain their levels of empathy, and contribute to their competence as health providers.

Interventions

Interventions to increase medical students' well-being and reduce their stress have been tried, but their effectiveness is questionable. Experts do not seem to agree about what programs or even approaches are feasible and effective. For example, Dyrbye et al. (2017) evaluated a longitudinal stress management and resilience training course entitled the Stress Management and Resilience Training (SMART) curriculum because, as they said, "despite a substantial body of literature documenting the problem, little is known about effective interventions" (p. 1309) to reduce medical students' stress and enhance their well-being.

The purpose of the study was to determine whether the required course, SMART, actually enhanced first-year medical students' well-being. The participants were all first-year students matriculating at the Mayo Clinic School of Medicine in 2014 and 2015. In 2014, 81.5% of the cohort completed surveys, while in 2015, 43.1% of the cohort did so. Surveys were both voluntary and anonymous. The instruments used to measure well-being were validated items of the Maslach Burnout Inventory (MBI), the Medical Outcomes Study Short Form (SF-8), the Perceived Stress Scale (PSS), the Connor Davidson Resilience Scale (CD-RISC), and the Happiness and Gratitude Scale to measure burnout, quality of life (QOL), stress, resilience, and happiness (p. 1310). To measure empathy, the cognitive (perspective-taking) and emotive (empathetic concern) subscales of the Interpersonal Reactivity Index (IRI) were used. The results were that stress levels increased and Quality of Life (QOL) declined mentally, although not physically. Empathy also declined. The SMART program did not bring about the desired results. The researchers concluded that the intervention was not effective (p. 1312). They also noted that their results were not the same as other evaluations of the SMART

curriculum. However, they did find that comparison surveys of students from other years also showed that the SMART intervention was not effective.

A systematic review of the literature on interventions for medical students was done in 2016 and corrected in 2019 by Wasson et al. The purpose of their study was to discover interventions in the medical education learning environment that had proven effective in improving students' emotional well-being through empirical studies (p. 2237). Although none of the over 4,000 studies the researchers consulted met the highest quality design standards, the researchers were able to discern some best practice recommendations. However, they also concluded that there was limited evidence of any interventions being particularly helpful in improving medical students' emotional well-being. Some suggestions they thought would help were a pre-clinical pass-fail system of grading, improved accessibility of mental health programs for students, as well as mind-body-based stress reduction programs. Small group faculty advisement and a balance between pre-clinical and clinical learning were also recommended (pp. 2249-2250).

Mindfulness-based, stress-reducing interventions (MBSRs) are one of the most well-known programs used by medical schools to enhance student well-being (Danilewitz, Bradwejn, & Koszycki, 2016, pp. e32-e33). A pilot feasibility study by Danilewitz et al. sought to evaluate the effectiveness of a peer-led mindfulness meditation program (MMP). The participants were first- and second-year medical students at the University of Ottawa. The first 30 respondents were selected for the study. The methods included the use of a randomized waitlist as a control. Self-report scales were used as instruments: Depression, Anxiety, and Stress Scale; Jefferson Scale of Physician Empathy (Student Version); Five Facets of Mindfulness Questionnaire; Self-Compassion Scale; Adapted Altruism Scale; and a five-point Likert scale to assess students' perceptions of the MMP and any benefits they received from the intervention. Data analysis included descriptive statistics, efficacy analysis, paired sample t-tests, and analysis of covariance. Results showed that 88% and 69% of the students felt the

program had improved their academic and clinical performances, respectively (p. e34). The researchers concluded that the results were “encouraging” (p. e34) although preliminary. The results suggested that a peer-led mindfulness meditation intervention lasting eight weeks might improve well-being and professionalism (p. e36).

Yet when Daya and Hearn (2018) did a systematic review of the impact of mindfulness-based interventions (MBIs) on medical students’ well-being, the results of the studies were mixed. Some reported improvements, others reported no change, and another reported an increase in stress (p. 150). For depression, some studies showed improvement, while one showed no change. Few studies found any improvement on burnout (p. 151).

The Vanderbilt Medical Student Wellness program, instituted in 2010, is considered the “gold standard” and a national model for intervention programs (Slavin, Schindler, & Chibnall, 2014, p. 573). However, as Ludwig et al. (2015) found, evaluation of such programs in the medical education community is sparse. In fact, the researchers stated, in spite of the fact that the Association of American Medical Colleges, Institute of Medicine, and the Liaison Committee on Medical Education all recognize and promote well-being in medical education, and well-being is also evaluated as part of medical students’ Graduation Questionnaire, “evaluating the impact of these interventions is still limited” (p. 1).

In addition to intervention programs, some researchers have recommended changes to the curriculum. Hernandez et al. (2010) noted that for PA students, a full-scale medical curriculum is crammed into 26 months, as opposed to 48 months for medical students, presumably adding to PA students’ stress. Slavin et al. (2014) presented a new paradigm for curricular changes instituted at the Saint Louis University School of Medicine in 2009-2010. A pass-fail model for preclinical courses was adopted to replace the former structure of grading around “honors,” “near honors,” “pass,” or “fail.” Contact hours were reduced by 10% by streamlining some aspects of the curriculum. Longitudinal

electives were introduced to allow students more time to pursue their specific interests. Five learning communities centered around areas of interest as well as mandatory resilience and mindfulness (R/M) training. Smaller grading and scheduling changes were also made in addition to the provision of more social opportunities (p. 575).

The purpose of the study was to evaluate the impact of curricular changes. The participants were all students at the Saint Louis University School of Medicine. Methods used were standardized assessment instruments administered during orientation of the students' first year and the end of each academic year thereafter: Center for Epidemiological Studies Depression Scale, Spielberger State-Trait Anxiety Inventory, Perceived Stress Scale, and Perceived Cohesion Scale. The Association of American Medical Colleges' Graduation Questionnaire (GQ) also assessed students' impressions of the changes. In addition, academic progress was evaluated. The results showed strong positive associations between the curricular changes and students' well-being (p. 576).

Beyond changes in the formal curriculum, Hafferty and Franks (1994) maintain that there is a hidden curriculum that forms students' professional identities in ways that are distressful and that, in particular, deplete them of empathy:

Patients, in turn, are cast concurrently as victims of disease, objects for learning, and subjects for research. Combined with the pressures of a burdensome, stressful, and for some, abusive training environment, patients may not be held as objects of fiduciary responsibility. Instead, they can be transformed into objects of work and sources of frustration and antagonism--evocatively recast as "hits," "gomers," "geeks," and "dirtballs." They become "the enemy" with students feeling justified in their use of negative labels and corresponding behaviors. (p. 865)

The medical community is well aware of the burdens upon its students during their education, and multiple interventions have been tried to ensure their well-being, with ambiguous results or results that have not been properly evaluated. Although some programs have had limited success, there appears to be little consensus as to what interventions and approaches are both feasible and effective.

Treating Burnout in Medical Professionals

In addition to the discussion of how medical students might reduce stress and burnout, it is important to consider how practicing physicians can do the same. Students who ultimately graduate into medical professionals will face the same stressors that clinicians currently face and changing how students learn will be less effective if the progress made is undone as soon as students graduate and find themselves working on their own. Recommendations in this area include creating positive work environments, creating positive learning environments, reducing administrative burdens, enabling technology solutions, and investing in research (National Academies of Sciences, Engineering, and Medicine, 2019). Overhauling the way in which physicians interact with patients and their families, as well as the environment in which they practice, could go a long way toward reducing the burnout they experience.

As noted previously, the former president of the AMA, Steven J. Stack (2016), stated, “Future physicians begin medical school with mental health profiles that are better than those of college graduates who pursue other fields. But those profiles are reversed within two years of beginning med school ... it’s time to turn toward healing our own profession” (n.p.). Increasing students’ well-being can only positively impact the community of practice. The AMA is concerned about physician impairment and, thus, produced an education module with a new edition in June 2016. Produced by AMA’s Ethics Group and entitled “Understanding the Code of Medical Ethics: Physician Wellness and Professional Conduct,” the education module emphasizes physicians’ ethical requirements to promote wellness in themselves, their colleagues, and their profession (Berg, 2017).

However, an ounce of prevention might be worth a pound of cure. Dyrbye et al. conducted a 2011 study of how medical students who enter residency programs are already “experiencing substantial distress” (p. 757). This study had as its purpose to zero

in on burnout, depression, and quality of life in medical students who were graduating and about to begin residency. The participants were all the medical students attending five medical schools in the U.S. and graduating in 2006 as well as all medical students who were graduating in the springs of 2007 and 2009, for a total of 1,428 medical students in their fourth year. Overall response rates in 2006, 2007, and 2009 were 55%, 52%, and 61%, respectively (p. 756). The instruments used included Maslach Burnout Inventory, Primary Care Evaluation of Mental Disorders, and Medical Outcomes Study Short Form. The pooled analysis yielded the results that almost half the students were burned out (49%), 38% had depressive symptoms, and 34% were suffering in their mental Quality of Life. The researchers' sad and portentous conclusion was: "Our results indicate a high prevalence of distress among graduating medical students across all specialty disciplines before they even begin residency training" (p. 756).

Interventions during medical training can help prevent the phenomenon of burned out, depressed, stressed inductees into the community of practice of physicians and physician assistants. Perhaps if those entering the CoP are mentally and emotionally healthy, the CoP will gradually become healthier, too, and eventually have a reciprocal effect between medical education and practice.

Summary

This review of the literature highlighted what researchers believe causes stress within medical education and ultimately within the medical profession. This chapter also focused on the effects of stress on one's mental health and discussed how the CoP and hidden curriculum play a role in these outcomes. It is important to understand that both CoP and the hidden curriculum influence medical education because it can help researchers evaluate the effectiveness of the medical curricula. This chapter also provided some background information on the similar educational experiences that physician

assistant students face compared to medical students; however, it is important to note that research in this area is scarce. In particular, there is a dearth of information about how the hidden curriculum, in particular, impacts students and how its stressors should be addressed and avoided. Interventions have been placed, but there appears to be a continuing struggle to address the needs of medical students in regard to stress, which would likely affect physician assistant students as well. This study will address the lack of a qualitative approach in this area and will enhance the knowledge and awareness of this topic.

Chapter III

STUDY METHODS

The purpose of this study was to take a step toward understanding the hidden curriculum and the stresses it causes PA students within their educational environment from their own perspectives, as well as obtaining a sense of their overall well-being within their educational environment. The ultimate purpose is to make suggestions as to how stress within one CoP of PA education can be mitigated, with results potentially transferable to other CoPs in the same field.

The theoretical framework of the study, that of situated learning, emphasizes that stressors most likely arise from the learning experience as it takes place in the CoP (Lave & Wenger, 1991, p. 49). This study was an attempt to contribute to understanding whether the educational environment to which the CoP PA students are exposed has a deleterious effect. Both academic and clinical educational surroundings impart not only knowledge and skills but also professional norms and beliefs to PA students according to the “hidden curriculum” (Lempp & Seale, 2004) of the CoP. This aggregate of professional norms and beliefs may contribute to student stress in previously unexplored ways.

The remainder of this chapter is organized as follows: (a) Research Design, (b) Participants, Setting and Sample, (c) Recruitment and Enrollment, (d) Data Collection, (e) Data Analysis, and (f) Positionality.

Research Design

The research design is a set of qualitative semi-structured cross-sectional interviews conducted in one setting with a sample of students in two different phases of professional preparation—didactic and clinical. Through the catalyst of research questions, the researcher sought to open students up to describing their own lived experience as PA students. Each student’s situation and perspective are unique, expressing his or her own subjective reality; however, it was expected that specific themes would emerge.

The study examined what students’ feelings about their experiences indicate about the phenomenon of the documented stress of being a PA student. The goal, as Maxwell (2008) expressed, is a goal for all qualitative studies: “Understanding the meaning, for participants in the study, of the events, situations, and actions they are involved with, and of the accounts that they give of their lives and experiences” (p. 221).

Will these feelings or experiences reflect quantitative research done by the Physician Assistant Education Association (PAEA, 2019) in regard to student stress? Or will a qualitative approach reveal more than students are able to say on a closed-response survey? The 2018 PAEA survey (PAEA, 2019) presented a positive picture of most Physician Assistant students’ confidence in their ability to handle stress and the challenges presented to them during their education and in considering their launch into practice. Other researchers’ findings have not been so sanguine (Hernandez et al., 2010).

The qualitative method was used to uncover the personal feelings and impressions of the PA student experience. Is any of their perceived stress related to who they believe they are, who they want to define themselves to be, or the nature of a human being in relation to others? For example, a 2012 study by Mandel and Schweinle indicated a marked decline of empathy after the first year in PA students. If this is true, would such a

decline cause stress? Perhaps they went into their field as altruistic people interested in helping others, then find that empathy is considered dispensable in the CoP of the field.

Questions related to the norms, skills, knowledge, and beliefs were asked of PA students. The researcher was most interested in probing a respondent's understanding and perspectives of those activities and behaviors found in the education of PAs. She was also interested in the respondent's descriptions of their personal experiences within their perceived realities. Through this data, the researcher sought to recognize patterns and perhaps shed light on the larger reality of PA education.

Participants, Setting, and Sample

The participants of the study were current Physician Assistant students from a PA Program in the New York City metropolitan region. The setting for the study is accredited by the Accreditation Review Commission on Education for the Physician Assistant (ARC-PA) and is housed in an institution that is known to be a pillar of the community with regard to providing health education, research, and patient care to its residents. Currently, there are approximately 30 to 60 students enrolled in both the didactic and clinical cohort of this PA program. There are fewer than 15 full-time faculty members that consist of both PA and medical professionals. An additional handful of adjuncts and lecturers also share either a PA or an MD background and are known professionals practicing in neighboring hospitals and clinics. This PA program is known to have a diverse environment to mimic the underserved community in which it is nestled. Faculty and students are diversified in language, religion, culture, and gender backgrounds. Overall, PA students have 24-hour access to a medical research library, study carrels, and classrooms. Didactic students have a daytime class schedule and are exposed to many science and medical lectures, such as anatomy and EKG interpretation. Clinical PA students rotate in urban hospitals and hospital-affiliated clinics and are

expected to complete anywhere from 8- to 14-hour shifts, abide by hospital policies, and participate in all specialty ground rounds.

The sample was comprised of 50 students at two distinct points in their PA education—25 students in the didactic phase and 25 students in the clinical phase. Eligibility for the study included the following: at least 21 years old; willingness to sign an informed consent for the study; for students in phase one, enrolled in the PA program for at least 6 months; and for students in phase two, enrolled in the PA program for at least 18 months. Only students who had completed the regular cohort schedule, outlined previously, were eligible to participate.

Recruitment and Enrollment

The researcher used purposeful sampling (Bryant & Charmaz, 2007, p. 235) of the cohort described above. The program director of the PA program granted permission to interview students, and the academic coordinator and clinical coordinator granted permission to describe the study to students on particular days, such as call back days for clinical students and after class for didactic students. The researcher first introduced herself and the purpose of her study to groups of students by discussing their experiences in the program and asking for suggestions about improvements they might recommend. The script that was followed is included in Appendix C. She solicited informal responses, such as nods, as they discussed any pressures they may be under from financial restraints to the rigor of the curriculum. The researcher created an atmosphere of inclusiveness by assuring them that she herself went through a great deal of stress while in PA school, as well as mentioned that nursing and medical students also undergo a great deal of stress. Her purpose here was to motivate them to volunteer for the study.

The researcher emphasized that participation was entirely voluntary and that anyone who did not wish to participate had no obligation to do so. The researcher added

that she hoped the format of the study, open-ended interviews, would help them feel they have a voice in PA education. At the conclusion of the presentation, the researcher provided her name, email, and phone contact information and invited anyone interested to contact her. Of the total class, approximately 53% of the didactic students and 55% of the clinical students completed an interview.

Data Collection

The researcher conducted all interviews using a semi-structured interview schedule as a guide (described below). The questions were asked in an open-ended format, and the responses were open-ended. Based on interactions with the students, follow-up questions were asked to probe issues that arose, and, based upon their experience, the questions themselves were tailored to improve understanding about students' lived experiences. All interviews were conducted at the PA program site in a private location and were audiotaped.

Instrument

Questions in the interview schedule were framed based on the research questions and took into great consideration the three characteristics of a CoP: Community, Domain, and Practice, outlined below.

- Community is how members of the domain engage with each other in discussions, assisting one another and sharing information. It is the process of sharing and learning from one another.
- Domain refers to an area of shared interest and methods of dealing with those within the area of interest.

- Practice: Members of a CoP have, over time, developed shared experiences, methods for addressing issues, tools, stories, etc., which are passed on to newcomers (Wenger, 2011).

Within each characteristic of the CoP, the researcher elicited information regarding sources of stress, sources of support, and recommendations for improvement. The main questions asked were:

General

1. When you think about your PA program, what is the main feeling that you have?
2. Do you feel your PA program is clear about student expectations/policies (regarding goals, conduct, etc.)?
 - a. Are there any expectations that are not explicitly stated but that are important to know? Can you tell me some examples? Are there any other unwritten rules that come to mind? Probe for more information here (e.g., meeting vs. exceeding expectations: Do you feel that the means and methods for performing well in your program are clearly given?)
3. Have you ever experienced a period when you were strongly encouraged by faculty or preceptors to meet unspoken expectations? Can you tell me more about that? What was your reaction to this?
 - a. Are there any unspoken expectations that have caused you to feel concerned?

Medical Life

4. What has been emphasized regarding your relationship with patients?
5. What has been emphasized in regard to correct or incorrect ways to interact with patients?
 - a. Has your PA program addressed different forms of emotional connections that a student may have towards a patient?

6. How do faculty or preceptors expect you to respond to emotionally stressful situations?
 - a. A dying patient?
 - b. Grieving family members?
 - c. A disruptive or belligerent patient?
 - d. An offensive or inappropriate senior colleague?

Program Community

7. People in the PA community are likely to have many different experiences.
 - a. When you think about the PA program as a community, what are the main feelings that stand out for you?
 - b. Who are the most powerful people within this community?
 - c. To what extent do students have a voice in this community?
 - d. Do you feel that this community fosters more cooperation or competition? Can you tell me more about that?
 - e. Can you share anything else about the PA community that might make the student experience more positive? How about more negative?
8. What has been emphasized regarding your relationship with faculty or preceptors?
9. Do you get the feeling that there is a hierarchy in place? Can you give some examples of situations that have made you feel this way?
 - a. Do you feel there are clear ways in which the program is reinforcing or trying to dispel any hierarchy?
 - b. How do you think this hierarchical system affects you?
10. Can you tell me about a positive experience you've had with any professionals (faculty/preceptors)? Can you tell me about a negative experience with any professionals (faculty/preceptors)?

- a. Was there ever a moment that you felt that your voice wasn't heard or that you weren't treated with respect?
11. *For clinical students:* Since you have been on a few rotations at this point, do you feel it's more difficult to engage with preceptors or patients?
 - a. Do you feel that being exposed to a clinical setting affected your level of empathy?

Personal Life

12. Are there any specific aspects of being a part of the PA program that you have found particularly stressful? Can you share some of them?
13. Did you ever feel that your PA training was compromising your personal life? If so, can you give some examples of how?
14. Has your PA program impacted major life decisions? Can you give an example?
15. Has there ever been a point where you felt that your PA program was negatively impacting your physical health? If so, can you give examples of how? How about your mental health? Can you give examples?
16. Has being in this program had any effect on your identity as a person? Can you tell me more about that?
17. Can you tell me if your motivation has changed since you've been in this program? Have you experienced any doubt as to whether you have chosen the right course of study?

Ending

18. What do you like the most about your PA program? What do you like the least?
19. Can you give some specific ways in which a PA program can be changed to improve the student experience?

20. What is the most important thing you want me to take away from our discussion? (i.e., student well-being, patient care, program management, etc.)

Thank you so much for talking with me. If I have any other questions, may I contact you?

Jean Lave and Etienne Wenger (1991) have theorized that because learning takes place in a social environment (all human gatherings are social environments), it involves much more than absorbing information from impartial instructors. Learning is “increasing participation in communities of practice” (p. 49). In the case of the professions, a person’s identity as a professional is formed through the CoP (Wenger, 1998). Wenger stated, “Because learning transforms who we are and what we can do, it is an experience of identity. It is not just an accumulation of skills and information, but a process of becoming” (p. 215).

If learning transforms a person, causing him or her to become a certain kind of person or to avoid becoming another kind, then the invisible norms of the CoP in which one is taught reverberate resoundingly throughout a person’s educational experience. The hidden curriculum, unspoken as it is, is a clarion call to conformity. Yet, this aspect of an educational environment is rarely explored. Thus, my questions homed in on the learning environment: a general description of the environment, what students like or don’t like about it (1, 18), an instance where they experienced a moment of struggle (12), what their ideal learning environment would look like and how their current one resembles or differs from that (19, 20).

Since it is assumed that professionals are implicitly imparting a “hidden curriculum” of norms, beliefs, practices, and attitudes, several questions asked specifically about the professionals the student has encountered in the community of practice: general impressions of those professionals, adverse experiences with them, or positive experiences creating a sense of kinship or community (7, 8, 9, 10, 11).

Several questions on motivation and patient interactions (4, 5, 6, 11, 12, 13, 14, 15, 16, 17) were based on a study that showed that PA students show a marked dip in empathy after their didactic year (Mandel & Schweinle, 2012). The researcher was trying to get at the idea that, perhaps, the community of practice has communicated through the hidden curriculum that empathy is an expendable character quality in their chosen profession. Perhaps, then, initial altruism turns into a more impersonal attitude, which may cause changes in motivation that will eventually lead to stress and burnout. Studies have shown that the education of medical students, for example, causes them to lose idealism, to suppress emotions, to fit themselves willingly into a hierarchy, and also to present an identity that assumes recognized earmarks of their profession but which may not be natural to them (Lempp & Seale, 2004). What is more, the medical community of practice sometimes “teaches” through humiliation, which may heighten stress by creating an atmosphere of competition rather than cooperation (Styles, 1993). Thus, the researcher included a couple of questions on whether students felt as if the PA program expectations were stated during their professional preparation (2, 3). Directly asking students what stressors affect them is also important. The interviews were open-ended; it was expected that these questions would lead to other questions that would help clarify students’ reactions to the hidden curriculum in the community of practice into which they were being inducted and enculturated.

At the end of the interview, participants were asked to complete a brief survey (see Appendix E). The demographic survey asked participants to disclose the following information: the year of study they were in, their gender, their age range, and their ethnicity. These data were used to describe the study sample. However, it is important to note that due to the sample size and to ensure confidentiality, the demographic survey was not used to provide further emphasis on any of the interviews, except to measure the difference of stressors experienced between didactic and clinical year PA students and possibly gender.

Study Procedures

All interviews were conducted face to face, one participant at a time, in quiet and isolated rooms, such as in classrooms or a vacant faculty member's office, between the hours of 8 a.m. and 6 p.m. within the span of five weeks. Rapport building occurred prior to the beginning of the interview, with the researcher asking positive questions that encouraged engagement (besides "How are you?"), such as "Tell me about the best part of your day so far" or "What are you most looking forward to about your day?" Interviews were audiotaped and lasted approximately 60 minutes (with a handful going over). Written notes were taken during the interviews, making note of non-verbal communications, such as nodding, pausing, hesitations, etc. At the end of the interview, the researcher made notes about the interview, being sure to address statements that stood out the most, which were used when analyzing the individual interviews at a later time. Interviews were transcribed by a third party, who was a master's student at Teachers College, and were the raw data used for analysis. Pseudonyms were assigned to each participant to ensure confidentiality.

Informed Consent

Written informed consent was obtained from all participants prior to the beginning of the study. The informed consent (see Appendix D) form explained the purpose of the study, the assurance of confidentiality throughout the study, its voluntary nature, and the risk and benefits associated with the study. Participants were informed that their signed informed consent forms would be kept in a locked file cabinet. The study was approved by the Teachers College, Columbia University Institutional Review Board and obtained a final acknowledgment from the Physician Assistant program IRB, who noted that the institution would not be "engaged" in this study and advised that final approval should come from the Program Chair of the program prior the commencement of the study. Approval was granted both before and after IRB acknowledgment was confirmed.

Data Analysis

The researcher analyzed the data by hand with the assistance of a qualitative codebook. A qualitative codebook aided the researcher in completing a qualitative analysis using an inductive coding method. Inductive coding is a process considered to be a bottom-up approach, where the researcher derives codes from the data that are being gathered (Chandra & Shang, 2019), as she generated codes from the words that were presented by the participants of the study. The purpose of the inductive coding was to condense extensive and varied raw text data into a brief summary format while establishing clear linkages between the study's research objectives the raw data.

During the inductive coding process, the researcher continued to build and modify codes. The researcher worked with the raw data by reviewing the interview transcripts with an open mind as they were collected. Reviewing the transcripts for accuracy, the researcher searched for aspects of the hidden curriculum as well as patterns, sources, amounts, and types of stress or support that had reportedly been experienced by the PA students. When completing the inductive coding process, the researcher followed these specific steps:

1. Complete an initial reading of the text data.
2. Identify specific segments of text related to the study's objectives.
3. Begin to reduce overlap and redundancy amongst the different categories.
4. Highlight the most important categories (Lerman & Smith, 2017).

The intended outcome for completing inductive coding was to create a smaller number of summary categories that captured key data of the themes (Liu, 2016). To be more specific, coding reflected the following definition by Saldaña (2009): "A code in qualitative research is most often a word or short phrase that symbolically assigns a summative, salient, essence-capturing and/or evocative attribute for a portion of language-based ... data" (p. 3). Because the research was based on emotional stress, the

researcher chose to use Emotion coding, an affective method of coding. According to Saldaña, “Emotion code label the emotions recalled and/or experienced by the participant, or inferred by the researcher about the participant” (p. 85). Emotion coding is suitable when taking a closer look into a participant’s experience.

This contributed to the researcher’s understanding of what was going on in the thoughts and emotions of PA students, allowed her to pinpoint emerging themes and ideas. Her categories were descriptive. Emotion coding was used in hopes of providing a “deep insight into the participant’s perspective” (Saldaña, 2009, p. 86). The data were coded and grouped into appropriate categories/themes. The researcher completed three cycles of coding to determine the participants’ perceptions of their Physician Assistant program.

During the first cycle of coding, the researcher read through each transcript, while referring to her research questions, and coded her raw data. The use of emotion coding involved her labeling the participants’ emotions and feelings exemplified in the raw data from the transcripts as she also recalled their non-verbal cues. It is important to note that categories and themes stood out as the researcher reviewed the transcripts. At this point in the analysis process, she took into consideration the extent of what her coding reflected, whether it was a word or a sentence that was most salient.

A second cycle of coding was the conducted, where the researcher looked for interviews that stood out the most and were most relevant to her research questions. Four interviews were selected from the early stages, two from didactic students and two from clinical students. Another four interviews were selected from later interviews, two from didactic students and two from clinical students. With this method, the researcher created codes for specific participants and made note that there was a “running theme” for the remaining interviews.

A third cycle of coding followed after, with a secondary coder to ensure that codes that were created in the first cycle could be consistently recognized. The secondary coder

was a fellow health education doctoral student, who has a health professional background as a NYC DOE educator and as a former medical professional who has had numerous interactions with Physician Assistants. The secondary coder was trained using a set of interviews that had already been processed through the previous two cycles. All questions were addressed as the researcher focused on coming to agreement with the secondary coder in regard to creating a final coding scheme.

To help demonstrate the reliability of the coding, the researcher estimated inter-rater reliability between herself and the secondary coder. According to Gravetter and Forzano (2018), “inter-rater reliability is the degree of agreement between two observers who have independently observed and recorded behaviors at the same time” (p. 414). The simplest technique for determining inter-rater reliability is to compute the percentage of agreement as follows:

$$\text{Percent agreement} = \frac{\text{Number of observations in agreement}}{\text{Total number of observations}} \times 100$$

Similar to the second coding process, four interviews were selected from the early stages—two from didactic students and two from clinical students. As the researcher was training the secondary coder, some aspects of inconsistency were identified. The percentage agreement calculated for the inter-rater reliability between the researcher and the secondary coder was 75%. At this point, it was revealed that there was a disagreement on how “diversity” was perceived when mentioned in the student interviews. The researcher and the secondary coder agreed to have “diversity” become a subset of the “We’re a Family” theme, which highlights the cooperative environment that the PA program fosters. On the other four later interviews—two from didactic students and two from clinical students—the percentage agreement calculated for the inter-rater reliability between the researcher and the secondary coder was 100%, which indicated no need for adjusting for chance agreement.

After completing the coding process and identifying emerging themes from the dataset, the researcher then placed the themes into her qualitative codebook, where she highlighted the quotations of each participant that supported a particular theme. The codebook also aided in the researcher becoming intimate and familiar with the data and allowed her to review the themes to ensure that they remained in alignment with her study's purpose, research questions, methods, and theoretical framework.

In addition to effectively analyzing the collected qualitative data, the researcher utilized analytic memos. According to Saldaña (2009), "analytic memos are somewhat comparable to researcher journal entries or blogs ... about the participants, phenomenon or process under investigation by thinking, and thus writing and thus thinking even more about them" (p. 32). Implementing an analytic memo was a good way for the researcher to record her research process, as she was able to make connections to each theme or category via her coding technique. In presenting quotes, slight edits were made to improve clarity but these did not influence the content of material presented in any way. For example, superfluous words were, at times, deleted.

Positionality

It is widely conceded that eliminating the actual influence of the researcher and subjects' reactivity to him or her is all but impossible. Therefore, the researcher tried to eliminate neither her researcher bias nor her subjects' reactivity, but to take both into account as mitigating factors during analysis. It is important to note that the researcher is a recipient of a Physician Assistant education and a practicing clinician. She recalled moments of financial pressure and academic pressure that were both stressors and triggered moments of struggle and feeling overwhelmed. She also remembered times of inclusion when she took on student leadership roles to advocate for additional resources that helped make her and her classmates' educational experience more enriching. It was

important for the research questions to highlight the kind of stressors PA students face, the differences in what stressors didactic and clinical students face, and how prepared they were in facing them. This, in turn, made the researcher reflect on her own educational experiences deeply and encouraged suggestions from current PA students about their ideas for reducing stress or helping them cope better throughout the duration of the program. The researcher's interview questions were guided by both the literature and her experience, but she remained thoughtful to the participants' responses and how she interpreted the results.

Conclusions were considered to be analytical rather than statistical, and they will be potentially transferable rather than generalizable. In general, transferability is considered more accurate in regard to qualitative research than generalizability (Guba & Lincoln, 1989). As Maxwell (2008) points out, the qualitative analysis still cannot compete with the "precise extrapolation of results to defined populations" (p. 246) that comes with probability sampling; thus, results are transferable rather than generalizable.

Chapter IV

RESULTS

The results are presented in four sections. The first section describes selected characteristics of the sample, including the year of study, gender, age range, and race/ethnicity. The demographic survey was used only to describe the demographic characteristics of participants and classify their phase in the program (didactic versus clinical). The substantive research topics are organized into three aspects of the respondents' perceptions of their PA program experience with regard to the CoP. These aspects are (1) Student Perceptions Related to the Community/Learning Environment of their Professional Preparation Program, (2) Student Perceptions Related to Sources of Stress of their Professional Preparation Program and (3) Student Perceptions Related to the Differences between the Didactic and Clinical Years of their Professional Preparation Program. Within each of these sections, interview questions were designed to probe about the hidden curriculum.

Sample

The sample included 50 current physician assistant students across all stages of their training in a PA Program in the New York City metropolitan region. The setting for the study was accredited by the Accreditation Review Commission on Education for the Physician Assistant (ARC-PA) and is housed in an institution with strong community ties as far as providing health education, research, and patient care.

This PA program is known to have a diverse environment to mimic the underserved community within which it is nestled. Faculty and students are diversified in language, religion, culture, and gender backgrounds. Currently, there are approximately 30 to 60 students enrolled in both the didactic and clinical cohort of this PA program.

The majority of participants were in the 18-29-year-old age group, although there were some in the 30-39-year-old age group. There was a roughly equal distribution between males and females. The majority of students were Black and Sub-Asian, with representation among White, Hispanic, Asian, Jewish, and Other categories. The sample within each phase of training was equally distributed: 25 didactic students and 25 clinical students participated (Table 2).

Table 2. Selected Characteristics of PA Student Interview Participants

Physician Assistant Student	n	%
Academic Status		
Didactic student	25	50
Clinical student	25	50
Gender		
Male	23	46
Female	27	54
Age Range		
18-29	41	82
30-39	9	18
Self-Described Race/Ethnicity		
Asian	3	6
Black	11	22
Hispanic	3	6
Jewish	4	8
South-Asian	12	24
White	11	22
Other	6	12

Section I: Student Perceptions Related to the Community/Learning Environment of their Professional Preparation Program

For the most part, students found their PA program learning environment and community highly satisfactory. Students found several strong features of their community and learning environment to be helpful toward mastering their program and/or toward practicing once they are in the field. These features included a faculty “Open Door” policy and the sense of cooperation as opposed to competition fostered by the faculty. Students, for the most part, did not feel powerless in their community/learning environment. They felt they had a voice in the structure of the program and could influence real change when necessary.

On hidden curriculum issues, there was a perceived hierarchy, which was accepted as a matter of course when it came to faculty in the educational setting and, in clinical settings, attending physicians and other authorities. However, in regard to their own place in the hierarchy of the educational community, a hidden curriculum showed CoP bias in favor of medical students over PA students. This bias was often demonstrated in the field of practice during the clinical year, which will be covered in Section III; however, there were instances within the didactic year that intimated to PA students that their status was not as high as that of medical students.

Other aspects of the hidden curriculum were expectations that they would be “professional” without the characteristics of professionalism being spelled out to them. The advice to deal with emotionally charged situations with patients by “stepping back” was noted by several students, although “stepping back” was ill-defined by faculty as a coping mechanism.

A major part of the hidden curriculum was the extreme sacrifices required by the program when it came to personal concerns as well as physical, psychological, social, and familial health. Since this part of the hidden curriculum was a significant source of stress for the students and also involved denying themselves the kinds of habits and support that

would reduce it, it will be covered in Section II, which specifically addresses sources of stress. It is sufficient to note that for several students the underlying expectation of personal sacrifice was so strong as to induce guilt when they took steps to take care of themselves.

Faculty Genuinely Care About Students

Students in the PA program at this institution were particularly enthusiastic about the “Open-Door” policy the faculty both verbalized and demonstrated. Several students expressed strong reliance on this open-door policy to help them handle the daunting amount of material they had to master in a condensed amount of time, particularly around exam time. Students said that they were encouraged to talk to teachers about any kind of problem. The hidden curriculum here was a very positive one: many students felt that faculty genuinely cared about them as individuals. Most, but not all, of the students availed themselves of the faculty open-door policy.

PA Student #1: I come to see them every single day... it could be about anything too, even if it's like, okay this topic wasn't clear, can you explain what's going on here?... I mean I just feel like I could just go talk to them about like anything.

Interviewer: So that's been emphasized, this is an open door?

PA Student #1: Totally. And literally, you go up there and all the doors are open. Super approachable. I literally probably go by somebody's office every single day.

I always laugh because last semester, there was one week that I was, I just was losing it, and I think every day I went and cried in a different person's office. It was just one of those weeks.

PA Student #2: I'm pretty close with the faculty, I would say ... yesterday I went to a faculty, and they just said “Sit down, how's your week going? How are exams? I would say, they care about you as an individual.

PA Student #3: Every time they would come in [the teachers], they'll always say, my door is always open, and sure enough,

when you go up there, their doors are always open unless it's time for them, which is usually around like 6.

PA Student #4: Faculty are very, very helpful [and] “it was always an open-door policy.

PA Student #11: [The faculty communicates] “Come to me when you need me,” really. I mean, that's really it. That's how I feel ... I feel sometimes that I'm bothering them, but I can walk up here and just say hi, do you have like 5 minutes? And they'll say okay. So, they give us the time, so I feel welcomed.

PA Student #14: I think the real strength of this faculty is that they're supportive, and they listen, and they're open, and they're nice.

PA Student #19 explained, with great emotion, that a diagnosis of chronic illness had made the clinical year particularly difficult. However, a faculty advisor came to the rescue.

PA Student #19 They don't seem like, they're just doing this temporarily because you're here now ... they actually care about harboring a relationship with you and caring for you. And my advisor specifically, I feel like I will probably talk to her forever.... I was just diagnosed with a serious chronic illness during my second rotation, and—I still get emotional about—it was like the worst thing it is still something I'm dealing with. And, ew, why am I crying? (laughs)

Interviewer: Take your time.

PA Student #19: ... my advisor is the reason that I finished the rotation ... she's just like my rock in this program ... it was like I knew how much she cared about me.... I think the faculty is like the strongest suit that this program has.

PA Student #21: I feel like, our faculty really, actually truly cares.

PA Student #23 ... the faculty are “extremely supportive. Um, very reachable.” In fact, the student characterized the faculty as “awesome.”

This student had a hard time picking out just one positive, warm interaction with the faculty, indicating the consistency and steadfastness of faculty support.

Interviewer: “Can you tell me about a positive experience you’ve had with any professional, faculty or preceptor? Any positive?”

PA Student#23: “Uh, only one?”

PA Student #34: “Um, (breathes in) the main single feeling I have about the program? (pause) Hm. I guess I feel that they really care about us and want us to succeed.”

PA Student # 40 considered the students’ relationships with the faculty to be a stand-out strength of the program. Relationships were, the student recounted, supportive, professional, equal, and even friendly:

That’s a huge thing with our program, and I tell people when they’re thinking of applying to PA school, and they ask me how’s your school? I was like one of the biggest things from our school is the faculty is super personable, and they’re really not out there to get you. Like they’re really, really not. They’re legitimately and it’s super transparent, like their goal is to get you through the program. And they’re happy to form a professional relationship with you at the same time, which kind of motivates you to wanna reach that level, you know what I mean? It’s not like, there’s the floor of offices, and no one goes there unless they have an issue, right? It’s like people go there to say hi. And I think that’s a huge aspect of the program that puts it above others.

In fact, PA Student #40 felt that faculty supportiveness was a hidden curriculum factor in itself, a positive one:

It’s not necessarily that they even said it, but it’s that they act it, you know what I mean? ... yeah of course they said that it’s an open-door policy at the beginning of the year, but it’s more like, if you’re walking past their office, they’ll say hi, you know?

PA Student #41 commented on both faculty and peer support in the program: “We get a lot of support from, academic professors as well as our peers, like we just support each other, we’re just like a big family here.” This student made further remarks on the main strength of the program being faculty supportiveness:

PA Student #41: ... like I said, we’re able to communicate with the faculty so strongly ... maybe because it’s not a lot of faculty, but they’re very close to us, like they make it more of a family.

Yet in spite of faculty being such a strong and welcome feature of the program for some students, other students, although encouraged to avail themselves of the open-door policy, didn't. PA Student #5, for example, didn't take advantage of the open-door policy, even though the student was experiencing anxiety.

Interviewer: So you don't talk to your faculty about anxiety?

PA Student #5: Not really.

Interviewer: Why not?

PA Student #5: I guess it feels like I kinda expected it, with the workload and everything, it's just ... finding my way to manage. Like ... I am anxious but I don't panic until I see what I'm doing is not working ... I still have ways to adapt and to change. And I'm gonna do that until I hit that point when I realize, okay, it's not working. Then I'll go, I'll probably go in and ask for help.

PA Student #6 acknowledged the reality of the open-door policy and that teacher encouragement and counsel were available, but said, "I never go there."

Even when difficulties arose during the clinical phase, students felt they were able to report the problem to their faculty members and get the problem resolved, as will be noted in Section III.

Atmosphere of Cooperation

Students felt that faculty encouraged and students responded to creating an atmosphere of cooperation among students rather than competition.

Interviewer: Do you feel that this community, this program, fosters more cooperation or competition?

PA Student #1: Definitely cooperation, which I was surprised by, because getting into the program is so competitive.... We all just feel a sense of needing to come together and help each other get through it. We're a cohort and ... the competition is over.... There was a faculty member that said to me, you know, when you get here, the competition is over.

PA Student #3: For sure, everybody's a family, from top to bottom ... we all know that we're like one, one big family. And that's not even to do with anything with the faculty member. I mean they made it clear that we're all one family.

PA Student #5: Everyone talks to each other for the most part. And it's a friendly atmosphere.

PA Student #17: I get along with people (laughs) ... after clinicals, we met up for dinners and stuff, so it's been very cordial. It's been very pleasant.

PA Student #19: ... I hope that's like the type of people that I'm working with the rest of my life, because we get along really well, and I feel like everyone just has the same outlook on the profession, on how to treat the patients, how to act, and I don't know—everyone just has a very positive energy.

What was more, PA Student #19 said that one word to describe the atmosphere would be “homey”:

PA Student #19: That feels homey, yeah, yeah. That's just, like they've seen you at your best and they've seen you at your worst, and it's just comfortable.

PA Student #21 gave a vivid example of such cooperation:

PA Student #21: Especially during didactic, there'd be times where we know somebody is really good at a certain system, like for example, somebody was really good with cardio, and after after lectures, he would hang back and just literally answer questions or just put together like a small thing and just present it to us. And made our life easier.” This student also said: “We have such a great family. We have a great program.”

Some students felt differently, however. For example, PA Student #11 couldn't relate to the idea of the community feeling familial.

PA Student #11: Yes, so I remember in the first semester, two of the faculty members wanted us to think of our class as a family. And I think a lot of us, or I'll just speak for me really, I've been struggling with that idea, because it doesn't really feel like one.

Interviewer: Why do you say that?

PA Student #11: I feel that sometimes, some students don't respect other students at a specific point in time ... it's not violent, and it's not always outward, but sometimes, it's—there's just things that are said...

PA Student #11 did feel that the community fostered more cooperation than competition; however, there was what this student characterized as “an undertone” of competition.

PA Student #11: So, okay, as a whole, I'd say collaboration ... I think maybe an undertone might be competition, not gonna lie, it's not explicit, it's not on anyone's face, but it's something that can be felt.

Students Have a Voice with the Power Hierarchy

Students also felt they had an important voice in the structure of the program. Although they recognized a power structure, they did not seem to resent it or feel the hierarchy as an onerous burden. For example, Student #1 felt the responsiveness of the faculty helped equalize things.

PA Student #1: We know who our faculty and our mentors are, but they are so responsive to us ... of course, like we look up to them as the hierarchy, but at the end of the day, I feel like it's definitely a balance.

Many expressed that they had a voice and were able to change things. Several students noted that if exams were scheduled several in a week (PA Student #1, PA Student #2, and PA Student #11), the faculty would re-schedule them if the students requested. PA Student #3 said: “We definitely have power ... to be honest, I feel that we have the most.” This student recounted how the students had an impact on the interviewing process, which Student #12 corroborated:

PA Student #12: A few of us recently went to a few of the professors, and we were telling them about the interviewing process. So, we were all telling them how we hated the interview process.

Interviewer: Really?

PA Student #12: ... personally, when I came here, I didn't feel like it was a warm environment at all ... the professors are really supportive, but we didn't get that vibe at all.

PA Student #12 reported that the students were able to convince the faculty that the interview process needed to demonstrate more of a sense of community.

Students also felt they had power when it came to exams: if a majority of students felt that the schedule for exams was too tight, or a question was unfair or had not been properly covered during class or in assigned studies, the schedule would be changed and the question would be removed.

PA Student #11: We've been given the ability to move exams if we wanted to.... I don't know who's most powerful, but the students definitely have a power.

PA Student #17: ... my voice has always been valued, it's been received well, it's been heard. I don't think I've ever been ignored.

In general, students felt they were respected by the faculty, although several (PA Students #1 and #2) had seen instances of conflict when cultural differences came up. The wearing of hijabs during physical diagnosis class, for example, had caused a clash, which several students noted. Two students also recounted an incident of disrespect regarding an Asian teacher who passed out candy on the Chinese New Year. PA Student #3 recounted how students joked that they wouldn't eat the candy because of the coronavirus. Some of the Asian students then felt offended, but "we handled it as a family, as we should," said PA Student #3. PA Student #6 recounted the same incident and its resolution in much the same way. When asked by the interviewer: "To what extent do students have a voice in this community then?" PA Student #23 replied that student had "a huge influence."

PA Student #18: Yes, I think I have a voice, because whenever we voice up our concerns, the faculty listens to us.... When we raise a legitimate concern, they listen to us and then they will affect the change.

However, PA Student #18 recounted a time when an examination was particularly rigorous and the proctor was extremely vocal about what the student did wrong on the exam and gave a low evaluation, and emails sent to the coordinator were ignored.

PA Student #18: They did not respond to me. I sent out two emails to two different people. They did not respond to me.... I was not treated with respect.... I felt neglected, and ... since then, I didn't feel that good.

In general, students felt they had a voice, some power, and that incidents of disrespect toward students within their program were minimal and cleared up through communication. However, they acknowledged perceived inequities.

PA Student #5: If we're talking like importance, I feel like the next graduating class is like the most important, and everyone else is kind of on the side.

PA Student #6: Medicine is a hierarchy, and you know, in this culture and place. [With faculty, the hierarchy manifested as]: It's like an employer-employee kind of feeling.

Some students didn't feel they had much of a voice or else feared to make themselves heard. PA Student #14 said: "Of course there's a hierarchy." When pressed as to where the student had perceived the hierarchy: "Everywhere."

PA Student #25: It's the nature of a professional field. There will always be a hierarchy.

PA Student #40: Of course there's a hierarchy. Yeah, medicine is hierarchy ... everywhere you go, in medicine, there is hierarchy. Like there's the students right down there at the bottom, right? And then there's like the nurses, and then there's like the residents, and then there's like the attendings. Um, and I think there's a very, very, very strong atmosphere in general, anywhere that I've been in medicine, of this person is in charge, and then that person is like slightly less in charge—and you just follow what anyone says as a student.

PA Student #15: We're like sheep.... among our peers we would say a certain thing. We're like oh we complain about this and that, but then when the professors or the faculty is there, we don't say such things, like we're very hush hush about it.

‘Cause it’s like we don’t want to be in trouble for certain things.

Out in the field, the hidden curriculum of a hierarchy of authority and status was a different story, as will be shown in Section III. During the didactic year, the only grievances about hierarchy surfaced when students were speaking about the priority given to medical students in various ways, which was part of the hidden curriculum. Student #4 felt some sense of competition with medical students, as if they had the priority. For example, library hours were extended for medical students or painting was done in a classroom in the facility because medical students were coming.

PA Student #19: I feel like they always put the medical students first.... Like there are—like in the dorm building, it’s across the street, when the medical students have finals, it goes by their schedule. They’ll have catered breakfast, and like they’re like, oh like good luck on your exams, like here’s breakfast. And the breakfast is for everyone, but it’s based on the medical students’ schedule. And even things in this building, everything’s like based on the medical students’ schedule.... And it just kind of feels like they’re always, like the main attraction.

PA Student #17: I don’t know if this has anything to do with this, but some med students passed by, and they were, one of the players got injured. And they had to take him to the hospital. And then the med students were making comments like, oh, yeah, he’s probably gonna go to Fast Track, oh but it’s probably gonna be all PAs there. Hopefully, he gets good care ... so there is an underlying notion, maybe, that’s out there.

PA Student #23, however, thought that the hierarchy had a more pernicious effect:

PA Student #23: I’ve been hearing and maybe my own little assumptions, maybe they kind of, uh, focus almost all their focus on the medical school, and they get the scraps, from what I’ve heard, but that’s because we didn’t have enough of the support structure from the University as a whole.

Be Professional

There were several features of a hidden curriculum that students found confusing and puzzling. For example, students felt there was a strong expectation that they would conduct themselves professionally. Many students corroborated this expectation, including PA Student #34: “So professionalism is really important. And they tell us that.” The expectation of professional conduct was overt: “they tell us that.” However, how conducting one’s self professionally would manifest was not clearly defined.

PA Student #11: So, for example, I think one of the things they expect from us is professionalism, obviously respect right?... I feel that one of the undertones is like professionalism. So one of the things for me to figure out, what they mean by professionalism, right?... trying to figure out what that means is what is unclear.

PA Student #14 reported: I’ve ... had to go draw blood on some people like patients who are handcuffed and belligerent with the cop in the corner.

Interviewer: So, how did they just expect you to—

PA Student #14: Professionally.

Interviewer: Just professional?

PA Student #14: Yeah.

Part of professionalism involves how to interact with patients, which was another point lacking clarity for students.

PA Student #16 reported: “I mean it’s just always be professional.”

PA Student #19: I’m sure they would expect you to treat the patient as if it was someone you knew ... like make them as comfortable as they could be, and just talk to their family, make them as comfortable as they could be. But I think that they kind of almost expect you to know these things going into it.

Interviewer: What about an inappropriate senior colleague? Like an attending or chief resident?

PA Student #19: ... there’s not a formal list that you’re taught, like this is how you handle this situation. ... a lot of things they

assume are intrinsic, and a lot of them are probably intrinsic that you just know how to deal with, but there's not really a guideline that we get on what to do.

PA Student #11: I think one of the things they expect for us is professionalism, obviously respect.... I feel that one of the undertones is like professionalism. So one of the things for me to figure out, what they mean by professionalism.

Interviewer: Okay. That's something that they clearly state to you. Right.

PA Student #11: ... professionalism ... trying to figure out what that means is what is unclear....

Regulate Your Emotions Yet be Empathetic

There was an overt expectation that students would keep their emotions in check. They were counseled enough on this point that several students used the term to “step back” as the prescribed method of dealing with emotions while in practice.

PA Student #3: They expect you to back off ... in terms of responding to emotionally stressed situations, they would want you to kind of take a breather, relax, not address the patient head on.

PA Student #2: Today we had a professor ... and he was saying how when you are looking at results with the patient ... you can't react like, oh my ... you have to keep your composure.

PA Student #5 reported that the program emphasized emotional control:

PA Student #5: They mostly talked about bias and prejudice. ... that's been most of the focus so far, like watch your biases, watch your prejudices. Watch yourself before you talk to a patient. And they told us several ways to deal with yourself before you talk to a patient. Like stay out of the room if you feel like you're gonna have a bad encounter, stay out of the room and calm yourself down.

PA Student #8: They want us to express empathy, but you never want to get too caught up in the, in the emotional part of it, because you feel ... when you start making decisions on emotions, that's when you may make mistakes. So, it's always kind of keeping a distance—having empathy, showing and expressing empathy, but keeping a distance.

PA Student #17 also felt that they were encouraged to be non-confrontational with patients.

Interviewer: What has been emphasized in regards to correct or incorrect ways to interact with patients?

PA Student #17: Always be courteous, always be polite. Patient safety is number one. Don't get into arguments with patients, don't be confrontational. If it's too much to handle, step back. Don't deliver serious information to patients. Like if they have cancer or something, it's not your role to do that. Make sure you take a step back.

From a different point of view, PA Student #6 did not feel that they addressed emotional connection with patients, i.e., being caring, supportive, and having empathy. Rather, this student reported there was an emphasis on dating rules with patients.

PA Student #15 felt that students were just expected to know how to respond to emotionally stressful situations with patients but this was not sufficiently addressed.

Interviewer: How do faculty expect you to respond to emotionally stressful situations? Have they talked to you about that, like a dying patient, grieving family members, inappropriate colleagues, or disruptive patient? Have they expressed or stressed anything?

PA Student #15: No, they haven't.

When asked, "What about empathy?"

PA Student #14: ... not really. It feels like something that's just ... you should have? I mean everybody knows—maybe that's one of the unknown things, like obviously that's something that you should always have, but I never got a speech about it or anything.

Being counseled to keep emotional distance did not reportedly lead students to a decrease in their empathy levels. Several reported that their empathy levels had actually heightened.

PA Student #4: I feel like maybe I've become more empathetic? ... because there's always so much more going on, sometimes they can't afford treatment, they can't afford to take care of

even the hospital bills ... there's so much more to treating the patient.

PA Student #17: I know I can get emotionally connected to a patient—I've shed tears for patients, knowing that they had cancer ... those moments always tear me up. I'm like tearing up right now.

PA Student #25: I feel like I'm becoming more open to people. Like talking to them, listening to them. What I've learned is that you should always give patients the time to listen to them. So even like with my personal, experiences or with my community services, I'm just listening more to the people instead of talking to them more. Just trying to figure out what's their problems. I feel like I'm becoming more into trying to find solutions for other people's problems.

PA Student #29 also felt his empathy levels had risen through the professional training program, particularly in the clinical year.

Interviewer: Do you feel that being exposed to a clinical setting affected your level of empathy?

PA Student #29: Yeah, in a positive way.

Interviewer: How so?

PA Student #29: Yeah, just knowing that, sometimes patients are going through a lot. Right? ... it could be pain, it could be a lot of pain. And sometimes they don't know how to express it ... being able to put yourself in their shoes, to be able to feel that, makes it a lot easier—this is only something you can get with experience. You can't sit in class and learn empathy. You have to be on the floor to see how patients are reacting to be able to feel it, and I think that's the only way you can learn.

People can be so fragile. And nobody's immune to anything. And, just being placed in the position whereby, you know, you can actually make a difference in somebody's life, for me it's fulfilling.... You're able to make a difference in people's lives.

PA Student #40 recounted the death of a patient the student had seen every day for two weeks while on rotation and broke down in tears:

PA Student #40: [It was] the same thing you see every day, that room right there, is always that patient. ... I didn't necessarily know how to deal with it.... Whoa.

Interviewer: Is there water in your eyes, thinking about it? I'm so sorry. I wish I had napkins or something.

PA Student #40 recounted how sad it was, especially because the patient was "sweet, and the son was with him and that had been sad too.... It was like a sad thing, 'cause he was such a sweet patient, he was really nice." The student did not know who to talk to about it, although even the doctor asked if the student was all right about it. The student felt little guidance on how to deal with such situations, but certainly, he or she was not guided not to feel anything for the patient. PA Student #40 felt that empathy was something of a choice, yet showed underlying thinking that inclined that particular student toward empathy:

PA Student #40: ...when you are aware of a lot more that goes on in people's lives and when you see people in these intimate, most difficult moments of their lives, which is like obviously when they're in the hospital, like for us, that's what we see all the time, right? But for them, this is like the time, that month where they were in the hospital. From their entire like 30 years of life so far, this is like their worst, their lowest point. So I feel like you're seeing people in that scene can either make you harden to it or it can make you more empathetic. And I think that, once you see patients and when you speak to them on a more personal level, it can make you empathetic.

Summary

The difference in empathy between the didactic and clinical year did come up, and that will be covered in Section III. For the most part, students felt that the elements of professionalism were not clearly spelled out and that a part of the hidden curriculum was that they were expected to know how to be professional or else to figure that out on their own. They were, however, counseled to "step back" and keep emotional distance from patients as part of their professional demeanor.

Overall, students found faculty support and encouragement (the “open door” policy) to be a great boon to their program. Most appreciated the atmosphere of cooperation rather than competition. Students felt empowered to make significant changes in their program, and the hierarchy of the system did not bother them, though several felt an unspoken bias in the general educational environment in favor of medical students. They also received the somewhat contradictory messages of keeping an emotional distance (“stepping back”), while being encouraged to have empathy for patients.

Section II: Student Perceptions Related to Sources of Stress of Their Professional Preparation Program

Students almost universally acknowledged high amounts of stress. For some, the stress was debilitating. Sources of stress included the sheer volume of material to be mastered, inconsistent teaching, and the implicit expectations that they would sacrifice their personal lives, even to the point of risking their psychological, social, and physical well-being.

A Lot of Love, A Lot of Chaos

Interviewer: When you think about your PA program, what is the main feeling that you have?

PA Student #5: Anxiety (laughs).

Student #19 also used the word “anxiety” to describe the main feeling that the program evoked.

PA Student #6 used the expression “total stress house” and “giant stress”

PA Student #6: ... there’s one, two, three weeks in the last semester, oh my God, it was a lot of exams. My gosh (sigh), it was a total stress house. Yeah, that was very different. After that, I feel like, if I can finish the PA program, I can finish any program in the world... It’s a long-term stress. I mean, like

from day one until the day you leaving, you know ... giant stress.

Students said that stress was particularly prevalent during examination times and also at the beginning of the semester.

PA Student #1: The beginning of the semester, it's always a jumbled mess. And, I think it's just us working our way through the newness of everything.

At the same time, PA Student #1 saw an upside to stress:

PA Student #1: I feel accomplished. I mean it's stressful as it is, but at the end of the day, I'm like, wow I actually can do it.

PA Student #1 also thought that the stress involved in the program might help them cope with stress on the job:

PA Student #1: The whole program is stressful, so we've all kind of transformed how we're responding to the stress in the program, which I think will then translate into how we react to stress on the job.

PA Student #2 mentioned that, in spite of the excitement the student felt each day of the program, the stress could be daunting, stating that it can get "stressful and overwhelming at times." In fact, Student #2 felt sick due to stress before an exam:

PA Student #2: We just had our first exam, and I felt like sick in the morning. Like I actually don't remember the last time that I felt like that before an exam. I was shaking, like I couldn't even catch my breath, like it was, yeah ... I was like, what—it was scary! I was like breathing, and I was like, I couldn't even catch my breath. And I was like this is crazy! And then after the exam, I was fine.

Exams are significant sources of stress. Several students also mentioned finances as a source of stress. However, one source of stress that many students agreed upon, and one that would seemingly be preventable, was inconsistent, disorganized teaching: scheduled sessions often did not take place because the instructor could not be there at the promised time. Many students found this frustrating and discouraging.

PA Student #1: Our schedule is so all over the place that I think it ... adds unnecessary stress.... We have professors just not show up ... it's hard to not get frustrated by that, and try to utilize that time as best we can.

PA Student #2: It could kind of get hectic with professors canceling because they, doctors, have patients they have to care for, so that can be stressful at times ... that definitely gets frustrating, it happens a few times a week ... it's kind of out of our control. We have had faculty just show up late for a class, right? And you could tell they're rushing through just to get it done, just so it's been delivered? Yeah, if that's gonna happen, or like just like reading right off the slides—literally we had one lecturer come to us and read word for word off the slide. Next slide, word for word. And I was like, there's no point in being here. I could just read this myself.... That kind of rubbed me the wrong way.

PA Student #6 also mentioned professors coming and just reading from a PowerPoint.

PA Student #6: There's a guest speaker, and he just read the slides from one page, from first page to a hundred page, without stopping, you know. After that, he just closed it and left. I don't feel he wanted to be there. He just did it because he had to be there, you know?

In addition to frustration, students reported feelings of discouragement over teachers not appearing for classes.

PA Student #3: I feel as though we could be a little bit more organized in terms of how we do our classes sometimes. I think that the quality of education is good over here, but I feel as though, it's not organized well. So say, for example, we had a class today that was scheduled for 8, but the teacher never showed. So, it kinda looks bad ... and also encourages, well, dare I say it, almost encourages other people that the class is not as important, because I mean, if the teacher is not here, why should the student be?

PA Student #4: The schedule was 7 to 5 every day, but then sometimes you'll be 7 to 6:30, 7 to 7, you know it's not like I had off the next day or ... now I don't have to go in on Friday, you know. It wasn't like that, sometimes it'd be like 6, 6:30, 7.... Inside I was like dying.

PA Student #5 noted a discouraging aspect of disorganized teaching as being mix-ups in material, as did PA Student #40:

PA Student #5: Usually when we learn a section, you learn most of the stuff together. And it's a little discouraging when you're taking a test, and right after the test, you're taking a class on the subject, you just took your test on.

PA Student #40 reported: During one of our courses, we were learning the material and would take the test... I don't remember if we were learning the material after the test ... it wasn't matching up with the test... That didn't make sense at all... I think the scheduling of courses to match up with the exams better is always a thing that helps.

PA Student #6 also noted occasional disparities between what was taught and what students were tested on:

PA Student #6: For example... we attended the lecture and studied our ass off, worked so hard, but at the time we take the exam ... we don't even know where the question is from. And everybody is stressed out, you know?

PA Student# 11 summed it up by saying: "It feels disorganized," whereas PA Student #14 had this to say: "Most lecturers are actually useless. . . Lecturers have often, often been a big waste of time."

In addition to teachers not showing up for class, there were some students who perceived no consistent message about how to succeed. When the interviewer asked whether "the means and methods" to perform well were given clearly, PA Student #2 reported:

PA Student 2: Oh, no ... that was actually a big thing for us. Like when we first started PA school ... they don't tell you how to study to do well. You're kinda just thrown in there, there's no ... set formula, you know? Like you have to kind of experiment with your studying.

PA Student #1: I would like to try to find a way that's more clear-cut, like, if you do these steps, you will succeed. Like it's kind of a whirlwind at the beginning ... I guess figuring those steps

out for yourself ... I feel like we could use more guidance with that.

PA Student #5: They give us a lot of work to do, which I don't mind. But sometimes I feel like some things aren't explicit. I don't mind if they tell us like every little thing we need to know, but I would like to know that's what I need to know.

PA Student #19: ... they don't tell you how to do things. ... And they just assume that you're gonna know how to do it. Like even if it's studying, they're like you have to use this textbook, and you're gonna have to take this test, but what else do I have to do—granted, it is a master's program, and you can't always be handed everything, but none of us have ever done anything in this capacity before ... I don't really know what I'm doing ... and you're just kind of thrown into clinicals.

PA Student #15 also felt that students were expected to know how to study, what materials could shorten study time or serve as useful, time-saving guides—sentiments that other students expressed as well in much the same terms.

PA Student #34 summed up the general feeling about the program with its tremendously supportive faculty and the disorganized aspect of some of the teaching: “There is a lot of love. There's also a lot of chaos, you know?”

You Have to Do What Ever It Takes to Succeed

Many students felt that underlying, unspoken expectations included how much they were expected to sacrifice their personal lives, including physical, psychological, social, and familial health. This hidden curriculum was extremely stressful.

Interviewer: Are there any expectations that are not explicitly stated but are important to know?

PA Student #11: Get the work done...that's something that we all know, that we have just get the work done however you can, right?

Interviewer: Do they tell you that explicitly?

PA Student #11: No.

Interviewer: So the expectation is, you getting the work done—by any means necessary.

PA Student #11: Yeah.

PA Student #11 went on to explain: “So, I have heard from the professors that it’s possible that, you know, I might not see my family and friends as often. And that’s something that was an expectation coming through, but it was never something that was explicitly stated when I got in.” PA Student #30 felt the same way: “You do what you have to get done.”

The interviewer asked: “Did you ever feel that your PA training was compromising your personal life?” PA Student #1 replied, “I have no personal life.” What was more, for this student, taking any time away from studies produced guilt.

PA Student #1: Even doing anything, like going to the gym, I feel guilty. ... Any extracurriculars, you can’t even enjoy because you’re thinking about how guilty you feel that you’re not studying, or you’re thinking about what you should be studying.

PA Student #5 also reported feeling “guilty” about not being able to spend more time with family and friends.

PA Student #2 also considered that the overwhelming stress and lack of a private, personal life was an unspoken expectation that the faculty did not make explicit:

PA Student #2: It’s not explicitly said, like you’re not gonna have much free time ‘cause you’re expected to, kind of, always be on top of your game and studying, but um, I would say that’s like the big thing, you know, just knowing like you’re not really gonna have much of a social life outside of PA school. And even though we are told there is going to be a lot of work, you don’t really understand it until you’re in it.

PA Student #3 also found that sacrifice of personal life was expected although not explicitly stated:

PA Student #3: They make it clear that it’s gonna take a lot of work, and it’s sort of implied. It’s not explicitly stated, but it’s implied that, in the process, you may lose a lot of sleep,

you may not be able to spend as much time as you want with family members, things of that, things of that nature.

PA Student #10 cut into exercise time, giving up the student's usual three-times-a-week gym time:

PA Student #10: Now I feel like I'll go to the gym, but it's like (groans), I have to stay, studying, or if I go to the gym, I wouldn't stay—I would rush to work out, 'cause I'd be like oh okay, I need to go eat and then go take a shower and let's go to the library again.

PA Student #18: You just have to cut down your sleep ... that's the thing, they didn't come out to say, you have to plan yourself, adjust your time, ... get 5 hours of sleep—

PA Student #29 differentiated between what they were told, which was that the program would be “rigorous and intense” and the reality of how extremely rigorous and intense it turned out to be.

PA Student #29: We're being told about how rigorous and intense the program is gonna be, but it's hard to kind of picture it unless you walk through it. So I think even though we kinda expected it to be not easy, it ... was a lot more rigorous and intense than we anticipated.

Student #27 had a poignant and seemingly unsolvable concern that came up immediately upon considering the impact on personal life:

PA Student #27: Right now, my grandmother, she lives in Queens, and my parents, they retired and moved to Florida, so my grandma's kind of home alone. I really thought that maybe I'd have more time to spend with my grandmother, you know, like on the weekends, and at first, it was doable. But now, not so much. I probably go home every (sigh) other weekend or something, or maybe more spaced out than that, but yeah, I mean, that kind of affects me a little bit, you know? Knowing that she's home alone, you know, and God forbid something were to happen, and I'm not there to kind of help her. Those are kind of some things that can affect me personally when it comes to the PA program.

Students reported the program's demands having a negative impact on several aspects of their physical and psychological health. Some reported loss of sleep, lack of

exercise, poor diet because of eating convenience foods. Others reportedly experienced stress on mental health and relationships.

PA Student #1: I don't think anyone goes to bed at night perfectly like, mentally healthy, like I think we're always thinking about the next thing. I don't know... I don't get quality sleep... I have nightmares, like night sweats, it is not cute. ... There's no peace.... I feel like I have poor self-esteem since I got here, I just put so much pressure on myself ... trying to balance everything else and not really being able to balance it that well.

PA Student #2: You could get depressed very easily [from missing out on personal time, and that is part of a hidden curriculum]. 'Cause I feel like that's really important, that is not explicitly stated in school. Like, concerns for mental health.

PA Student #2 had also lost ten pounds the previous semester, without dieting or trying to lose weight:

PA Student #2: Like I was really stressed, my eating habits were like all over the place, and I was like, this is not gonna work. I'm gonna wither away to nothing.

PA Student #3 was prepared for the personal sacrifices: "I knew the sacrifice, I came to the open house two times, I was extra prepared for this thing."

At the same time, the sacrifices were more than the student had expected. When asked if the program was affecting the student's physical health, PA Student #3 responded, "Hell yeah!" The student reported not feeling rested even after six hours of sleep and also eating junk food because there was no time for food preparation.

PA Student #30 vividly described the impact on physical health through poor diet:

PA Student #30: Eating. Eating trash, horrible. Like I said, depends on the day—there was a point where I was eating like Cheetos and Cheezits for lunch and dinner.

PA Student #4 reported stress about grades, lack of sleep, poor diet, and the time pressure. Before an exam, for example, this student reported only getting one hour of sleep. In general, PA Student #4 felt "mentally exhausted" and "drained."

PA Student #5 took some breaks, and felt that the faculty encouraged taking breaks, but:

PA Student #5: It would help if they would show like proof (laughs) that if you take a break, you're not gonna fail. That if you do decide to walk outside to just breathe for an hour that's not going to kill you. 'Cause I feel like when they say take breaks, a lot of people feel like, they're laughing to themselves like, what are you talking about?

PA Student #10 also found that faculty encouragement to take or take advantage of breaks amounted to little more than lip service. The hidden curriculum, embedded in the volume of material, dictated otherwise:

PA Student #10: I mean, they tell you ... like take some time, take some rest, but in the back of my mind, I'm not gonna rest for the whole break. I have to start preparing....

When asked if the program had impacted personal life, PA Student #6 reported:

PA Student #6: Oh yeah, of course ... (sigh). Sometimes you have exams on Monday or Tuesday. I go to church on Sunday, so sometimes I feel I don't want to go to church, you know? Because I worry about the exam, so I had to compromise. And I like karate, I go to karate, and uh, karate and jiujitsu, it's Japanese wrestling. And I already told them I'm not going this semester 'cause I don't have time. And uh (sigh) sometimes I go to gym, I feel tired to go to the gym... I sacrifice a lot, you know?... Yeah, my wife, you know, sometimes she thinks I study too much and don't have much conversation with her.

PA Student #11 felt warned that personal life would be impacted, but initially seemed to have it all figured out. Unlike classmates, PA Student #11 reported, "I don't feel guilty. I study what I can and I know when I need a break. So, if I need to go see my family, I'm going to factor that time in." Student #11 did miss exercise, even though the student's attitude was that they took what sleep was needed: "Sleep is fine, exercise is the problem. So (coughs), I used to exercise a lot before I got into the program. And now I

just sit, a lot, and everything just kind of hurts (laughs).” Yet, as the interview went on, PA Student #11 reported having had panic and anxiety attacks.

Interviewer: Have you ever had like a panic attack?

PA Student #11: Yeah.

Interviewer: Like just broke out of pure anxiety or—

PA Student #11: This happened in the fall semester, so I just moved in, ‘cause a lot going on, with my family too. So, I moved in, and I got really stressed, and—

Interviewer: Oh no, you’re getting flustered, what’s—wait, what’s going on? It’s—okay, what’s being triggered now?

PA Student #11: (Pause, shaky voice) Okay, so, I hold things in until they have to come out. So, it’s probably one of those cases (takes a breath).

Interviewer: Deep breaths.

PA Student #11: (Breathes in, breathes out, snuffles) Okay, so besides that being one of the things I need to work on anyway, (breathes in, pause, snuffles). Okay, so like a lot of changes, going through the fall semester, and then kind of like, the anxiety, well I didn’t know it was anxiety actually. Um, at the time, ‘cause I’ve never experienced it, so the stress (shaky breathing) at night, which was, not even at night, like throughout the day. There would be periods where I just felt like I couldn’t breathe ... one night, I was just sitting on my bed, and I just had to double over because like I couldn’t figure out how to get my respiration to be normal ... (snuffles) It just sucked as an experience because, like ... (breathes in).

Interviewer: ‘Cause you thought it was physical?

PA Student #11: “Well, it was the physical manifestation of anxiety.

After a trip to the emergency room, PA Student #11 was advised that the problem was anxiety.

Interviewer: Have you ever like utilized the student counseling center?

PA Student #11: I did... I realized, from our initial talk I need to figure out what's stressing me out and how to calm that and then tackle it. So I did. ... I'm having this issue and we need to talk to about this. I need to know what I need to know. And it calmed me down. (breathes in) But I never got a second, like appointment, because I didn't respond to the email that came like a week later, because I felt that I was fine. But since then, I haven't really felt like I needed to go back to counseling, even though I've thought about it, because, I just try to deal with the problem myself.

PA Student #17 had made it clear to friends that during PA school the student would not be very available. For family, though, "My family lived in India for the last seven years, and they recently moved back when I started PA school, and I moved out of the house when they just came back so I can focus on PA school. So I try to make an effort to visit every three weeks, if that, if there's an exam, it could be months that pass." PA Student #17 also acknowledged: I have sacrificed sleep ... you definitely gain weight.

Interviewer: Fair enough. What about your mental health?

PA Student #17: Mental health? I've learned over the years how to take care of myself—my own mental health better.... I practice meditation at home, so it kinda helps. (laughs) Gotta do something for the mind.

When asked by the Interviewer, "Did you ever feel that your PA training was compromising your personal life?" PA Student #19 repeated what many students reported:

PA Student #19: I haven't had a personal life for the last 27 months, so yeah ... I definitely don't have a social life anymore (laughs), but I will in a few months from now.

Interviewer: Okay. You feel like relationships are strained or anything like that? Or you had understanding friends and family?

PA Student #19: So it's ... scary sometimes, 'cause you're like, okay I feel like my friends are forgetting about me, or like I feel like I'm missing out on so much ... but we'll get there (laughs). Soon.

PA Student #8 answered, “Yeah,” when asked if PA training was negatively impacting their personal life.

PA Student #8: Just the time that you have to dedicate to that stuff, you know? You could be exhausted one day, emotionally you’re just not feeling good, but at the end of the day, you gotta pass that exam, so you gotta, you kinda have to put that stuff on the back burner and realize that you gotta pass that exam ... the exam is more important than (breathes in) your emotional health at that point, even though it really shouldn’t be.

Interviewer: Okay. Has there ever been a point where you felt that your PA program was negatively impacting your physical health?

PA Student #8: Yeah. ... you have a heightened stress response because you’re constantly working, and you’re constantly doing this stuff, and you have a lot—you put pressure on yourself, so yeah. I think it affects your physical—if somebody says otherwise, then I think ... they’re not human ... you know, not eating right, not exercising as much as you should ... it’s definitely just the constant anxiety that you have on a day-to-day basis.

PA Student #8 had reached out to the psychological counseling service at school and considered it helpful.

PA Student #8: They haven’t given me that many resources, but they give you insight on what you go through, you know, what your emotions and what you’re thinking and what you’re feeling. So yeah. They give you more insight than resources.

PA Student #34 had resorted to the free campus psychological services for help in achieving more life balance and had found the experience extremely helpful:

PA Student #34: Amazing. I’ve been getting migraines. I started getting migraines in, pretty much like the first to second semester of, um, didactic year. (breathes in) And I just was like, well maybe—I’ve been taking a lot of medications and, you know, like modest effect? But I know this stress is a trigger for migraines, so I was like maybe something that could help me is going to this therapist who works in medical school, so presumably is good at helping people (laughs)

reduce their stress. And she was great, yeah. It was great. And it actually helped more than any of my medications, really.

A few students said that they had not allowed the program to impact their personal lives. PA Student #40, for example, said simply, when it came to personal life, “I make time.” However, PA Student #40 had changed an upcoming wedding date to accommodate the school schedule.

PA Student #41 felt similarly; a person had to make time for a personal life.

Interviewer: Did you ever feel that your PA training was compromising your personal life?

PA Student #41: Um, me personally, no, because I still make sure that I have time to enjoy my life, and I make sure that everybody in my life understands and knows and is willing to help me. So I don't see that it's compromising my life.

Interviewer: So no contention between friends, family, significant other.

PA Student #41: No, no. They're all pretty much supporting me, and I—like I said, I make sure that I am not consumed only in school. I make sure that I do things for myself that I know that I can escape. Like if it's Friday night ... I'll make sure that I do something for myself, like I know how to balance the two.

PA student #41 was not the only student who said he or she could keep their personal lives in balance, but these students were a minority. Most felt their personal lives had been adversely affected physically, mentally, and emotionally. Few students would admit that their mental health had been affected other than by anxiety and stress, however, and many specifically denied experiences of depression (even when the word was never mentioned).

After reporting having migraines, GI, issues, losing weight because of frequent nausea, having her hair fall out and leaving some medical issues untreated because “I had no time,” PA Student #34 responded: “I wouldn't say that I'm like depressed or anxious.”

This element of possible denial about the toll on their mental and emotional health due to the disruption of the program on their personal lives appeared more than once

among the students. Even those who appeared to be well-adjusted and philosophical about the program sometimes revealed fairly severe effects. For example, PA Student #25 expressed that the “overwhelming” nature of the program had been anticipated and that the student was sleeping well, eating well, and had great relationships with the faculty and was able to help family understand why marriage had to be put off for a few years. However, this student also said: “I’m losing my hair, a lot.”

Interviewer: You’re losing your hair a lot?

PA Student #25: Yeah (laughs).

Interviewer: There we go, that’s physical health. Yeah, so.

PA Student #25: Yep, yep. ‘Cause obviously stress, you know? There’s a lot of stress, so with all that stress, losing hair, sometimes acne, yeah. Other than that, nothing major.

Interviewer: What about your mental?

PA Student #25: I would say my mental health is not really that affected, yeah.

Interviewer: So no anxiety attacks?

PA Student #25: No anxiety attacks.

Interviewer: No moments of feeling depressed or like, you couldn’t do it? No nervous breakdown?

PA Student #25: Maybe before the exam there was breakdown, but that has been always happening. That always happens before an exam.

PA Student #15 felt that their mental health had actually improved, in spite of the stress of the program and the toll it took on personal life:

PA Student #15: The fact that I do have like a goal right now, it’s sort of like more beneficial in terms of mental health, where it’s sort of like I’m at a place where I know where I could work towards something. And I have a purpose in terms of where I’m going with it. So more in terms of a positive change.

PA Student #21 felt shaken to the core by the unspoken expectations in the didactic year, even questioning their dedication to the field of medicine when it occurred. When asked by the Interviewer: “Have you ever experienced a period where you were strongly encouraged by faculty or preceptor, to meet unspoken expectations?” PA Student #21 responded: “Yes” and went on to explain that during a rotation that was elective (yet with a resident who would be signing evaluation forms 80% of the time during clinicals), the student went in at 6:00 a.m. and did not leave until midnight.

PA Student #21: I was told I had to stay from a resident, verbatim, that was literally what I was told, as if I left and I would get kicked out of school or something, or I would fail that rotation. ... I was disappointed in myself. First and foremost ... I had a whole conversation with my actual preceptor, and a clinical coordinator, after this rotation, I never want to go back to that facility....

Not just that, it made me doubt whether I wanted to do medicine. And I think that’s what hurt me the most, it made me doubt my passion and love for medicine, for being a PA. And I didn’t think that I would ever be shaken....

It erased all the amazing experiences I had on prior to rotations.... I had no idea that I would get so severely taken advantage of to the point where it would make me question whether I even want to be a PA. Whether I want to be in this field with these kind of people (breathes in).

In general, PA students found their program highly stressful due to the magnitude of material to be mastered, sudden schedule changes (inconsistent teaching), and the hidden curriculum of how much of their personal lives they would have to sacrifice, including personal and familial relationships, sleep, exercise, healthy eating, and enduring the effects of anxiety and stress, which sometimes even made them physically and psychologically ill.

PA Student #23 suggested that the program might do well to teach de-stressing techniques: “ways of just destressing or proper stress-relief techniques or something. I feel like we might’ve had a few classes, in the very beginning of PA school, and then we

never touched back on it. I feel like they make sure we know it's a stressful environment, but then maybe just have better interventions for some students to dispel that stress.”

This sentiment was echoed by PA Student #25:

PA Student #25: So for student well-being, because I know how stressful it can be for students, so if the students are being so stressed out about certain things, then they won't be really able to focus on the studies itself. So if there are ways that they can help students

Section III: Student Perceptions Related to the Differences Between the Didactic and Clinical Years of their Professional Preparation Program

There was a big difference in PA students reports between the didactic and clinical years. Some students perceived a lack of preparation for the realities of the clinical year. The unspoken expectation seemed to be that students would learn on their own how to relate to patients and how to have significant and sometimes challenging conversations with them about their health situations. In the clinical year, too, the medical hierarchy seemed to be firmly in place, with PA students on one of the lower rungs. There were numerous clues about this, even during the didactic year, although it was not stated out loud but was implied through actions and attitudes. In the clinical setting, it became clear that medical students were given the priority and other medical personnel, such as nurses, also sometimes looked down on PA students and even upon practicing PAs. There was even a case of genuine verbal abuse of PA students, which the faculty quickly moved to correct. The hidden curriculum seemed to be to learn one's place in the hierarchy. Some PA students found the hierarchy motivated them to prove themselves; others found that it was part of their challenge to keep believing in their value and efficacy. As to empathy, some students felt their empathy increased, while others felt their empathy decreased during their clinical year.

PA Student #19 said that during the didactic year, the students were taught “textbook answers ... they don’t really say how to go about showing up to clinicals and what to say, like exactly what to say to your patients ... you don’t really get that in a didactic year.” In fact, this student speculated that maybe it was the program’s hidden goal to secretly make you teach yourself how to do it, “ ‘cause you’re not really told what to say and do, but after you do it for a while ... you get into your own groove, and you find your own rhythm. ... I don’t know again if that was the program’s secret goal, but ... maybe it was.”

Most prevalent among the PA students’ perceptions was the sense of hierarchy regarding different tiers of medical providers, including medical students. The interviewer asked PA Student #17, “Do you feel that this community fosters more cooperation or competition?”

PA Student #17: In the hospital setting, I feel it’s mostly cooperation, when it comes to being on the same provider team, but there’s always CYA, which is cover your ass mentality in the hospitals ... we would butt heads with the nurses pretty much every day, or every other day ... maybe there has been like a little bit of competition between the med students and the PA students.

On rotation, PA Student #4 felt “invisible” sometimes and “like sometimes in the hospital, you don’t really have a voice.” This was because, the student said, “in hospitals they put the med students or doctors over the PAs.” PA Student #14 said: “I mean, of course. Of course there’s a hierarchy.”

At times PA students were treated as being so low as not to even be on the totem pole of the medical hierarchy in hospitals. According to PA Student #14, “... PA students, they’re just extra observers in the room.”

PA Student #16 had a bad experience during clinicals that prompted the student to say: “A student should never be talked to like that.” This echoed many students’ feelings

that they were just expected to know certain things when they were still orienting themselves to the program.

The negative experience was with a preceptor in surgery when the student had a hard time finding the location:

PA Student #16: When I came in the first day ... I didn't know where to find him, like what room to go to. So he just saw me speeding through his office, because I was looking for a specific numbered door.... he got very annoyed at that, and he just started yelling at me, telling me that you're off to a bad start, it was such a bad first day. Saying we'll take off points of professionalism and all that ... it's not something that made me cry, but I was just like, this is like a little bit over the top. And then towards the end, we have to get the evaluation, we gave him our write-ups, whatever. He was very picky with the other student than he was with me.

PA Student #16 found the two hours spent with this particular preceptor was a very long time to spend in the company of someone so disrespectful to students.

PA Student #17 had an encounter with hidden expectations related to hierarchy that turned out positively.

PA Student #17: Yes, I had one preceptor who, it was me and a medical student on the team, and a preceptor, he was pimping us, asking questions, and I was getting the questions right, and the medical students sometimes didn't get it right ... and he comes out and he looks at me and goes, where did you go to school? And I'm like this program. And he's like across the street? I was like yeah. He was like huh, you have a lot, you actually know stuff. Compared to your peers, or something like that. ... he didn't expect me to know as much as a medical student.

The hierarchy, to PA Student #17, was stronger in the hospital than the classroom setting:

PA Student #17: I think I feel it more in the hospital setting. Again, it comes down to like attending, residents, senior resident, attending senior resident, resident, nurse, NP, nurse, med student, and then PA student at the bottom.

However, PA Student #17 had positive things to say about the clinical experience hierarchy as well:

PA Student #17: I never felt devalued. I felt like I was contributing, and that was refreshing to see, because not necessarily the same experience in the past, but here, as a PA, I've been given the opportunity to voice and practice my clinical reasoning and judgment.

PA Student #19, who had called the classroom atmosphere of the didactic year “homey,” said that out on site:

PA Student #19: The medical students got really frustrated with us because, we jumped into the surgeries because it was our surgery rotation too, and we wanted to do the surgeries, and we wanted more experience. But they started to get mad like the PAs were doing it and that they weren't, because they were medical students... And it was just like, in that sense, that was the first time that it was like, oh, like everybody's not looking out for everybody here... It was bad.

In fact, PA Student #19 had experienced an attending physician behaving extremely disrespectfully to PAs, apparently trying to teach through humiliation:

PA Student #19: So the very, very first rotation that I had, I was with three other students from this program ... it was four girls, and it was this one man ... from the very first day, he was beyond rude to us, and he called us stupid. He told the other attendings that we were stupid. He called us unprofessional. He said that we didn't deserve to go into surgeries. He said that we didn't know what we were talking about, even though we just came from the longest didactic year of our lives. He made one of the other girls on the rotation with me cry.

However, the power of the faculty shield and support intervened:

PA Student #19: We did contact the faculty here, and the faculty came to the site, spoke to that person, and then took care of everything, took care of us.... They came and took care of it, and they were like no, that's not how this year is gonna be or supposed to be. ... that's not right.

PA Student #19 sensed the hidden curriculum of the hierarchy on rotations:

PA Student 19: You know, it's funny because it depends, a lot of people don't know that we're PAs when we stand with the medical students, and once they find out we're PAs, everyone's like, oh you're a PA? ... it seems like everyone thinks ... you don't have to do this.

However, for PA Student #19, the hierarchical system was motivating, and empathic relationships with patients made the student feel valuable.

Interviewer: How do you think this hierarchical system affects you then?"

PA Student #19: ... it makes you frustrated for the five minutes that something happens. But if you see a patient, and they say to you, you're the best provider I've had, or thank God that I had you, something like—they give you a compliment and words of encouragement and they're like—and the patients compliment PAs more than anybody else does. ... your frustration is gone. And it's just like, I don't care what that person thinks, I know what I'm doing, I know how hard I work, like, it's fine ... it encourages you to do your job the best that you can do it.

PA Student #8, though, felt that a strong sense of hierarchy made one experience self-doubt: "It definitely affects the way you view yourself and your knowledge a little bit. 'Cause you know, you doubt—it makes you doubt yourself a little bit."

PA Student #21, as was noted in a previous section, had an experience of being so disrespected as a student that one extremely stressful rotation in the clinical year wiped out all the good experiences of the didactic year:

PA Student #21: Your hands are tied as a student. ... whatever your preceptor or your resident says, goes. Whatever schedule they give you goes. Of course, your school has certain guidelines for you, they do. But they're not gonna physically come and speak to these people ... that individual that treated me that way, that caused all this stress on me, feels no repercussions.

PA Student #18 felt "shut down" even during the didactic year by a teacher upon asking a question:

PA Student #18: I felt shut down. ... there's no stupid question from any students.

Interviewer: But they made you feel that way?

PA Student #18: Yeah, they made me feel so stupid.

The hierarchy was felt most acutely during the clinical year, PA Student #21 felt:

PA Student 21: Any clinical rotation, you have your attending, your chief, third year, second year, intern, med student, med student (laughs), PA student. Something like that.

PA Student #23 expressed that being a PA on rotation was like being on the outside looking in.

PA Student #8 also felt that the rigors of the clinical year lowered levels of empathy:

PA Student #8: You lose the personal touch with it sometimes, 'cause at the end of the day, you just want to do the procedure or you wanna just get the procedure done more than treating the patient. You treat the problem more than you treat the patient sometimes.

PA Student #21 thought that having a strongly developed sense of empathy was an unspoken expectation or part of the hidden curriculum:

PA Student #21: ... that might've been one of those unspoken expectations. That something going into the PA program, you know, empathy is one of the biggest things that you can offer as a PA, as a clinician, and you have to have that. You have to have that going into this.

At the same time, when asked if the clinical year had caused an increase in empathy in them, PA Student #21 answered, "Yeah. For sure. It's definitely increased it" and based the answer on the empathy evoked by actual interactions with suffering patients.

PA Student #6 also felt an increase of empathy:

PA Student #6: Through the program, you can explore ...underserved communities, you learn those things. Some people have mental illness, how they respond ... you notice more. ... but before that, I didn't pay attention to those things. But now I kind of see more, I connect it.

PA students, for example, #17, also sometimes witnessed instances of lack of empathy on site.

PA Student #17: I remember my first day of IM, there was this one intern who was very smart, knows his stuff, going into a top field, but the way he talked about patients behind their backs was just disgusting. Like it made me uncomfortable ... and all the other residents kind of just ignore it ... we just stayed quiet. No one, just no one engaged him.... A nurse comes in and says, hey listen, this patient needs her diabetes medication, can you add the strips to the glucometer or whatever? And he was like, okay yeah no problem. She leaves and then to us, he was like, why the fuck do I care about diabetes? I don't fucking care about this patient.”

Such exhibits of lack of empathy were, PA Student #17 noted, rare.

In contrast, PA Student #19 felt motivated by increasing empathy in the clinical year:

PA Student #19: At this point, it's kind of like, you're motivated to help people, and to do your best not just in school. You're gonna do the most you can do for this patient to help this patient ... You're not gonna overlook them ... you become more careful ... this is someone's family member.

Some PA students felt unprepared for dealing with real-life patients, and several felt that the hidden curriculum was that they were just expected to learn it on their own. The medical hierarchy made itself highly apparent in the clinical setting. Although they were not explicitly told that they had lower status than medical students, PA students found that in practice medical students frequently were given the priority. There was even a case of an abusive attending physician mistreating PA students. However, the faculty intervened, and the problem was alleviated. In the clinical setting, some PA students felt that empathy decreased because of the need to get things done, seeing patients as tasks to be accomplished rather than people. Others felt that their empathy—and the motivation they felt because of it—was increased.

Summary

These findings indicate that there are serious organizational and hidden curriculum issues affecting PA students in both the didactic and clinical years. The stresses of each year are different in nature, yet both are extremely intense. Students in the didactic year suffered stress mostly because of the rigor (and sometimes the disorganization) of the academic program. Most of them had not realized the extent to which they would have to sacrifice their personal lives, including relationships and physical and psychological health, to fulfill the requirements within the stringent time frame. However, these stress factors were offset to a great degree by faculty support and an atmosphere of camaraderie and cooperation among the students themselves. Some students availed themselves of physical and psychological health services for students and benefited from that support.

Students in the clinical year faced different but arguably less mitigated stress factors. In their rotations, they came face to face with a medical hierarchy in which, as PA students, they were on the bottom rung. There were more reported incidents of disrespect and emotional abuse witnessed or experienced during the clinical year than there were in the didactic year. Many students accepted their place on the medical totem pole with equanimity and were able to shrug it off, having pride in themselves and their abilities.

Some felt justified as PAs because patients most often praised PAs and because sometimes PAs displayed greater knowledge than medical students. Some used the bias against them as motivation to do even better at their work. A few, however, felt self-doubt when treated as a lesser medical provider. One felt shaken to the core, to the point of questioning being in the medical field at all, when a resident failed to show up, and the student spent 18 hours waiting, not daring to leave because the hidden curriculum seemed to communicate that was what was expected. The faculty's record in helping with these

kinds of issues was mixed; at times, they were a shield for the PA students on rotations; at other times, the students felt disempowered and alone.

In relation to Section I: Student Perceptions Related to the Community/Learning Environment of their Professional Preparation Program, most students felt positive about the program as a whole. At the same time, stress was an acknowledged factor, and the word “anxiety” came up frequently. Several students had experienced panic or anxiety attacks (one experienced an episode when being interviewed). Many had availed themselves of the strong support of the faculty, who maintain a literal and figurative “open door policy.” Some students recounted episodes like crying in one or another faculty office every day of a particularly stressful week; others said, frankly, they could not have made it through the program without strong faculty support. Most students felt they had a voice and a substantial amount of power: for example, if the exam schedule or the material on an exam was unreasonable and enough students felt that way, the faculty would change things for them. What was more, when there was genuine mistreatment of PA students going on during rotations, the faculty stepped up to defend the students and to reassure them that the behavior displayed was unacceptable in the profession. Although a few students did not avail themselves of the faculty’s help and one person found them unresponsive to a serious concern, most students felt the faculty were a support and shield against the intense pressures of their program.

For all the faculty’s genuine help for the students, disorganized teaching was one of the students’ most reported sources of stress. Students felt that while educational outcomes were spelled out, they were left on their own to master study skills, to find helpful materials, and to know certain “tricks of the trade” like using helpful and time-saving study manuals. One of the most pernicious aspects of disorganized teaching—one student found demotivating—was when lecturers did not show up for the class when they themselves had gone to considerable trouble to be there on time. Another source of

student stress was when lectures and materials did not match up with what they were expected to know on exams.

The hierarchy of medical providers was communicated to them in subtle, covert ways, yet the messages came through: medical students were given preference. This became even more evident during the clinical year. PA students were made to feel that they were on the bottom rung of the medical hierarchy's ladder. There were some incidents of genuine disrespect, including teaching by humiliation when students were expected to know something they did not or asked a question that was perceived by the instructor as pointless.

Students also felt it was part of a hidden curriculum that they were supposed to understand professional behavior and to learn on the job how to cope with patients emotionally. Although some overt direction was given, students often felt they were put into situations with patients before they were ready for them and expected to muster up the people skills they needed at will.

The hidden curriculum that affected students the most was the unexpressed expectation that they would do what it took to get through the program, no matter what personal sacrifice. No one explicitly told them they would sacrifice sleep, yet all of them did. Most of them developed poor eating habits, relying on unhealthy junk or fast food because of time constraints. Personal relationships suffered, and several had put off major life events like getting married or having children for the sake of succeeding in the program. Having "no personal life" was repeated by students.

Many felt that their physical and psychological health had been affected. A few, however, felt that their mental health had improved because their lives now had a purpose. Some also reported increases in empathy from interacting with suffering patients during the clinical year.

Overall, students had positive feelings about their program, taking pride in themselves and their profession. However, they faced differing stresses in both the

didactic and the clinical years that were sometimes quite debilitating and that sprang both from disorganization and hidden curriculum factors.

Chapter V

CONCLUSION AND IMPLICATIONS

This study sought to describe the perceptions of Physician Assistant students, especially pertaining to the hidden curriculum. The final chapter of this dissertation is organized into 13 sections. First, the main conclusions drawn from the data are presented. Second, the results of the study highlighted the following key findings, while addressing the research questions: (a) Stress—An Acknowledged Factor, (b) The Faculty Open Door, (c) We Are Family—Cooperation, Not Competition, (d) Disorganized Teaching, (e) The Hidden Curriculum of the Medical Hierarchy, (f) The PA in the Community of Practice, (g) I Have No Personal Life, and (h) Differences between the Didactic and the Clinical Years. Third, a summary for all findings is provided; in addition, this chapter will address the limitations of this research, implications for practice, and recommendations for future research, ending with a final comment.

Main Conclusions

The purpose of this study was to probe the presence of the hidden curriculum in the professional preparation of PA students and to explore the nature of these unspoken expectations and how they affect students. A second concern was what additional pressures this hidden curriculum might be bringing to bear on students already stressed by their course loads and other factors. A third area of concern was to determine whether

the stresses students experienced due to the hidden curriculum differed in nature, magnitude, and scope between the didactic and clinical years of professional preparation.

The study is intended as a small step toward understanding the nature of the stresses PA students are under within their educational environment from their own perspectives, especially those imposed by a hidden curriculum conveyed by the community of practice (CoP). Communities of practice are Etienne Wenger and Jean Lave's (1991) broadly accepted concept of social learning. Since Lave and Wenger maintained that learning involves the formation of professional identity, in this study, PA students were probed on issues relating to identity. As Wenger (1998) stated: "Learning transforms who we are and what we can do; it is an experience of identity ... a process of becoming—to become a certain person, or, conversely to avoid becoming a certain person (p. 215). What kind of people do PA students perceive they are becoming, as molded by the hidden forces of teaching within the CoP? Are they glad to be that kind of person? Is that person substantially different from the person they thought they were or the one they hoped to be?

The study also explored students' methods of coping with the stresses of their program, especially those stresses that are strongly present but not talked about much, e.g., how much of their personal lives had to be sacrificed, including their physical, social, familial, and psychological health. Personal life and well-being proved to be an almost universal concern among PA students. Some had developed physical symptoms due to the stresses they were undergoing; others had sought out the institution's psychological counseling services to cope with the stresses that were bringing about distressing psychological and physical symptoms. The stress the students were undergoing was real, intense, and universally acknowledged.

Following this discussion are limitations and implications for practice and further study. The study found several important themes running throughout the PA students' experience, themes that faculty, administrators, and program planners may find useful in

order to ameliorate and prevent some of the lesser-known (but well-known to the students themselves) stress factors PA students undergo during their professional training. The object is to recommend changes that have the potential to reduce some of the morbidities associated with stress-burdened PA students based on the implications of the study in relation to the hidden curriculum. Addressing and ameliorating stresses in health care students has the potential to prevent and mitigate burnout in the health care professions, improve the health of the community of practice, and ultimately lead to better patient care.

Stress—An Acknowledged Factor

PA students are subjected to academic demands similar to those medical students undergo, and medical students have been found to be under immense pressure and stress. Sheer information overload and the magnitude of the material to be mastered put medical students and PA students under enormous pressure. A study by Kuhn and colleagues (2005) showed that PA students experience considerable stress due to these factors. PA students acknowledge the mountain of stress they face (especially in regard to examinations); they struggle with managing their time to cope with the intensely demanding program, and finances are a problem for some as well (Kuhn et al., 2005; O'Brien et al., 2012). These are all acknowledged areas of stress, and the current study affirmed the presence of these stressors.

In this study, PA students described, in case after case, that there was enormous stress—“giant stress,” as one student put it—and that their lives as students involved considerable amounts of anxiety, affecting both their psychological and physical health. Many noted that stress was worse around exam time, with at least one student describing a panic attack wherein the student found it hard to breathe. The panic attack cleared up once the test was over. Stress and anxiety were part of their daily lives.

Some of the symptoms of stress that the students described were genuinely alarming. In addition to the student who experienced panic attacks, one student reportedly experienced migraines, hair loss, and gastrointestinal issues. Sleep was not only lost due to the hours needed to master the heavy course load, but also because students stared at the ceiling at night with a parade of all the work they had to get done the next day going by before their sleepless eyes. When asked if the program had affected their personal life or health, several replied, “Of course,” or “I have no personal life,” while others affirmed vehemently that it had: “Hell, yeah!” said one. A minority of students asserted that they made time for such practices as going to the gym, getting more sleep, making sure they ate in a healthy way, and interacting with friends and family. For the majority of students in this study, though, maintaining a balanced personal life was highly problematic, if not impossible.

In a 2010 study, Hernandez et al. found that, while second-year medical students reported the highest levels of perceived stress, PA students reported the highest levels of depression and related medical symptoms among students in the medical fields (p. 36). A latent class analysis in the same study showed that PA students had the lowest probability of being healthy and well adjusted (40%) among all other health professional students (p. 37). “The high number of mental and physical symptoms associated with this latent class indicates that there is a potentially negative impact of the educational environment on students’ mental health” according to Hernandez et al. (p. 38).

Part of these symptoms among PA students can be ascribed to the gargantuan amount of material students in the didactic year have to digest on an abbreviated schedule. This is similar to medical students. Yet medical students also have to master at least as much, possibly more, material. Why, then, do PA students appear to be more affected by stress than other health provider students, such as those studying to be physicians and nurses, at least according to the study cited above? One explanation is that

individuals selecting a career as a PA may be predisposed to problems. Another is that there is something about the professional preparation process causing these problems.

The current study probed the hidden curriculum to discover what particular stressors were present for PA students that may make them at least as liable, if not more so, to the deleterious psychological effects of stress as medical students. The invisible elements of the hidden curriculum, unspoken expectations that nevertheless come through clearly, may be stress-producing in addition to the requirements of the explicit demanding curriculum.

The educational concept of the hidden curriculum was first applied to medical education when Hafferty and Franks (1994) wrote a seminal article entitled “The Hidden Curriculum, Ethics Teaching and the Structure of Medical Education.” The concept is now widespread and broadly accepted, as noted in the literature review, particularly when it comes to students of medicine. Unspoken expectations in the learning environment are generally accepted as having profound impact on students, including in the formation of their professional identities. In fact, Hafferty and Franks maintained that students’ professional identities are formed more by the hidden curriculum than by the overt curriculum (p. 861). The hidden curriculum has been deemed “powerful” in medical education (Lawrence et al., 2018, p. 654). Recognition of the hidden curriculum is increasingly widespread and broadly accepted, and the influence of the hidden curriculum is primarily thought of as negative in the education of medical students (Macleod, 2014, p. 539).

Three major areas of concern were revealed in this study. First, disorganized teaching was a major source of discomfort and frustration for the students during the didactic year, communicating a hidden curriculum of hierarchy and the relative unimportance of PA students’ time and schedules. Second, similar to the study that Kuhn et al. (2005) conducted, the current study showed that students’ personal lives and health were strongly impacted by the demands of their professional preparation program; yet the

extent of the sacrifices expected was never revealed except in a general sense. Students encountered the unspoken expectation that they would sacrifice whatever they had to in order to succeed in the program, and this had strongly deleterious effects on student health and psychological well-being. Third, the medical hierarchy was strongly in place and in force and had the potential to have deleterious effects on PA students' psychological health.

PA students were sacrificing personal, social, familiar, physical, and psychological health in order to succeed in the program. They expressed that it was expected that would happen, but that the degree of it had never been explained or outlined. Developing such bad habits as neglecting one's own well-being for the sake of the profession bodes ill for a Community of Practice that is already riddled with personal distress emanating from the very top of the hierarchy.

The results of the current study were not as sanguine as those of the Physician Assistant Education Association Report: By the Numbers (Student Reports 1 through 3), which show that, for the most part, Physician Assistant matriculating students are handling stress well (PAEA, 2017, 2018, 2019). Despite the many aspects of stress reported by respondents, to some extent the current study reflects this finding, but at the same time there are important caveats about the pressures of the hidden curriculum. PA students surveyed in the PAEA Reports 1-3 appeared to be high on a scale when measured on their confidence to meet challenges, to manage personal problems and unexpected circumstances, cope with things required of the individual, control irritations that arise in life, and overcome difficult situations, as well as feel well-prepared and confident in the competencies they have been taught; all these were assessed by the PAEA. Although the current study focused on hidden curriculum factors, it too uncovered some PA students who were resilient and confident in their program and their abilities to cope with the exigencies of the training program and to practice the competencies they felt they were given.

Two strongly mitigating factors uncovered were (1) strong faculty support, and (2) an atmosphere of cooperation rather than competition among students. Although both of these mitigating factors were spoken of out loud and were not hidden, strong faculty support communicated positive hidden curriculum factors that students found almost life-saving in a psychological sense and certainly program-saving in an academic sense.

The Faculty Open Door

It was clear that faculty supportiveness was a major factor in students' perceptions of their abilities to withstand the pressures of the program, complete it, and go on to succeed in their field. This theme almost cannot be emphasized enough. Student interviews resounded with appreciation for the supportiveness of the faculty. PA students noted both the literal and figurative nature of the faculty's "open-door" policy and how important this was in helping them cope with the pressures of their professional training program. The unspoken message that students gleaned was that faculty genuinely wanted to help students succeed in the training program and that they were capable of caring personally about students' individual situations and welfare. The faculty, as one student put it, not only verbalized the open-door policy, they lived it out. Students felt that faculty members truly cared about them as professionals and people.

Faculty not only maintained a literal open-door to students (many students commented on the actual open doors during office hours), they encouraged students by telling them repeatedly that they had already made it into the program, the competition was over, and that they had already proven that they had what it took to succeed. Several students grew emotional when they spoke of the faculty and their supportiveness, and they confided that they had also vented emotions in faculty offices and been consoled and encouraged that they could conquer the program. One student had a diagnosis of chronic illness during the program, and the faculty advisor helped her cope with the stress of that.

This student felt she would talk to this faculty advisor for the rest of her life. One student jokingly recounted how, during a particularly stressful week, she was in one faculty office or another every single day, shedding tears. Students appreciated that the faculty met them on equitable ground, treating them as budding professionals, but also offered personal bonding. Some said they felt free to drop in and talk about inconsequential things just to touch base as well as being welcome to talk about more serious issues. Although a few students rarely or never went to see faculty members, they knew there was an open door there if they needed one and knew they could access this support network at any time.

These results were consistent with the results of Lempp and Seale's 2004 study of medical students. As the medical students in that study did, PA students, for the most part, experienced great faculty support and mentorship.

The "open-door" policy was an important factor in many students' self-reported ability to cope with the intensity of the program, to believe they could master the vast amount of information they needed to and the stress involved. The contact with these representatives of the community of practice was overwhelmingly positive and helpful. In addition, students felt they had a considerable amount of power and a strong voice in the program in that they could bring about change in important areas like the exam calendar, exam contents, and the interviewing process for potential program participants. Not all students felt that way, to be sure. Those who did not, however, were so few as to seem like outliers.

We Are Family—Cooperation, Not Competition

The PA students reported that the faculty encouraged cooperation rather than competition among the students, unlike among medical school students, in whom PA students reportedly sensed competition. Styles (1993) mentioned the competitive rather

than cooperative atmosphere at medical schools as adding to medical students' stress. From this encouragement toward cooperation, a second support network after the faculty evolved among the PA students themselves. Senior/Clinical PA students gave Juniors/Didactic PA students study tips, they formed supportive study groups, and students with capability of comprehending one area of medicine coached students with capability in another, who also shared their insights with the whole group. Faculty reinforced this by telling the students that the competition was over; they had made it into the program, and now their business was to learn what they needed to know for the profession. The faculty emphasized that once students were accepted into the program, they had already shown they had what it took and that they were there for that reason. In fact, for some students, the bonds formed with fellow students due to the atmosphere of cooperation helped ameliorate the painful stretching of familial and social bonds outside the program. Many students used the term "family" to describe the web of supportive relationships they formed with their fellow PA students.

The dual support systems of the faculty and fellow students helped PA students get through the massive amount of material they had to master and bolstered their self-confidence. Some said that their desire to be a PA had increased during this difficult time; that they felt more certain that they had chosen the right field. The faculty often told them, "You're here for a reason," and some students seemed to have adopted this as their personal motto, reinforcing their identity as a PA and their decision to become a PA. Enough students responded this way to show that the magnitude of the material studied in itself was not an insurmountable stressor, thus reinforcing Hafferty and Franks (1994), who noted that curricular changes are relatively ineffective on the whole when it comes to better student experience or results. Hafferty and Franks emphasized that rather than the explicit curriculum, it is more important to understand what the learning environment actually teaches; in other words, the ways in which students are acculturated into the norms of the profession by the CoP: the hidden curriculum. The current study showed

that the hidden curriculum, in part, was a warm web of support in coping with the inherent difficulties of studying medicine and the attendant reams of information.

Disorganized Teaching

Another strongly emergent theme was that “disorganized teaching” was one of the most stress-producing elements of students’ experiences in their training program. Students did not experience disorganized teaching by the PA faculty but at the hands of visiting medical professionals. It was frustrating and added to student stress and discouragement when guest lecturers failed to show up to teach a scheduled class. This was a frequent occurrence and mentioned by many students. What was more, this tendency sent unspoken messages about the relative unimportance of PA students in the medical hierarchy. Students found the communicated attitudes of these members of the CoP discouraging. After all, not showing up for an appointment communicates a great deal. Such occurrences made students feel that the professionals in the field could not be bothered to show up on time for a commitment.

Teachers failing to show up for a scheduled class was one of the greatest sources of stress among PA students because it wasted their scarce resource of time. They felt a natural resentment when they had sacrificed their time, sleep, and had made an effort to be in class on time (especially early morning classes) only to be confronted with an empty podium and a class hour that was thrown to the winds when they could have been studying.

To be sure, an instructor failing to show up to teach a scheduled class was often due to the fact that the instructor was serving patients and that had to take priority, and students understood this. On the other hand, they felt there were other elements to disorganized teaching on the part of guest lecturers that added to their resentment over lost time. There was sometimes a disparity between the material covered in class and the

material on examinations. Students found it maddening and disorienting to be covering material in class that they had already been tested on, or to have the examination cover material that was scheduled to be covered after the test date. Some guest lecturers, too, did a desultory teaching job when they did show up. Some merely read aloud from a text or from the slides in a PowerPoint presentation, giving the impression that they did not want to be there and were only going through the motions of educating the PA students. Since students were time-pressed and had reams of information to master, this kind of lecture made them wonder why they could not just study the material on their own without having to waste time sitting in class.

The hidden curriculum here seemed to be that PA students' time and efforts were not particularly important. Indeed, it is possible that when it came to disorganized teaching, the hierarchy of medicine, which PA students noted was prevalent, was at work. The hierarchy of medicine as part of a hidden curriculum was another strongly emergent theme. It was evident during the didactic year, but it became crystal clear during the clinical year. Since schedules were shifted and the facility changed around to accommodate medical students, PA students were aware that medical students took priority over them. One wonders whether the guest lecturers would have been as blasé about simply not appearing for a lecture to medical students. While PA students understood the hierarchy of medicine and understood their place in the hierarchy, they still felt disrespected by guest lecturers who "ghosted" them in classes.

Kuhn et al. (2005) found in their study that PA students suffered stress because of too much information to assimilate in their course loads, too little time, and their own perceived lack of organizational skills in managing their schedules (p. 169). Certainly, facing an empty podium during a time when one could have been managing other study obligations, or sitting through a lecture during which the guest lecturer was present but not really there would add to student stress and grievance.

Many PA students found themselves flummoxed and at sea as to how to master the vast amount of material assigned to them, and they did not feel they were given tips that they needed to know: for example, there were several helpful study manuals that they had to learn about from older students rather than being told about them in class. Still, the students did not blame their PA faculty for any of these aspects of disorganized teaching. Again and again, students testified to the support and helpfulness of the faculty as the institution's strongest suit and biggest positive.

The Hidden Curriculum of the Medical Hierarchy

When guest lecturers left didactic PA students hanging in their absence, there was an underlying assumption that these medical professionals had been called to serve patients, as was proper. However, there seemed to be little explanation given of why these guest medical professionals could not be present, or why when they were present, they were perceived as sometimes absent in mind and heart. Was it perhaps due to the medical hierarchy, wherein the position of PA and PA students is misunderstood and under-appreciated? Were the missing lecturers reinforcing a hidden curriculum of the medical hierarchy to the PA students and telling them without words that they were at the bottom of the totem pole in the medical strata of importance?

If this was not the unspoken message of the absent instructors, the lesson came through loud and clear when students entered rotations in their clinical year. Like the medical students in Lempp and Seale's 2004 study, the PA students were apprised of a hierarchy in the world of medicine, without it being spelled out in words. In the didactic year, the students sensed that medical students were considered to have priority over them in the pecking order due to facility changes made to accommodate medical students and their exam periods. In the clinical year, PA students' place in the status hierarchy was reinforced, not always positively, out in the field. This was done sometimes by overt

words and actions and other times in more subtle, less explicit ways. The message came through clearly, however, to PA students.

Clinical PA students were reportedly told they didn't need to know certain things that medical students were required to know, medical students were given priority when it came to hands-on experience, and some physicians appeared surprised that PA students knew as much as they did, sometimes even outstripping medical students in their knowledge. An experience that carried the same message of being low person on the totem pole was brought home potently to a student on the very first rotation, when the student was held in place by the unspoken expectation that they should stay, awaiting an attending physician, indefinitely. The clinical PA student waited 18 hours, pinioned in place by unspoken expectations. This caused the student to have grave self-doubts as to their own efficacy and also doubts as to whether they actually wanted to belong to a CoP that treated people this way. It sent the same unspoken message as disorganized teaching, only much more powerfully: "You are not important. Your time is not important. You are on the bottom rung of the medical ladder." Most students accepted the medical hierarchy with equanimity. "Medicine is a hierarchy," stated two students frankly. Yet others expressed that they felt "invisible" during rotations and that they were "on the outside looking in." These were not pleasant sensations.

Some experienced teaching by humiliation for themselves or others; some witnessed bad attitudes on the parts of other providers. In one case, faculty intervened on behalf of the clinical PA students. In other cases, everyone endured a person's bad attitude, with everyone knowing who the person with the bad attitude was, and everyone silently working around the person.

There did seem to be a barrier of silence around people who displayed bad attitudes toward other medical personnel or toward patients, according to the students' reports. PA students did not feel they could speak up. This tallies with research by Neve and Collett (2018). In their study, students were frustrated by the hidden expectation that incidents

involving unacceptable behavior were to be endured in silence, with one student saying, “The hidden curriculum here was that I am prepared to stand by as this consultant is rude to other staff, my placement partners, and patients. And standing by is the done thing.” In a 2016 study of Harvard Medical School students and faculty (Bandini et al., 2016), it was discovered that both faculty members and students had witnessed bad behavior mostly by residents that they were shadowing, including mocking patients and objectifying them, and that these kinds of behavior were not uncommon. What was uncommon was that anyone stood up to the behavior and called the person out on it (Bandini et al., 2016).

The negative experiences for the PA students in this study were few and far between, however, which may account for the universal discomfort in confronting a misbehaving person. What was more, the persons displaying bad attitudes usually outranked the PA students, which contributed to their silence. In one case, however, an attending physician who seemed to have a grudge against PA students verbally abused them to the point where the students reported him to their faculty, who immediately moved in to protect their students and correct the situation, assuring the PAs that this was not the way things were supposed to be and restoring PA students’ confidence in the community of practice.

The PA in the Community of Practice

PA students are extremely important in providing direct patient care; however, many of the respondents felt that this was in spite of a medical hierarchy that does not always recognize them as such. As noted in the literature review, there is a prevalent and growing shortage of physicians. The Association of American Medical Colleges has stated that by the year 2030, there will be a shortfall of physicians in the United States of anywhere between 42,600 all the way up to 121,300 physicians (AAMC, 2019). PAs,

with their rigorous medical training, are like a second line of defense in this shortage. Thus, PAs are critically important medical personnel and should be treated as such, even during their training periods.

Indeed, the original concept of training PAs was to address a shortage of physicians by adding to the training of medical personnel after World War II (Physician Assistant History Society, “Timeline,” 2017). PAs can do many of the things that physicians can do. According to the American Academy of Physician Assistants (AAPA), in many contexts, a PA may take the place of a physician (American Academy of Physician Assistants, “Comments to SSA,” 2016, p. 2). PAs perform examinations; they diagnose, prescribe, order and analyze tests, and are schooled in patient care over the life span (AAPA, 2016). They should be treated as the essential medical professionals they are.

Stress is an acknowledged factor during the training of students for careers in the health professions and has been for decades. Decades ago, Shapiro et al. (2000) did a systematic review of clinical studies on stress management in medical education from 1966 to 1999 (p. 748), which led to the conclusion that “medical education has deleterious consequences” (p. 748). Dyrbye et al. (2005) did a literature review of medical student distress, which was published by the Mayo Clinic, and they too concluded, “Unfortunately, some aspects of the training process have unintended negative consequences on students’ personal health” (p. 1613). Stress in medical students had such deleterious effects as hampered academic performance, engaging in substance abuse, cynicism, compromises of integrity, and even suicide (pp. 1616-1617). In a 2018 study, Macauley et al. compared three different cohorts of health care students—Doctor of Physical Therapy (DPT), Master of Physician Assistant Studies (PA), and Master of Science in Communication Science Disorders (CSD)—and found anxiety to be both common and severe among such students, which the researchers feared would negatively impact not only students’ academic performance but their performance in the field,

affecting their professionalism and patient care. Numerous other studies noted in the literature review have replicated results that show medical students in general and PA students in particular are experiencing intense burnout and emotional depletion (Orozco et al., 2016).

It is in society's, as well as the PA students', interest to make sure that medical training, including PA training, does not upset personal balance and well-being so badly as to produce medical providers who are less professional and less capable of ensuring good patient outcomes. This process begins with an inordinately stressful training period that requires students to sacrifice their personal well-being, whether they are told to or not. It was a strong finding of the current study that PA students routinely sacrificed personal well-being to answer the demands of their workload. This has implications for the entire CoP into which PA students are being inducted. If the bad habits of sacrificing personal well-being lead to burnout and depletion even in the student years, what will be the results when the demands of the field set in?

The CoP into which PA students are being inducted is already a mentally unhealthy place. The people at the top of the hierarchy pyramid, the physicians, are not always good role models when it comes to psychological health and well-being. As a group, physicians have been disproportionately committing suicide (Andrews, 2011, p. 1). To put this in perspective, the United States loses an entire large medical school class to suicide every year. Another comparison is an entire small medical college goes over the cliff into self-administered death each year (p. 1). Many physicians who are not suicidal are significantly depressed (Center et al., 2003). In fact, the research of Center et al. shows that physicians have been exhibiting higher rates of depression and suicide than the general population since the 1960s (p. 3162). PAs enter a community of practice where the "top dogs" of the hierarchy are 40% more likely to commit suicide than anyone else in the population (Albuquerque & Tulk, 2019, p. E505), and they have already been programmed to sacrifice personal well-being for the sake of their profession. Poor

outcomes all around are a predictable result. Center et al. (2003) noted that physicians' psychological problems may impact students of medicine, other medical personnel, and even patients (p. 3162).

“I Have No Personal Life”

A strong emergent theme of the current study was that PA students felt compelled to sacrifice their personal lives and well-being in order to succeed in the program. “I have no personal life,” said several. Others responded “Of course!” and with vehement yeses or even sheer laughter when asked if the program had impacted their personal lives. Sleep deprivation, poor eating habits due to lack of time to prepare healthy food, little or no time to exercise, socialize with friends, or meet family obligations all took their toll on PA student well-being. Even as they battled incessant, burdensome stress, most students were not able to give themselves the personal care of engaging in activities that would have ameliorated some of the stress.

One PA student summed it up: “You shouldn’t have to sacrifice your mental health.” Yet students did—most students, although all denying that they suffered from depression “or anything like that.” Mental/emotional or psychological health—as well as physical health—was impacted by the regimen. One student, however, said that their psychological health had improved since being in the program because of the sense of purpose in life the students now had. Although most students were motivated with a sense of purpose, they did not claim increased mental health as this student, something of an outlier on this issue, did.

Students who went to the psychological counseling services offered by the institution found them beneficial. They reportedly received insights that helped them cope. Some found that their physical symptoms of stress, like migraines and panic attacks

affecting their breathing, retreated after accessing the services. Some reported that the services took two weeks to access; others found themselves served right away.

Students reported that they were encouraged outwardly to go to the gym and do things for themselves that would enhance physical and mental well-being, but they found themselves somewhat incredulous when they heard such advice from faculty. They wanted to be assured that they could indeed do those things and still succeed in the program; they wanted that proven to them, for it was far from self-evident. Some felt guilty if they went to the gym or visited family, with the powerful hidden curriculum telling them they should be studying and doing whatever it took to succeed in the program. Thus, while teachers were telling students overtly to take care of themselves, the hidden curriculum, buried in the reams of information and tight schedule of the training program, said something quite different.

Those who worked out at the gym, strove to eat healthier meals, and tried to maintain healthy social and familial relationships said they were able to do it, but they were in the minority. Some of these students were rather defiant about taking the time they needed for themselves. A few assured the interviewer that they had their personal lives down pat, but then these very students broke into a panic attack or tears during the interview, belying their own brave words.

Differences Between the Didactic and the Clinical Years

The main differences found between the didactic and clinical students were that for didactic students, they expressed that there was too much material to master in a short amount of time, disorganized teaching, which included constant schedule changes and guest lecturers who either seemed as if they were not interested in teaching or were not present at all, and, on the positive side, unwavering support from PA faculty and a climate of cooperation among students. Clinical students expressed their dissatisfaction

with the feeling of being low on the medical “totem pole,” lack of clarification on professionalism and how they tried to embrace it, and, on the positive side, enjoying a more flexible schedule. Both groups reported that despite their rigorous training, their empathy levels increased as they progressed through the program.

All participants that were interviewed made a point to address that the amount of material covered in the didactic year was overwhelming, especially when they were placed in many scenarios that involved two to three exams on a weekly basis (over the span of one month). An aspect that further irritated students, which was mentioned previously, was disorganized teaching. Disorganized teaching was mainly seen as when a scheduled lecture or talk simply wouldn’t take place at the scheduled time, which wasted scarce time students had to achieve expectations. Another example is also guest lecturers seemingly being disengaged, making students feel as if they could have studied this material on their own. But despite these stressors in the didactic year, students reported many examples of positive relationships with instructors, especially an “open door” policy. They felt they were free to visit their teachers at any time during office hours with any concern. The doors, they said, were literally open, and visits from students were encouraged and expected. The general climate of cooperativeness versus competitiveness also contributed to students’ well-being.

In the current study, several students commented that the clinical year was easier because there was a known schedule. One student was left waiting on rotation for 18 hours, the unspoken expectation being that the student could not leave, no matter what. The experience was so overwhelmingly negative as to blot out all previous positive experiences in PA training.

Clinical year PA students went toe-to-toe with the medical hierarchy. Most seemed to take it in stride. There was a great deal of acceptance that “Medicine is a hierarchy.” PA students often felt they were at the bottom rung of the ladder in this hierarchy, yet they gleaned satisfaction from sometimes outwitting medical students and having

attending physicians praise them for it, doing their jobs well and receiving patient gratitude, and using their lower status as a spur to acquire and show the skills needed to succeed. Most students seemed able to deal with the medical hierarchy in remarkably healthy ways.

Based on the literature, the current study posited that a decline in empathy after the didactic year might add to the stress of professional identity formation in the field, causing anomie in students who had entered the PA program with a desire to help patients. The participants in this study, however, did not reportedly show a decline in empathy; rather, some clinical students felt their empathy had increased. This finding contrasts with the literature; for example, Mandel and Schweinle (2012) found that there was a marked decline in empathy in PA students after the didactic year. The researchers noted that this decline was found to be “similar to other health care providers’ education and supported the need for further conversation regarding a role for empathy assessment and curricula in PA education” (p. 16). Likewise, Neumann et al. (2011) did a systematic literature review from January 1990 to January 2010 that showed widespread empathy decline among medical students. The researchers posited that empathy decline affects the development of professionalism and is even thought to negatively impact patient care (p. 996).

In the current study, the development of professionalism is particularly interesting in relation to empathy. For one thing, PA students reported that as far as guidance for interacting with patients, they were expected to be “professional.” Professionalism was not defined by faculty or in the CoP, yet it was the most frequently used word by PA students to describe the expectations the CoP had in regard to their behavior. For example, one clinical PA student was asked to draw blood from a person in handcuffs who was berating the policeman present. The student was expected to behave “professionally,” whatever that might mean in a case like that. What was more, students felt they were expected to exhibit or develop skills for interacting with dying patients,

family members of dying patients, and patients in other difficult circumstances. One student even speculated that the hidden curriculum or unspoken expectation of the CoP was that PA students already had considerable stores of empathy and would automatically use this to interact successfully with patients.

Dyrbye et al. (2014) indicated that many studies have shown medical trainees experiencing burnout from the stress involved in their training, stress that is caused in part by the depersonalization of patients, including a certain hardening toward them (p. 445). Kuhn et al. (2005) specifically name “depersonalization” and the “cultivation of cynicism” in medical students as a source of stress (p. 167). In fact, this depersonalization seems to augment feelings of helplessness and powerlessness during medical training, adding to students’ sense of stress (p. 167). The current study did not corroborate findings that PA students experience depersonalization in their didactic or clinical years. They were, however, encouraged to “step back” if emotions got out of hand and maintain a certain amount of professional distance. This did not reportedly seem to affect students’ level of empathy, nor did it seem to adversely affect students’ professional identity.

In contrast, in the current study the most prevalent response regarding empathy was that empathy had increased through awareness of various socio-economic groups’ difficulty in accessing healthcare during the didactic year and as they had contact with real patients during their clinical year. Exposure to the reality of people’s suffering, including their financial anguish over medical expenses, the difficulties of their diagnoses, and the loss of patients and of family members attached to the patients made PA students care even more about putting patients first. Two students wept when describing clinical year experiences with patients. Others spoke compassionately about the trials they knew patients were facing at this challenging time of their lives (being sick enough to be in a hospital).

The respondents felt that empathy was expected of them. It was almost an assumed trait, and one student reported that the underlying, unspoken expectation was that the

students already had a sizable store of empathy when they started out. The majority of students reported that they received no training in how to deal with patients on an emotional level, which warrants further attention. It was expected they either had such people skills in the first place or would learn on the job. The only instruction they received was to be professional at all times, with professionalism never defined for them. Students were reportedly given a few instructions on dealing with recalcitrant patients, and they were given some guidelines about sexual harassment.

Orozco et al. (2016) found that students in clinical training tended to have a higher degree of burnout than other PA students. In contrast, this study did not verify that finding. Several PA students expressed relief at being in the clinical year, because the schedule was more set and they were able to perform more what they had been trained to do. If depersonalization is part of burnout, most of the PA students interviewed did not seem to experience it. Their contact with real patients may have increased their empathy and ability to identify with patients' suffering (with several breaking down in tears when they spoke of their patients). Their contact with abusive, disinterested, or derisive members of the CoP was minimal; they were repelled by such attitudes and reported that everyone around knew these people to be in the wrong, and they did not let it affect their identity.

On the whole, their professional training program seemed to reinforce PA students' identities as compassionate health care providers and to reinforce their decisions to become PAs. The stresses of the program did not dissuade them from their vocations; elements of the training program seemed to reinforce them not only in their decision to become PAs but their desire to do so. "I think I want it more," said one thoughtful PA student, after reflecting on the stresses and sacrifices of the didactic phase of training. Others echoed that the training had made them more certain that they were in the right place doing the right thing with their lives.

Summary

The most outstanding strong point of the professional training program studied was the supportiveness of the faculty. That came through loud and clear as something profoundly appreciated by students. They often availed themselves of the “open door” of faculty to their benefit. Yet, for all the faculty’s genuine help for the students, disorganized teaching was one of the students’ most reported sources of stress. These stressors came almost exclusively from guest lecturers, however, not the regular faculty.

One of the most pernicious aspects of disorganized teaching—one students found demotivating—was when lecturers did not show up for the class when they themselves had gone to considerable trouble to be there on time. Another source of student stress was when lectures and materials did not match up with what they were expected to know on exams or when the lecturer did a desultory job of teaching, merely reading from a PowerPoint or text.

The hierarchy of medical providers was communicated to them in subtle ways during the didactic year by such things as these instructor absences, carelessness of instruction when it was given, and the way schedules and facilities’ usage gave precedence to medical students. This preferential treatment of other health care providers, even medical students, over PAs became even more evident during the clinical year. PA students were made to feel that they were on the bottom rung of the medical hierarchy’s ladder, “invisible” at times. There were some incidents of genuine disrespect, including teaching by humiliation when students were expected to know something they did not or when they asked a question that was perceived by the instructor as pointless. On the other hand, such incidents were rare, and PA students were generally accepting of the hierarchy. What was more, it spurred many of them on to prove the efficacy of PA students and PAs.

Students felt that understanding how to behave professionally was part of the hidden curriculum. They felt like they were supposed to learn on the job how to cope with patients emotionally. Although some overt direction was given, students often felt that they were put into situations with patients before they were ready for them and expected to muster up the people (social-emotional) skills they needed at will. They felt it was also an unspoken expectation that they would naturally have the emotional stores of empathy needed for the job.

The hidden curriculum that affected students the most during the didactic year was the unexpressed expectation that they would do what it took to get through the program, no matter what personal sacrifice was required. Almost all of them lost sleep. Most of them developed poor eating habits, relying on unhealthy junk food or fast food because of time constraints, affecting weight loss or gain. Personal relationships suffered, and several had put off major life events like getting married or having children for the sake of succeeding in the program. Many felt that their physical and psychological health had been affected adversely. Some accessed student services for psychological and/or physical help.

Most reported increases in empathy, a sense of purpose, determination, and identity reinforcement from their professional training program. Overall, students had positive feelings about their program, taking pride in themselves and their chosen profession. However, they faced differing stresses in both the didactic and the clinical years that were sometimes quite debilitating, some of which could be traced to hidden curriculum factors, especially the medical hierarchy. Teaching by humiliation, depersonalization of patients, and disrespect of students' time sometimes were carried to extremes that profoundly affected students' confidence in themselves and skewed their perception of the CoP. Fortunately, these negative experiences were few and far between.

Students' reports of increased empathy were one of the most hopeful aspects of the study. The implication is that, despite the many significant stressors, many students were

able to maintain their sense of humanity and continued to identify with the emotional needs of patients. This finding was inconsistent with what has been reported previously and warrants further study. It should be noted that the reported increase in empathy seemed to occur independent of any explicit efforts in the PA training program.

Implications for Practice

Since the hidden curriculum of the medical hierarchy was a source of stress in both the didactic year (guest lecturers not showing up to give their lectures or showing up without sufficient preparation or engagement with the students) and the clinical year (teaching by humiliation; treating PA students as if they were invisible or unimportant), more awareness in the CoP of the position of a PA and the value of a PA would benefit both PAs and the CoP, which is and will be in dire need of their professional services. On a practical level, such awareness would hopefully manifest in medical personnel showing up for guest lectures or arranging for a video or substitute as well as meeting PAs when they are supposed to and also treating them as valued contributors out in the field. In addition, students recommended having either more PAs teach them lectures, since the MDs who provided guest lectures mostly seemed disengaged, or increasing the amount of PA faculty in the program to better help serve the students' needs (academic and support).

What is more, the regular PA faculty could do more to encourage students to access the support systems in place. They are succeeding admirably in this in both word and practice when it comes to the faculty "open-door" policy and encouraging cooperation rather than competition among the students themselves. However, students find the faculty urging them to access facilities like the gym bewildering, since the curriculum is so demanding. Faculty could do more to actively reassure students that self-care will benefit them and enhance their success in the program rather than simply

consuming much-needed time. Faculty could also work to remove any stigma attached to seeking out the services available to students, including psychological services. However, it is important to acknowledge that, in this study, faculty were seen as a buffer to stress by their constant encouragement and the amount of faith they instilled in their students. Other PA programs may benefit from understanding the importance of PA faculty and how they portray the hidden/explicit curriculum through the following: courage, resilience, sense of purpose, social support, integrity, and kindness.

Curricular changes might help. Slavin et al. (2014) noted that curricular changes and the provision of more social opportunities had salutary effects on medical students' well-being. However, since the current study focused on hidden curriculum issues, we will not address that. Indeed, the stringent curriculum seemed to work out for most students when mitigated by the strong faculty support and the cooperative atmosphere of the class itself, as well as access to auxiliary campus services. The hidden curriculum that PA students are less important in the medical hierarchy than medical students (with the implication that PAs will be less important in the community of practice, too) needs to be addressed. This could eliminate significant sources of student stress during the didactic and clinical years. Given that there is a vast shortage of physicians developed and developing in this nation, and that physicians commit suicide at a rate of almost one per day, it seems that PA students should receive a lot more respect than they are shown during their training, and that respect should reflect a CoP that understands and welcomes their important current and future contributions to an understaffed field.

Researchers Macauley et al. (2018) found that healthcare students' anxiety is increasing in both scope and impact. This has implications for their development of professional standards as well as their ability to render the best patient care. Any stress-mitigating factors should be seriously considered and implemented. The CoP might do well to heed one respondent's suggestion that de-stressing techniques might be an important way for the professional training program to be improved by addressing "ways

of just destressing or proper stress-relief techniques ... we might've had a few classes.” Although this respondent acknowledged that students understood it was a stressful program and that faculty acknowledged the stressful nature of the program as well, program planners might do well to “maybe just have better interventions for some students to dispel that stress” (PA Student #23). One suggestion would be to implement an education module similar to one produced by the American Medical Association (AMA). This module focuses on expectations for physicians to maintain their own health and wellness by having healthy lifestyle habits and ensuring that they have a personal physician whose objectivity is not compromised (Berg, 2017). This PA program can encourage students to take an honest assessment of themselves in which they report the current status of their health and well-being and teach students how to address the problem.

The faculty at this institution did a good job of encouraging PA students that they had what it took to be able to slay their dragons. Wittingly or not, faculty members used elements of positive psychology that the students found genuinely helpful. Repeatedly, they assured students that they had already demonstrated that they had what it took to succeed just by getting into the program. Faculty reinforced the idea that students' object now was to prepare themselves for success in their chosen field. Unlike medical students, PA students were no longer in competition, vying for residencies and pitted against members of their cohort for career advances. Rather, their future was waiting for them. Thus, faculty helped PA students to imagine their futures and see themselves as being successful in them.

The work of Martin Seligman (2018), in particular, points to the fact that the beckoning of a future is important in counteracting stressful aspects of the present and the past. From his experiments with dogs, Seligman found that learned helplessness (giving up) was a default response to prolonged adversity. The opposite of this would be hope—the idea that a person can actually manage the unpredictability in his or her environment.

PA students in this program were essentially reminded that they had already exercised their agency; they were self-efficacious; they were not helpless in the hands of capricious fate (even disorganized teaching!), but could indeed impose their will upon their circumstances to effect good outcomes. The CoP might want to consider deliberately using aspects of positive psychology and its various branches, such as prospective psychology and resilience, to encourage students. This might include using the work of Seligman, as well as additional psychologists, such as Angela Duckworth, Daniel Schacter, Randy Buckner, and E. Paul Torrance, among others.

There were glaring omissions in the PA training program that the CoP would do well to address. For example, students were not prepared in any serious ways in the soft skills aspects of their profession. Students spoke of being thrown into emotionally taxing situations, such as dealing with patient deaths or having to break bad news or console bereaved family members with no training. Members of the CoP were not unresponsive in these situations; when students said they were not ready to cope with such situations right off the bat in their clinical experience, they were excused from doing so. When students labored over a patient only to lose that patient to death and to witness the grief of the patient's family members, they were able to "take a moment" to go outside and master their emotions. Members of the CoP inquired after their well-being for some time afterward, knowing the students were deeply affected.

Sympathy is not the same as training, however. Instruction in coping with such situations is an obvious need. Health care is not a profession of continuous triumphs over the ravages of disease, accident, and age. As noted elsewhere, physicians are profoundly affected by the outcomes of their patients. In the era of COVID-19, where significant numbers of patients are dying each day in spite of the efforts of doctors, PAs, nurses, and other healthcare workers, the need to address the psychological aspects of dealing with death becomes apparent. As they labor to save people's lives, often risking their own lives and health in the process, healthcare providers need to be counseled and instructed

in coping with the fact that, in spite of one's heroic efforts, some patients will die, some battles will be lost, and the emotional pain, sense of responsibility, and even guilt related to those deaths are and will be an important part of a career in medicine. It is unjust not to school healthcare students in coping with the powerfully affecting human losses they will experience and witness.

Recommendations for Future Research

While this study led to some insights about both explicit stressors and aspects of the hidden curriculum that affect PA students in different phases of their training, the interviews with students suggest several questions that warrant further study. These include improving understanding about (a) outliers who seem to cope well, (b) gender bias, (c) professionalism, (d) hierarchy of power, (e) value of a positive social climate, (f) intervention research to prevent emotional, behavioral, and physical problems among PAs in training and practice, and (g) need to replicate the findings from this study.

While the overwhelming majority of respondents discussed the considerable emotional, physical and mental stress, and difficulty coping, there was a range of reactions, including one individual who was an outlier. Why was this person so resilient while in PA school? The literature in general tends to rely on the medical model. There is a large gap in the literature focused on students who cope well in healthcare professional training programs. Improving understanding about outliers might help inform effective interventions, which at this point are scarce. Is thriving in the face of adversity associated with personality characteristics? Is it a stronger support system? Is it the ways they think when faced with adversity? The emerging field of positive psychology (Seligman, 2018) has great promise for addressing the well-being of health professionals both in school and in practice, but there has been very limited research on this topic to shed light on how to mitigate challenging experiences.

In recent years there has been increased attention paid to gender issues, but there is virtually no research on how gender issues may affect how PA students are treated in practice settings. One respondent in the current study expressed great frustration with a male attending physician berating her and two other female PA students. While research indicates that female students are more likely to experience test, trait, and state anxiety (Macauley et al., 2018), no published studies were identified that examined the extent to which gender bias is associated with incidents of teaching PA students through humiliation within the medical hierarchy. This can not only have an effect on how future female PAs see themselves in the healthcare profession, but may create doubts regarding their self-worth, job satisfaction, and motivation to continue in this career.

The issue of uncertainty about the notion of professionalism was raised in multiple interviews. A recent report conducted by the National Academies of Sciences, Engineering, and Medicine (2019) noted that “clinician burnout is associated with an increased risk of patient safety incidents and malpractice claims, poorer quality due to low professionalism, reduced patient satisfaction, and diminished and ineffective communication between patients and clinicians” (p. 2). Participants in this study stated that faculty always stressed being professional without explicitly stating how. Additional research is needed to improve understanding about how faculty define what it means to be “professional” and then incorporate the elements of professionalism explicitly into the PA professional preparation curriculum.

Another factor identified in the current study was the respondents’ perceptions and feeling regarding the power hierarchy within the clinical practice setting. While the presence of such a power hierarchy is certainly not new, there is a need to discover ways to mitigate its adverse effects on both students completing clinical training and health care practitioners more generally. “How Psychosocial Factors Affect the Well-being of Practice Assistants at Work in General Medical Care?—a Questionnaire Survey” (Goetz et al., 2015) showed that “higher scores of ‘cognitive stress symptoms,’ ‘work-privacy-

conflict,' 'emotional demand,' and 'role-conflict'" were seen in practice assistants, which, in part, explained their higher risk of burnout. Further research is needed to discover effective ways to increase awareness about the adverse effects of the power hierarchy and increase appreciation among medical students and practicing physicians for PA's training and roles. If there were more understanding and acceptance of PAs during their clinical year, their stature in the medical hierarchy may improve along with treating PA students in a professional and respectful way.

Perhaps the most positive finding from this study was that students felt that the social climate, as exemplified by faculty members' supportiveness and the spirit of cooperation among students, was an effective buffer of their stress. Students' perceptions that faculty genuinely care about them were reported in multiple interviews and reportedly helped students cope with the considerable demands required. In addition, several commented on the climate of cooperation among students and the positive influence of this sense of belonging to a community of practice characterized by helping one another. Both of these elements of the social climate warrant future research to help ensure that they are incorporated into professional preparation programs.

Despite the fact that stress and burnout among health care professionals, including PAs, has been recognized for decades and persists today, there is a large gap in current knowledge regarding effective ways to prevent emotional, behavioral, and physical problems among health professionals, both in professional preparation programs and while they are in clinical practice. It is tragic that individuals who choose a career to help others pay such a large personal price, at times resulting in physical and emotional problems and, at the extreme, suicide. Extreme levels of personal sacrifice are clearly a part of the hidden curriculum, and research to mitigate the adverse health effects on students and practitioners is warranted.

Lastly, this study should be replicated to assess generalizability for other PA programs. Given the shortage of physicians, particularly in areas experiencing great

health disparities, PAs have and will continue to play an increasingly important role in health care delivery. The results of this study are informative and highlight the perceptions of PA students in one PA program. At the same time, the conclusions that may be drawn are limited by the study design. Do other PA faculty promote an “open-door” policy with their students? Are interactions with the medical hierarchy perceived differently in smaller cities or rural settings? Is cooperation fostered in other PA programs, thus fostering camaraderie among students? Additional research is needed to highlight PA students’ experience of the hidden curriculum and to use their voice to improve professional preparation.

Limitations

Qualitative studies by definition are less exact than quantitative studies. As Maxwell (2008) points out, qualitative analysis still cannot compete with the “precise extrapolation of results to defined populations” (p. 246) that comes with probability sampling. Therefore, the results of the study may be “transferable” rather than “generalizable” (Guba & Lincoln, 1989), as is usual for qualitative research.

The size of the sample was limited, comprised of 50 students, divided into 25 students in the didactic phase and 25 students in the clinical phase, all attending one particular professional training program in one school. It is noteworthy that the response rate was high, with 50 of the total of 92 students in the program agreeing to be interviewed. There is no claim that these students are representative of PA students at other institutions or that the findings of this study are generalizable to past or future students.

The interview schedule was semi-structured, and, therefore, the influence of the researcher on the students’ reactions cannot be ruled out. Despite efforts to remain objective and non-judgmental, it is possible that the researcher’s background and

experience may have shaped the ways in which questions were asked, which responses were probed, and the nature of the probes and follow-up questions. At the same time, the researcher's direct experience with PA training and her ongoing practice as a PA in a clinical setting may have enabled her to have insights about the kinds of issues that were important to explore.

To ensure validity and that researcher bias did not get in the way of the questions and the analysis by completing the semi-structured interviews, the researcher made sure to follow the interview protocol carefully and reminded herself that one of the goals of this study was to bring active PA students' voices to light. Following the interview protocol means that the researcher asked each participant the same questions in the same manner and did not deviate- only if needed to clarify a participant's answer or ask them to expand on a response. The researcher made sure to follow the interview protocol and referred back to the research questions, the problem statement, and the purpose of the study when completing the analysis. Lastly, the researcher recruited the help of a fellow doctoral student to code the data to ensure consistency between the data.

In any study involving data collection from people, the veracity of the respondents is of central importance. In this study, interview questions focused on personal and sometimes sensitive subjects, which may have influenced the respondents' comfort and willingness to be completely open. For example, despite reassurances to the contrary, some students may have felt the interview would somehow identify them and affect their professional training or standing in the program. For example, one student praised the program so much that he or she expressed concern that the responses were too obsequious and might appear to be trying to gain favor with the faculty.

There may have been some denial on the part of students, too, putting a brave face on things. Students seemed to go out of their way to deny the presence of depression. Although they confessed to stress and anxiety, there were cases where the physical health of the person was impacted, such as PA Student #34, who experienced migraines, losing

hair, losing weight, and GI issues. Yet this student said, “I wouldn’t say that I’m like depressed or anxious.” There could have been a certain amount of bravado when students claimed that they had their personal lives under control or that the hierarchy didn’t affect them. What was more, students were aware that their program was underfunded and also on probation. Those facts might have also accounted for PA students’ stout defense of their professional training program and their experiences in it. Indeed, this kind of orientation may be a part of the hidden curriculum.

A further limitation of the study that also suggests topics for further study arises from the nature of the setting where this study was conducted. The institution was unusually diverse, both ethnically and racially, as were the hospital the institution served and the community in which it was situated. Therefore, issues related to race and ethnicity that might have come up in other studies did not arise in this one. Some examples of issues that might have arisen in a less diverse setting might be: (1) Was there a hidden curriculum imparting racism or bias against certain groups? Did students of color or who were ethnically diverse experience more careless treatment at the hands of the CoP than White students whose families had been in the U.S. for generations? (2) Since students sometimes seemed to flounder at the idea of a hidden curriculum, did cultural factors related to their backgrounds come into this lack of awareness, i.e., misunderstandings of nuances of language, body English, facial expressions, underlying general assumptions in the dominant culture, etc.?

Many PA students in the study mentioned the diversity of the program as a big plus, particularly because it helped them relate to diverse populations such as they would be serving. Many found the diversity of the program a broadening experience, and appreciation for this factor was almost universal. Did the unusually high level of diversity in the program perhaps “blind” students to the kind of hidden curriculum factors they might have experienced were they minority members in a far less diverse cohort and

CoP? Further studies specifically addressing diversity or the lack of it in PA training programs might bring these kinds of factors to light.

Final Comment

Bandini et al. (2016) noted that the hidden curriculum has a direct effect upon the professional behavior that students adopt along their journey as well as their perceptions of the quality of their professional training programs and their stress levels. Since the current study found that students were expected to understand the professionalism demanded of them (without specific instruction) and also to endure the massive stress levels they underwent, no matter what sacrifices were necessary to maintain success in the program, it is important to address hidden curriculum factors that can be mitigated so as to eliminate some of the unfounded stress PA students undergo during their professional training programs. This study aimed to provide an opening to further research on mitigating hidden curriculum stresses on these important health care professionals, PAs in training.

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Appendix A
Recruitment Email Flyer



Good Morning (Afternoon, or Evening),

I hope this email finds well. My name is Aldean Morris and I am a practicing PA, as well as Doctoral candidate at Teachers College, Columbia University. I am reaching out to you in regards to my doctoral dissertation. My study will be focusing on improving understating about the perceptions of PA students on educational experience.

The study will take approximately one hour and will consist of you filling out a brief survey and participating in an interview with me. You will be compensated \$25.00, with an Amazon gift card for completing this study.

The purpose of this study is to take a step toward understanding the stresses PA students are under within their educational environment from their own perspectives, while seeking recommendations on how to improve PA students' educational experience. I have scheduled a program visit on XX/XX/XX to speak with you all as a class in further detail about the study and the informed consent form.

If you are interested in participating in my study, please send me an email aim2134@tc.columbia.edu, so we can schedule an interview.

For the time being, if you have any questions or concerns, please do not hesitate to send me an email. Thank you in advance for your help.

Sincerely,

Aldean Morris, MPH, PA-C

Appendix B

Recruitment Follow-up Email

Good Morning (Afternoon, or Evening),

Thank you for your expressed interest in my study about stresses faced by PA students within their respective educational environments.

I'd like to schedule a date and time to conduct your interview. Could you please provide me with a list of availabilities on any Wednesday, Thursday and Friday?

I have obtained approval from the Institutional Review Boards (IRB) from Teachers College, Columbia University, as well as an authorization agreement from your institution. Attached to this email is the informed consent form that details the study research design/methods, recruitment processes, confidentiality, risks/benefits and uses of the data, for your reference. I will provide you with a printed version that you can sign at the beginning of your scheduled interview.

I am appreciative of your willingness to participate in this study and for your contribution to improving understanding about the stresses faced by PA students within their educational environments as well as your suggestions on reducing harm.

Thank You,

Aldean Morris, MPH, PA-C

Appendix C

In-Person Script

Hello, my name is Aldean Morris, and I am a practicing PA. I'm also a doctoral candidate at Teachers College, Columbia University, as well as a graduate of this program. I am conducting a study on PA students' perceptions of education. Many of the issues I'm researching are things that I personally experienced as a student. However, throughout my duration as a student, I was unaware of how common/universal these experiences were, and the many stresses faced. With that being said, I am conducting this research to improve understanding of the stresses faced by PA students and ways to reduce harm caused by stress. I want the perspectives of current students to learn ways to improve PA's educational experience.

Prior to partaking in this research study, you will be required to sign an informed consent form. The written consent form will explain the purpose of the study, the confidentiality of your responses, the voluntary nature, and associated risks and benefits. Please note that all interviews will be audio recorded. To maintain confidentiality throughout the study, pseudonyms and codes will be used in place of your actual name.

You will be asked to fill out a survey and take part in a face-to-face interview. The total time required is estimated to be approximately 60 minutes.

All interviews and surveys will be conducted on your school campus in a private classroom or conference room during a school day on a day that is convenient for you.

Research studies help us understand why things happen the way they do. They also help us find out if there are ways that we can make things better. In this research study I am asking you and the other participants in the study to share your experiences as a student in the current PA program, highlight stresses you have faced as a PA student, and offer recommendations on how you think the current educational system for PA students can be improved.

Upon completing the interview, you will be reimbursed \$25 (with an Amazon gift card) for your time.

If you decide to participate please reach out to me at aim2134@tc.columbia.edu and I will send you a blank informed consent form for your reference and I will provide you with a printed version that will be completed prior to our meeting.

I look forward to your participation and meeting you.

Appendix D

Informed Consent

Protocol Title: Physician Assistant Students' Perception of Education
Principal Researcher: Aldean Morris, MPH, PA-C, Ed.D Candidate, Teachers College,
Columbia University
718-938-6360, aim2134@tc.columbia.edu

INTRODUCTION

You are invited to participate in this research study called "Physician Assistant Students' Perspective of Education." You may qualify to take part in this research study because you are a current Physician Assistant (PA) student and your program has agreed to endorse student participation in this study. Approximately sixty people will participate in this study and it will take approximately an hour of your time to complete a face to face interview.

WHY IS THIS STUDY BEING DONE?

This study is being done to learn about stresses PA students face within their educational environment from their own perspectives, as well as obtain student's suggestions about ways to reduce stress or improve coping.

WHAT WILL I BE ASKED TO DO IF I AGREE TO TAKE PART IN THIS STUDY?

If you decide to participate, you will be asked to complete a face-to-face interview conducted by the researcher, where you will ask you to share your experiences from your Physician Assistant program. You may choose to not answer any of the questions. This interview will be audio-recorded. If you do not wish to be audio-recorded, you will not be able to participate. The interview will take approximately 60 minutes. You will be given a de-identified code in order to keep your identity completely confidential. The interview will take place at your college campus, at a time that is convenient for you. You will also be asked to complete a very brief survey describing your demographic characteristics. These data will be used primarily to describe the sample in the study.

WHAT POSSIBLE RISKS OR DISCOMFORTS CAN I EXPECT FROM TAKING PART IN THIS STUDY?

This is a minimal risk study, which means the harms or discomforts that you may experience are not greater than you would ordinarily encounter in daily life while taking routine physical or psychological examinations or tests. However, there are some risks to consider. You might feel embarrassed to discuss problems that you experienced in your PA program. You do not have to answer any questions or share anything you do not want to talk about. You can stop participating in the study at any time without penalty. You might feel concerned that things you say might get back to your professor. Your information will be kept confidential.

The researcher is taking precautions to keep your information confidential and prevent anyone from discovering or guessing your identity, such as using a pseudonym instead of your name and keeping all information on a password-protected computer and locked in a file drawer.

WHAT POSSIBLE BENEFITS CAN I EXPECT FROM TAKING PART IN THIS STUDY?

There is no direct benefit to you for participating in this study. Participation may benefit the Physician Assistant field by allowing educators and preceptors to gain a better understanding of Physician Assistant students' perceptions about their education. Additionally, participation in this study will provide suggestions on ways that may improve PA education.

WILL I BE PAID FOR BEING IN THIS STUDY?

You will receive an Amazon gift card in the amount of \$25.00 after the interview is completed.

WHEN IS THE STUDY OVER? CAN I LEAVE THE STUDY BEFORE IT ENDS?

The study is over when you have completed the individual interview and filled out the survey. You can leave the study at any time even if you haven't finished, however, you will not receive the \$25.00 Amazon gift card.

PROTECTION OF YOUR CONFIDENTIALITY

The researcher will keep all written materials locked in a desk drawer in a locked office. Any electronic or digital information (including audio recordings) will be stored on a computer that is password protected. What is on the audio recording will be written down by a professional transcriptionist and the audio recording will then be destroyed. However, please keep in mind, regulations require data to be kept for at least 3 years after the completion of the study.

For quality assurance, the study team, the study sponsor (grant agency), and/or members of the Teachers College Institutional Review Board (IRB) may review the data collected from you as part of this study. Otherwise, all information obtained from your participation in this study will be held strictly confidential and will be disclosed only with your permission or as required by U.S. or State law.

HOW WILL THE RESULTS BE USED?

The results of this study will be published in journals and presented at academic conferences. At no time will any participant be identified. Your identity will be removed from any data you provide before publication or used for educational purposes. This study is being conducted as part of the doctoral dissertation of the researcher.

CONSENT FOR AUDIO RECORDING AND TRANSCRIPTIONS

Audio recording and transcribing are part of this research study. You can choose whether to give permission to be recorded. Following the audio recording, the recording will be

professionally transcribed by a third party. The transcriptionist will be required to sign a non-disclosure agreement form where they agree not to share any information from the study. If you decide that you don't wish to be recorded, you will not be able to participate.

_____ I give my consent to be recorded and to be transcribed by a third party

_____ I **do not** consent to be recorded and to be transcribed by a third party

WHO MAY VIEW MY PARTICIPATION IN THIS STUDY

___ I consent to allow written and audio-recorded materials viewed at an educational setting or at a conference outside of Teachers College, Columbia University

WHO CAN ANSWER MY QUESTIONS ABOUT THIS STUDY?

If you have any questions about taking part in this research study, you should contact the primary researcher, Aldean Morris, at 718-938-6360 or at aim2134@tc.columbia.edu.

If you have questions or concerns about your rights as a research subject, you should contact the Institutional Review Board (IRB) (the human research ethics committee) at 212-678-4105 or email IRB@tc.edu or you can write to the IRB at Teachers College, Columbia University, 525 W. 120th Street, New York, NY 10027, Box 151. The IRB is the committee that oversees human research protection for Teachers College, Columbia University.

PARTICIPANT'S RIGHTS

- I have read the Informed Consent Form and have been offered the opportunity to discuss the form with the researcher.
- I have had ample opportunity to ask questions about the purposes, procedures, risks and benefits regarding this research study.
- I understand that my participation is voluntary. I may refuse to participate or withdraw participation at any time without penalty.
- The researcher may withdraw me from the research at their professional discretion, for example, if I express emotional or physical distress or if it is determined that I am not being truthful in my responses.

- If, during the course of the study, significant new information that has been developed becomes available which may relate to my willingness to continue my participation, the researcher will provide this information to me.
- Any information derived from the research study that personally identifies me will not be voluntarily released or disclosed without my separate consent, except as specifically required by law.
- Your data will not be used in further research studies.
- I should receive a copy of the Informed Consent Form document.

My signature means that I agree to participate in this study:

Print name: _____ **Date:** _____

Signature:

Appendix E
Demographic Survey Items

The following questions are for the purposes of this study only and are intended to collect information in a standardized way. Please do your best in responding to each item. Your responses will remain confidential.

1. Please indicate your academic status:

1. Didactic student
2. Clinical student

2. Please select your gender:

1. Male
2. Female
3. Unknown

3. Please select your age range:

1. 18-29
2. 30-39
3. 40-49
4. 50-59

4. In your own words, please describe your ethnicity (please print clearly):
